

5-2-2 Some Characteristics of Small and Medium Industries in Selected Industries

(1) Food industry

As shown already, food industry plays a key role in the Argentine industry both for its production value and for its job generation. According to the 1983 RIN data, number of establishments of food industry including beverages and tobacco is 7,514, bakery products and pastas industry has the largest share (44.3%) followed by soft drink (13.7%), meat (7.6%), dairy products (7.4%) and wine (6.3%) industries.

Size structure of food industry (including beverages and tobacco) in 1983 is shown in Table III-5-7. According to this table, the shares of SMIs employing 200 persons or less in food industry are 96.8% in terms of number of establishments, 49.7% in terms of number of employees and 44.5% in terms of value of production¹⁾. Comparison between food industry and manufacturing industries total shows that the share of SMIs in food industry is higher than manufacturing industries total in value of production but lower in number of establishments and number of employees.

Average number of employees per establishment in food industry is 32.3 persons, which is larger than manufacturing industry total by 3.7 persons. And average value of production per establishment in food industry is 14.5 thousand pesos, which is also larger than manufacturing industry total (11.9 thousand pesos) by 2.6 thousand pesos. This means that the size of average enterprise in food industry in terms of number of employees and value of production is larger than manufacturing industry total by 13 - 21% (Table III-5-8).

Above-mentioned size structure of food industry is very different from one subsector to another. Average number of employees and average value of production per establishment for several subsectors of food industry are as follows:

- industries where big enterprises are dominant

	ave. no. of emp.	ave. value of prod.
sugar	608.8 persons	289.8 thousand pesos
beer and malt	337.5	126.5
tobacco products	175.0	310.7

- 1) Food industry including tobacco in Japan occupies a very important position among SMIs. Japanese food industry has the highest shares among SMIs in terms of number of establishments (12.0%) and value of shipments (17.5%), followed by metal products industry and ordinary machinery industry. The share of small and medium enterprises in food industry in terms of number of establishments (99.4%) and value of shipments (84.1%) also exceed the average of manufacturing industry total (99.2% and 51.8% respectively).

Table III-5-7 Size Structure of Food Industry (1983)

Number of Employees		-5	6-10	11-25	26-50	51-100	101-200	201-	Total	-50	51-200	201-
Number of Establishments												
Food, beverages and Tobacco		3,920 (52.2)	1,091 (14.5)	1,033 (13.7)	555 (7.4)	405 (5.4)	266 (3.5)	244 (3.2)	7,514 (100.0)	6,599 (87.8)	671 (8.9)	244 (3.2)
Manufacturing Industries Total		15,481 (45.9)	5,630 (16.7)	8,101 (18.1)	2,965 (8.8)	1,793 (5.3)	981 (2.9)	809 (2.4)	33,760 (100.0)	30,177 (89.4)	2,774 (8.2)	809 (2.4)
Number of Employees												
Food, beverages and Tobacco		8,009 (3.3)	8,318 (3.4)	17,188 (7.1)	20,017 (8.3)	29,792 (12.3)	37,726 (15.6)	121,937 (50.3)	242,533 (100.0)	53,532 (22.1)	67,518 (27.8)	121,937 (50.3)
Manufacturing Industries Total		32,251 (3.3)	43,751 (4.5)	101,415 (10.5)	105,627 (10.9)	127,001 (13.1)	138,281 (14.3)	417,855 (43.2)	966,181 (100.0)	283,044 (29.3)	265,282 (27.5)	417,855 (43.2)
Value of Production (thousand pesos)												
Food, beverages and Tobacco		1,711.6 (1.6)	1,459.2 (1.3)	4,775.1 (4.4)	8,131.2 (7.5)	14,790.9 (13.6)	18,373.6 (16.9)	60,468.9 (55.5)	108,855.7 (100.0)	16,077.1 (14.8)	33,164.4 (30.5)	60,468.9 (55.5)
Manufacturing Industries Total		7,708.8 (1.9)	8,191.4 (2.0)	23,166.8 (5.7)	28,934.7 (7.2)	42,127.5 (10.5)	59,323.2 (14.7)	233,499.3 (57.9)	402,951.7 (100.0)	88,001.8 (16.9)	101,450.7 (25.2)	233,499.3 (57.9)
Value of Production per Employee (pesos)												
Food, beverages and Tobacco		213.7 (43.0)	175.4 (35.4)	277.8 (56.0)	406.2 (81.9)	496.5 (100.1)	487.0 (98.2)	495.9 (100.0)	448.8 (90.5)	300.3 (60.6)	491.2 (98.1)	495.8 (100.0)
Manufacturing Industries Total		239.0 (42.8)	187.2 (33.5)	228.4 (40.9)	273.9 (49.0)	331.7 (59.4)	429.0 (76.8)	558.8 (100.0)	417.1 (74.6)	240.3 (43.0)	382.4 (68.4)	558.8 (100.0)

