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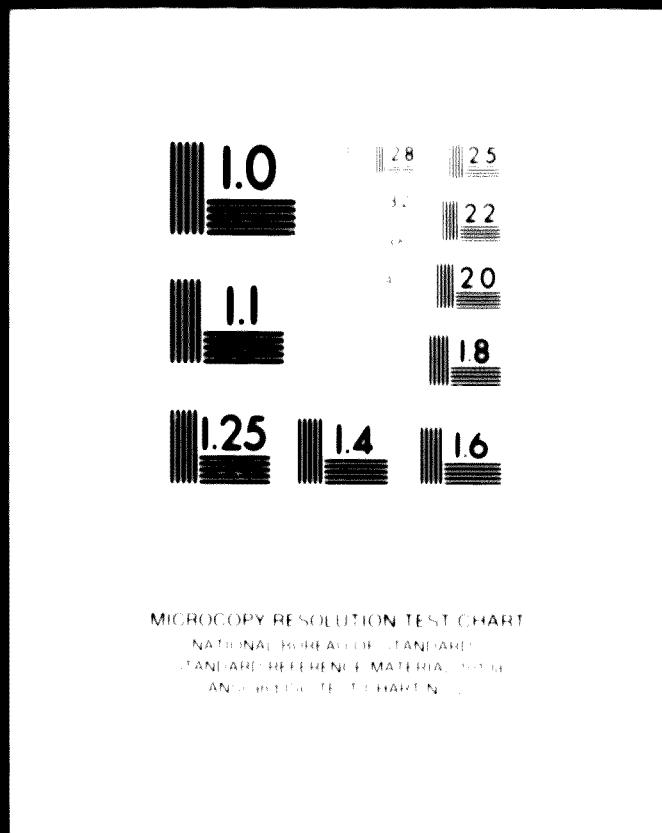
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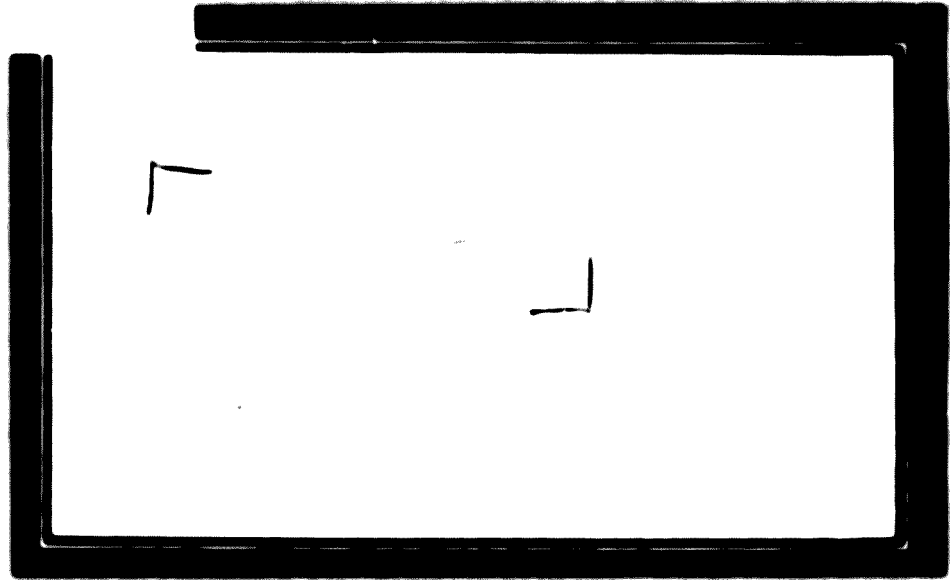
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SUGGESTIONS FOR THE DEVELOPMENT
OF
SMALL-SCALE INDUSTRIAL EXTENSION SERVICES
IN
ARGENTINA

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FINAL REPORT OF ADVISOR ON EXTENSION METHODS

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LIST OF CONTRACTORS USED

CAMISA	Comera Metalurgica Industrial Argentina.
COMADE	Consejo Nacional de Desarrollo.
CONET	Consejo Nacional de Educacion Tecnica.
FIDEL	Fundacion de Investigaciones Economicas Iberoamericanas.
INTA	Inst. Nacional de Tecnologia Agropecuaria.
INTI	Inst. Nacional de Tecnologia Industrial.
OECEI	Oficina de Estudios para la Colaboracion Economica Internacional.

INTRODUCTION

At the request of the Government of the Argentine Republic the Industrial Development Organization of the United Nations assigned the writer as Advisor on Extension Methods in small- and medium-size industry. The appointment was for one year, and the duties were as shown hereunder:

"The expert will advise and assist the Industrial Extension Service of the Centro de Investigación de Métodos y Técnicas para Pequeñas y Medianas Empresas (CIME) in adopting appropriate methods and techniques of industrial extension service for existing and prospective small- and medium-size industrial enterprises. In particular, he will be expected to:

Review the current methods of operation of the extension service and make recommendations for more effective techniques and procedures, including demonstration and training in the agency's workshop and laboratory and the entrepreneurs' factories, organization of seminars and discussion groups, preparation and publication of information brochures, use of audio-visual aids, etc.;

Advise on the setting up of new extension centres and common service facility centres, including detailed proposals in respect of land, building, machinery, equipment and personnel, and estimates of fixed and working capital requirements;

Arrange complementary training programmes for industrial extension personnel; and

Advise on further assistance which might be requested from the United Nations".

The writer arrived in Buenos Aires on 7th November 1968. It soon became apparent that C.I.M.E. did not, in fact, possess, nor operate, an industrial extension service, except in so far as it organized instructional courses. Nor did C.I.M.E. possess workshops or laboratories. Apart from the instructional courses, the main activity of C.I.M.E. was management consultancy on a fee-paying basis. All of the client firms were larger, in terms of number of employees, than the national average. The majority of them were in the metal-working trades, located in the Gran Buenos Aires

area, and employed upwards of 35 persons. The impact on small-scale industry was very slight in Gran Buenos Aires, and apart from the Province of Buenos Aires and the town of Rosario, negligible in the rest of the country.

The financial dependence of C.I.M.E. on subventions from Government, the Banco Industrial and Private and International Agencies, and on the receipts for its consultancy service, did not permit the expansion of its activities. The fact that it is necessary to charge fees virtually excludes the small-scale sector from participation. Indeed, C.I.M.E. as it exists at present is not organized to provide the type of assistance which the sector stands in need.

It will be realized, therefore, that the job description, quoted above, could not be fully carried out on account of the non-existence of facilities, the lack of adequate funds, and, indeed, lack of contact with the small-scale sector.

For some time prior to the arrival of the writer considerable interest had been shown by some Directorates of Industry and municipalities in the creation of industrial estates. And as Government was pursuing a policy of decentralization of industry, the writer considered that by the establishment of industrial estates not only would the policy of Government be implemented, the aspirations of the municipalities be satisfied, but the much needed contact with the small-scale sector could be made, and a location for the necessary common service facilities would be provided.

This report is divided into three sections. The first chapter deals with the situation in the small- and medium scale sector as seen by the writer. Chapter II contains suggestions on the organization necessary for the creation of industrial estates, the possible locations for industrial estates, and the reorganization of C.I.M.E. to provide the assistance which the writer considers the small-scale industrial sector to be in need. An outline of the economic and industrial situation in Argentina is given in the Appendix. This section was requested by the Vice-President of C.I.M.E. who wished a comparison to be made between Argentina and other developing economies. The scarcity of comparable data restricted the comparison between Argentina and other Latin-American countries, but the similarity of development and statistics permitted what is believed to be a useful comparison with Australia.

The writer desires to acknowledge the assistance he has received from the staff of C.I.M.E., and from the Director of Research of the Bank of London and South America

The writer left Buenos Aires on 22 September 1969 on completion of his assignment.

A. Neilson
Buenos Aires 1969

CHAPTER ONE

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In this chapter an attempt is made to describe the conditions in small- and medium-scale industrial establishments in Argentina. It is based on observations made during visits to such undertakings in San Francisco, Bahia Blanca, Olavarria and in the Gran Buenos Aires area, and on the analysis of questionnaires, issued by the Centro Commercial of San Francisco and by the Municipality of Olavarria, in connexion with a proposal to establish an industrial estate in each of the two latter towns. About 80% of the enterprises in San Francisco, and approximately 50% of the small-scale industry in Olavarria submitted completed questionnaires. While it must be understood that the information that follows, of necessity, applies to only a small-cross-section of the small- and medium scale industrial field, it is believed that the observations made have a general application, and it is necessary to take these into account in planning any programme of assistance.

2. It would probably be incorrect, from the point of view of industrial development, to regard San Francisco as a typical medium-size town in the interior, but the writer believes that it presents, with a fair degree of accuracy, the general features of small-scale industry throughout the country. The conurbation in which industry is located undoubtedly affects its nature and growth, but many of the problems of the small-scale industrial sector are the same irrespective of location.

3. As was to be expected from the Censo Nacional Economico the average employment per establishment in San Francisco is low, being 12.4 persons. This figure which is higher than the national average, and nearly one and three-quarter times the average for the Province of Cordoba, is inflated by a few large undertakings, each employing more than 100 workers. Some 73% of the enterprises employ 5 persons or less, and 89% have fewer than 21 employees. The percentage of establishments that do not employ any hired labour, that is to say all work is carried out by the proprietor or proprietors, at 45% is very high. The percentage of women employed in the manufacturing industries is only about 1%.

The only industrial group in which they are employed in a substantial number is in the railway industry.

4. Nearly two-thirds of the enterprises are small-scale concerns, most of which are owned by the employer. Slightly more than 80% of the enterprises are in the same situation. As far as can be ascertained the proportion of domestic and commercial premises is low. Many of the workplaces, particularly those of the larger undertakings, were originally domestic or commercial premises, the process being accelerated by the acquisition of adjacent buildings.

5. The gross floor area of the workplaces is, with very few exceptions, more than adequate for the process carried on. The floor area per worker generally is greater than that found in Great Britain for the same or similar trade. Of 87 undertakings in San Francisco, the owners of which stated that they would move to an industrial estate if one was built, 18.4% have 20 sq. ft. or less, 21.8% have between 21 and 40 sq. ft., and 59.8% have in excess of 41 sq. ft. per worker. The average is 59.3 sq. ft. per employee. In Olivaria the average for 50% of the small-scale establishments, which does not include any domestic businesses, is 70 sq. ft. The average ratio of plot to covered area is 2.5 to 1. This ratio is greatly affected by about one-third of the undertakings which have unusually large plots. In 17% of the cases the ratio is unity, and for nearly 50% the ratio is less than 2. The majority of the last two represent domestic and commercial types of accommodation. For comparison a table of the floor areas per worker, in various trades in Great Britain and those found in San Francisco and Olivaria, is appended to this report.

6. The average consumption of electrical energy at 0.84 KVA is low for a town with a high proportion of light engineering. The maximum consumption is 2.0 KVA per worker. The tendency is for the larger concerns to have the higher rates.

7. There are at least nine different types of manufacturing organization in Argentina, ranging from the Sociedad de Hecho type of partnership, to the Sociedad Anonima. In San Francisco, approximately 75% of the establishments are not registered as one or other of these organizations. About 15% are referred to as Sociedades de Responsabilidad Limitada, and 12% are divided among the other types. The larger concerns tend to be Societas Anonimas, S.R.L.'s, or S.R.L.'s Industriales, but there does not appear to be any clear-cut demarcation between the types of organization. The S.R.L.'s, in companies of establishments ranging from those employing only one worker to those with over 100 employees, while some undertakings registered as Societas Anonimas have less than twelve workers.

8. The raw materials used in 32.4% of the establishments surveyed are obtained from the surrounding district. In 6.4% of the undertakings, 100% of the raw material was imported. The percentage of firms drawing their supply from Buenos Aires could not be determined with accuracy; 14.2% clearly obtained their materials from the Federal Capital, but a portion of the remainder described their supplies as being of national origin without specifying the source. It is believed that in most of these cases the material passed through Buenos Aires. Where provinces were designated as sources, all were north of Buenos Aires.

9. The majority of the concerns (60%) sold more than 50% of their production in the neighborhood of San Francisco; 7% sold more than 50% in provinces other than Santa Fe and Cordoba, 8% disposed of more than half of their output in Gran Buenos Aires, and 15% described their sales as throughout Argentina.

10. The majority of the firms appear to rely on road transport for the conveyance of raw materials and finished products. Some 80% of the establishments own vehicles, and of these, 65% had passenger vehicles.

II. Most of the small-scale firms have difficulty in recruiting skilled labour. In general unskilled or semi-skilled workers receive no training is required on the job. In only one case known to me had an organized training scheme in operation in a small-scale undertaking (30 employees). The large organizations, both Argentinean and Foreign, usually have their own training facilities. One medium-size firm, in the past, conducted an evening course in machine tool operation for the benefit of its young employees. This course was discontinued on account of the demand of the business for wages higher than the management considered they were worth. This resulted in many of the workers leaving to seek employment elsewhere.

12. Operatives are classified as Officials, Medio-Oficiales, Oficialitos, Aprendices, and Apprentices. For each of these groups there was a minimum rate of pay established by a collective bargaining agreement. Since the principle of collective bargaining has been abandoned, the former rates serve as the basis on which current adjustments are made. There is no organized apprenticeship system; promotion to the Medio-oficial or Calificado grade appears to be at the discretion of the management. The distinction between the Medio-oficial and the Calificado is that the former is regarded as having all-round experience, and is eligible for promotion to Oficial grade within a period not exceeding six years, while the experience of the latter is limited to one particular type of machine, or part of a particular operation, and has no avenue of advancement. The basic rates are the same.

13. Many employers prefer Calificados to Medio-oficiales as there is less likelihood of them leaving to seek promotion. In the engineering trade not a few managers of small undertakings complain of the "pirating" of skilled labour by the automobile manufacturers who, they claim, offer considerably higher rates, but with less security of employment.

14. On the whole the turnover of labour in the manufacturing industry is

sector is low. It is not unusual to find labor on the large scale with the firm since its inception. Absenteeism is a concern, but by no means a major complaint of management. In Gran Buenos Aires a considerable number of firms pay a monthly bonus to each employee without broken time. In one concern known to the writer the bonus is \$2,000 per month, and rarely do more than 15% of the employees qualify for it.

15. Payment is almost always on a time basis at rates which are from 20 to 40% above the former collective bargaining agreement. A few firms pay a bonus to individual workers, or groups of workers, which is related to productivity, but this appears to be exceptional. More commonly if a bonus is paid it is based on a number of factors which may include output, good behavior and regular attendance. Most small enterprises pay a regular premium to individual workers of higher than average skill. It is believed that some of the small firms would like to introduce payment by result or piece-work systems. Payments to workers on account of social benefits amount to between 45 and 65% of the normal time rates. Insurance against accident is compulsory, and appears to still heavier on the smaller than the larger concerns. In the small factories little or no attempt is made to guard potentially dangerous machinery.

16. In the very small undertakings the proprietor performs all of the functions of management, and may also be physically engaged in the productive operations. At a slightly higher level the managerial duties may be shared by the partners. There is noticeable tendency to unduly increase the administrative staff as the firm expands. There are instances in businesses employing between 50 and 200 persons where the ratio of "administratives" to "obraros" is as great as one to three.

17. The average small-scale industrialist in Argentina is a person of limited firmness is reluctant to borrow from a bank. He usually has a very

to obtain long-term accommodations by borrowing a portion of the funds, or, if a short-term loan is needed, by borrowing from a private financier. In the latter case the whole transaction may be completed in a matter of days. The interest rate for loans of this type, in the recent past, has been as high as the equivalent of 45% per annum. The present stability of the currency has reduced the operative rate to a more reasonable figure, but they will still be considerably in excess of what could be obtained from a commercial bank. Of some 30 firms visited in the Gran Buenos Area only one made use of the facilities offered by the Banco Industrial.

18. Many small industrialists in the auto-making trades, including those who are sub-contractors to the automobile and truck manufacturers, are adversely affected by the difference in the terms of the credit they receive from their suppliers, and that which they are compelled to extend to their customers. The selling agents of S.O.M.I.S.A. (Sociedad Ixta Siderurgica Argentina - the State Steel Organization), the principal suppliers of steel plates, bars and sections allows only 30 days credit to their customers, while the customers of the small undertakings generally demand 120 days credit. Some of the vehicle manufacturers pay 30 days after delivery, others at 60 days, and one, until recently, paid only after 100 days.

19. In the small-scale sector costing is on a historic basis, and where there are more than one product the allocation of fixed expenses and other overheads between the products is open to question. In the jobbing field estimates are made on the manager's knowledge of what similar work cost in the past. The writer has not encountered any small-scale enterprise which employed a system of costing based on the synthesis of the separate operations involved. The insistence of the automobile and truck manufacturers on their sub-contractors providing a form of cost analysis with their tender is gradually introducing this concept into the small-scale sector.

20. Seldom do small-scale industrialists plan their production in accordance with a strict schedule of future orders. Frequently they do not have orders

to information on the potential market, and often they have to rely on the advice, which is not always disinterested, of distributors. Even one of the medium-scale establishments, the products of which were distributed by a wholly owned subsidiary, had no feedback of information on anticipated sales. More often than not what passes for planned production is neither more nor less than arranging the order of jobs so that priority is given to the more important clients; not planning the sequence of operations to ensure the maximum utilization of the facilities. In justice it must be stated that small to medium size establishments have been encountered in which Gantt charts were maintained and the machine loading planned accordingly.

21. The automobile and truck manufacturers when they place an order stipulate the date and quantity of the initial delivery and the rate of delivery thereafter, and, sometimes, an estimate of the probable consumption for the forthcoming two months. In theory this should enable the sub-contractors to plan their production well in advance. However, both the quantities and the dates for delivery are subject to such frequent alteration that one might be justified in questioning the production planning of the principals.

22. Some form of quality control is carried out by the majority of small-scale establishments. In nearly all instances this means inspection and or testing of the finished product. The rejection by the automobile assemblers and certain other large undertakings of entire consignments if the percentage of sub-standard articles in the batch exceeds a predetermined figure has induced a quality consciousness which otherwise might not have developed. Neither statistical quality control nor the control of critical dimensions of work in progress appear to be practiced. Indeed, in the small-scale sector the length of runs are not always of sufficient length to make statistical control meaningful.

23. It is not possible to generalize on the equipment used in small-scale undertakings. The industrialists, as a whole, are well aware of the fact that

types of machinery available in their respective shops. It is usual to find a mixture of relatively new (4 to 6 years) and old (20 to 30 years) equipment. When new machinery is purchased attention is sufficient thought is given to the balancing of its output with the rest of the plant, or to its suitability to dimensional variations in local raw materials. There is a pronounced tendency to retain obsolete and no-longer-used machines on the premises. There appears to be a reluctance to properly secure and "ground" into machines to the shop floor. It was noticed that in some workshops even precision machine tools were not bolted to their foundations.

24. In the majority of undertakings the machinery is kept clean and appears to be well looked after. In some instances, the writer obtained the impression that precision machines were subjected to rough handling. None of the firms visited practiced planned preventive maintenance.

25. Although several firms were well provided with jigs and clamping fixtures there were many in which the use of these devices would have substantially assisted production. Very few examples of automatic feeding appliances were seen; those that were observed were integral with the machine. In one case automatic feeders had been purchased, but were not used. The speed of a great many of the press operations could have been increased, and the hazard to the operators reduced, if simple feeding devices had been employed.

26. Although the majority of the industrialists claimed that they were working to more than 75% of their capacity, it was apparent that this did not mean that their plant was used to that extent. In the small-scale sector it is unavoidable that certain machines, particularly special purpose machines, are underutilized, but it was the rule rather than the exception to find more than half of the general utility machines in operation in any one workplace. No case of multiple shift operation was encountered.

27. There was room for improvement in the method of handling materials in most of the small establishments. The majority of the firms visited occupied either domestic or commercial premises or sheds erected behind domestic premises. The light type of construction did not permit the use of an overhead crane, or even a wall crane. There were instances of "grapple hoists" being employed as jib cranes, but the extended base of this type of lifting appliance greatly reduces its manoeuvrability and curtails its use. Generally there was inadequate provision for the storage of material between operations. Tote pans rarely were seen. Except in press shops where wooden boxes are used, the processed parts usually are stacked on the floor. A few firms had manually operated pallet trucks, but often the usefulness of these was restricted by inadequate space in which to operate. A great deal of avoidable manual effort in lowering and lifting material to and from the floor was observed.

28. In nearly all of the small undertakings, which were not engaged in jobbing, the layout of the machinery was bad. Where growth takes place by the acquisition of additional machines from time to time, and by the piece-meal expansion into neighbouring premises, it is impossible to achieve a rational layout. Very few small industrialists, anywhere, are prepared to stop production for two or three weeks to completely rearrange their plants, even although the expenses involved will be more than amply recovered later. In jobbing shops the varied nature of the work does not permit a continuous, uni-directional work flow. The best that can be done is to group like machines together. As far as possible, taking into consideration that the machines were not all purchased at the same time, this principle was fairly generally observed. In a few cases, where expansion involved moving to new premises, the firms have sought advice from C.I.M.E., on the layout of their plants.

29. The standard of housekeeping in the small establishments in Argentina is reasonably good. There are, of course, exceptions, but often in such cases poor housekeeping is due to unaffordable premises, frequently dependent on rent. In general, however, the standard of housekeeping is good.

30. There did not appear to be any considerable lack of measuring instruments as micrometers and vernier calipers. The use of plug gauges was not common. Several repetitive operations were seen the control of which would have been facilitated by the use of these and special purpose gauges. On the other hand, some firms with less than 500 employees were equipped with optical comparators and Whitworth measuring machines for checking and setting gauges. The small establishments, generally, were deficient in means of sharpening tools, particularly twist drills and milling cutters.

31. Less than 30% of the small firms in the metal working trades which were contacted in Buenos Aires made occasional use of laboratory facilities for the chemical or physical testing of material. The most common need was the determination of hardness; often this was carried out by a business associate who possessed a hardness tester. In the repair field there was some demand for magnetic crack detection.

32. There appeared to be some scope for product improvement in a few of the establishments visited. There were two aspects to the problem - (a) the quality and (b) the design. The former was associated with either the use of material which was not the most suitable for the intended purpose, the treatment of the material, the sequence of operations on the material, or the finish. With regard to the latter possible improvements were related to either simplification of manufacture, or to the saving of material.

33. There appeared to be a reluctance among small-scale entrepreneurs to modify their basic product, or to expand some aspect of their current activity, to meet a change in the nature of the demand or to increase their volume of sales. This was more apparent in firms which sold directly to industrial customers than through distributors. In one or two instances a proprietor was satisfied with the sale of his product as it was, but when the demand for the product increased he was reluctant to expand his production or to modify his product.

34. Few of the small manufacturing plants are engaged in marketing organizations. In most instances production is carried out against firm orders. Examples were noted of firms in which the bulk of the production was for the custom trade, and a few lines were marketed through distributors. In the automobile component trade the manufacturing concerns either supplied between 80 and 100% of their output to the assemblers, or 100% of their production to spare part stockists. A small number of firms, and these were undertakings turning out a single product or a very narrow range of products, had a nationwide system of distributors. These concerns were interested in exporting to Latin American countries, and one or two had had some success. On the other hand, one or two firms had only one or, at the most, two distributors, and were almost entirely dependent on the vigour with which the distributors pushed their products.

35. In the automobile and textile industries, particularly the former, sub-contracting is practiced extensively. The number of firms supplying components for vehicles must be in the neighbourhood of four or five thousand; one assembler claims to have fifteen hundred sub-contractors. The total number cannot be stated with accuracy as some sub-contractors work for more than one principal. While almost all sub-contractors to the automobile industry admit that by sub-contracting they have increased their output, raised their level of technology, improved their competitive position in the market, and that they appreciate the advantage of regular orders, most complain of their production being subordinated to the requirements of their principals, to difficulties in negotiating prices, and of insufficient benefits from the operation.

36. There is little doubt, in the writer's opinion, that the principals continually exert pressure on their sub-contractors to improve the quality and reduce the cost of their products. Some assemblers divide an order between two or three suppliers to increase competition, and to reduce their dependence on one source of supply. The result is that the sub-contractors

and equipped firm stated that only by constantly improving his methods and by increasing the volume of his production was he able to maintain profits in face of the continuing demands for better quality and lower prices. Not all managers are so favourably placed. The nature of the product and the size and value of the orders may not provide the scope or the incentive to repeatedly study the production process. To reduce their inventory costs the vehicle manufacturers carry the minimum buffer stocks, consequently, in most cases, either relatively small repeat orders are placed, or partial delivery of larger orders are specified on stipulated dates. The sub-contractors would have no objection to either system provided the quantities were not subject to frequent change. In effect the principals are transferring a part of their inventory costs to the sub-contractors. It is noteworthy that some firms that appear to be well equipped to act as sub-contractors refuse to do so, and that some sub-contractors find that that part of their production which they are able to sell on the spare parts market to be more profitable than that supplied to their principals.

37. In the treatment of their sub-contractors, naturally, the policies of the principals differ. The latter are engaged in a highly competitive operation, and cannot afford to indulge in paternalism. There does not appear to be any overt exploitation of small sub-contractors, as has been noted in other countries in the past. However, complaints of unfair treatment, the accuracy of which the writer can neither confirm or deny, have been made by a few sub-contractors. Complaints which would not arise, it is believed, if legislation existed to stipulate standard terms and conditions in the agreement between the parties concerned.

38. In most industrializing countries there is a tendency for small-scale undertakings to attempt to perform, on the premises, all of the operations that go towards the finished product. This trend is to be observed in India also. Even small firms control most of their own production processes. It is

of equipment, and for specialization.

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39. The small-scale and village (in Argentina) differences in aspects from those found in the individually developing countries of the Far East. Generally the establishments are younger, having been started by the present proprietors who, in most instances, are skilled tradesmen. It is much less common to find, in the small-scale sector at least, retail stores branching out into production. Potential entrepreneurs are more likely to be found among foremen and supervisors than in the lower levels of the commercial class. The growth of employment in small enterprises is relatively rapid up to the point where further expansion would necessitate removal to larger premises. While, as has been pointed out, there is a tendency to retain obsolete machinery on the premises, this is not to say that there is a trend to perpetuate obsolete methods. Indeed, there is a very keen appreciation of the value of, if not the latest, at least good modern practice which augurs well for the future of industry in this country.

CHAPTER TWO

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1. The situation in Argentina is altogether different from that found in a developing economy where the augmentation of the income of the agriculturalist is essential to create a domestic market. In this country the earnings of an agricultural worker are, in general, less than that of a labourer in industry, but it is doubtful if the difference is sufficiently great to withdraw labour from the land. (b) The amenities offered by the towns, however, may be a powerful attraction. Between 1947 and 1960 the percentage of rural population decreased in every province, with the exception of Entre Rios. This drift to the towns, no doubt, is attributable to the increased employment of mechanical equipment in agriculture. During the same period, the use of tractors increased from one per 872.8 hectares to one per 202.1 hectares. The displaced agriculturalist

(a) "Industrialization and Under-developed Countries" A.B. Funtboy

(b) Actual per capita income 1961, U.S.\$ 799. Actual per capita income in agriculture U.S.\$ 674. Source. Alliance for Progress & L.A. Development Programs.

labour unable to find employment in the rural areas, and to the cities, and to substantial numbers that remain in the rural areas.

2. The purchasing power of the rural areas is thus eroded by the reduction in the number of wage earners. This is not balanced by an equivalent gain in the large towns and cities. If one ignores the considerable amount of underemployment in the urban areas, and those in that area migrate to the cities find work at the same, or slightly higher, wages than they enjoyed in the rural areas, their marginal purchasing power, by reason of the increased cost of food, clothing, housing and transport, is less than it was before. It is true that the purveyors of some of the necessities of life increase their earnings, but a substantial part of the savings thus created are dissipated in conspicuous expenditure, or invested in real estate as a hedge against inflation. Furthermore, more Government is forced to spend huge sums in the provision of health, social and educational services; with consequent reduction in the savings of the public sector. And in Argentina during the first half of this decade the savings of the public sector were negligible.

3. It follows, therefore, that the development of the domestic market for the products of industry would be accelerated if the drift to the large towns and cities was halted. That can be done only if employment is created for the redundant agricultural labour in the rural and semi-rural districts. Agriculture in this country has already reached a high level of development. That is not to say that it cannot be improved, but it would be unrealistic to expect spectacular, short-term results. Increased employment, in this field, will depend on measures of land reform, and on diversification of production. The most promising and immediate means of increasing rural and semi-rural employment is by the establishment of manufacturing industries in these areas.

4. It has already been shown that the Government has been unable to establish in the rural areas any of the industries, in the rural areas, which

Many of these could open to equally well in semi-rural areas as in the vicinity of the Federal Capital. While the size of rural markets generally would favour those industries that are not dependent on economies of scale, there appears, to the writer, to be three reasons to support a policy of decentralization of industry.

(a) Many of the provinces are vitally dependent on one class of agricultural product. A poor yield due to climatic conditions, attack by pests, or a fall in world prices, literally can spell disaster. By having a diversity of industries this effect can be mitigated.

(b) The surplus agricultural labour can be absorbed in, or near, its place of residence. The pressure on housing and social services in the cities could thus be lessened, or, at least, not increased. Fewer persons would drift into low-productive service industries.

(c) The industries could be more competitive. The cost of land in rural areas is much less than in the large towns. Wages in many cases are lower, but real earnings are higher.

5. If the present situation remains unchanged the cities and large towns will continue to attract industry, with the exception of those with particular locational needs, regardless of size. How are the prospective and established small-scale entrepreneurs to be lured away from the cities? They must be shown that it is clearly to their advantage to set up in, or move to, the small towns and semi-rural areas.

6. Consider what the large town has to offer the entrepreneur. He can obtain a site provided with all the services he requires. It is possible that he may be able to lease or purchase a building that is reasonably suitable for, or can be adapted to, his purposes. The materials which he processes are obtainable without difficulty, and a market for his product is on his doorstep. If he needs technical assistance it is available from sources that are close at hand. For all this he pays a high price. Land values and rents are inflated by

drawn. It has to compete with the large scale enterprise which has a greater
scale of production, to attract a certain skilled labour force and has not a
greater incidence of labour market.

7. The relative impact of these different enterprises will depend on the
advantages and disadvantages of settling in a large town. Obviously, all are
affected by many subjective factors, but the cost of the equipment and cost of
setting up his business will be, in all but special cases, of equal importance
to the proximity to the market for his wares. Make it cheaper, quite a bit
easier for him to establish his establishment in a small town, or a semi-rural
area, and the small-scale industrialist will go there.

8. It will be appreciated that most of the advantages and all of
the disadvantages of operating in a large urban centre are the product of the
environment. This truth tends to obscure the fact that it is possible to
create the optimum environmental conditions outside of the cities and large
towns. Indeed, the only feature that cannot be reproduced is the large market
on the doorstep. This market, however, is one that is shared by many, and an
individual share may be very small. It is not improbable that the lower opera-
ting costs possible with well designed facilities in a semi-rural setting
would allow a share of the metropolitan market to be retained and, at the same
time hold a captive market in the neighbourhood.

9. The optimum environmental conditions can be created by the
establishment of industrial estates provided with an adequate and viable range
of common service facilities. Much thought has been given to the planning of
"Parques Industriales" in Argentina, but, as yet, none is in existence. No dist-
inction is made between an industrial area, that is an area provided with roads,
water, electricity, drainage and telephones where industry may establish an indus-
trial estate, that is an area where facilities are provided for the use of the
industrial estate, that is an area where facilities are provided for the use of the

one of a technique for increasing the rate of development in the area of demand.

10. Furthermore, the approach to development in this area is large areas, the availability of the physical resources, and the availability of the only of providing jobs for sale. While the development cost per acre and increases with the size of the project, the cost of development of the entire developed area can be reduced if the practice is followed to wait a long time to recover their investment, and in the meantime to find other investment opportunities. An English authority, with a great deal of experience in operating industrial estates, considers that the optimum size is between 10 and 15 acres (roughly 20 to 40 hectares). The Agricultural authorities would be well advised not to exceed 50 hectares for the first phase of any development.

11. An industrial estate project is not just a business in providing alternatives, and perhaps more convenient, accommodation for existing undertakings. It is intended to accelerate the development of those enterprises that become economic, to attract new industries, and to assist and stimulate industrial development in the region in which it is situated. To do this it must provide the following:-

(a) Developed land at a price that is lower than that which the prospective occupier can obtain through his own efforts. Whether the land is sold or leased will depend mainly on the method by which the project is financed. For the maximum development effect, however, factories should be built by the promoters, and be made available on long lease or hire purchase terms.

(b) All services that are common to all occupiers - water and sewerage, fire protection, first-aid, canteens, etc. The recurrent cost of these, if not included in the lease rent, is shared between the recipients.

(c) Common services facilities. The exact nature of these facilities will be determined by the type of occupiers, and the size of the estate.

facilities will be devised to support the industrialists in their efforts to produce goods for the export market. The cost of such facilities will be borne by the Government, but the Government will not be responsible for the cost of the facilities themselves, and the cost of the facilities will be borne by the industrialists themselves.

(d) Technical and managerial advice. It is also suggested that the Government should provide technical and managerial advice to industrialists. The cost of such advice is set up on each industrial estate. In the event of a crisis, one or more aspects of this type of aid could be provided, but it is important that a team of technical and managerial advice is available on the estate, and the use of this advice, of course, would not be liable for the payment of profit tax on the estate.

(e) Marketing assistance. There are two aspects for consideration of this aid. One consists of a study of market trends, the capacity of the market for particular products, distribution channels, and the effect of changes in demand on export and import regulations; in short market research. The other is the organization of co-operative purchasing of raw materials, and the marketing of the products. The latter would be of especial value to small-scale entrepreneurs operating from semi-rural industrial estates. Particularly so, if a nationwide organization with a show-room in the Federal Capital was established. For many small-scale industrialists an export market is needed. The existence of a non-profit making organization capable of finding overseas buyers, and of dealing with all of the transactions connected with exporting involves, and it is believed, lead to the small-scale entrepreneur improving his product and organizing his production with the needs of the export market in view.

12. It is one thing to recommend a system of industrial estates, but it is much more difficult to try to implement the recommendations. An industrial estate is a costly piece of land estate. To develop one involves for the receipt of a large amount of money. The price of a small-scale industrial estate is \$10,000. It is not surprising that the Government is not

therefore is essential.

13. Although there are some industrial areas that have been developed as straight commercial operations, there are few industrial estates which have not been subsidized in some form or another. Even in some highly industrialized countries, where the estate device is used to locate industry where there is no great pressure on the social services, or where unemployment is rising on account of the decline of former trades, rather than to promote industry per se, grants are made towards the construction of premises and the purchase of raw material. Where the major reason for the creation of an industrial estate is the promotion of industry, the estate can be, and is, a viable undertaking, but it is one that is unlikely to attract investors from the private sector, by reason of its low returns compared with other opportunities available. For that reason some form of assistance is necessary, an outright government subvention or a long-term low interest loan.

14. An industrial estate is not created by an administrative decision. Even a small estate may take as long as twelve months to complete, and it is expected to have a very long life. There must be some form of organization to secure the finance, to negotiate and co-ordinate the construction contracts, to liaise with the local and provincial authorities and the suppliers of utilities, to promote the sale or lease of the industrial plots, and to operate the estate either permanently or until it can be handed over to a committee of the occupiers. Obviously the organization developing and operating the estate must be a statutory body with adequate legal powers. No lending agency would consider making a loan to some loose association of government officials and entrepreneurs. Nor would any association that was not a legal entity be capable of placing contracts, or of enforcing its policies.

15. It is the writer's opinion that local rather than provincial or regional authorities should play the major part in providing and operating

industrial estate. That is not to say that the national and provincial authorities should have no voice in its creation. Quite the contrary, financial backing is essential, and may be the only source of finance. It may be necessary for these authorities to publicize the use of industrial estates as tools for the development and decentralization of industry. It is to emphasize the involvement of the local industrialists, municipality and commercial organizations in the estimation of the need for, the promotion and operation of, an industrial estate identifies the estate with the community, and goes a long way to ensure its success.

16. As the organization which undertakes the promoter of an industrial estate is well placed to sponsor other activities that will raise the level of economic development in the area, the writer believes that the time has come to form development corporations at appropriate levels. In some locations the appropriate level will be the municipality; in others it may be advisable for two or more municipalities to work jointly to promote projects of common interest; and in thinly populated areas the corporation might be on a provincial basis. It is not proposed that the development corporations should duplicate the functions of, or replace, existing chambers of commerce or centres commercialees, but that, where these bodies exist, they should form the nucleus of the development corporation which would be strengthened by official members.

17. The functions of a development corporation in relation to an industrial estate have been indicated briefly in paragraph 14. There are, however, many other fields of activity, some of which are outlined below:-

- (a) Identification of the infra-structural requirements for industrial development. Liaison with the responsible authorities to secure the provision of these needs.
- (b) Identification and elimination of restrictions placed on economic growth by obsolescent or inefficient legislation.
- (c) Liaison with the responsible authorities to secure the provision of...

preparation of feasibility studies of possible projects, and also arousing to interest entrepreneurs in them.

(d) Publicizing the area by the dissemination of information on what it can offer to industry - information on the availability of developed land, electric power, water, skilled labour, housing, communications, hospitals and recreational facilities. The last may have little to do with industry, but Sialkot bases its program of attracting industry almost entirely on the recreational opportunities it can provide. A similar publicity campaign can be directed towards ~~traders~~.

(e) The screening and, if approved, endorsement of applications from local entrepreneurs to lending agencies. Some development corporations make loans for approved projects. There is no objection to this practice if the loans are from the corporation's own funds. However, if the corporation is financed from public funds, as is frequently the case, the corporation is in the position, so to speak, of handicapping its own horses.

(f) The provision of technical and managerial assistance often is a duty of a development corporation. It is the writer's view that in this country a development corporation should be involved in the supply of aid of this nature only as a channel through which applications for assistance can be routed to a competent consultative body. Such applications may arise from individual industrialists, or be initiated by the corporation itself. So far as matters affecting the small- and medium-scale industrial sectors are concerned, the appropriate source of advice and assistance would be C.I.M.E., reorganized and strengthened for this task.

18. Leaving, for the moment, the details of the suggested reorganization of C.I.M.E., the point the writer wishes to stress is that it is essential that some means be provided whereby contact between the small- and medium-scale industrial sectors, particularly the former, and C.I.M.E., or any other source of technical assistance, can be made. At present C.I.M.E., situated in Lahore, is unable to provide any assistance outside of the Province of the Punjab.

limited contact was made possible only by the provision of facilities by the provincial Government.

19. The creation of industrial estates with "built in" extension services in centres where Government desires to promote industrial development would provide the necessary contacts which would not be limited to the occupants of the estate, but would include the industrialists in the surrounding area. The presence of such a service unit, or even the representative of such a unit, dedicated to assist industry, could not fail to have a beneficial effect.

20. It is not suggested that the facilities that a re-organised and expanded C.I.M.E., could provide should be duplicated on each industrial estate. At this stage it is not possible to state what particular type, or types, should be provided on any proposed estate; that is dependent on the types of industry that settle on the estate and are established in the neighbourhood. However, it is recommended that there is a centre on each estate to which industrialists seeking advice can apply. Obviously it would be impossible for any extension centre to supply, from the experience of its personnel, all of the information that will be requested, but through the headquarters of C.I.M.E., in the Federal Capital it should be possible either to obtain the desired information, or to put the applicant in touch with a person or organization able to assist him.

21. The functions of the extension centre would not conflict with those of the development corporation. Where an industrial estate, with such a centre, has been established the corporation would channel its enquiries through the centre. But the principal activity of the centre would be the day-to-day problems arising in the industrial enterprises. Many small-scale industrialists would hesitate to take their problems to a development corporation, while they would be happy to discuss them in an informal way with an extension centre representative.

22. If it is agreed that the building of industrial estates will further the policy of Government to develop and decentralize industry, then consideration must be given to the selection of the best locations. It is not unknown for a state or provincial government to exert pressure on its federal or central government to establish an estate within its administrative area from motives that are wholly political. Several of the failures in the Indian industrial estate system can be attributed to the Central Government succeding to demands of this kind. No government can afford to indulge in a policy of indiscriminate building. The selection of locations, therefore, should be made by finding the answers to a question on the lines of "In which of the provinces would the creation of an industrial estate be an effective means of development and decentralization?" The operative word here, is effective. An industrial estate cannot be effective unless there exists in its neighbourhood certain concentrations of industry, population, utilities and social services. At the same time it would not be effecting decentralization if it was established where there were too great concentrations of the aforementioned as, for example, in Gran Buenos Aires.

23. In endeavouring to select the provinces where an industrial estate would be the most likely to achieve the above objects, the writer adopted two methods. In the first, the value of production, the population and the degree of urbanization of each province were listed, and each was assigned a number which corresponded to its position on the list; eg. the highest production was 1 and the lowest was 23, similarly for population and percentage urbanization. The three numbers thus obtained for each province were added together. The provinces with the lowest totals were taken to be those that offered the best prospects for an industrial estate. In the second method the three parameters were density of population, per capita value of production, and diversity of industries. In assessing the latter the number of industrial manufacturing groups not represented in the province was taken as the index. As in the first method, the priority order numbers on each list were totalled. The provinces were

in the order of selection are shown below.

	<u>Method One</u>		<u>Method Two</u>
I	Buenos Aires*	I	Santa Fe
2	Santa Fe	2	Buenos Aires*
3	Cordoba	3	Cordoba
4	Mendoza	4	Tucuman
5	Tucuman	5	Mendoza
6	Entre Rios	6	Entre Rios
7	Salta	7	Chaco and Jujuy
8	Chaco and San Juan	8	Misiones
9	Corrientes & Rio Negro	9	Corrientes
10	Jujuy	10	Salta
11	Chabut & La Pampa	11	San Juan
12	San Luis and Santiago del Estero	12	Chabut
13	Misiones	13	Rio Negro
14	Tierra del Fuego	14	Santiago del Estero
15	Santa Cruz	15	La Pampa
16	Neuquen	16	San Luis
17	Formosa	17	Formosa
18	Catamarca and La Rioja	18	Neuquen
		19	La Rioja & Tierra del Fuego
		20	Catamarca
		21	Santa Cruz

* Excluding that part of Gran Buenos Aires in the Province of Buenos Aires.

24. There are, of course, obvious objections to the above methods of selection. However, the results, while not identical, are reasonably alike. In particular, the same provinces appear in the first six in each list. There is a greater correspondence between the two lists at the upper and lower ends than in the middle. This suggests that the methods were more discriminating at these parts.

25. There is, as yet, no experience in this country of the operation of industrial outlets. In the writer's opinion, it would be unwise to claim

on a building policy until a pilot project has been tried in a province. If it is successful, it is suggested that it be followed by the other estates as the first stage in the program. Of the three, one might be in the Region Perpeana, one in the Region Central, and the other in either the Region Guyana or the Region Nordeste. It is, perhaps, appropriate to insert a word of warning at this point. Almost every month the writer learns of another municipality that desires to build an industrial estate. In some cases what is actually intended is to establish an industrial district. There can be no objection to a municipality deciding to confine industry to a particular location; that is an essential element of town planning, but the provision of an industrial estate is another and far more expensive matter. Even where there appears to be a reasonably good case for an industrial estate, it would be advisable to wait until actual experience of their operation, and the reaction of the industrialists, is gained through the pilot estate, or through a series of pilot projects in different regions.

26. In the Region Perpeana, the Province of Buenos Aires is the best choice. It is the declared policy of the Provincial Government to establish "poles of development" at appropriate locations to remedy the present distorted industrial distribution. At the moment 70% of the industrial production and employment are generated in that part of the Province which together with the Federal Capital comprises Gran Buenos Aires. Three towns have been selected as development poles - Bahia Blanca, Olavarria and Mar del Plata. On the grounds of population, communications, utilities and volume of trade, Bahia Blanca is an excellent choice. Industry, however, does not appear to be expanding. The Provincial Government has already acquired a site for the estate. The success of the project will, in a large measure, depend on the ability of the estate to attract industries which are subsidiary to the main business of the town, which is the shipping and packing of agricultural, in its widest sense, produce. The establishment, as seems probable, of a large petro-chemical complex in the area will, no doubt, give rise to a number of ancillary undertakings that consequently

can be located on the estate. Interest has been shown by the Municipality of Oliverria in the establishment of an industrial estate. From the information at present available there is, in the writer's opinion, little need for one at the moment. However, Oliverria is a progressive town, the centre of the cement industry, and has embarked on a policy of urban renewal. On the latter grounds, particularly as all of the necessary infrastructure is in existence, it could be argued that a small estate is justified. The writer believes that it should have a lower priority than Bahía Blanca.

27. In the Region Central there is little to choose between the Provinces of Córdoba and Santa Fe as a location for an industrial estate. There already have been proposals to build an estate in the City of Córdoba, and a complex of industrial areas in the St. Nicolas - Santa Fe area. The former was intended to accommodate small-scale industry, while the latter were for large undertakings. The plans for these have been maturing for several years. Some action has been taken to provide accommodation for industry in San Nicolas area in conjunction with the metallurgical plant already established there. However, the immediate need is to encourage the development and decentralization of small-scale industry. The writer suggests that consideration be given to building the pilot industrial estate in San Francisco. This town has many advantages in this respect. It possesses a thriving and vigorous light engineering industry, which has grown from almost cottage industry level and is in great need of improved industrial accommodation. San Francisco, while situated in the Province of Córdoba, is very close to the border of the Province of Santa Fe, and draws a part of its labour force from that Province. An estate located in San Francisco could assist the development of both provinces. Furthermore, the Municipality, the commercial and trade organizations and the industrialists are united in their desire to establish an industrial estate in the area.

28. In the Zona Cuyana the choice would be Mendoza, and in the Zona Noroeste, Tucumán. In effect this means the cities of Mendoza and San Miguel de

Touman. On the grounds of greater volume of production and better communications, particularly the rail connections to Santiago de Chile and Valparaiso and thence to the Pacific Coast, the writer considers Mendoza to be the better location of the two. On the other hand there is an urgent need to provide alternate employment in Touman, on account of the decline of the sugar industry. Government might consider it advisable to build an estate in San Miguel de Tucuman as a means of attracting new industries to the district.

29. The existence of an industrial estate in a municipal area will provide accommodation for those existing enterprises that require additional space, and a suitable location to which new undertakings may be directed. Many of the municipalities have enacted legislation to control the location of industry. Generally, these measures are of a prohibitive, rather than permissive, nature. New establishments may not be set up in specified residential and commercial areas, and in these areas existing industries are allowed to remain as long as they do not create a nuisance. In at least one municipality all industry must leave the specified areas within fifteen years.

30. Useful as these measures may be in long-term urban planning, they are not particularly effective in directing established enterprises to an industrial estate. Much can happen in fifteen years, and what constitutes an industrial nuisance often is debatable. The entrepreneurs who need space will move to an industrial estate because it can supply them with what they need at a lower cost than they could do so by themselves. A number of associated enterprises may be obliged to follow. There will be, however, marginal cases where it may be necessary, and politic, to offer some inducement.

31. There are, of course, "built-in" inducements in every industrial estate, the common user services - watch and ward, fire prevention, first-aid and catering - and the common service facilities, which, though many and varied, may be grouped as technical and managerial assistance. These inducements may not

be sufficient to attract new enterprises to the new remote provinces. The offering of concessions is not in any way ceasing industry. The expense spent in this connection should be regarded as an investment that will eventually be recovered through increased governmental and municipal revenues.

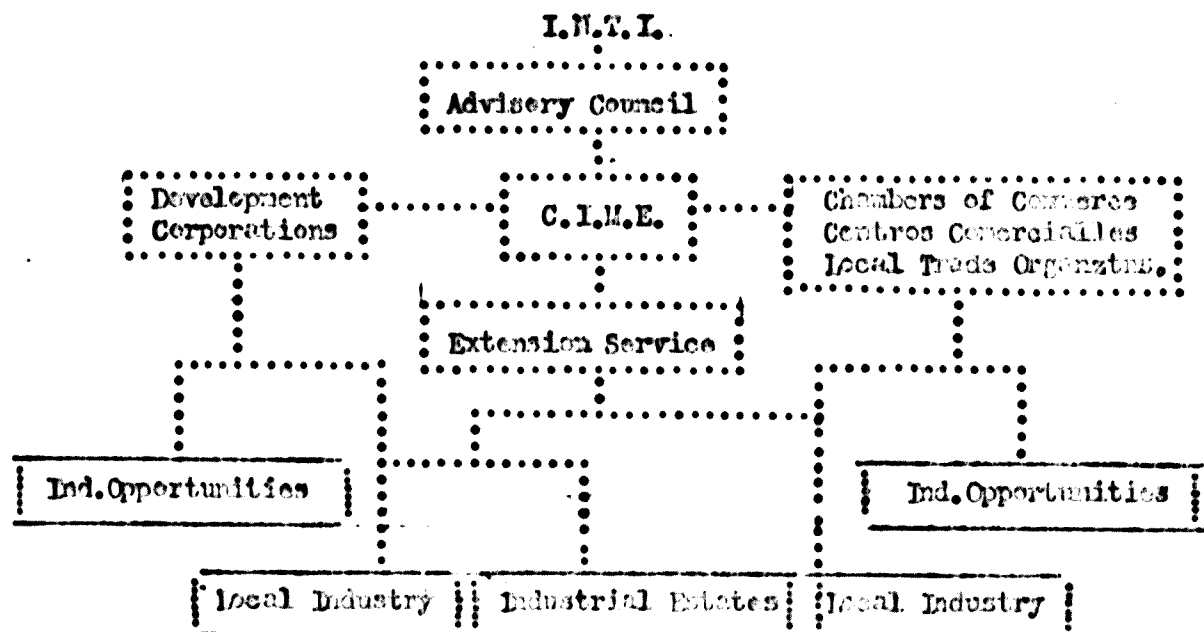
32. It is suggested that the Federal and Provincial Governments give consideration to the making of positive financial concessions. Inducements based on the total or partial exemption of income or corporation tax are not positive measures, and, sometimes, are ineffective. The early years of a new enterprise are critical. It may be several years before a taxable profit is made. Long-term, low interest loans, outright grants towards the purchase of new equipment, outright grants towards the cost of transferring to the new location, the building of advance factories and their disposal on hire-purchase terms or long lease, or preferential freight rates are positive and effective inducements.

33. An industrial estate will supply the necessary physical requirements for industry, but its full effect as an industrial promotional and developmental device will not be realized unless it also provides the means of increasing the technical and managerial efficiency of the enterprises in its locality. There are three aspects to be considered - (a) decentralization, (b) promotion of new enterprises, and (c) development of existing undertakings. Decentralization has already been discussed. In this connection it has been proposed that development corporations be formed, and it should be one of the tasks of a corporation to identify and promote industrial opportunities. However, unless the development corporations are at provincial level the whole country would not be covered. Where there is no development corporation, this task should be undertaken by the local commercial organization. Assistance in the development of existing undertakings cannot be confined to those establishments that become tenants of an industrial estate, although that is where the start should be made.

National Small Industry Programme.

34. The writer suggests that the Federal Government inaugurates a National Small Industry Programme. By this is meant a statement that it is the policy of Government to encourage and assist the decentralization, promotion and development of small-scale industry, and to revitalize the existing agencies, governmental and private, which are to co-operate to achieve these objectives. Indeed, it cannot seriously be contended that, in respect of industry in general, this is not the present policy of Government, but so far as small-scale industry and the co-ordination of effort are concerned there appears to be need for a clear directive.

35. On the one hand, there are, or will be, the development corporations, or, where these have not been formed, the local commercial and trade organizations, and on the other, the sources of technical and managerial assistance. The two must be brought together through a co-ordinating agency. It is suggested that the most suitable agency for this purpose is C.I.M.E. A chart of the proposed organizational arrangement is shown below.



36. The Advisory Council should consist of persons representing institutions or Government Agencies that are actively concerned in the promotion

of industry and with its current problems. It is considered that C.O.H.A.D.E., C.O.H.E.T., the House Industrial and Commercial/Trade Organizations should be represented, and that the Council should have powers to co-opt additional members as required. The duty of the Council would be to frame the policy under which C.I.M.E., should work; to assign priorities; and to delineate special fields of activity.

37. The present activities of C.I.M.E., may be divided into three categories - the provision of instructional courses, private consultations, and the implementation of special projects, which may include courses and consultations, at the request of a Ministry or some official body. To carry out this work C.I.M.E., depends on funds which are supplied by I.N.T.I., C.A.M.I.E.A., the Ford Foundation, the fees in respect of the instructional courses and from the agency sponsoring the special project, but the principal source is the receipts from private consultations. The necessity to rely on the latter has, in fact, excluded, almost completely, the small-scale industrial sector from any benefits.