Source: Dirección General de Información Industrial

- industries where small enterprises are dominant

	ave. no. of emp.	ave. value of prod.
bakery products and pastas	10.9 persons	1.8 thousand pesos
soft drinks	16.3	4.6
wine	20.1	7.4
various nutritious products	35.0	13.7
dairy products	37.3	21.1

Labor productivity (= value of production per employee) of food industry is 448.8 pesos and 7.6% higher than that of manufacturing industry total. Gaps of labor productivity between enterprises of different size in food industry is much smaller than in manufacturing industry total. The ratios of labor productivity of small industry and medium industry to large industry are 60.6% and 99.1% in food industry respectively. Those figures for manufacturing industry total are 43.0% and 68.4%.

But there are very large differences in labor productivities of subsectors in food industry. The subsectors where labor productivity is relatively high are tobacco products, fats and oils and animal feeds, and the subsectors where labor productivity is relatively low are bakery products and pastas, processed marine products and processed fruit and vegetable.

There are different type of subsectors in food industry. We don't have enough information to discuss the technical and managerial aspects of food industry in general, due to the limitation of the number of enterprises interviewed in the study. However, the following points are observed from the viewpoint of management:

- 1) Argentine food industry has difficulties of unstable demand owing to the depressed and unstable general economic situation. As a result, most entrepreneurs seem to lack in forward-looking attitude to try to develop their business activities.
- 2) Most entrepreneurs also seem to have little interest in exporting their products, mainly because their products are not competitive in international market. Some entrepreneurs of food industry argued during the discussion with us that prices of raw materials, in other words, agricultural and cattle breeding products in Argentina are not low compared to those of foreign agricultural and cattle breeding countries like New Zealand.
- 3) Even the entrepreneurs who are interested in export did not seem to be very aggressive in increasing their volume of export and in diversifying their export markets. They did not seem to be making every effort to acquire concrete and detailed information concerning foreign market, which is indispensable to increase export.

Table III-5-8 Average Scale of Establishment and Labor Productivity of Food Industry (1983)

	Number of Establishments	Average Number of Employees per Establishment	Average Value of Production per Estab- lishment (thousand pesos)	Value of Production per Employee (peso)
3111 Meat Products	574	100.3	38.7	385.3
3112 Dairy Products	556	37.3	21.1	566.6
3113 Processed Fruit and Vegetable	311	53.3	10.1	191.2
3114 Processed Marine Products	84	96.4	18.3	189.9
3115 Fats and Oils	138	64.6	90.1	1,394.4
3116 Grain Mill Products	274	40.6	31.4	774.1
3117 Bakery Products and Pastas	3,329	10.9	1.8	162.4
3118 Sugar	32	608.8	289.8	476.0
3119 Cacao and Confectionary Products	94	84.1	25.1	298.4
3121 Various Nutritious Products	414	35.0	13.7	391.9
3122 Animal Feeds	92	28.6	39.9	1,395.5
3131 Alcoholic Beverages	61	44.9	34.2	761.8
3132 Wine	477	20.1	7.4	370.8
3133 Beer and Malt	11	337.5	126.5	374.8
3134 Soft Drinks	1,033	16.3	4.6	280.5
3140 Tobacco Products	34	175.0	310.7	1,775.0
31 Food, Beverages and Tobacco	7,514	32.3	14.5	448.8
Manufacturing Industries Total	33,760	28.6	11.9	417.1

Source: Direccion General de Informacion Industrial

Food industry is the field where consumer's taste has big influence over sales amounts, especially true in export market. It is very important for enterprises to make efforts to get information on preference of foreign consumers for promotion of export expansion as well as to increase the competitiveness of their products.

(2) Metal products and machinery industry

Metal products and machinery industries are indispensable to a development of small and medium industries (SMIs). The SMI's development in these industries has a strong impact on technology level and also has a great contribution to the development of industry as a whole of Argentina as supporting industries.

(a) Present situation of the industry

As shown in Table III-5-9, these industries are composed mostly of small and medium scale enterprises which have a big influence on the Argentine economy.