38. If the proposed National Small Industry Programme is accepted, it is a "sine qua non" that C.I.M.E., must be provided with an adequate budget to permit it to supply assistance where it is necessary, regardless of whether or not a fee may be collected. This is not to say that fees should not be charged. Indeed, the proposed reorganization of C.I.M.E., should allow it to earn more than it has done in the past. The vital point is that the possibility of earning a fee must not determine where the assistance is given.

39. Furthermore the necessity to earn fees has limited consultations to clients who appreciate they need advice. In the majority of cases this means that the firm is either out of the small-scale category, or, if it is not, is a leader in its field. And because of this the assistance required is much more likely to be in relation to the managerial rather than the technical aspects. Consequently in the development of the consulting services of C.I.M.E.,

technical side has been almost entirely neglected. Geographically too, the lack of adequate funds has limited the field of activity of C.I.M.E., to Greater Buenos Aires and Rosario, with only a few excursions into the Interior.

40. If the small-scale industrial sector is to play its full and indispensable part in the economy, it is essential that the type of assistance it needs is available; whether or not it can afford to pay the full cost of that assistance, and wherever it may be located. This, of course, is a counsel of perfection that cannot be realized for many years to come. However, a start can be made by financing and adapting C.I.M.E., to cater for the small-scale sector, by the creation of development corporations and industrial estates, and by forging a closer link than hitherto between C.I.M.E., and the Trade and Commercial Organizations.

41. In this connection the writer considers that, in the future, C.I.M.E., should undertake the following tasks:

- (a) The provision of instructional courses.
- (b) The promotion of industrial opportunities in collaboration with the commercial organizations and the proposed development corporations.
- (c) Private consultations.
- (d) The provision of institutional support for the development of existing enterprises through an extension service operating from industrial estates, where these are established, and in industrial centres where there is no estate.

42. The courses currently provided by C.I.M.E., evidently fulfill a need, and, for that reason, should continue. They, however, do not have a significant impact on the small-scale sector. While the main venue is the Federal Capital, regular courses have been held in Cordoba, Rosario and San Francisco, and modified courses in the larger towns of the Province of Buenos Aires. The impossibility of covering the whole country, or even all the industrial centres, is apparent, but it is considered that courses of a less advanced standard

could be given for small-scale industry in the Federal Capital in the first instance, and later on the industrial estates.

43. The assistance that C.I.M.E., could provide in the promotion of industry would take several forms:-

- (a) The preparation of feasibility studies of industrial projects suggested by the local chambers of commerce or by the development corporations.
- (b) The investigation of the industrial possibilities of locally arising materials, particularly waste materials.
- (c) The preparation of feasibility studies for industrial estates.
- (d) The design of industrial estates.
- (e) The investigation of the potential demands and export markets for proposed new products.
- (f) The compilation of locational data of the type required by prospective entrepreneurs, e.g. wage rates, costs of electricity, land, water etc.
- (g) The compilation of information on possible sources of finance and foreign technical aid.

44. The writer considers that the private consulting work currently carried out by C.I.M.E., should continue. Indeed, if the recommendations made later in this report are implemented, the scope will be increased by the inclusion of technical consultations.

45. With regard to the development of existing enterprises, what follows applies to the small-scale sector. The medium- and large-scale establishments are well able to look after themselves, and pay for assistance if they need it. They are the potential clients of the private consulting service of C.I.M.E. The needs of the small-scale sector, as indeed of all industry, fall into three categories - (a) Managerial, (b) Technical, and (c) Financial. However, the emphasis in the small-scale sector generally is on (b) and (c).

46. Almost 95% of the manufacturing establishments in Argentina employ twenty persons or less. Such undertakings are still at the stage where the management function is confined on one or, at the most, two persons; hence communication between the office and the shop floor is by word of mouth; hence many of the techniques of management are either unnecessary, or just not possible except in a rudimentary way. On the other hand establishments of this class often are in need of advice on the allocation of costs, the distribution of overheads and marketing. On the technical side they frequently require assistance of a practical nature. The importance of proffering only practical advice cannot be over stressed. Most small industrialists are well aware of the existence of sophisticated machinery capable of performing in a fraction of the time the operations they carry out on general purpose or improvised machines. What they want is help to increase the performance of their machinery rather than advice on replacements which may be beyond their resources.

47. There are three ways in which managerial assistance may be given:- (a) by instructional courses, (b) by diagnosis of defects within the firm, and (c) by advice on particular aspects of management and marketing. The instructional courses should be, in most instances, the first approach. The managers of small undertakings may be satisfied with conditions as they are, and have to be convinced that improvements are possible. An uninvited person entering their premises and telling them what is wrong is not likely to be welcomed. Once the industrialist realizes that there may be something in what to him are new techniques he will be disposed to experiment, and be ready to receive advice.

48. It has been said that today there is no such thing as a generalist in the field of industrial management, but only persons with varying degrees of specialization. That may be true of large-scale industry, but the manager of a small industrial undertaking combines so many different functions in his own person that generalist describes him most inappropriately. For the reason the course should be as specialized as possible. A general course

of the simplified courses which has given to them-

Industrial Management. The aim of the business, the organization to achieve this aim, planning the business, estimating the capacity required, layout, elementary work study, estimation of break-even point.

Financial Management and Cost Accounting. Sources of finance, financial requirements, fixed and working capital, simple cost analysis, cost accounting, profit and loss accounts, balance sheets.

Production Management. Importance of pre-planning, simple production planning, use of Gantt charts, comparison of costs of alternative methods, inventory control, quality control, planned maintenance.

Marketing. Estimation of demand, planning of sales, channels of distribution, determination of selling prices.

The courses currently conducted by C.I.M.E., cover all of the above subjects in more detail, and at a more advanced level, than is considered suitable as an introduction to the general field of scientific management. The simplified courses could well be "curtain raisers" to the present instructional programme of C.I.M.E.

49. It is obvious that it is impossible to diagnose whatever faults there may be in the management and organization of an enterprise unless the opportunity is given to carry out an investigation. And it is improbable that such an opportunity will occur unless the manager is aware that he has a problem. The instructional courses may create this awareness. Equally important in this connection is the arrangement of inter-firm visits which may stimulate managers to compare their performances with that of the firm visited.

50. Generally the extension worker will have no great difficulty in persuading a manager to allow him to have a look round his factory. From this cursory inspection, and from the views expressed by the manager, very often it will be possible to identify some weak area. Frequently this is obvious to a leader, but the manager has been so accustomed to it that he does not see it. If this condition is fully pointed out, he is likely to be receptive to

may lead to a full and frank discussion of the position of the business. Once this takes place the way is clear to provide possible assistance.

51. The basis of management consulting is the comparison of what is done in the firm with what ought to be done; and what ought to be done is the norm of good practice elsewhere. In this connection it must be borne in mind that what is good practice in a country where the cost of labour is high and capital is relatively cheap is not necessarily good practice in a territory where the opposite conditions prevail.

52. While the possible field of management consultancy is very wide, usually in the small-scale sector it will be narrowed down to planning production against estimated sales, controlling inventories of raw materials, ascertaining as accurately as possible the cost of production, profit and loss accounts, and the budgeting of expenditure.

53. The foregoing may be supplemented by advice on special aspects of management, and generally this will be of a more sophisticated character than that given in the general diagnosis. Advice too on the distribution and marketing of products may be necessary. Frequently this will apply to a number of like establishments, and may be offered gratuitously.

54. The technical needs of the small-scale industrial sector can be classified under three headings:- (a) the product, (b) the methods, and (c) the plant. There is, of course, a correlative relationship between all three. In some ways the product is the most important. Unless it is produced at a price buyers are prepared to pay there will be no business. It is not uncommon for the quality of the products of some small-scale undertakings to be inferior to those imported. Where such is the case it is attributable to either the design, the quality of the raw material, or the method of manufacture.

55. There are very few manufactured articles the design of which has not altered over, say, the last ten years. Some of the old designs, of course, are still current, but it will usually be found where this is the case that the products in question are essential utensils, and even then there are contemporary variations. It will be appreciated, therefore, that usually there is scope for improvement in product design; either with the object of enlarging the market, or of reducing the cost of production. The latter, perhaps, is more accurately described as product simplification. The materials available to the manufacturing industries constantly are increasing in number and variety. The small-scale industrialist is not only likely to need advice on the design of his product, but also on the selection and treatment of the materials. In this connection the container may be regarded as an extension of the product, and advice on its design and presentation could be of great assistance in certain classes of manufactures.

56. It cannot be said that the methods employed by small-scale industry are invariably outmoded. In many cases the size of the market determines the method of manufacture, and as the most modern procedures usually are associated with high output-labour ratios they often are unsuited to the small-scale sector. There are, however, certain areas where the method used could be improved in almost all small-scale establishments. Although, of course, not all of those listed below are to be found in any one undertaking:-

- (a) The use of non-standard material which either complicates the setting-up procedure, or which has dimensional variations that cannot be accepted by the machine.
- (b) Excessive handling of materials and work in progress.
- (c) Absence of a rational work flow.
- (d) Absence of inspection at critical stages in the manufacture.
- (e) Unnecessary use of manual labour.
- (f) Absence, or insufficient number, of jigs and fixtures.
- (g) Absence of accurate measuring instruments.

(b) Lack of inter-changeability of machined parts.

(c) Inconsistency of quality of product.

All of these defects decrease the productivity, and profitability, of the operation. Nearly all of them are amenable to treatment without either a radical alteration of the process, or excessive expenditures.

57. There are two aspects to be considered concerning the plant used by small-scale industry - the premises and the equipment. It would not be incorrect to say that at least 50% of the small undertakings in Argentina are accommodated in premises that originally were intended for commercial or domestic use. Although in most cases the floor space per worker is more than enough for the process carried on, its subdivision into relatively small areas, with passages and staircases makes a rational layout almost impossible. Furthermore, such premises usually have very little or no uncovered space, which should be that material and scrap which could be stored in the open occupies valuable covered space thus reducing the effective area available. There is little that can be done to rectify this matter. Strict attention to good housekeeping procedures can be of some assistance.

58. The equipment used by small-scale industry generally is a mixture of the modern and the obsolete, with the latter predominating. Very often the outputs of the various units in a process are unbalanced. Frequently old general purpose machines are adapted, sometimes very ingeniously, to perform special operations. Probably the most useful advice that can be given, in respect of existing installations, is on the following matters:-

(a) Speeds of operations, particularly in relation to the cutting and feeding speeds of machine tools, and the strokes per minute of presses.

(b) Use of high speed cutting tools.

(c) Care of cutting tools. It is exceptional to find means of secondary sharpening, grinding, cutting, application of dress, re-grinding and oiling.

(d) Use of the most efficient feeding methods.

- (e) Periodic checking of the alignment of precision machine tools.
- (f) Design of jigs and fixtures.
- (g) Provision of adequate foundations for machine tools.
- (h) Provision of work benches of suitable height, and bins or racks to store work in progress.
- (i) Internal transport.
- (j) Provision of adequate lighting.
- (k) Good housekeeping.
- (l) Salvage of bye-products.
- (n) Planned preventive maintenance.

59. It is in relation to new installations, or in the transfer of a plant from old to new premises, that the extension worker will find the greatest opportunity to provide assistance, particularly if he is consulted well in advance. It is also the type of work that gives excellent publicity to the extension service, and personal satisfaction to the extension worker concerned.

60. A task of this nature, if the subject is a new venture, will involve (a) estimation of the share of the current domestic market that may be captured, trends in consumption and export possibilities, (b) determination of the size of plant in relation to present and foreseen demands, (c) determination of sources of supply and estimation of cost of all inputs, (d) determination of the amount of land and the floor space of the building required, (e) preparing the layout, and (f) estimation of the costs of production, distribution and sales. In short a complete feasibility study. Generally this should be the work of a team, as specialized experience is required in certain of the above fields.

61. When it is a question of transfer from one site to another, the two subjects on which advice will generally be needed are additional plant to be purchased and plant layout. Usually the translation of an old established undertaking involves some new equipment. The extension service should be able

to provide information on possible suppliers and the output and material requirements of the type of machinery in question. (This is not just a matter of quoting from suppliers' catalogues. A reputable manufacturer of machinery will not overstate the output of the offered equipment, but, by the same token, he does not understate it. The quoted output is that which it is possible to achieve under ideal conditions, but the conditions where it is proposed to install the unit may be far from ideal. It is advisable whenever possible to obtain the opinions of users of the machine on the output actually attained in practice.

62. Manuals have been written on the principles of layout. It is not possible to deal with the subject in detail in a report of this kind. Suffice it to say that if the extension service is given the opportunity to advise on a layout it is one that should be grasped. Indeed, this might be made a condition of tenancy on an industrial estate. It will provide the chance to arrange for a rational work flow, and to incorporate the labour- and time-saving devices that are the results of work-study and which are so difficult to introduce in established small-scale undertakings.

63. Small-scale establishments require capital for exactly the same purposes as their larger counterparts, but the sources of funds open to the latter frequently are not available to the small borrower. Few, if any, of the small-scale undertakings are joint stock companies. Their sources of capital are limited to bank loans and private risk capital subscribed by associates. Although bank loans are available for short and medium terms relatively little use is made of them. This is due, it is believed, to the complications involved in making an application, and the time taken to obtain approval. No doubt part of the delay is an account of the original application being presented in a form that does not provide the lending agency with all of the necessary information on which to base a decision. The extension worker can be of great assistance to the industrialist in helping him to submit his application in a "bankable" form.

64. One of the reasons why lending agencies are reluctant to make loans to small-scale industrialists is that the funds may not be applied to the purpose stated in the application. This can happen when a loan is made for the construction of a workplace and the purchase of plant. Building contractors have a habit of exceeding their original estimates, sometimes this is unavoidable, but often it is the result of the inclusion of unnecessary extras. The borrower may find himself with an excellent workshop, but with insufficient money to purchase or install the plant, and consequently no prospect of repaying the loan. The extension worker can perform a useful service to both the lending agency and the borrower by supervising the credit. Under such an arrangement no cash is handed over to the borrower. Within the limit of the credit allowed, the bills for progress payments, purchase of plant etc., are verified by the extension officer, and certified as having been completed, or received, before presentation to the lending agency for direct payment to the firms raising the bills.

65. Many small industrialists, of course, do not have acceptable collateral, yet their need for capital to finance the purchase of additional equipment, or raw materials, is a financially sound proposition. Usually trade credits can be obtained for the purchase of materials, but it is not so easy to secure credit for the purchase of machinery, particularly if it has to be imported. In some countries there are government guaranteed schemes which permit an industrialist to obtain plant through an official or quasi-official agency which purchases it on his behalf against a payment of earnest money amounting to between 25 and 30% of the C.I.F. value and the balance over a period of three or four years.

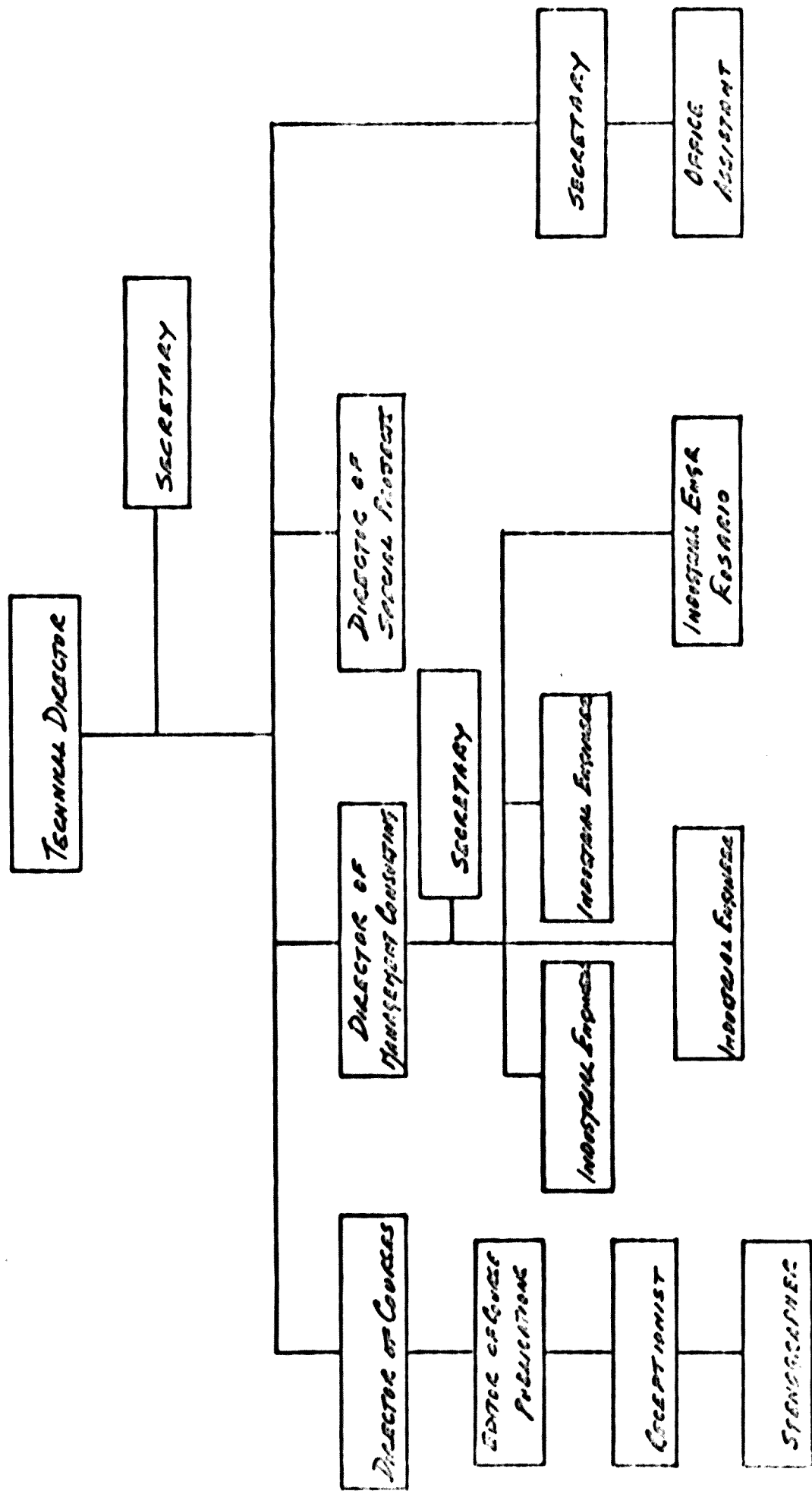
66. It is believed that a similar arrangement would be of value in this country. The proposed development corporations could function as the lending agencies, and the extension service as the authority that advised the corporations on the necessity and suitability of the proposed purchases for the purposes intended.

67. The present structure of C.I.M.E., is shown on the organization chart in Fig.6. There are several weaknesses in this structure. The title "Technical Director" is a misnomer. The incumbent is not in a position to exercise any technical direction, and, in fact, is principally concerned with public relations and promotion. The Director of Special Projects is also concerned with the promotion of the services of C.I.M.E., and the demarcation between their respective fields is by no means clearly defined. The Director of the Instructional Courses and the Director of Management Consulting are virtually independent. This may be acceptable so long as private consultancy is the main activity of C.I.M.E., but if C.I.M.E., is to enter the fields of promotion and development of small-scale industry, obviously there must be a correlation between the simplified courses and the consultations.

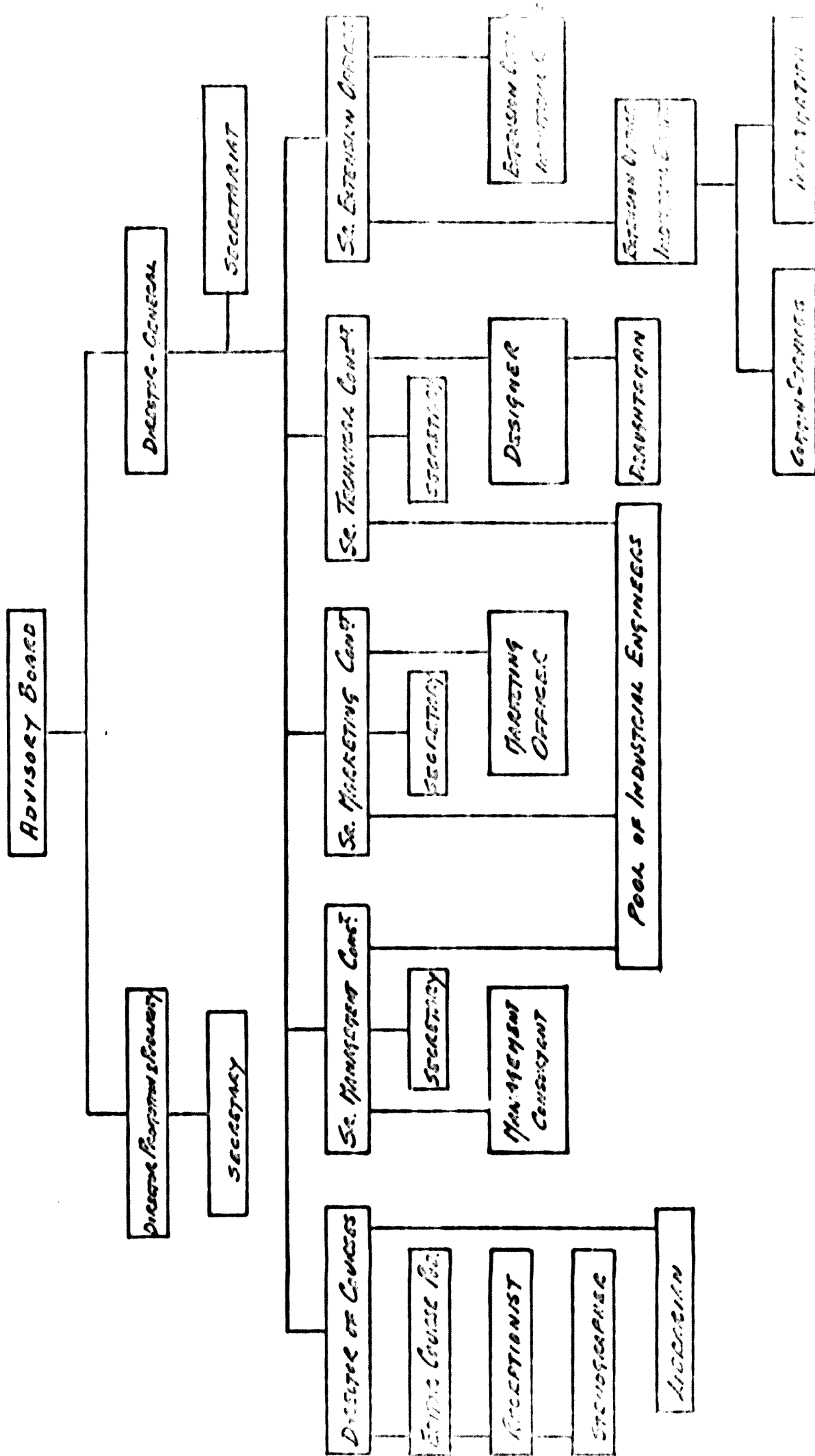
68. Furthermore in the organizational arrangement shown the only real contact with industry is through the Director of Management Consulting, and while his staff are industrial engineers they are almost entirely concerned with the managerial and organizational aspects. The technical side is not adequately covered. Nor, in point of fact, has the staff had any considerable practical, technological experience.

69. If C.I.M.E., is to fulfill the functions outlined earlier in this chapter, the technological side must be strengthened, the activities of all the sections co-ordinated to this end, and contact made with the small-scale sector. At the same time the responsibility for the promotion of C.I.M.E., should be separated from the day-to-day direction of its operations. There is nothing in this, or what follows, which imposes any limitation on private consultations.

70. The suggested reorganization of C.I.M.E., is shown in Fig.7. The Director of Promotion and Publicity would take the place of the present Technical Director, and, it is proposed, that he should act also as the Secretary of the Advisory Board. The Director-General would replace the present Director of Special



PRESENT ORGANIZATION OF C.I.M.E.



SUGGESTED ORGANIZATION OF C.I.M.E

Projects. He would be the head of C.I.M.E. and responsible for the implementation of the policy of the Advisory Committee, of which he would be a member, and for the co-ordination of the work of the five sections. The section dealing with instructional courses remains unchanged, except for the addition of a librarian. The present Director of Management Consulting becomes the Senior Management Consultant. He is assisted by a specialist in this field, and the staff for either private or field assignments is drawn from the pool of industrial engineers. The Senior Marketing Consultant, a new appointment, would be a specialist. He would be assisted by a Marketing Officer. If necessary additional assistance can be obtained from the pool, but, in the main, the Marketing Section would advise on matters submitted to them by the Senior Management Consultant or the Director-General. The Senior Technical Consultant would be responsible for all the technical aspects of advisory work. He would be assisted by a Designer and a Draughtsman, additional support would be available from the pool of industrial engineers. The Senior Extension Officer would be in charge of extension officers appointed to industrial estates and to industrial centres where there is no estate. Requests for assistance arising in the field, if not dealt with directly by the extension personnel, would be transmitted by this officer to headquarters. If the requested assistance necessitated an investigation in depth it would be handled by one or more of the consultancy sections. Referred matters involving the provision of information or the result of some previous investigation would be routed to the applicant via the Senior Extension Officer.

71. The proposed appointments which are not already in existence, under other titles, are the Senior Marketing and Technical Consultants, the Management Consultant, the Designer, the Draughtsman, the Librarian, the Senior Extension Officer, Extension Officer(s), Marketing Officer and additional secretarial staff. The qualifications for the designated posts are suggested below:-

Senior Marketing Consultant. A university degree in economics with, at least, three years experience in a firm engaged in market research.

Marketing Officer. The principal task of this officer will be the collection

of information on the instructions of the Senior Marketing Consultant. The persons selected should have sound commercial experience obtained, preferably in an import-export house. A suitable age would be the late thirties.

Senior Technical Consultant. A graduate in mechanical or production engineering with at least five years experience in a position of responsibility in a manufacturing industry.

Designer. A graduate in mechanical engineering with one or two years experience in a design office, or a draughtsman with five years experience and a knowledge of the design of jigs and fixtures.

Extension Officers. No special formal qualification required although a degree in either economics or engineering would be most useful. It is essential that the persons selected should have substantial industrial experience and be familiar with the technicalities of plant situations. Where conditions warrant it a specialized experience in a particular industry would be advantageous.

Management Consultant. The person appointed should have specialized in the financial side of management. Experience as a works or cost accountant would be most useful.

Librarian. In addition to the normal duties of a librarian the person selected would be expected to collate material of interest to the consultancy sections. A knowledge of English is essential.

72. The annual personal emoluments of C.I.M.E., as a result of the proposed re-organization would amount to $\text{m}\$ 40,785,000$, allowing for one extension officer in Rosario and one on the pilot industrial estate. It is the view of the writer that the salary of an extension officer would be a fair charge on the government of the province to which he is appointed. The figure quoted above represents an increase of $\text{m}\$ 19,700,000$ on the modified personal emoluments of C.I.M.E., for 1969. A breakdown of the proposed salaries is given below:-

Director-General (1) $\text{m}\$ 3,000,000$ per annum	$\text{m}\$ 3,000,000$
Director, Production & Quality (1) $\text{m}\$ 2,100,000$	2,100,000

Draughtsman		₱ 5,100,000
Director of Courses) at ₱ 2,515,000 per annum.	
Senior Management Consultant		
Senior Marketing Consultant		
Senior Technical Consultant		9,200,000
Senior Extension Officer		2,000,000
Management Consultant) at ₱ 1,800,000	
Designer		
Extension Officers (2)		7,200,000
Industrial Engineers (3)	at ₱ 1,600,000	4,800,000
Editor of Publications		975,000
Marketing Officer) at ₱ 800,000	
Draughtsman		
Librarian		2,400,000
Secretariat (15)	various	8,450,000
<u>Total Personal Emoluments</u>		<u>₱ 40,185,000</u>

73. In the foregoing organizational chart no provision is made for combining counselling with research. By the latter is to be understood technical research undertaken to solve a specific problem of a small-scale undertaking. In the recent past C.I.M.E., operated a "Testing Service". Chemical analysis and physical testing were carried out by I.N.T.I., personnel in the laboratories of that institution at Higuelete. The part played by C.I.M.E., was confined to sampling procedures and the collection and delivery of the samples. The fees were shared between I.N.T.I. and C.I.M.E. This arrangement was discontinued on account of unacceptable delays in obtaining test results. No alternative scheme has taken its place. At the moment C.I.M.E., is endeavouring to work out a plan to provide a similar service in conjunction with private laboratories.

74. The laboratories of I.N.T.I., are exceedingly well equipped. And although I.N.T.I., is currently experiencing difficulty in retaining

technicians, it will be a long day if a scheme cannot be worked out to utilize some of the excellent facilities available. The writer believes that part of the problem lies in the difference between the salaries paid by I.N.T.I., and the commercial firms. If this is, indeed, the major issue, then it should be possible to solve it by payment of a portion of the fees collected to the technicians concerned.

75. Frequently institutions such as I.N.T.I., are engaged in research programmes which are planned a considerable time in advance. The day-to-day problems of small-scale industry which require quick solutions come to be regarded as irritating interruptions, and are set aside to await an opportunity. It should not be beyond the resources of I.N.T.I., to set up a small section to deal with routine analysis and testing. If, and when, industrial estates are established C.I.M.E., should consider operating its own laboratories on the estates. Whether these will be necessary will depend on the needs of the industries on the estate and in the surrounding district, and on the volume of work arising. Unless there is sufficient to cover operating costs it would be better to come to an arrangement with I.N.T.I. An exception to this might be the provision of hardness testing as a free service.

76. The writer does not foresee a necessity for C.I.M.E., to possess a workshop. Any improvements in product design and simplification that involve the construction of proto-types could be effected, by arrangement, in the workshops of I.N.T.I., in one of the technical schools, or by contract with one of the numerous machine shops in Buenos Aires. The volume of this type of work is most unlikely to justify the provision of special facilities. The demonstration of new or advanced techniques is certainly a legitimate function of C.I.M.E. This could be done by arranging with known practitioners of such techniques to permit a demonstration, for the benefit of small-scale industrialists, on their premises. The present and foreseeable financial position of C.I.M.E., holds little hope that C.I.M.E., ever will be able to purchase the necessary equipment.

for this purpose.

77. At the present C.I.M.E., has not possessed any considerable collection of textbooks. There is a library in I.N.T.I., and the former library of the Centro de Productividad Argentina has been absorbed in that of the Ministry of Commerce and Industry. Although C.I.M.E., has access to these collections, this is not satisfactory. It is essential that C.I.M.E., has its own specialized library on its own premises in order that reference may be made to it at any time. Furthermore C.I.M.E., should be provided with a selection of periodicals dealing with management and certain technical subjects. Arrangements also should be made to build up a library of trade catalogues. This could be done at very little cost, and a start could be made without waiting for additional funds.

78. The only organized publicity of C.I.M.E., until quite recently, has been the dissemination of information on its instructional courses and testing service. It is the writer's belief that the pamphlets distributed in these connections are treated in the same way as most other advertising literature offering something for sale, and that their ultimate resting place is the waste paper basket. A quarterly bulletin containing information on technical or managerial matters as well as on the courses would have a better chance of being read and remembered. Furthermore it would serve the dual purposes of providing useful information to establishments which otherwise C.I.M.E., might not be able to reach, and of suggesting to the recipients that there are fields in which they could be assisted.

79. All of the foregoing proposals involve recurring expenditures which the income from private consultations will not cover. Indeed, it should not be expected to meet it. The services that the re-organized C.I.M.E., could provide to the small-scale industrial sector are so necessary for the country that it is to be expected that the Government will be able to provide the necessary funds.

de Técnica Agrícola (I.N.T.A.). In many underdeveloped countries this is accepted as an obligation of government, and supported accordingly. It is to be hoped that the Federal Government will see fit to adopt a similar policy.

80. The necessity for C.I.M.E., to have a secured income has led ^{consider} the writer to whether it would be advantageous for C.I.M.E., to be incorporated in an existing Government Department. The obvious choice would be C.O.N.A.D.E. At present C.I.M.E., enjoys some measure of autonomy which simplifies financial procedures and reduces delay in implementing decisions. While this is a valuable attribute in dealing with the problems of small-scale industry, it tends towards an "ad hoc" rather than a planned policy. On the whole, the writer believes that C.I.M.E., should remain attached to I.N.T.A., provided that its annually recurrent expenditure is guaranteed. In this connection it is suggested that Government provides C.I.M.E., with an initial subvention of \$60,000,000, and at the commencement of each subsequent financial year supplies whatever sum may be necessary to bring the opening balance of the account of C.I.M.E., to that amount. The fees resulting from private consultations, instructional courses, and any other sources being thus used to reduce the annual sum to be provided by Government.

81. If this proposal is approved, C.I.M.E., would be able, indeed required, to prepare and submit its programme of industrial promotion and development and training twelve months in advance, and Government, through its representation on the Advisory Council, would have the opportunity to exercise such direction and control as it deemed appropriate.

82. In the writer's opinion the present constitution and financial organization of C.I.M.E. do not permit full and adequate use to be made of further assistance that might be requested from the United Nations. However, if the suggestions made in this chapter are accepted, and funds are made

available for their implementation, then any technical assistance which the United Nations may be prepared to grant would be especially valuable during the first two or three years of the re-organization, and greatly increase the impact of the re-organized C.I.M.E. on the small scale industrial sector. The writer considers that assistance in the following fields will be needed:-

- (a) Cost accounting,
- (b) Production engineering,
- (c) Organization of Development Corporations, and
- (d) Design and construction of industrial estates.

The first three by the assignment of appropriate Spanish speaking experts for periods of at least twelve months. The last by the award of four fellowships to permit personnel of C.I.M.E. and the Director of Industry to visit industrial estates in other countries, preferably the Far East.

EXPORTS OF THE UNITED STATES

TO ARGENTINA, 1950

As reported by the Bureau of Economic Warfare

COMMODITY	ALPHABETIC	CLASSIFICATION
Electric motors	81	154
Iron forgings	41	25
Agricultural machinery	53	27
Roller crings	285 *	15
Asphalt binder	63	93
Steel forgings	44	25
Roller peeling	49	26
Washing and cooking appliances	52	37
Milking machinery	73	21
Milking machinery	55 *	33
Electric motors, transformers	11	14
Medical instruments (e.g. pipens)	40 *	28
Civil engineering contractors	45	116
Metal spacers	31	43
Electrical engineering contractors	30	9
Kitted products	13	12
Electrical appliances	45	14
Handtools	61	19
Rubber goods	65	25
Soaps	174	30
Printers	24 *	9
Steelhoists	54	13
Small arms	15	14
General engineering	47	30

SOURCES: Argentine, returned queries; inquiries from San Francisco and Olivaria.

* One only

G.B. C. 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959.

<u>Manufacturing Industries -</u>	<u>UNIT NUMBER</u>	<u>Value</u>
<u>SMOKING OF ALUMINUM, PREPARATION OF MEAT</u>	201	410
<u>MANUFACTURE OF DAIRY PRODUCTS</u>	202	6100
<u>PREPARATION & CANNING OF FRUIT & VEGETABLES</u>	203	1800
<u>PREPARATION & CANNING OF SEAFOODS</u>	204	3000
<u>MILLING OF CEREALS ETC.</u>	205	7500
<u>BAKERY PRODUCTS</u>	206	2500
<u>PREPARATION OF SUGAR</u>	207	10000
<u>MANUFACTURE OF COCOA, CHOCOLATE & SWEETS</u>	208	4000
<u>MISCELLANEOUS FOOD INDUSTRIES</u>	209	6000
<u>PREPARATION OF SPIRITS & LIQUORS</u>	211	14000
<u>WINES & CIDER</u>	212	5000
<u>BEER & MALTS</u>	213	4700
<u>SOFT DRINKS</u>	214	4600
<u>TOBACCO</u>	220	20700
<u>SPINNING, WEAVING & FINISHING OF TEXTILES</u>	231	4100
<u>KNITTED FABRICS</u>	232	3300
<u>ROPES & CORDAGE</u>	233	4300
<u>MISCELLANEOUS TEXTILES</u>	239	3100
<u>MANUFACTURE OF FOOTWEAR</u>	241	2700
<u>REPAIRING OF FOOTWEAR</u>	242	1100
<u>MANUFACTURE OF WEARING APPAREL (EXC FOOTWEAR)</u>	243	3000
<u>MISCELLANEOUS TEXTILES (EXC WEARING APPAREL)</u>	244	1000

MANUFACTURE OF LUMBER	251	1000
EDUCATION	252	1000
COKE & WOOD PRODUCTS (UNCLASSIFIED)	259	1000
MANUFACTURE OF FURNITURE	260	1000
MANUFACTURE OF PULP & PAPER	271	8000
MANUFACTURE OF ARTICLES FROM PULP & PAPER	272	3000
MISCELLANEOUS ARTICLES OF PULP & PAPER ETC	273	6000
PRINTING & BOOKBINDING	280	2000
BINDING & FINISHING OF BOOKS	281	4000
COLORING & FINISHING OF BOOKS	282	2000
MANUFACTURE OF LEATHERS & LEATHER GOODS (EXC. BOOKS & ARTS OF BOOKS)	293	6000
MISCELLANEOUS ARTICLES OF LEATHER & LEATHER GOODS	299	3000
MANUFACTURE OF RUBBER SHOES & TAPERS (EXC. RUBBER)	300	10000
MISCELLANEOUS RUBBER GOODS	309	4000
CHEMICAL PRODUCTS (INC FERTILIZERS)	311	8000
INEDIBLE VEGETABLE & ANIMAL OILS & GREASES	312	13000
PAINTS, VARNISHES & LACQUERS	313	8100
MISCELLANEOUS CHEMICAL PRODUCTS	319	7600
REFINING OF PETROLEUM	321	32400
OTHER PETROLEUM & COAL PRODUCTS	329	8000
BRICKS, EARTHENWARE PIPES, REFRACTORIES	331	7000
GLASS OPTICAL GLASS ETC	332	4000

MANUFACTURE OF METALS	330	10900
COAL, LIGNITE, TORBIDINE & PEAT	333	2000
PORTLAND CEMENT	334	12500
LIME, MORTAR, PLASTER, ETC.	339	2000
IRON & STEEL CASTINGS, FORGINGS, PLATES, SHEET, ETC.	341	7000
NON-FERROUS METALS	342	7000
MANUFACTURE OF RUBBER, LACQUER, GLASS, ENAMEL, ETC.	350	3000
MANUFACTURE OF PAINTS, VARNISHES, AND OTHER COLOURS	360	4000
MANUFACTURE OF GLASS	361	2000
MANUFACTURE OF CERAMIC & REFRACTORY	373	3000
MANUFACTURE OF PAPER, PAPERBOARD, YARN, ETC.	379	20000
CONSTRUCTION & REPAIR OF SHIPS	385	2000
CONSTRUCTION & REPAIR OF VEHICLES EQUIPMENT	387	2000
MANUFACTURE OF AUTOMOBILES	388	6000
REPAIR OF AUTOMOBILES	388	2000
MANUFACTURE & REPAIR OF MOTOR CYCLES & BICYCLES	388	2000
CONSTRUCTION & REPAIR OF AIRCRAFT	386	2400
FABRICATION & REPAIR OF TRANSPORT EQUIPMENT, NEC	389	1800
MANUFACTURE & REPAIR OF INSTRUMENTS	391	4000
MANUFACTURE & REPAIR OF OPTICAL APPARATUS	392	5000
MANUFACTURE OF WATCH & CLOCKS	393	2000
MANUFACTURE OF JEWELLERY	394	1000
MANUFACTURE OF MUSICAL INSTRUMENTS	395	1000
MISCELLANEOUS	399	1000

PROVINCIA	15	16	17	18	19	20	21	22	23	24	25	26	27
<u>BUENOS AIRES</u>	5340	10118	10809	4468	3013	2949	3482						
<u>BUCAROS AIRES</u>	4650	6538	1276	3554	2528	2224	2028						
<u>CATAMARCA</u>	1825	2085	—	544	1230	905	903						
<u>CORDOBA</u>	4810	3927	1510	1422	1631	1228	1275						
<u>CORDOBIENSIS</u>	2747	2666	1845	2358	1971	1567	649						
<u>CHICO</u>	5187	1445	1177	4104	1132	1018	502						
<u>CHUBUT</u>	2454	3013	—	7484	2915	1512	1476						
<u>ENTRE RIOS</u>	3546	2502	1006	1658	2074	1561	888						
<u>FORMOSA</u>	2642	1887	—	3209	791	122	424						
<u>JUJUY</u>	15754	4371	—	—	1059	446	805						
<u>LA PLATA</u>	3417	1216	—	658	1174	1356	1452						
<u>LA RIOJA</u>	1834	3448	—	—	660	849	528						
<u>MENDOZA</u>	1984	5462	—	701	1853	1201	1318						
<u>MISIONES</u>	2428	3135	408	—	890	1501	813						
<u>NEUQUEN</u>	2491	3100	—	—	907	1829	1005						
<u>RIO NEGRO</u>	2128	3765	—	555	1210	1777	1448						
<u>SALTA</u>	7904	2737	1960	—	1373	1446	958						
<u>SAN JUAN</u>	1350	6650	—	1143	1398	960	954						
<u>SAN LUIS</u>	3498	1144	—	683	781	1070	903						
<u>SANTA CRUZ</u>	2029	2189	—	—	1064	1600	2003						
<u>SANTA FE</u>	5958	3563	2345	3603	2486	1562	1533						
<u>SANTIAGO DEL ESTERO</u>	2204	1259	—	2825	1437	812	1175						
<u>TUCUMAN</u>	7717	1330	—	1045	2160	1213	1227						

29	30	31	32	33	34	35	36	37	38	39	40	41
2686	253	7847	13544	5123	6160	2718	2186	4920	3119	4706		
4306	11526	7977	21181	4009	8519	3309	1810	4760	4686	5015		
—	—	—	—	885	—	410	1597	1637	1729	1833		
3375	3037	5501	4623	2107	3386	2253	2018	2528	4136	3872		
2010	1280	907	—	625	—	1622	2145	1311	1278	4890		
3087	1220	606	—	534	9526	1846	1870	2825	1945	3160		
2384	1553	—	—	2557	—	2518	2808	2575	2536	5463		
2301	2286	4678	—	3320	3033	1743	1627	1979	1812	2811		
1413	1585	—	—	300	—	1700	346	2016	1939	2325		
3119	1739	9047	—	929	2297	1835	1323	4638	1721	6329		
3135	1184	1378	—	849	—	2135	1999	1528	2684	2135		
1988	1303	—	—	811	—	3198	1865	1689	1468	1936		
2636	2463	7611	91095	4540	7540	4585	2531	2597	2652	4821		
2095	313	—	—	641	—	7445	1785	1545	1971	2219		
1465	1731	—	—	1381	—	3358	4582	3079	2204	3634		
3103	2480	15529	—	1427	—	2266	3373	3233	2338	2907		
1990	1560	6029	—	3033	—	1698	2017	2328	1914	5964		
3496	1367	2411	—	3181	2233	1919	2685	2262	1590	3310		
1790	1394	1542	—	1704	—	1846	1471	1553	1750	1885		
—	1775	2939	—	871	—	2628	1477	1013	2554	2169		
3185	2906	10733	12372	2669	7294	2949	4211	2986	2554	4394		
1717	1790	5283	—	4442	—	1413	3496	1889	1739	2211		
4011	628	12019	—	1267	2978	1889	2335	2391	1587	5105		
—	—	—	—	—	—	—	—	—	—	—		

ADDED VALUE PER WORKER

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APPENDIX

PARTICULARS	I to 9	General conditions of production
	10 to 19	Changes in cost of production 1950
	20 to 25	Size of the plant producing cut glass articles
	26 to 31	Trends in level of employment
	32 to 39	Changes in conditions of work 1950 to 1955
	41 to 55	Location of industry
	56 to 61	Raw materials
	62 to 68	Structure of the industrial plant
	69 to 82	Industrial administration
	83 to 85	Protection and tariffs
	86 to 88	Governmental and financial aid
	89 to 93	Electric power
	94 to 98	Productivity of labour
	99 to 85	Training
	86 to 90	Management
	91	Conclusions

1. *Chile and Argentina*

Chile and Argentina have been the most successful of the Latin American countries in the development of their industrial structure. They have managed to attract foreign investment, to develop a variety of manufacturing industries, and to achieve a high rate of growth of per capita income. In contrast, the other Latin American countries have generally been unable to attract foreign investment, to develop a variety of manufacturing industries, and to achieve a high rate of growth of per capita income. This is probably due to a number of factors, including the fact that Chile and Argentina have a more favorable geographical location and a more stable political situation.

2. *Argentina's industrial development* has been a remarkable achievement. It has managed to attract foreign investment, to develop a variety of manufacturing industries, and to achieve a high rate of growth of per capita income. This is probably due to a number of factors, including the fact that Argentina has a more favorable geographical location and a more stable political situation. Argentina's industrial development has been a remarkable achievement. It has managed to attract foreign investment, to develop a variety of manufacturing industries, and to achieve a high rate of growth of per capita income. This is probably due to a number of factors, including the fact that Argentina has a more favorable geographical location and a more stable political situation.

3. *Argentina's industrial development* has been a remarkable achievement. It has managed to attract foreign investment, to develop a variety of manufacturing industries, and to achieve a high rate of growth of per capita income. This is probably due to a number of factors, including the fact that Argentina has a more favorable geographical location and a more stable political situation. Argentina's industrial development has been a remarkable achievement. It has managed to attract foreign investment, to develop a variety of manufacturing industries, and to achieve a high rate of growth of per capita income. This is probably due to a number of factors, including the fact that Argentina has a more favorable geographical location and a more stable political situation.

4. *The economic structure of Argentina* has more in common with that of a developed than an undeveloped country; yet from the mid-fifties until 1961, at least, the economy was stagnant. The gross domestic product changed very little in that period, as is shown by the indices given below.

Year	G.D.P.	Year	G.D.P.
1950	100	1960	117
1953	119	1961	124
1959	115	1962	119

Source : Latin America, J.P.C. Co.

1940-1945. The policy of import substitution was not applied in Argentina. She had a high rate of inflation, her economy was tied to the production of capital goods, and the result was that Argentina was a rather ill-developed economy in comparison to capital goods world market.

9. In 1945 the objectives of import substitution were changed to domestic and domestic goods. The objectives were to reduce the price differential, increase local consumption, and to provide a market for local goods. The result was a policy of import substitution, which brought into force measures to restrict credit and to increase the level of production of local industry. These measures tended to displace the market and to perpetuate the use of methods and equipment which consequently led to a situation which under the protected conditions could be passed on to the consumer.

10. As a single strategy to promote industrial development, import substitution, within national boundaries, has only limited application. A point is reached beyond which progress is negligible, and it creates balance of payments and domestic price problems. The four major industrial countries in the region all originally adopted this policy. In Brazil it permitted the rapid growth of an industrial base which, on account of the huge internal market and great natural resources, was able to diversify. The need to attain a state of external balance has now changed the emphasis to the manufacture of capital goods. The size of the domestic market in Chile made the policy of successful import substitution minimal. In recent years manufacturing in that country has grown on the basis of goods for export. In Argentina import substitution has in many of the lines reached its limit. There is in fact excess capacity in some fields. The cost of production is high, and that together with the high price of some intermediate materials due to the overvaluation of production is a threat to the industry.

11. The manufacturing industries in 1964 increased the value of their production by 11.5% over 1963, but it is estimated that only about 70% of the available capacity was utilized. Employment rose by about 2% principally on account of the increased production of motor vehicles. The cost of living index rose from 11.3 to 33.2 during the year, and the rise continued into 1965. In the last quarter of 1965 there was a decline in consumer demand, and there were fears of another recession.

12. The manufacturing industries by 1966 had largely recovered from the severe recession that had extended from 1962 until early 1964. The vehicle industry was a major influence in this connection. There were, however, certain signs. The inflationary climate continued. Expenditure increases were awarded to companies for reduced purchasing power, and public expenditure continued to increase faster than revenues. The deficits arising in certain state enterprises, notably the railways, were mainly responsible for the last episode.

13. In 1965 the manufacturing industries increased the value of their production by 11.5% over 1964, but it is estimated that only about 70% of the available capacity was utilized. Employment rose by about 2% principally on account of the increased production of motor vehicles. The cost of living index rose from 11.3 to 33.2 during the year, and the rise continued into 1966. In the last quarter of 1965 there was a decline in consumer demand, and there were fears of another recession.

14. The military coup of June 1966 eventually resulted in a different approach to the economic problems of the country. The emphasis was now on agriculture. Export taxes on agricultural products were removed. The 1966 was dominated by 16% which increased the country's production of *Arachis* and *peanuts*. The 1966 was dominated by 16% which increased the country's production of *Arachis* and *peanuts*.

19. The economic growth of Argentina is not only a result of the high rate of investment in the industrial sector, but also of the high rate of investment in the agricultural sector. The industrial sector is a primary sector and the agricultural sector undoubtedly provides a stimulus to industrial expansion.

20. In this short and hurried sketch of the changes in the Argentine economy an attempt has been made to highlight the factors that have stimulated the manufacturing industries. They may be summarized as follows:

- (a) Extensive production
- (b) Imports of Consumer Policy
- (c) Continuing inflation
- (d) Excessive wage increases.

Although the exchange value of the peso has remained unchanged for nearly two years and the inflationary spiral has lost most of its momentum, industrialists are sceptical that the present stability is only temporary. In consequence there is a reluctance to replace obsolete equipment. This is particularly applicable to the middle and lower levels of industry. It would not be far from correct to say that foreign investors have greater confidence in the future of Argentina than their local counterparts.

Size of Manufacturing Establishments.

20. The Censo Nacional Economico 1953 and 1964 classify industry into three groups; A, B, and C. Class A comprises units in which there is only one person engaged, and in which mechanical power is not employed. Class B includes units in which only one person is occupied and in which mechanical power of one-half horsepower or less is used, and units in which two persons are employed, one of these necessarily being of the family of the proprietor, with or without the use of mechanical power of one-half horsepower or less. Class C contains units which employ two or more persons not being members of the proprietor's family, or more than one-half horsepower.

21. One of the major characteristics of the Argentine economy is the high degree of informality, a characteristic of the population. The informal economy is a very important feature of the economy and may be regarded as a characteristic industry. The field covered by Class C is essentially wide, so far as the knowledge there is not very official, particularly giving a description of the manufacturing establishments with 10 or less employees. In 1957 a census of manufacturing enterprises employed 11,650 persons and earned 1,000 million pesos. The results with approximately comparable figures for Peru, U.S.A., Japan and India are given in Table I.

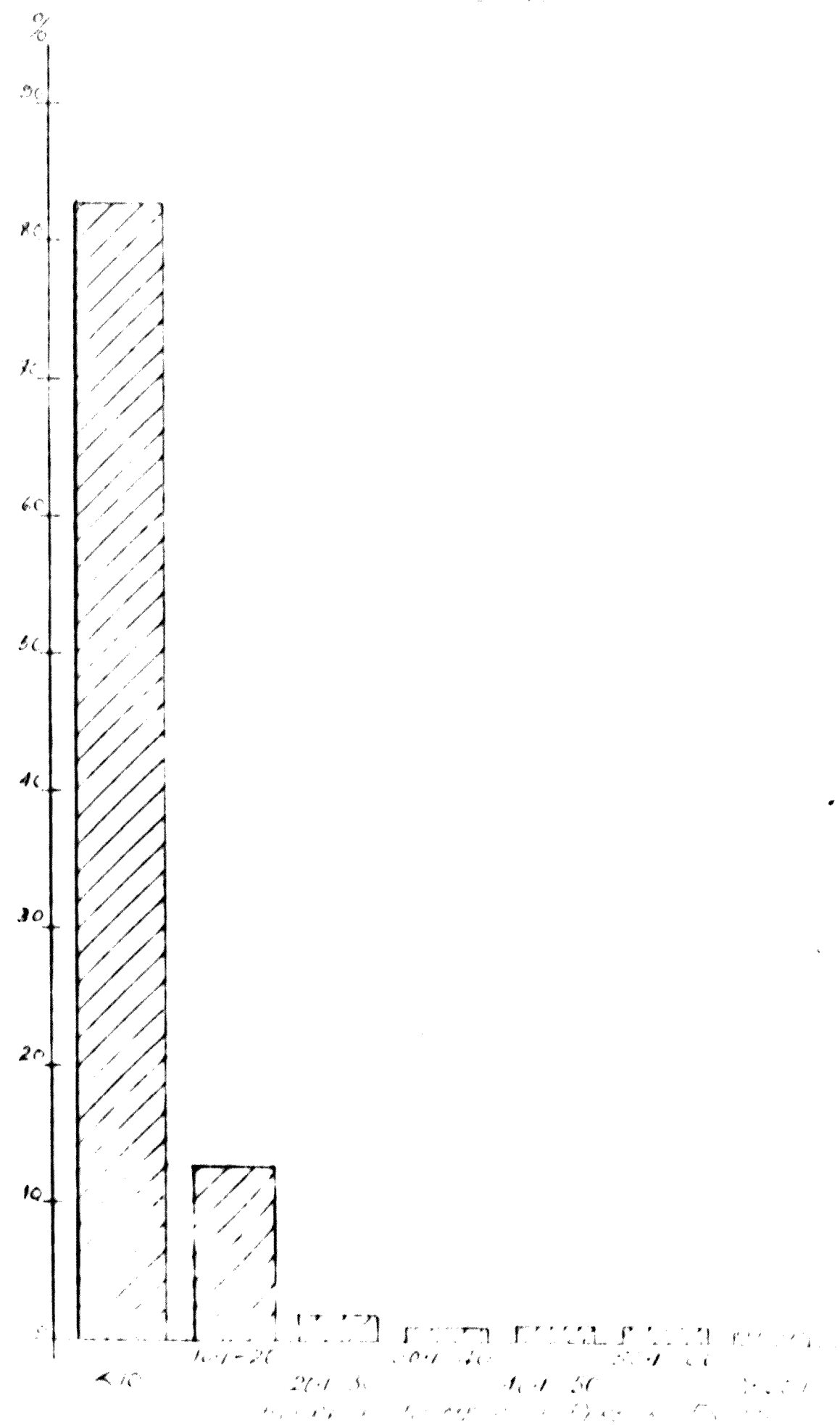
TABLE I

Size of Establishment	Argentina		Peru		U.S.A.		Japan		India	
	No. of Establishments	% of Total Employment	No. of Establishments	% of Total Employment	No. of Establishments	% of Total Employment	No. of Establishments	% of Total Employment	No. of Establishments	% of Total Employment
10 - 49	74.8	23.9	76.5	22.6	64.4	12.7	85.7	24.3	87.0	29.3
50 - 99	12.7	13.0	11.4	11.5	16.2	10.5	8.0	21.1	6.7	6.7
100 - 199	6.7	13.7	10.0	31.5	11.4	15.6	3.0	8.5	3.6	9.3
200 - 499	4.0	17.8			4.5	11.6	1.5	9.5	1.2	6.9
500 - 999	1.1	11.5	1.5	14.0	2.0	12.5	0.4	5.5	0.7	8.5
Over 1000	0.7	20.5	0.8	20.7	1.5	34.7	0.4	31.1	0.8	56.3

In the Argentinean census of 1957 the total employment was given as 987,100, and the number of establishments as 11,650, which implies an average employment of 80 persons per undertaking. The equivalent figures for the 1953 and 1961 census were, respectively, 9.8 and 9.2 persons per establishment. The elimination of that part of Class C with 10 or less employees disguises the essentially small-scale nature, from a numerical point of view at least, of the vast majority of the manufacturing enterprises.

22. An attempt is made in this report to effect an approximate grouping of establishments by size. This is given in Table II and illustrated in Fig. I. In reality it is the calculated average size, in terms of persons engaged, of each of the sub-groups of the manufacturing industries. It is considered that the stratification obtained by this method, while not accurate, gives a less distorted picture of the situation than that shown by the 1957 census.

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 Based on direct data of [unclear] [unclear]



<u>Table II</u>		<u>Year 1964</u>
Size of Establishment	Number of	Percentage
Average No. of persons engaged	Establishments	of Group C.
- 10.0	117,885	82.85
10.1 - 20.0	17,666	12.49
20.1 - 30.0	2,785	1.98
30.1 - 40.0	1,172	0.84
40.1 - 50.0	1,112	0.80
50.1 - 60.0	1,393	0.99
60.1 & over	953	0.69
Total	145,054	100.00

23. Unfortunately it is not possible to reproduce the data in Table II for the 1953 census. However a comparison can be made on the basis of manufacturing groups. This is given in Table III. In respect of the year 1964, Tables II and III do not agree. This is due to the figures in Table III being calculated on 20 manufacturing groups, while Table II is on the basis of 248 sub-groups.

<u>Table III</u>				
Size of Establishment	1953		1964	
Average no. of persons engaged	No. of Establishments	%age	No. of Establishments	%age
- 10	105,611	72	97,024	67.7
10.1 - 20	26,198	19.5	24,611	24.7
20.1 - 30	9,724	6.0	9,021	6.9
30.1 - 40	2,253	1.6	1,350	0.9
40.1 - 50	-	-	-	-
50.1 - 60	-	-	-	-
60.1 & over	100	0.1	-	0.2
Total	143,966	100.0	143,054	100.0

24. There does not appear to be any published information on the employment in each size strata. In Table IV are shown the number of persons engaged and the added value, by group-average size of establishment. This data is based on the 248 sub-groups of the manufacturing industries.

Age Group of Insured	No. of Insured	Ratio of		Age Group of Insured	No. of Insured
		Insured of Class C	Insured of Class G		
10.I - 20	601,429	45.8		175,995,012	28.20
20.I - 30	247,759	19.7		119,912,562	19.87
30.I - 40	66,440	5.0		35,702,347	5.89
40.I - 50	36,949	2.8		17,019,784	2.85
50.I - 60	71,442	5.6		42,013,199	6.92
60.I - 70	69,355	5.3		59,662,013	9.21
70.I - 80	1,937	0.15		1,349,595	0.20
80.I - 90	9,936	0.75		8,037,835	1.29
90.I - 100	3,128	0.24		3,620,877	0.59
100.I - 110	-	-		-	-
110.I - 120	42,575	3.25		19,117,954	3.27
120.I - 130	-	-		-	-
130.I - 140	11,546	0.88		3,672,260	0.58
140.I - 150	3,700	0.28		1,410,610	0.23
150.I - 160	-	-		-	-
160.I - 170	7,083	0.58		5,877,839	0.95
170.I - 180	-	-		-	-
180.I - 190	5,003	0.39		9,130,003	1.48
190.I - 200	36,756	2.78		9,400,339	1.53
200.I - 210	-	-		-	-
210.I - 220	4,281	0.32		2,020,519	0.33
220.I - 230	-	-		-	-
230.I - 240	7,903	0.60		6,500,703	1.07
240.I - 250	6,039	0.45		8,180,378	1.33
250.I - 260	-	-		-	-
260.I - 270	15,487	1.17		15,255,273	2.64
270.I - 280	-	-		-	-
280.I - 290	1,476	0.11		1,405,444	0.23
290.I - 300	-	-		-	-
300.I - 310	9,777	0.74		31,711,419	5.14
310.I - 320	-	-		-	-
320.I - 330	4,580	0.35		15,383,413	2.49
330.I - 340	-	-		-	-
340.I - 350	27,866	2.11		11,254,947	1.82
350.I - 360	-	-		-	-
360.I - 370	24,470	1.85		27,927,375	4.53
TOTAL	1,380,120			617,620,700	

25. The data pertaining to the 1953 and 1964 censuses are a reflection of the number of enterprises employing a certain number of employees. It does, however, show a completely different picture from that given by Table I and indicates the importance of the small-scale sector in the general economy. If the ratio Revealed of Activities to Percentage of Employees in the same sector of productivity, enterprises employing more than 100 and less than 100 persons compare favorably with those having between 100 and 300 employees; the medium-scale industrial level.

Table IV. In levels of employment and number of establishments.

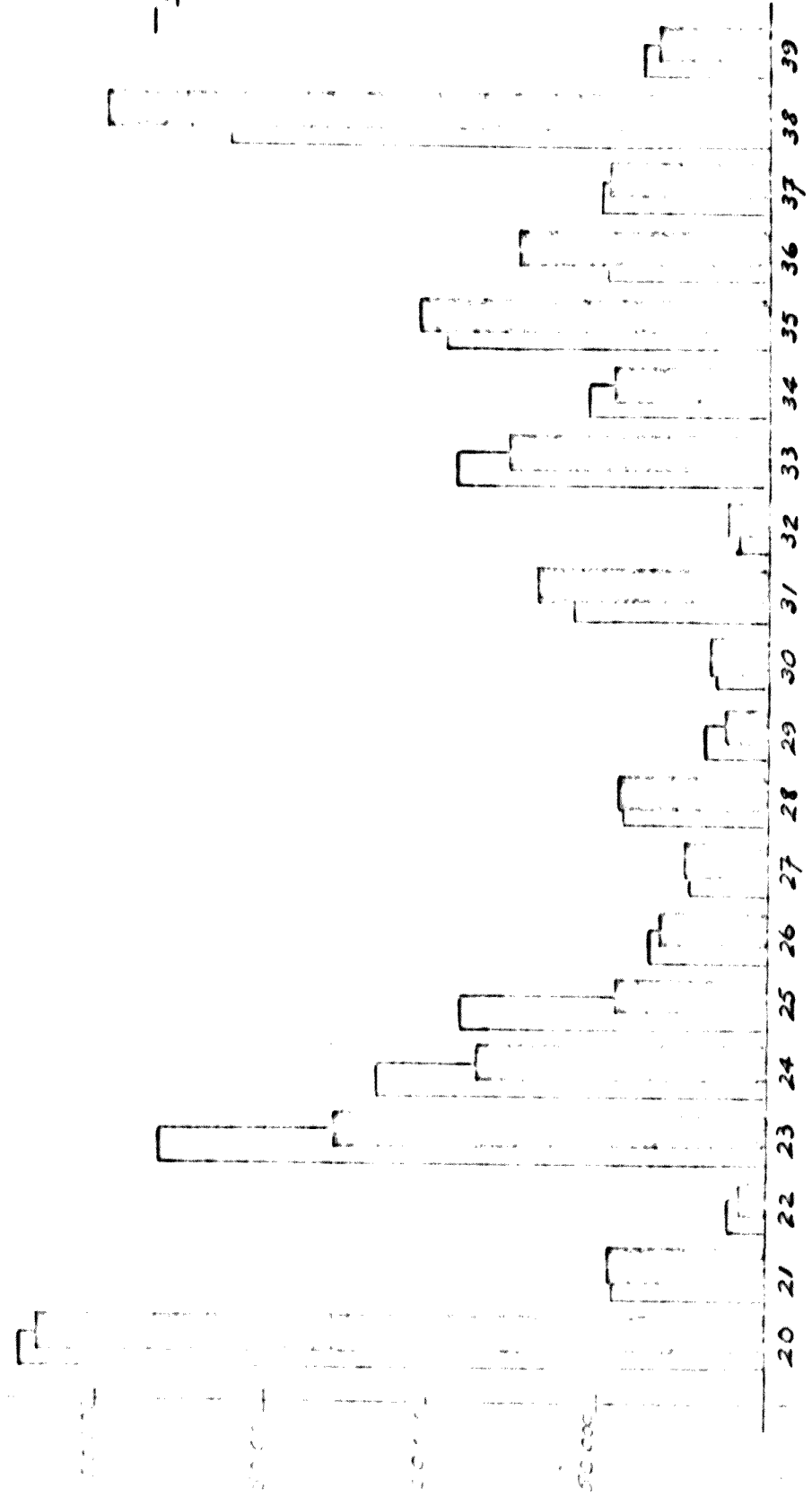
26. The base employed in the completion of industrial establishments varies from country to country. So far as the writer is aware, the only territory that makes use of approximately the same data as Argentina is Australia. There is, fortunately, a parallelism in the development of these two countries, which makes a comparison more meaningful. In Table V are given the number of undertakings and the number engaged in each group of the manufacturing industries in Argentina and Australia for the years 1953 and 1964.

27. The following points are significant:-

(a) The group-average size in each case, with the exception of Group 32 (Petroleum and Coal Products), is less in Argentina than in Australia; the size ratios ranging from 0.84 to 0.66.

(b) Over the period under review, the tendency in Australia was for the group-average size to increase. There were 5 exceptions; Group 29 (Leather and Skin Products excluding Shoes and Wearing Apparel), Group 30 (Rubber Products), Group 31 (Chemical Products), Group 35 (Metal Products except Machinery and Transport equipment) and Group 38 (Transport Equipment), but only in the case of Group 29 was there a decrease in the total employment. In Argentina, on the other hand, the general tendency was a decrease in the group-average size of undertaking. There were 7 exceptions; Group 24 (Leather and Wearing Apparel), Group 29, Group 30, Group 31, Group 35, Group 38 and Group 39 (Food and Drink).

PERSONS ENGAGED

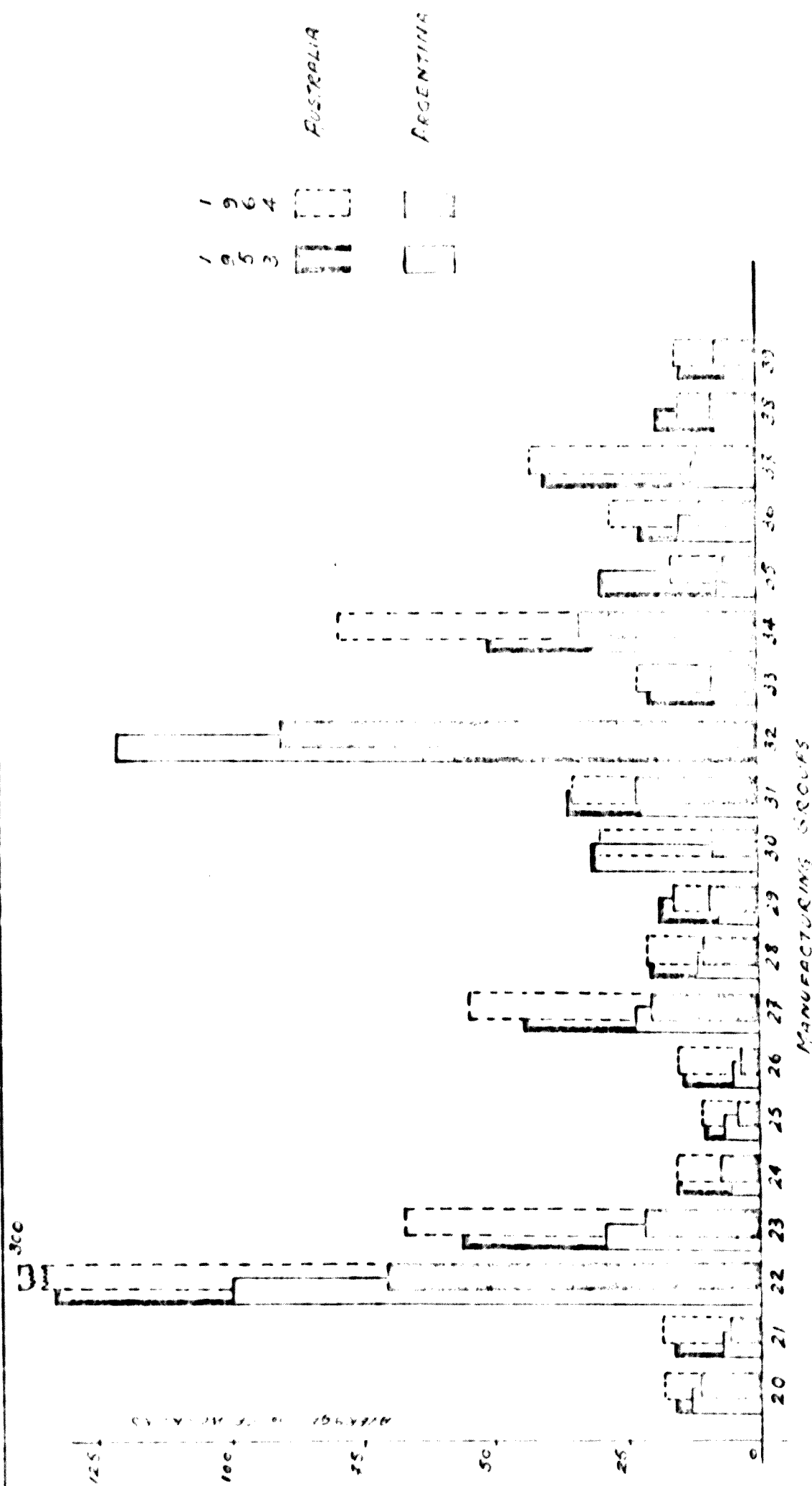


— ARGENTINA —

1953 1964

TOTAL 1953 1,410,267
TOTAL 1964 1,320,120

MANUFACTURING INDUSTRY GROUPS



MANUFACTURING GROUPS

AVERAGE NUMBER OF MAN-HOURS

(Group 21 (Food Products)), Group 22 (Tobacco), Group 23 (Textiles), Group 24 (Paper and Paper Products), Group 25 (Printing and Publishing), Group 26 (Furniture), Group 27 (Rubber Products), Group 28 (Lumber and Wood Products), Group 29 (Iron and Steel Products), Group 30 (Metals excluding Iron and Steel), Group 31 (Chemical Products) and Group 32 (Construction of Transport Equipment). In 1954 and 1955, there was a decline in the total employment in the manufacturing groups.

(c) Within any manufacturing group, establishments which in the early years exhibited the total employment and the progressive size of establishments may be taken as a sign of healthy development. Over the period, the only two groups, Group 31 (Chemical Products) and Group 32 (Construction of Transport Equipment), showed a slight upward trend in Australia.

(d) A rise in the number of establishments is also considered as a measure in the employment, coupled with a decline in the progressive size of establishments, may be indicative of proliferation. Certainly, an increase in the number of establishments accompanied by decreased employment is suggestive of proliferation rather than progressive development. In Argentina seven manufacturing groups, Group 21 (Food Products), Group 27 (Paper and Paper Products), Group 28 (Printing and Publishing), Group 29 (Rubber Products), Group 32 (Lumber and Wood Products), Group 33 (Metal Products excluding Machinery and Transport Equipment) and Group 35 (Machinery excluding Electrical Machinery), suggest possible proliferation; against four in Australia; Groups 30, 31, 35 and 32. There were four Argentinian manufacturing groups, compared with none in Australia, in which a degree of proliferation was evident; Group 20 (Food Products), Group 22 (Tobacco), Group 26 (Furniture) and Group 37 (Electrical Apparatus). The employment in the manufacturing groups in Argentina, and the group-average sizes of establishments in Argentina and Australia are illustrated in Figs 2 and 3, respectively.

28. Some conclusions that may be drawn from the foregoing are:-

- (a) That over the period substantial development took place only in Group 31 (Chemical Products) and Group 32 (Construction of Transport Equipment). The former in connection with fertilizers, and the latter on account of the expansion of the automobile industry. Foreign capital played a leading role in both cases.
- (b) That, in general, new undertakings in any manufacturing group were smaller, in terms of the number of persons employed, than the group average in the early years.

Year	1953	1964	1953	1964	1953	1964	1953	1964
20	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
21	1,000	6,836	6,836	6,836	6.7	6.7	6,836	6.7
22	1,000	2.7	1,000	1,000	7.2	15	1,000	7.2
23	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
24	1,000	10,000	10,000	10,000	1.7	6,000	10,000	1.7
25	1,000	9,000	9,000	9,000	7.7	6,000	9,000	7.7
26	1,000	3,100	3,100	3,100	7.2	5,000	3,100	7.2
27	1,000	8,000	8,000	8,000	5.3	3,000	8,000	5.3
28	1,000	952	22,000	22,000	25.3	410	22,000	25.3
29	1,000	3,001	42,000	42,000	11.5	1,000	42,000	11.5
30	1,000	2,500	19,000	19,000	7.5	788	19,000	7.5
31	1,000	525	13,000	13,000	31.3	465	13,000	31.3
32	1,000	68	8,200	8,200	100.6	63	8,200	100.6
33	1,000	1,231	95,100	95,100	7.6	1,000	95,100	7.6
34	1,000	1,728	52,500	52,500	30.2	925	52,500	30.2
35	1,000	1,350	45,700	45,700	33.6	1,338	45,700	33.6
36	1,000	15,062	96,600	96,600	7.1	1,476	96,600	7.1
37	1,000	18,664	101,458	101,458	6.5	4,452	101,458	6.5
38	1,000	2,525	48,100	48,100	1.7	4,224	48,100	1.7
39	1,000	4,190	49,800	49,800	11.1	1,350	49,800	11.1
40	1,000	4,572	47,536	47,536	10.4	1,855	47,536	10.4
41	1,000	22,919	162,000	162,000	7.1	9,027	162,000	7.1
42	1,000	26,337	198,715	198,715	7.1	11,611	198,715	7.1
43	1,000	6,554	38,000	38,000	5.8	1,905	38,000	5.8
44	1,000	4,400	32,619	32,619	7.5	2,077	32,619	7.5
All	1,000	15,986	1,410,000	1,410,000	9.3	48,100	982,900	16.0
1964	1,000	145,054	1,520,100	1,520,100	9.2	57,507	1,120,500	10.6

Source: Comptroller General Report, U.S. Bureau of Economic Analysis

(c) That the production of finished goods is being maintained at a level which is well above the level of employment.

29. The present subject is in fact witnessed in the fact that in many instances the effect of such cutbacks is reflected in the fact that the level of production is well above the level of employment. This is particularly evident in the case of the automobile industry, where the level of production is well above the level of employment. In fact, it is estimated that this industry is producing about 10% more than it is employing. This is in fact a common phenomenon in the automobile industry, where the level of production is well above the level of employment. In both the U.S. and the U.K., the level of production is well above the level of employment. Of the large-scale industries only cement maintained the 1956 level. All other of the industries with low group-average sizes, is generally found to be less affected by the changed conditions than those with high group-average.

30. In Table VI are shown the changes that took place in selected sub-groups of the manufacturing industries, and for certain processes that would be taken to represent complete sub-groups. A forecast made by F.I.E.I., based on a sample survey, predicted changes in the level of employment with respect to the same trimestral periods in the previous year, is given below.

1968 Trimestral Period	Establishments with increased employment	Establishments with decreased employment	No change
2	30%	46%	24%
3	25%	50%	25%

It should not be concluded that the diminution in employment was accompanied by a corresponding decrease in the volume of production. In general the level of production fell less than that of employment, and, in a few cases, production was maintained, and even increased, with a reduced number of workers. See Table VII, hereof.

Sub Group	Sub group No.	1964 %	Employment			Industry	
			1963 %	1957 %	1955 %		
	20501	23.4	139.6	100	89.6	93.0	Rice milling
	20502	59.0	103.6	100	96.4	94.2	Wool & fleeces
	20701	397.0	91.5	100	83.8	71.1	Sugar milling
	20911	41.2	116.6	100	95.2	88.1	Wheat & oils
	21101	267.6	79.6	100	94.7	94.5	Tanning
	2200 1/2	625/24	133.7	100	93.2	97.4	Tobacco
	27102	77.0	69.1	100	93.0	89.7	Paper & cartons
	30002	250.1	86.9	100	94.3	90.8	Tyres (auto & motor)
	31105	39.7	99.7	100	87.1	81.8	Copied film
	31106	124.0	155.3	100	96.5	90.1	Isk. & opt. lenses
	31107	343.7	173.6	100	84.7	76.2	Artificial fibres
	31201	24.0	115.4	100	94.3	88.8	Paints & varnish
	31311	135.7	103.0	100	100.2	96.5	Matches
	33701	355.2	81.9	100	100.9	101.2	Portland cement
	34103	50.6	93.5	100	111.7	102.5	Steel pipes
	35004	14.2	121.1	100	95.8	91.9	Coaking stoves, heaters
	36004	11.2	95.8	100	98.1	105.9	Sewing machines
	36009	9.8	174.4	100	99.4	94.9	Washing mas. Refrigerators
	37002	80.7	64.9	100	97.3	89.1	Electric bulbs & tubes
	38301	140.0	55.2	100	89.2	84.9	Automobiles
	-	-	-	100	93.8	79.7	Antibiotics
	-	-	-	100	103.1	103.1	Non-cellulose threads
	-	-	-	100	99.5	97.4	Soaps
	-	-	-	100	103.0	98.0	Plastic materials
	-	-	-	100	82.4	83.5	Sulphuric acid
	-	-	-	100	96.4	92.2	Asbestos cement
	-	-	-	100	94.3	95.1	Elements Martin steel
	-	-	-	100	100.4	112.7	Truck bodies
	-	-	-	100	82.1	75.2	T.V. Receivers
	-	-	-	100	120.1	145.0	Plastic shoes
	-	-	-	100	110.1	111.2	Gramophones records
AVERAGE			100		93.5	89.6	

Sources. 1964 Censo Nacional Económico

Table VII

Sector	Percentage Variation		Utilization of Capacity
	1957	1958	
Food, drink, tobacco	5.5	4.4	65 %
Textiles, wearing apparel, leather.	-1.0	8.6	75 %
Chemical products	-1.7	25.2	69 %
Non-metallic mineral products excluding petroleum	2.8	8.1	80 %
Constr. of automobiles	2.7	5.2	61 %
Metals excluding machinery	6.7	25.6	71 %
Machinery excluding electrical machinery	-7.7	3.1	63 %
Electrical machinery	-2.6	-7.8	67 %

Source: *Informe Económico*.

Location of Manufacturing Industries.

51. According to the last census (1960), nearly 75% of the population dwell in communities of two thousand or more inhabitants, and 54% reside in the Federal Capital and the adjoining part of the Province of Buenos Aires, collectively known as Gran Buenos Aires. This area contained, in 1964, 43.7% of the establishments which provided 54.1% of the total employment in the manufacturing industries.

In Table VIII are shown the distribution of population and industrial employment for the years 1939, 1948, 1960 and 1964.

Table VIII

	1939		1948		1960		1964	
	% Pop.	% Ind. Emp.	% Pop.	% Ind. Emp.	% Pop.	% Ind. Emp.	% Pop.	% Ind. Emp.
Federal Capital	19.0	44.2	18.7	41.0	14.8	20.9	26.5	
Buenos Aires	27.0	26.5	26.7	51.4	33.6	45.6	40.8	
Cordoba, Santa Fe and Entre Rios	25.6	15.7	25.0	14.8	22.3	17.6	19.2	
Corrientes, Chaco, Mendoza, Neuquen & Santiago del Estero	15.9	7.5	16.6	7.8	15.8	9.4	8.0	
Rest of Argentina	11.5	6.1	15.0	5.0	15.5	6.5	6.0	
Total		331,589		1,142,005		1,870,472		1,770,000

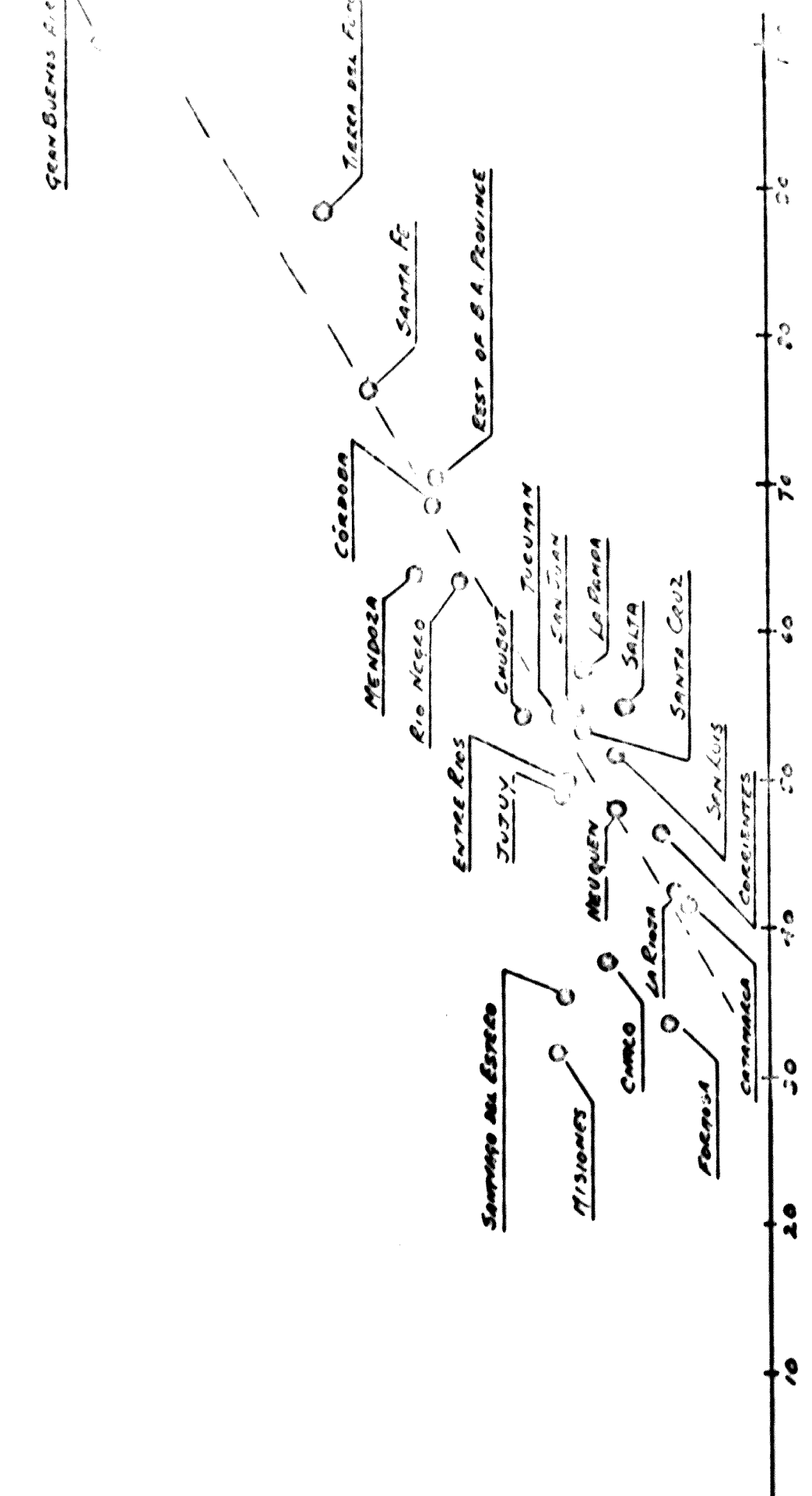
Source: 1939/49/50 *Argentina, Encuesta y Estadística*, C.E.C.E.I. I.C.P. (1964) p. 11.

32. The reason for this distinct establishment of peripheral industry is not far to seek. At the close of the period is concerned is significant who entered the country through the Federal Capital as one of the River Plate ports. From these points of entry they gradually moved into the interior and settled on the land. In time their production grew to such a level that exports were possible, and their supplies were shipped to Europe through Buenos Aires. The railways were developed to serve the land. Inevitably, under these circumstances, the system became one of radial roads radiating from the Capital with very few cross-connections. In this way the bulk of the exports and imports passed through Buenos Aires, and its position as a market became supreme. Concurrently with this development, foreign as well as tradesmen found there a demand for their skills. Some of these ventures culminated in artisanal beginnings and became increasingly sophisticated enterprises. The infrastructure these undertakings brought into being, and the existence of the major market, attracted new industries to the Federal Capital and its environs - a process that is still evident, albeit to a lesser degree than formerly.

33. The present trend is for industry, unless it is dependent on a local supply of raw material, or has a special locational requirement, to establish itself on the outskirts of the Federal Capital. There are, however, signs that some of the larger establishments are being attracted to the bigger towns in the interior. The pressure on transport, housing, public utilities and social services that this concentration of industry has created in Gran Buenos Aires is a burden that can not be permitted to increase indefinitely, and one that inevitably leads to high production costs.

34. In Table IX is given data relative to the degree of urbanization, population, industrial employment and establishments for Gran Buenos Aires and the Provinces. The ratio manufacturing employment to total population is plotted against the degree of urbanization in Fig. 4, and appears to show a direct straight line relationship.

Ratio of ...
 0.02
 0.01
 0.02
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 0.04
 0.05
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 0.10
 0.11
 0.12



PERCENTAGE URBAN POPULATION

Province	Population	1964		1960		Ratio	Ratio
		Establishments	Employment	Establishments	Employment		
Gran Buenos Aires	6,729,017	4,200	61,279	7,000	9,119	100.0	100.0
Buenos Aires	2,511,077	21.95	2,508	10,007	0,0151	50.5	7.07
Catamarca	183,700	0.18	47	2,700	0,0117	3.07	1.55
Cordoba	1,705,170	0.70	37,786	95,700	0,0350	6.67	7.07
Cordoba (C)	558,501	2.65	1,500	9,700	0,0341	3.05	1.30
Crisol	577,851	2.71	1,000	11,500	0,0415	10.00	7.05
Chaco	312,512	0.73	75	5,775	0,0187	11.5	7.04
Entre Rios	608,387	4.02	5,535	26,700	0,0432	20.5	8.07
Formosa	179,526	0.60	42	2,500	0,0135	10.0	6.0
Jujuy	241,402	1.23	122	6,500	0,0271	10.0	10.5
La Rioja	171,766	0.70	1,205	4,700	0,0261	10.7	3.08
La Rioja (C)	100,220	0.01	41	1,900	0,0190	10.5	4.07
Mendoza	800,036	4.32	6,525	49,200	0,0587	10.0	7.07
Misiones	351,400	1.81	2,076	12,700	0,0352	10.0	6.5
Neuquen	100,870	0.55	376	2,500	0,0255	20.0	7.05
Rio Negro	198,292	0.97	1,777	10,075	0,0521	60.5	7.05
Salta	412,854	2.06	1,255	10,100	0,0247	15.0	8.0
San Juan	352,387	1.73	1,000	10,900	0,0312	11.5	6.6
San Luis	174,516	0.97	707	4,572	0,0261	11.8	5.9
Santa Cruz	52,908	0.25	258	1,651	0,0310	10.5	6.1
Santa Fe	1,531,913	9.42	17,502	126,587	0,0872	35.2	7.5
Santiago del Estero	476,508	2.38	835	5,105	0,0541	35.2	6.5
Tucuman	775,972	3.67	1,952	26,187	0,0344	51.4	15.6
Tierra del Fuego	7,955	0.01	62	500	0,0742	10.6	9.5

Sources. Censo Nacional Economico 1964, Censo Nacional de Poblacion 1960

35. In each of the manufacturing groups 20 - 29, Gran Buenos Aires provides the greatest employment, ranging from 26% of the national total in the case of Petroleum and Coal Products to 81% in the case of Electrical Machinery and Appliances. Only in respect of Food Products, Pulp and Paper Products, and Petro-chemical Products is the group-average size of establishments less than the national average. Gran Buenos Aires, the remainder of the Province of Buenos Aires, and the remainder of the Province of Mendoza, together with the remainder of the Province of Cordoba, together provide 91.7% of the total employment in the

average of 7.1% of the total exports. Over the last three years the percentage has been for the proportion of raw and intermediate materials to double. Over the other hand consumer durables, non-durables and capital goods have tended to decline. Although from 1960 the percentage of consumer durables and capital goods has risen each year, with the exception of 1965, together they make up only 5.2% of the total exports. The success of the manufacturers included in the future will be measured by how much they can increase this figure.

Table X

<u>Exports</u>		<u>Millions of U.S. \$</u>								
Year	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Total	1249.3	1330.4	1356.5	980.0	1277.2	1290.6	1174.5	1072.2	1170.1	1200.0
Capital goods	314.7	405.8	556.4	372.0	203.9	351.6	292.9	237.7	242.0	242.0
Raw & inter- mediate mats.	650.2	735.0	667.5	527.6	752.8	602.9	764.5	759.5	740.0	740.0
Fuel & oil	156.0	179.7	91.6	57.4	63.7	113.3	100.5	93.5	100.0	100.0
Consumer										
Durables	9.7	13.0	11.4	7.1	10.9	12.4	22.6	21.0	19.0	19.0
Non-durables	13.7	23.9	29.8	15.6	20.9	33.4	25.8	21.5	21.0	21.0

<u>Exports</u>		<u>Millions of U.S. \$</u>								
Year	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Total	1079.2	984.1	1210.0	1265.1	1410.4	1493.4	1593.2	1551.5	1500.0	1500.0
Raw & inter- mediate mats.	779.0	693.1	932.5	901.7	1028.0	1058.1	1162.2	983.6	900.0	900.0
Consumer										
Durables	0.9	1.1	2.2	5.2	12.3	11.0	12.4	13.4	17.0	17.0
Non-durables	294.5	263.5	276.9	445.9	354.8	399.6	403.3	440.5	417.1	417.1
Capital goods	5.0	6.4	4.4	12.3	15.3	14.7	15.5	22.0	27.0	27.0

Source. Informa Economics.

39. In Tables XI and XII, respectively, are given an approximate break-down, by major groups, of the principal items in the total exports, and a similar breakdown of exports to the L.A.F.T.A. countries, in the latter case only individual exports of U.S.\$ 100,000, or more, have been taken into account. For the greater part of the first three groups in Table XI represent either raw materials or food products. The figures are subject to wide price fluctuations.

all countries, and the total value of the principal metallic products exported from the U.S.A. in 1968, 1967, 1966, 1965, 1964, 1963, 1962, 1961, and 1960, is shown in Table XI. It is evident that the export of the principal metallic products from the U.S.A. has increased ten-fold between 1960 and 1968. While the export figures, shown in Table XI, for this group obviously does not include all the consumer durables and capital goods, they are roughly comparable with those given in Table XII. From this it appears that the exports of the principal metallic products to the U.S.A. in 1968, 1967, 1966, 1965, 1964, 1963, 1962, 1961, and 1960, are 1,406, 79,249, 3,138, 4,539, -, 4,673, 14,681, 1,278, 1,004, and 178, respectively.

Table XI

Year	U.S.A.		U.S.A.		Total
	Exports	Imports	Exports	Imports	
1960	471,700	213,730	123,000	70	
1961	357,100	205,500	131,900	1,200	2,000
1962	550,235	416,715	162,507	1,015	807
1963	496,856	575,545	219,032	9,201	12,503
1964	663,011	512,000	132,400	15,605	19,000
1965	711,783	517,100	159,737	16,000	32,737
1966	603,081	600,251	150,853	21,175	35,953
1967	575,768	529,209	170,239	20,305	27,632
1968	459,446	457,007	159,833	27,463	27,463

Table XII

Exports in 1968 in Thousands of U.S.\$

Bolivia	1,406	1,172	1,053	435	1,737
Brazil	79,249	2,953	4,248	6,042	5,101
Colombia	3,138	2,006	279	452	696
Chile	4,539	45,205	8,078	5,355	8,833
Ecuador	-	963	-	118	387
Paraguay	4,673	1,280	-	2,431	1,628
Peru	14,681	24,198	5,984	1,865	1,450
Uruguay	1,278	-	-	4,026	1,698
Venezuela	1,004	153	339	820	228
Mexico	178	2,095	-	5,111	1,408

Source. Informe Económico

40. It will be observed that the export of the principal metallic products has increased ten-fold between 1960 and 1968. While the export figures, shown in Table XI, for this group obviously does not include all the consumer durables and capital goods, they are roughly comparable with those given in Table XII. From this it appears that the exports of the principal metallic products to the U.S.A. in 1968, 1967, 1966, 1965, 1964, 1963, 1962, 1961, and 1960, are 1,406, 79,249, 3,138, 4,539, -, 4,673, 14,681, 1,278, 1,004, and 178, respectively.

directly to trade in public debt in the market. Some of these loans are from abroad. One such loan is made in conjunction with the Banco Interamericano de Desarrollo and is intended for the development of light engineering, cellulose and paper and mineral-exploration projects. This loan is in two portions of which only 15% is used to import capital goods and technical assistance to a maximum of U.S. \$1,000,000, and at an interest of 9% per annum, the other portion is local currency at 1% per annum (it is believed that this rate may have been increased to 1%, in line with the commercial banks). The amount of the loan is limited to 60% of the cost of the project, and is for a term of ten years; the longest term of any of the loan schemes. The borrower is required to contribute 40% of the cost of a new installation, or 20% in the case of an extension to an existing plant, from his own resources. Another loan is designed to assist the promotion of industrial projects to which the Consejo Nacional de Desarrollo, Argentina (CONADE) has given priority. The term is for five years at 15% (12 1/2%). The upper limit of the loan is, respectively, 70 and 60% of the investment in buildings and equipment. This loan is intended to encourage industry to settle outside of Gran Buenos Aires, as the limit is reduced to 40% if the borrower establishes his undertaking within that area, and is increased to 70%, in each case, if Tucuman is the selected location. A loan with a similar objective is available to small-scale new or existing establishments outside of Gran Buenos Aires, Rosario and the capitals of the Provinces of Cordoba and Santa Fe. To qualify an enterprise must have a capital of less than m\$ 7,000,000; annual sales of less than m\$ 20,000,000 or employ less than 15 persons. The maximum loan is m\$ 300,000 for a term of five years for investment in fixed assets, and up to three years if intended to finance exploitation. Artisans are catered for by a loan with an upper limit of m\$ 200,000 to cover 80% of the investment in fixed assets. Interest is at 12% per annum for a period of either five, three or two years depending on whether the loan is for new capital equipment, re-organization of the undertaking, or initial exploitation expenses.

cost of development, and the cost of financing, are a heavy burden on the entrepreneur of the firm. Another reason is the difficulty of financing entrepreneurs to increase their productivity, often entrepreneurs, e.g. for market investigation or the introduction of systems of costing, quality control, production planning or inventory control etc. Eighty percent of the cost of loans, up to a limit of 5,000,000, is guaranteed.

45. The Central Bank is prepared to finance up to 70% of the value of sales made to State Organizations of capital, durable and semi-durable consumer goods which otherwise would be obtained from abroad.

46. Recently an agreement was concluded between the "Multinational Community Development Group for Latin America" and several Argentine organizations to establish the "Corporacion Financiera de Desarrollo e Inversiones". The Corporation will grant medium and long-term loans, manage credit granted by international organizations, and subscribe to new share issues. There also exists the "Fondo de Integracion Regional". This Government Fund is intended to finance basic investments, and has, for the period 1968 to 1970, some 100,000 m., at its disposal.

47. The present boom in construction is attracting funds that otherwise might have been available for investment in the manufacturing industries. The rates offered by the building societies are reported to be as high as 20% per annum. As interest on sums on fixed deposit with the commercial banks increases at 8½% per annum, the sums available for lending by the banks are affected.

48. The cost of capital is high, and the terms on which it is available to small and large-scale industry virtually are the same. Indeed the large borrower is likely to find it easier than the small one to raise funds. Furthermore there are a great many time-consuming processes to be completed before a loan may be approved. So much so, that in not a few instances the small-scale entrepreneur is averse to making an application.

49. The duties levied on imports by the Government take the form of a reduction in incidence, or exemption, total or partial, of import duty on plants, or parts, or materials. Usually, only, part of the amount of locally manufactured agricultural and industrial machinery was tax deductible. This concession was subject to a limit, and was withdrawn. In 1958, the Secretariat of Industry and Commerce offers tax reduction, or exemption, to firms establishing themselves in Free Zones, and, in underdeveloped areas, similar terms will be available in 1960. The Province of Buenos Aires maintains a "Development Fund" to assist industry. In 1956, only m\$n 600,000 was used for this purpose. A new law (No. 7479) permits the sale to private or commercial interests, of land and buildings owned by the Province; provides for exemption, in certain cases, of taxes on income and capital; and allows for the granting of industrial credit. A sum of m\$n 400,000, is believed to be available.

50. The exemption, or reduction, of import duty on capital plant may be obtained for approved undertakings. The proposal to award this concession is published in advance, and there may be objections from interested parties. In so far as there is less likelihood of objection to the importation of the more sophisticated equipment of the large-scale sector, it favours that sector. In any case, the small-scale industrialist usually cannot accept the delay that this procedure involves. Motor vehicle manufacturers are permitted to import components from L.A.F.T.A., countries, to the extent of FOB value of 6% of their planned overall production, at a preferential duty rate of 5%. The exercise of this privilege does not affect the manufacturer's foreign exchange allocation.

51. The municipalities to attract industry are prepared to waive, in certain cases, local taxes on sales and construction. As these taxes do not exceed 4% the effect is minimal.

52. Over the past five or six years the Government has had under

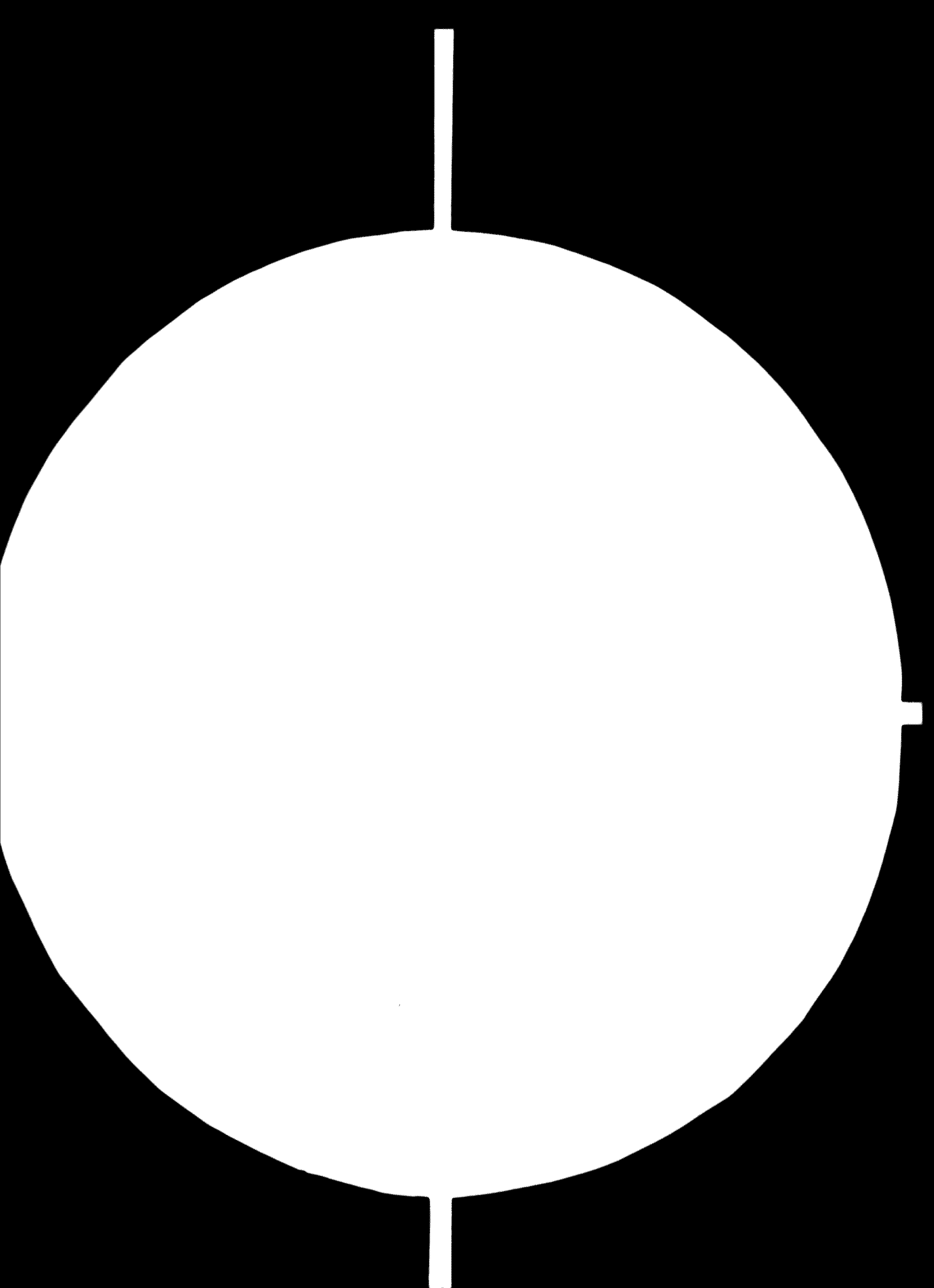
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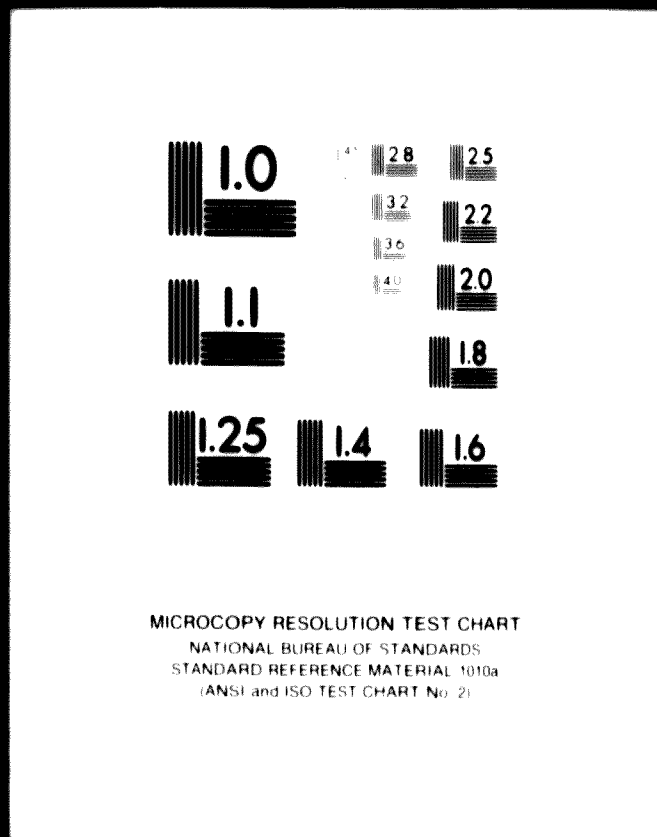
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contemplated the establishment of industrial parks. Studies have been made for four areas in the Santa Fe - San Nicolas region, and also for Cordoba, Rosario, Rio Negro, Chubut and Tucuman. Currently investigations are being made in connection with Bahia Blanca, San Francisco, Guastacion Colon and (Bilvancia). To date none of these studies has been implemented. It appears, however, from the size of the first group of contemplated parks that they were intended to accommodate large-scale industry. No distinction appears to have been made, hitherto, between an industrial park or area and an industrial estate. It is apparent that the Government is very interested in the industrial park as a device to promote and decentralize industry. More attention, however, should be given to the role that industrial estates could play in the development of the small-scale sector which constitutes the major part of Argentinian industry.

Protection and Tariffs.

53. The level of import duty on manufactured articles is high. This applies not only to consumer durables and semi-durables but also to capital plant and its accessories. For example, the average duty on handtools is 80%; on process machinery between 50 and 90%; and on machine tools between 50 and 90%. The effectiveness of this high level of protection as a means of stimulating indigenous manufacture is offset, to some extent, by the less high, but still high by some standards, import duties on semi-manufactures and intermediate materials which form part of the completed product; and by inhibiting more competitive production.

54. There is, in general, no duty on exported manufactures. In the case of imported manufactured articles which are re-exported in the unused state, due to inability to sell locally, the exporter is entitled to be reimbursed 12% of the FOB value, and to deduct 10% of the same from profits for assessment of income tax. This measure which appears to be designed to assist the import houses might well be of benefit to manufacturers.

55. The vital necessity to increase the export of manufactures, and

the existing tariff structure underlines the need for export incentives. The refund of duty paid on imported intermediate materials incorporated in the export product is difficult to apply equitably. The payment of an export bonus is probably more practicable. The writer believes that the time has come to consider the creation of a duty-free enclave in which the manufacture undertaken therein would attract duty only if the products crossed the customs boundary of Argentina. The Free Zone device is employed in many countries, Denmark, Germany, Netherlands, Greece, the Netherlands Antilles and Lebanon to mention but a few. Brazil has recently established the Manaus Free-zone.

Government and Institutional Aid.

56. In each province, the Direccion de la Industria, a department of the Sub-secretariat of Commerce and Industry, has a responsibility for the development of industry within its boundaries. Those that are active are more concerned with the locational promotion of industry, per se, than with the problems of individual undertakings. The Direccion de la Industria can be, and is in some provinces, an effective instrument in improving the infrastructure.

57. Technical research is carried out by the universities and by the Institute Nacional de Tecnologia Industrial (INTI). The latter has 19 centres devoted to different technical fields. There is a Standards Institute and an Institute of Material Testing.

58. There are numerous private firms specializing in management consultation, personnel selection and market research; some of these are branches of international agencies. Both Argentinian and foreign consulting engineering firms practice in Buenos Aires. The "Centro de Investigacion de Metodos y Tecnicas para Pequenas y Medianas Empresas" (CIEME) provides advice on the techniques of management and, to a limited extent, on technological matters.

59. The large and medium-scale industrial enterprises appear to be

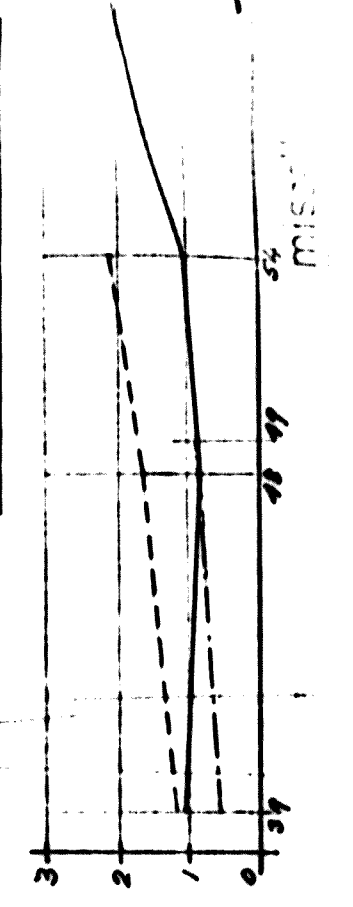
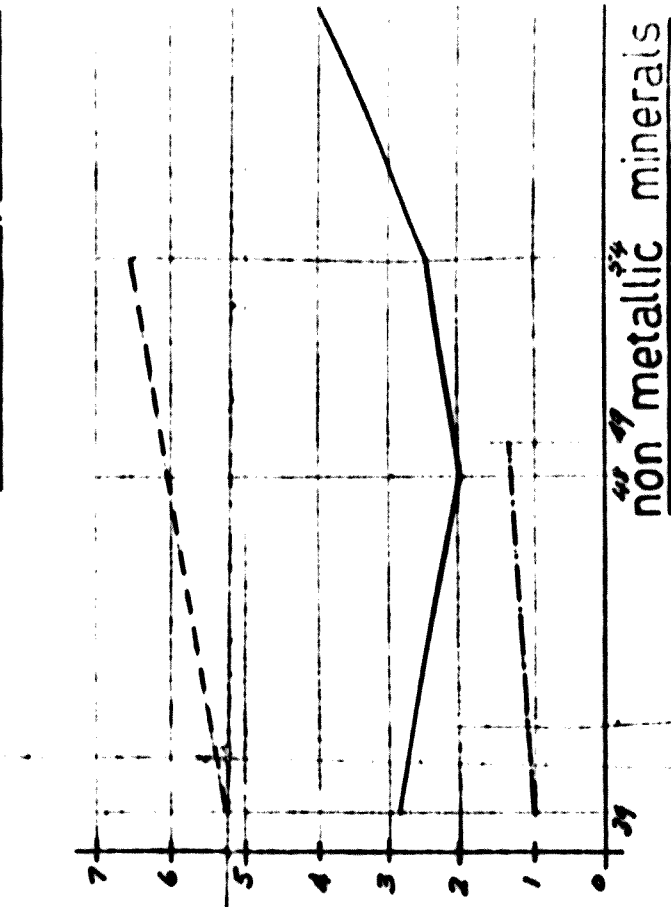
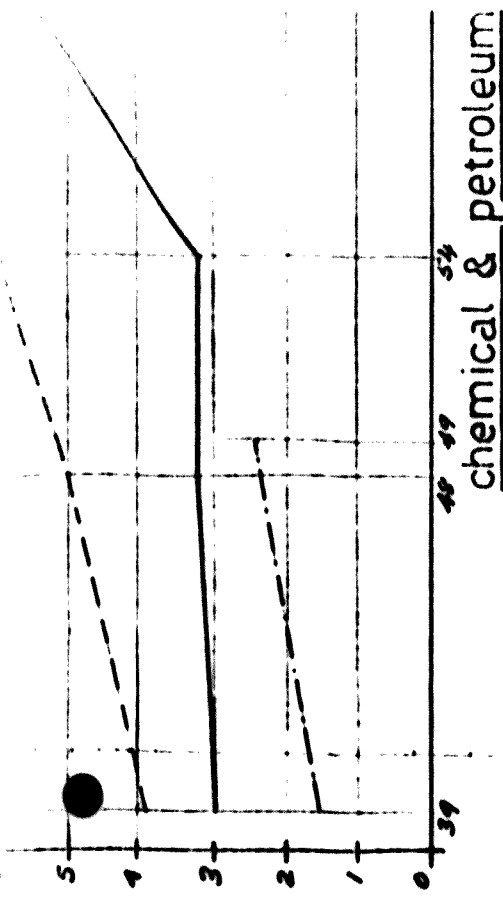
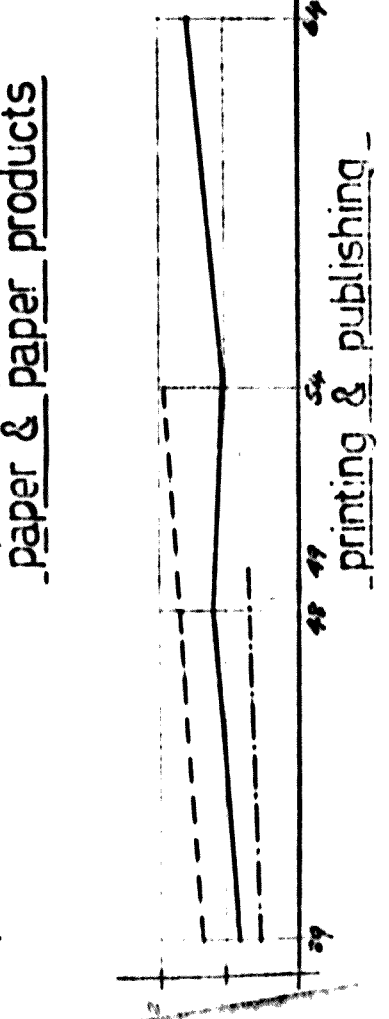
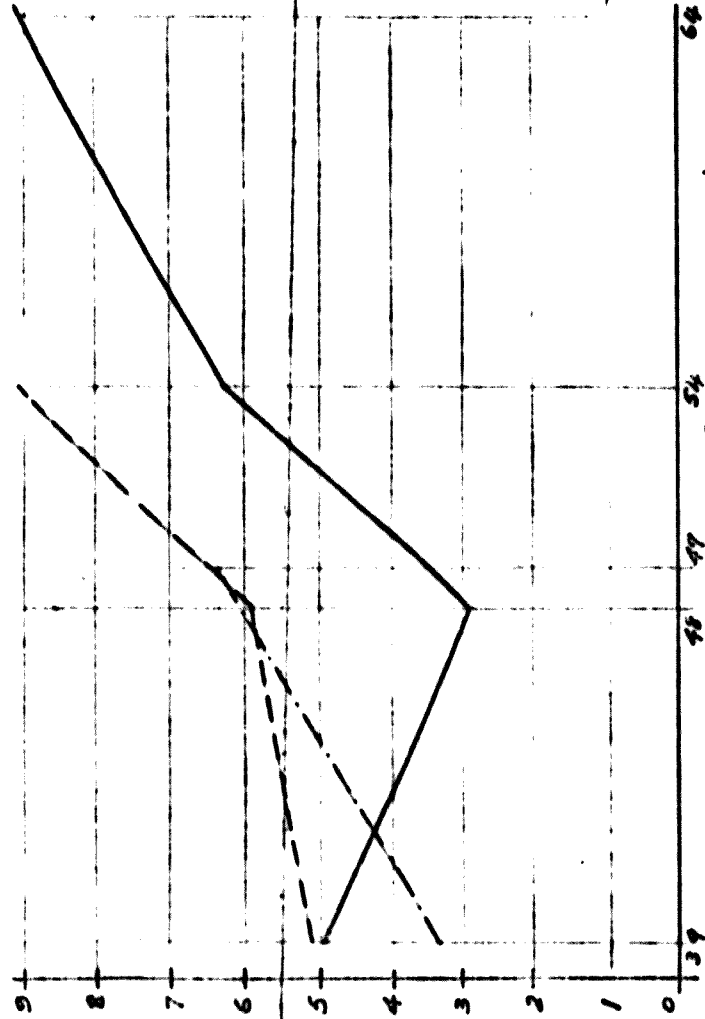
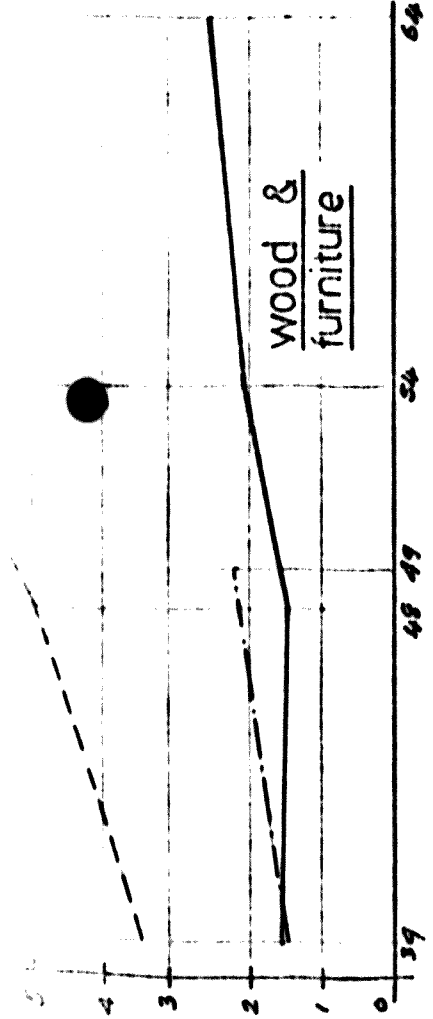
will cover of the institutions that is available, and are prepared to pay for it. The small-scale sector may not be so well informed, or unable to afford such services. Indeed, so far as the writer is aware, the impact of the existing institutions on the small-scale sector, as a whole, is minimal.

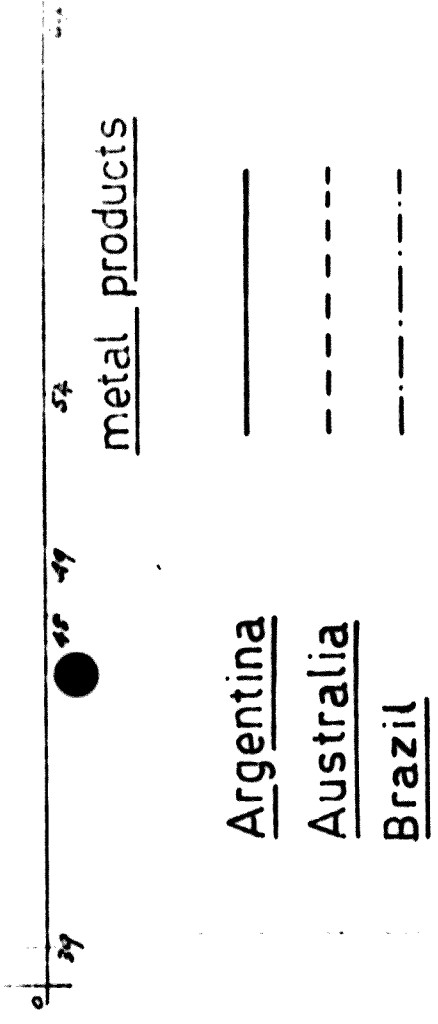
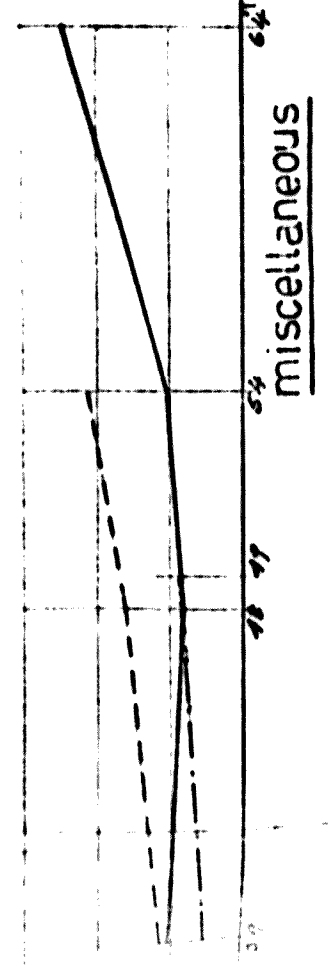
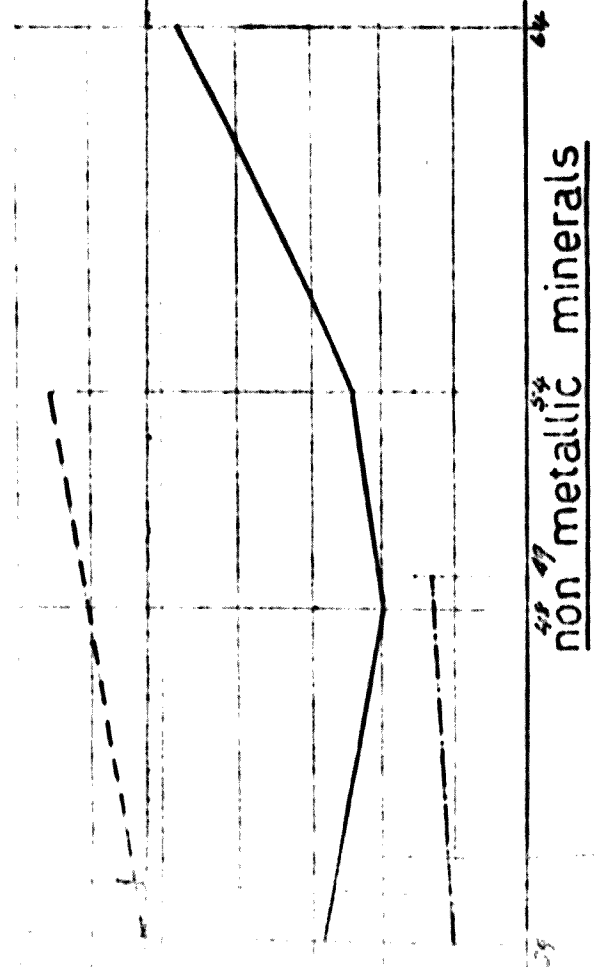
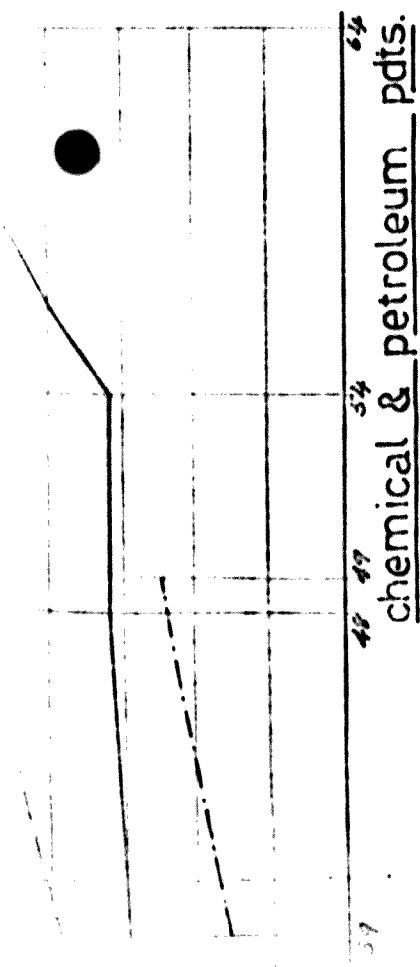
60. Special mention must be made of CIE. It is the nearest approach to an industrial extension service that exists in Argentina at the moment. It falls far short, however, of what is usually implied by that term. This organization provides instructional courses in a wide variety of technical and managerial subjects. If any criticism is to be made of these courses; it is that the level of some of them is too advanced to be appreciated by the average small-scale industrialist. The courses are well received and attended by representatives of the large and medium-scale enterprises, but the owners/managers of the really small undertakings are not attracted.

61. In the field CIE conducts investigations into managerial and organizational problems at the request of the company concerned. Although technical advice has been given on several occasions, the organization is not adequately staffed for this purpose. For the services rendered a fee, considerably below the real cost of the investigation, is charged. It is right and proper that a fee should be charged, if only to eliminate frivolous requests, but the fact that a charge is made which bears some relation to the effort involved limits the field to those who realize that advice is obtainable and are prepared to pay for it.

62. In consequence the initiative lies with the firm seeking advice, and the organization fails to reach those who may need assistance and either do not know so, or, if they do, cannot pay for it. Some undertakings which have employed CIE belong to that ill-defined class known as small-scale industry, but they are the leaders rather than typical representatives of that sector.

65. This situation is the result of what might be described as the

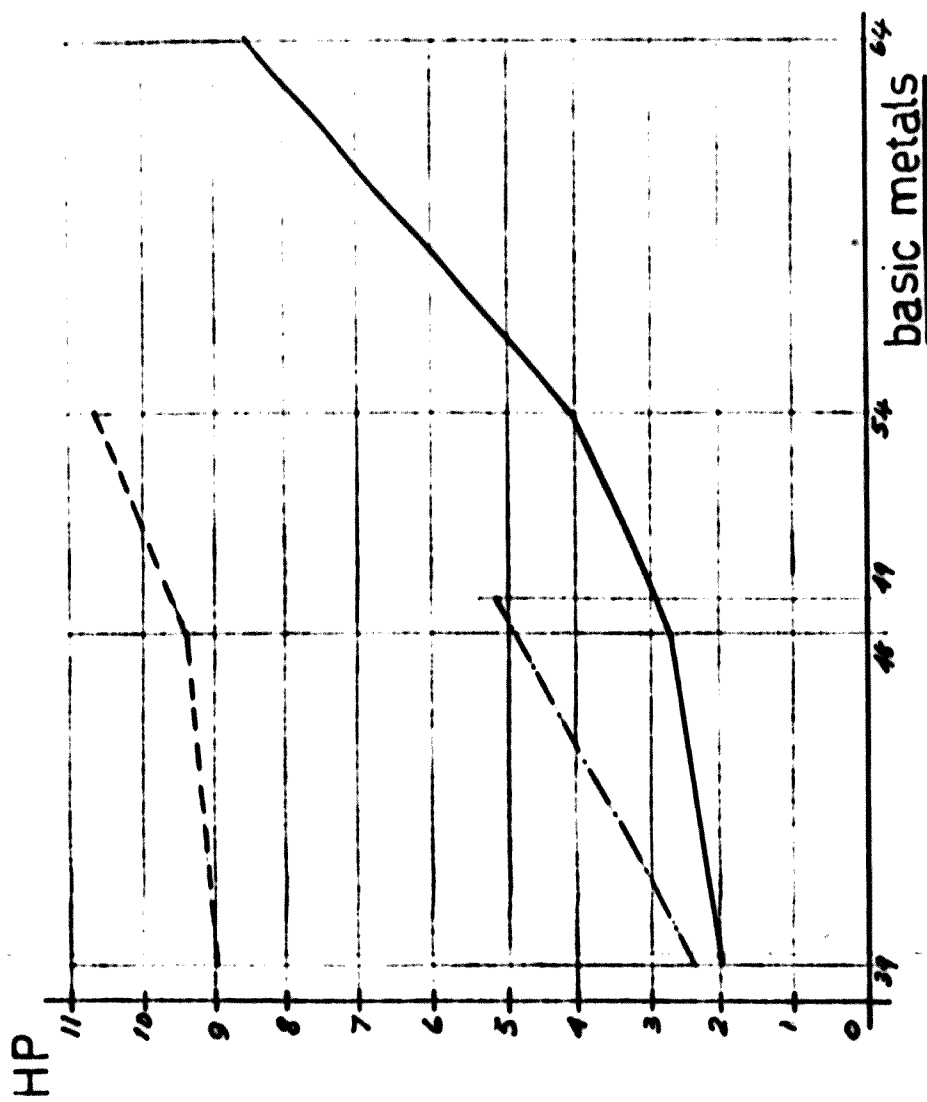




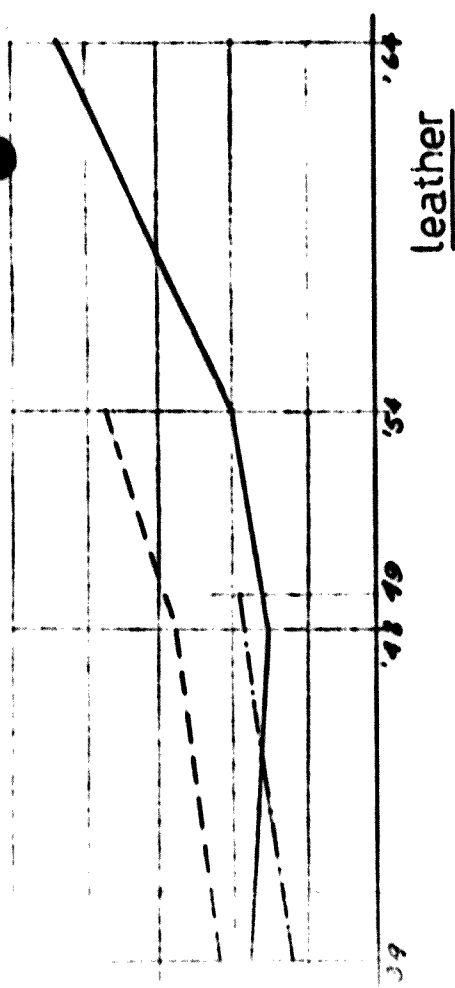
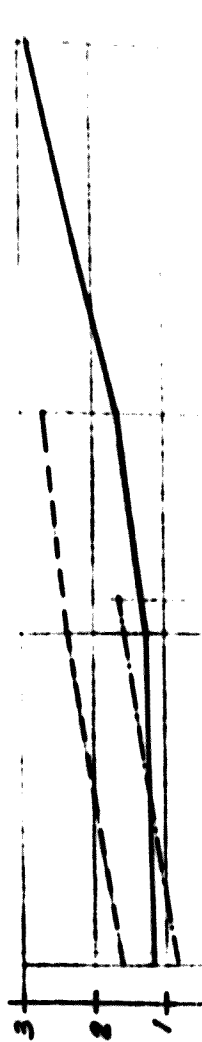
Installed horsepower per person
engaged in manufacturing industries
1939 1948 1954 1964

Argentina ———
Australia - - - -
Brazil - · - · -

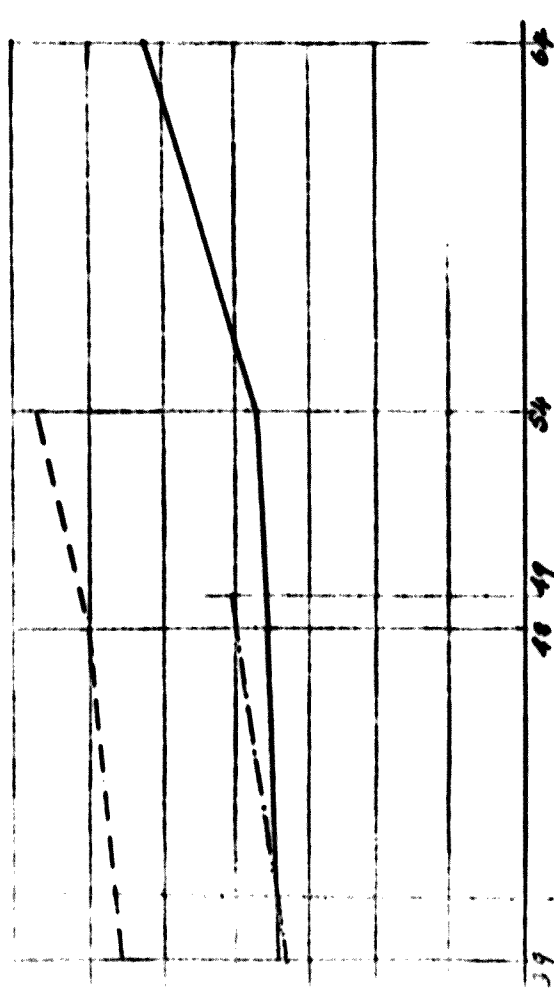
Fig. 5



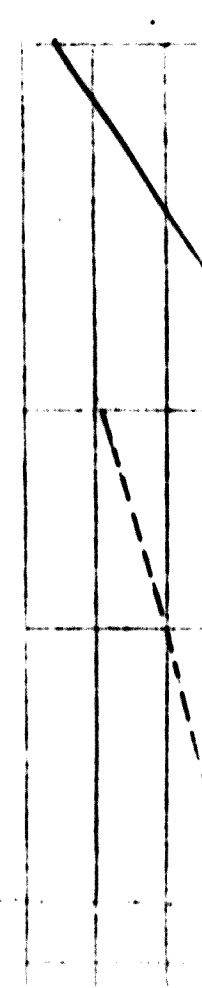
basic metals

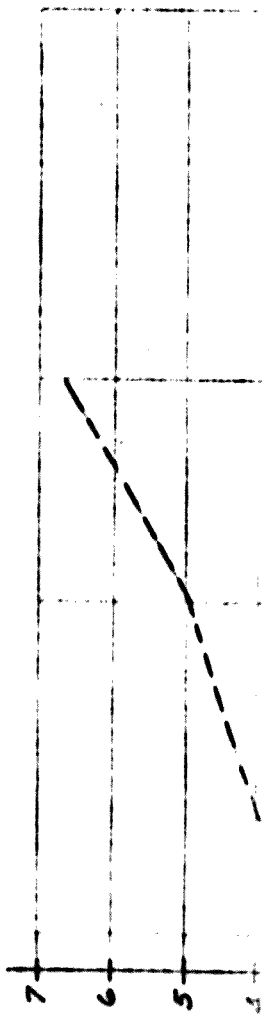
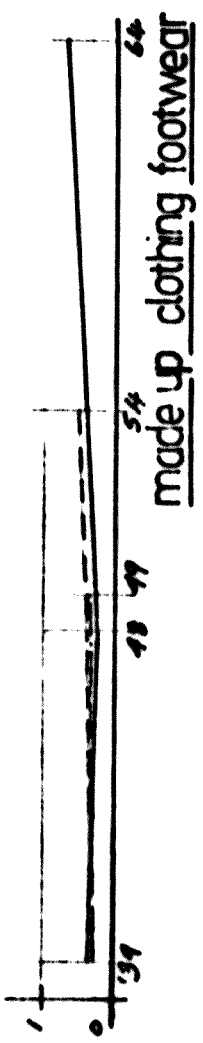
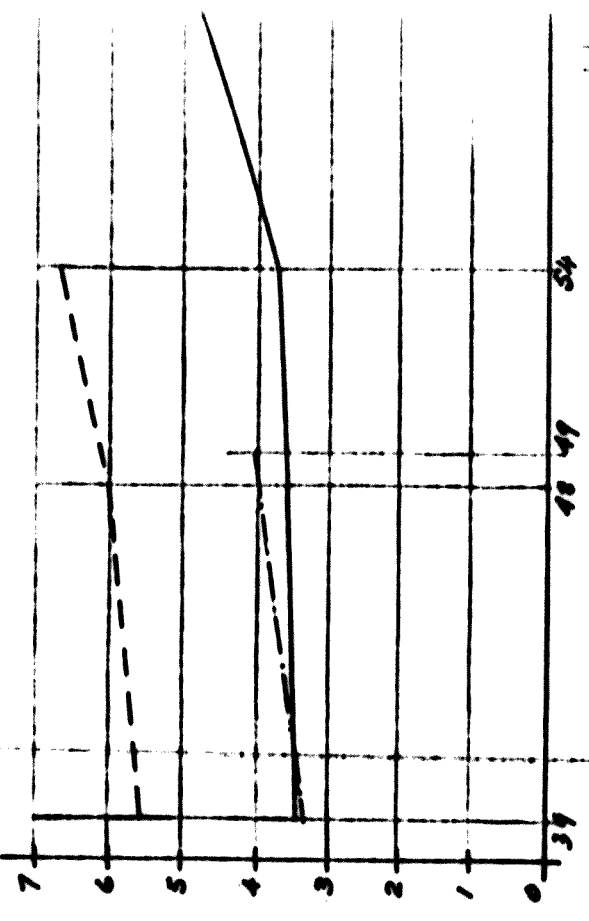
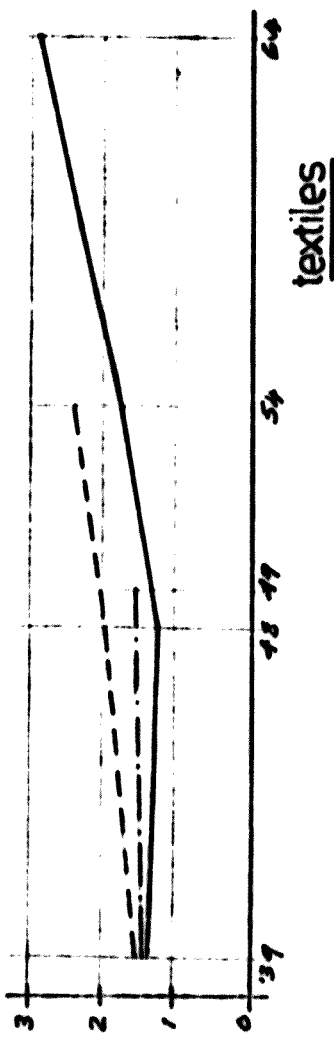
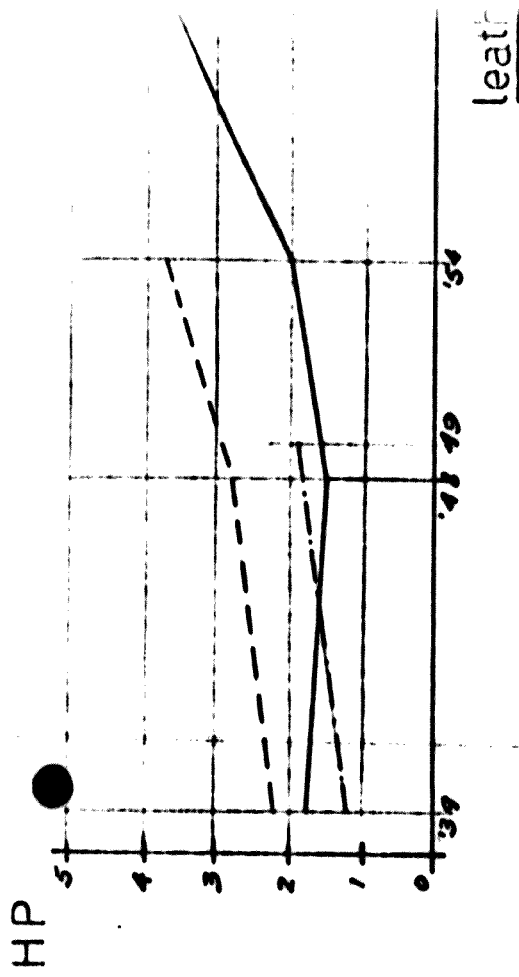
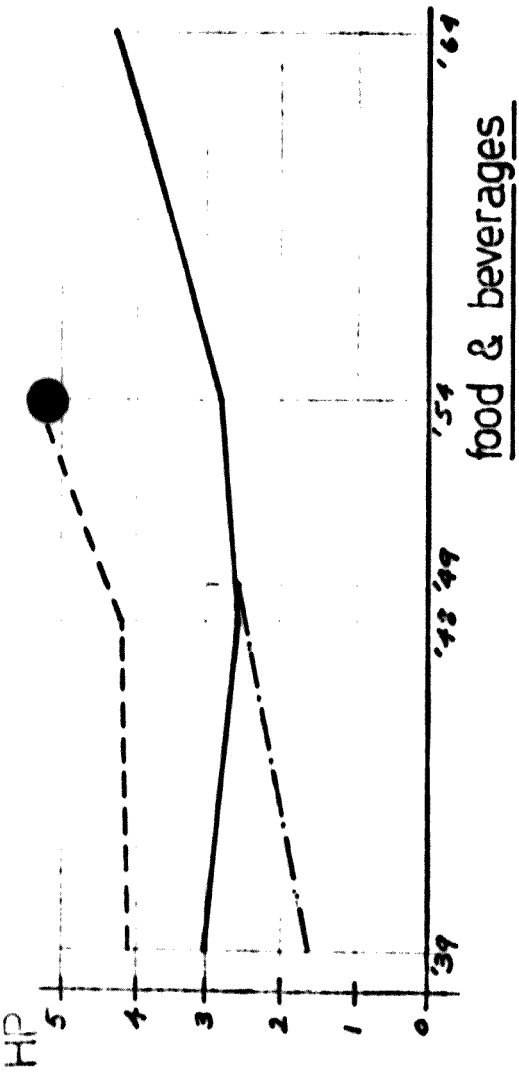


leather



rubber





"casual" financing of CIME. In the main CIME is dependent on subsidies from the Industrial Bank or some ministry. These grants do not cover the annual operating expenses. The Directors of CIME cannot make plans with the certain knowledge that funds sufficient to meet foreseen liabilities will be available. This means that CIME must promote the sale of its services to private undertakings or some ministry or institution. And if successful in that way, the services that CIME contracts to provide are dictated by the organization providing the funds. That is not to say that in all cases the objective of the sponsor differ from what CIME would aim at, were it its own master. If CIME could be assured of a budget, sufficient to cover its present annually recurrent expenses and to permit the engagement of additional specialist staff, it could, with some modification, be of great assistance to the small-scale enterprises which are at present neglected, and which provide the greater part of the industrial employment in Argentina. The role that CIME might play is discussed later in this report.

Electric Power

64. The quantity of electrical and mechanical power utilized per worker in the manufacturing industries is probably one of the most reliable indicators of industrial development. In Table XIII is shown the average horsepower per person engaged in manufacture for five countries, of which Australia is the only one with a comparable base to Argentina.

Table XIII

Country/Year	1939	1948	1954	1964*
Argentina	1.88	1.69	2.10	5.41
Australia	2.64	3.12	3.87	—
Brazil	1.37	2.01**	—	—
Mexico	2.18	—	—	—
United States	5.18	—	7.53	—

Sources U.N. Yearbook of Industrial Growth.
Economico. ** 1949

* Calculated from Censo Nacional

65. It is evident that between 1939 and 1954 the rate of development

of the manufacturing industries, as a whole, was less rapid in Argentina than in either Australia or Brazil. Certainly since 1954 the Argentine rate has more than doubled. It is very probable that there is now less disparity than there was in the mid-fifties.

66. In Table XIV is given the installed horsepower per person engaged in each of the manufacturing groups, and the same information is shown graphically in Fig. 5. In every group the horsepower per person in Australia in 1964 was higher than that in Argentina in the same year, and in 7 of the 15 groups it was greater in 1954 than it was in Argentina for 1964. If the use of mechanical power in Australia throughout the period 1961 to 1964 continued to increase at the same rate as it did between 1948 and 1954 then the horsepower per person in each group would be higher than in Argentina in 1964.

Table XIV

Group	Argentina				Australia			Brazil	
	1959	1948	1954	1964*	1959	1948	1954	1959	1948
Food & beverages	3.00	2.52	2.60	4.29	4.05	4.16	5.32	1.61	2.56
Textiles	1.35	1.25	1.71	2.83	1.55	1.93	2.36	1.39	1.54
Made-up clothing and footwear	0.33	0.26	0.40	0.65	0.24	0.53	0.46	0.26	0.37
Wood & furniture	1.58	1.47	2.09	2.50	3.40	4.95	6.63	1.57	2.19
Paper and paper products	4.92	2.85	6.28	9.07	5.10	5.37	9.11	3.37	6.40
Printing and publishing	0.82	1.20	1.03	1.56	1.36	1.63	1.92	0.52	0.63
Leather	1.74	1.51	2.01	4.32	2.13	2.71	3.63	1.20	1.69
Rubber	3.42	3.56	3.72	5.23	5.57	6.03	6.63	3.33	4.10
Chemical and petroleum products	2.97	3.17	3.10	3.57	3.83	5.00	5.07	1.54	2.43
Non-metallic minerals	2.82	1.99	2.40	4.78	5.25	6.02	6.55	0.99	1.31
Basic Metals	1.98	2.67	4.05	8.50	8.93	9.36	10.63	2.36	5.04
Metal Products	1.19	1.29	1.68	2.92	1.63	2.32	2.70	0.64	1.03
Miscellaneous	1.04	0.80	1.08	2.49	1.13	1.62	2.12	0.54	0.81

Source . U.N. Yearbook of Industrial Statistics * Calculated

67. Nearly 45% of the electric power used in this country is produced privately. In 11 of the 22 provinces more than 50% of the power used in industry is generated in this way. In this connection there is no apparent geographical distribution pattern, but in many a few of the less industrialized provinces the percentage of purchased electricity is much higher than in those provinces where there is a concentration of industry. Compare Neuquen 92%, Santa Cruz 93%, La Rioja 86%, Catamarca 89% and Corrientes 88% with Buenos Aires 45%, Santa Fe 60% and Cordoba 72%. On the other hand in the minor industrial centres, Salta, Tucuman and Mendoza, the purchased electricity amounted, respectively, to 11.25% and 68%.

68. It would appear that prior to, and including, the year 1964 there was a shortage of electricity for industrial use. This may partially explain why the power consumption per person in Argentina lags behind that of Australia. The greater availability of electrical supply in many of the less industrially developed provinces is an additional reason for promoting decentralization. There are, however, several hydro-electric schemes either in the construction or planning stages, and there are good prospects of cheaper and more abundant power in the near future.

Productivity of Labour.

69. Theoretically a comparison of the productivity of labour between countries should be possible. In country A the labour is more productive than in country B, because in the former it takes less man-hours than in the latter to achieve an identical result. This assertion is valid only if the method employed is the same in each case. In other words, if there is no technological gap between the countries.

70. The added value per person engaged in industry is an indicator of the productivity of labour both between industries and between establishments in the same industry within a country. As between countries it is much less reliable, as it is affected by differences in the costs of living and by artificial

rates of exchange. In any event an absolute value for productivity could have little real application. Useful information, however, can be obtained by comparing added values which have been reduced to a common reference base, particularly in fluctuating fields where it may be possible to effect improvements. In Table XV is shown the added value per person engaged in the manufacturing industries in Argentina.

Table XV

<u>Year</u>	<u>Added value in Pesos of 1950</u>
1935	15,624
1937	14,270
1939	14,300
1941	12,639
1943	11,167
1945	11,138
1948	13,982
1950	15,910
1954	15,550
1964	22,536

Source O.E.C.E.I.

71. The decrease in added value per person between 1935 and 1948 was accompanied by a progressive increase in the average size of establishment, and the general tendency towards greater added value per capita since 1948 has been attended by a reduction in the average size of establishment. This would appear to indicate that a rationalizing process has been in operation.

72. Data, in Table XVI, are listed the added value per person in several broad manufacturing groups in Argentina and Australia for the year 1954. The values are in U.S. Dollars calculated, in the case of Argentina, at $m\$s$ 25.50 to the U.S. Dollar (Cambio Libre o Paralelo).

Table XVI

<u>Group</u>	<u>Argentina</u>	<u>Australia</u>	<u>Ratio</u>	<u>Australia Argentina</u>
All manufacturing industries	1,039	2,304		2.2
Food, drink & tobacco	1,280	2,688		2.1

Table X. (cont.)

Group	Argentina	Australia	Ratio Australia Argentina
Textiles	1,162	2,112	1.8
Made-up clothing & footwear	1,021	1,536	1.5
Wood products	545	2,112	3.9
Paper & paper products	1,257	3,264	2.6
Printing & publishing	1,154	2,496	2.2
Leather	1,059	2,112	2.0
Rubber	1,471	2,688	1.9
Chemical & petroleum products	1,652	4,032	2.4
Non-metallic minerals	751	2,496	3.3
Basic metals	1,043	2,688	2.6
Metal products	878	2,112	2.4
Miscellaneous	810	2,304	2.9

Source. U.N. Yearbook of Industrial Growth.

73. It is apparent that the differences between the added value per person in the manufacturing industries of Argentina and Australia are much too great to be attributable to variations in the costs of living, and to that extent Argentinian labour is less productive than Australian. The fields where there appears to be the most scope for improvement are those of wood products, non-metallic minerals, basic metals and paper and paper products. There is little doubt that part of this discrepancy was due to a technological gap between the two countries in 1954. It is more than probable that this gap has, by now, been substantially reduced.

74. Conflicting accounts are received concerning the quality of Argentinian labour. In a report of the Argentinian Association of Automobile Manufacturers, it was stated that the low productivity of the labour force was the main factor contributing to the high cost of vehicles in this country. On the other hand, there does not appear to be any difference between the levels of skill of trained craftsmen in this country and their counterparts in Europe. From what the writer has seen of the small-scale sector in Argentina, he would not agree with the opinion expressed in the aforementioned report. The Argentinian is an individualist, and it well may be that in the large establishments the

attitude and effort of labour are different.

75. Information on the added value per person in the manufacturing groups is given in Tables XVII, XVIII and XIX at the end of this report. It will be noted that there are great variations between the groups, and within each group from province to province; ranging from a low of m\$ 31,500 in Misiones (Manufacture of chemical products) to a peak of m\$ 9,109,500 in Mendoza (Refining of petroleum). The high per capita added value in the capital intensive industries -- petroleum, cement, sugar, cigarettes and the distillation of spirits -- is evident.

76. The greatest added value does not always occur in undertakings established in the Federal Capital, but in all groups, with the exception of the refining of petroleum, the Federal Capital or Buenos Aires has a higher added value than the national average for the group. The Provinces of Cordoba, Chaco, Corrientes, Jujuy, Mendoza, Salta, Santa Fe and Tucuman have consistently high added values while the Provinces of Catamarca, Formosa, La Pampa, La Rioja, San Luis, Santa Cruz and Santiago del Estero are consistently low.

77. In the opinion of the writer, two conclusions can be drawn from the distribution of group added values; (a) the higher values in the Federal Capital and Buenos Aires suggest a technological gap between Gran Buenos Aires and the rest of the country in those industries that are not dependent on local factors; and (b) that this gap is least in the Provinces of Cordoba, Corrientes, Jujuy, Mendoza, Salta, Santa Fe and Tucuman.

78. It is noteworthy that these provinces tend to have a slightly higher than average group sizes of establishments (neglecting Gran Buenos Aires in this connection) and also tend to be more urbanized. It is probable that efforts to accelerate the development of industry would be immediately successful in these provinces than in the rest of the country.

Training.

79. There is a shortage of skilled tradesmen in Argentina. Managers, particularly of the small- and medium-sized establishments, frequently complain of the difficulty of recruiting and retaining really skilled men. The surprising aspect of the situation is that they are able to recruit them at all. There is no formal apprenticeship system in operation, and the vocational schools are not directed towards the training of "bench-workers". Undoubtedly, in some undertakings there may be persons undergoing the equivalent of an apprenticeship, but there is no specified point in time when the trainee becomes a tradesman. The lack of an organized apprenticeship or training system tends to produce large numbers of under-qualified workers, and to increase the turnover of labour.

80. Some thirty large firms - Ford, Fiat, I.K.A., Renault, Pirelli, Simca and Shell to name but a few - operate their own training schools. There is a financial inducement to do so; in so much as a levy of 1% of all pay-rolls is made for technical education, which is reduced to 0.2% if the firm operates its own school. Some of these institutions are very well equipped, but they are organized to turn out supervisory personnel rather than craftsmen. For example, the I.K.A.- Renault Institute in Cordoba is provided with equipment on a lavish scale, and provides a three-year course to students who have had three years training in a Primary Technical School. Only 10% of the graduates enter the I.K.A.- Renault works, perhaps some six per year.

81. The Consejo Nacional de Educacion Tecnica (CONET) operate some 450 industrial schools throughout the country. There are also a few such schools run by provincial governments. Entrants are accepted at the age of 15 years and are given three years basic and three years technical training. The trainees who complete the courses become, in the main, "Technicians". This term in Argentina does not have the broad meaning it has in other countries. It implies either a highly specialized or a supervisory function.

82. CONET provides also a series of industrial schools for adults. In these schools the classes are held in the evenings. Both the CONET day and evening schools can lead eventually to a degree course at a university.

83. There are numerous institutions providing higher education, universities and private institutions of university status. Indeed, the number of persons receiving higher education (480 per 100,000 in 1954) is considerably higher than in most European countries, and more than double that in England. The drop-out, however, is stated to be high.

84. The technical faculties of the universities turn out qualified civil, mechanical electrical and industrial engineers and chemists and physicists. The managerial side is catered for by such organizations as the Centre Argentino des Estudios Organizacion Industrial (CADESOI), the Sociedad Argentina de Organizacion Industrial (SADOI) and the Institute para Desarrollo Ejecutivo en Argentina (IDEA).

85. A brief summing-up of the educational system in Argentina, in so far as it is concerned with meeting the needs of industry, is that it caters almost exclusively for the "white collar worker". There appears to be a clear need for craft training. The vast majority of the manufacturing establishments in this country are too small to be able to undertake the training of their workmen. The apprenticeship system would be difficult to introduce at this time. A possible solution might be the establishment of trade schools devoted to the development of manual skills and such other practical subjects as workshop mathematics, reading of blue-prints and technical drawing. This combined with a system of trade tests would go far to provide a cadre of tradesmen of acceptable qualifications.

Management

86. Among Argentinian industrialists there appears to be a keen

appreciation of the benefits to be derived from a system of management. Certainly, they give the impression of being more concerned with the application of management techniques than do their counterparts in other countries in which the writer has had experience. This may be due to many of the more progressive undertakings having reached the point of development where it is necessary to support their original line organization with certain staff functions. It must as it may, be correct to deduce that among the firms acting as subcontractors to the automobile manufacturers their principals in addition to cost analysis and quality control has developed these techniques far beyond the level they would have attained had their development been left to the individual management. These sub-contractors form a substantial part of the engineering industry, and this quality consciousness has spread beyond the automobile industry.

87. The general preoccupation with management is reflected in excessive documentation and in over-staffing. In the textile industry, which exhibits the latter symptom less than others in Argentina, the ratio of the number of workmen to the total number of persons employed is 0.819 : 1, in the United Kingdom the ratio is 0.987 : 1. The national average ratio for all the manufacturing industries is 0.688 : 1. It would be reasonable to expect a lower ratio in the smaller than in the larger enterprises. Yet it is surprising to find that in Gran Buenos Aires, where the average size of undertaking is 11.4 persons, the ratio is 0.696 : 1 while in Santa Cruz, where the average size of establishment is 6.1 persons, the ratio is 0.719 : 1. Indeed, the ratio tends to be higher in the less industrialized provinces than in those with large concentrations of industry. This tendency to top-heavy management is confirmed by the relatively low percentage of the national income which represents remuneration to workmen.

Table XX

Country	Percentage of national income paid to workmen (1962)
United Kingdom	75.4
United States	72.1
Peru	69.1
Costa Rica	64.0

Table XI cont.

Country	Percentage of national income paid to workers (1962)
Argentina	53.1
Honduras	50.3
Ecuador	50.0
Columbia	42.0

Source. I.L.O. Yearbook of Labour Statistics.

88. Mention has already been made of the under-utilization of equipment. While overtime, undoubtedly, is worked on occasions, an investigation of the hours worked per annum shows that in the manufacturing industries shift work is the exception rather than the rule. On the basis of a 44-hour week, 50 weeks per year, the available working time is 2,200 hours. In 1964, only one industrial group, basic metals, exceeded that figure, and the national average was 1,887 hours. Spinning averaged 1,784 hours per annum. In Hong Kong spindles operated for 8,522 hours, and in India the average was 5,602 hours per annum.

89. To argue that the domestic and export markets could not absorb the increased production consequent on the introduction of shift work is to beg the question; "Why was the capacity increased in the first instance?". It is one of the essential functions of management to ensure that the facilities it employs are efficiently utilized. In this respect Argentinian management cannot be said to have made full use of the means at its disposal.

90. A high product-capital ratio is an indicator of the efficient use of capital, and in this connection Argentina does not compare favourably with other Latin American countries.

Table XII

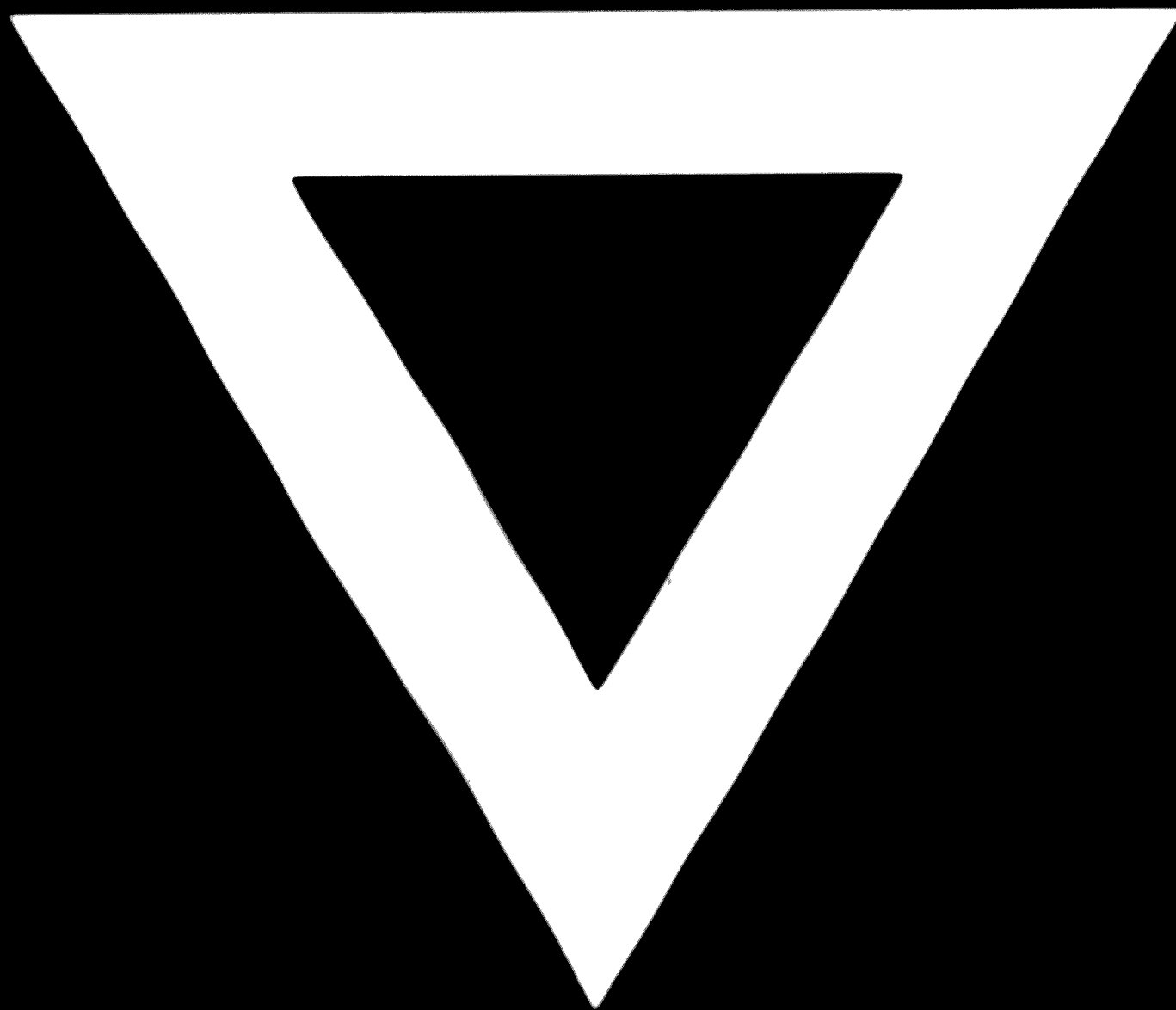
Country	Year	Product-capital Ratio
Argentina	1955	0.80
Brazil	1953	0.53
Chile	1953	0.53
Mexico	1955	0.51

Source. U.N. The Economic Development of Latin America in the Post-war Period.

91. The following statements represent, very briefly, the writer's views on the overall situation with respect to small-scale industry. The information that has been presented in the foregoing pages is well known. Indeed, there is probably more literature published on, and more critical studies made of, the national economic conditions than in any other country except the United States. There is however one aspect that appears, to the writer at least, to be hidden in the mass of statistics; and that is the importance of the contribution of the small-scale industrial sector to the economy of the country.

- (a) In the manufacturing industries establishments employing 20 or less persons constitute 94.6% of the total; provide 64.5% of the employment; and contribute 47.5% of the value added.
- (b) There is no special assistance given to this sector.
- (c) What assistance that is provided to industry in general is often unavailable or denied to the small-scale sector.
- (d) That the tendency revealed by the industrial statistics is one of proliferation rather than normal growth; and that this trend is the result of the lack of assistance to the small-scale sector, and results in under-utilization of capital resources and high cost of production.
- (e) That too great attention is given to the development of managerial and supervisory personnel and not enough to the training of craftsmen.
- (f) That in the past reversals of Government policy with respect to the manufacturing industries has created an atmosphere of uncertainty which the present stability has not yet dispelled.
- (g) That the high level of protection given to domestic manufactured products has tended to perpetuate obsolescent and inefficient methods.

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