In these industries, we mainly put our emphasis on the following sectors:

- Casting and forging
- Machining and machine assembling

Generally speaking, enterprises in casting and forging supply basic materials and products not only to enterprises in machining and machine assembly but automotive industries and auto-parts industries. Accordingly, quality and production costs of casting and forging industries are very influential on the development of metal products and machinery industries as a whole. Furthermore, it is said that the technical level of machining and machine assembly industries shows some indication for evaluating technological development of a country.

According to our interview with entrepreneurs in these industries, it is clear that their activities are closely connected with automotive industries and auto-parts industries in Argentina. Their products such as castings, engine components, machine tools, etc. are mostly supplied to automotive and its related industries. Nevertheless, recent decrease of automotive productions due to present deterioration of Argentine economy has given influence on these industries.

(i) Casting and forging

Needless to say, casting and forging products are fundamental materials for metal products and machinery industries. Accordingly, prices, delivery time and quality of these products are important factors to the development of industries concerned.

Foundries which we interviewed are mainly producing gray castings, aluminum (Al)-alloy castings and zinc-aluminum (Zn-Al)-alloy castings by processes of sand molding, centrifugal casting and die

Table III-5-9 Size Structure of Metal Products and Machinery Industry (1983)

Number of Employees		-5	6-10	11-25	26-50	51-100	101-200	201-	Total	-50	51-200	201-
Number of Establishments												
Metal Products, Machineries and Equipment		4,639 (45.0)	1,853 (18.0)	1,997 (19.4)	878 (8.5)	499 (4.8)	225 (2.2)	187 (1.8)	10,313 (100.0)	9,367 (90.8)	724 (7.0)	187 (1.8)
Manufacturing Industries Total		15,481 (45.9)	5,630 (16.7)	6,101 (18.1)	2,965 (8.8)	1,793 (5.3)	981 (2.9)	809 (2.4)	33,760 (100.0)	30,177 (89.4)	2,774 (8.2)	809 (2.4)
Number of Employees												
Metal Products, Machineries and Equipment		12,740 (5.0)	14,490 (5.7)	32,427 (12.8)	26,386 (10.4)	35,144 (13.8)	30,592 (12.0)	97,144 (38.3)	253,940 (100.0)	86,043 (33.9)	65,736 (25.9)	97,144 (38.3)
Manufacturing Industries Total		32,251 (3.3)	43,751 (4.5)	101,415 (10.5)	105,627 (10.9)	127,001 (13.1)	138,281 (14.3)	417,855 (43.2)	966,181 (100.0)	283,044 (29.3)	265,282 (27.5)	417,855 (43.2)
Value of Production (thousand pesos)												
Metal Products, Machineries and Equipment		2,071.5 (2.6)	2,394.8 (3.0)	5,486.8 (8.2)	6,222.0 (7.9)	8,274.6 (10.5)	11,048.7 (14.0)	40,584.5 (51.4)	79,004.6 (100.0)	17,178.1 (21.7)	19,323.3 (24.5)	40,584.5 (51.4)
Manufacturing Industries Total		7,708.8 (1.9)	8,191.4 (2.0)	23,166.8 (5.7)	28,934.7 (7.2)	42,127.5 (10.5)	59,323.2 (14.7)	233,499.3 (57.9)	402,951.7 (100.0)	83,001.6 (18.9)	101,450.7 (25.2)	233,499.3 (57.9)
Value of Production per Employee (pesos)												
Metal Products, Machineries and Equipment		162.6 (38.9)	165.3 (39.6)	200.0 (47.9)	235.8 (56.4)	235.4 (56.3)	361.2 (86.5)	417.8 (100.0)	311.1 (74.5)	199.6 (47.8)	294.0 (70.4)	417.8 (100.0)
Manufacturing Industries Total		239.0 (42.8)	187.2 (33.5)	228.4 (40.9)	273.9 (49.0)	331.7 (59.4)	429.0 (76.8)	558.8 (100.0)	417.1 (74.6)	240.3 (43.0)	382.4 (83.4)	558.8 (100.0)

Source: Direccion General de Informacion Industrial

casting. Most of the foundries have die-casting machines to produce Al-alloy castings which can be easily applied to products with complicated shapes and with accuracy.

Generally, foundries in Argentina consist of relatively small scale enterprises. For instance, a foundry in Cordoba, specialized in producing Al-alloy castings for components of automotive engine manifolds, hydro-pumps, etc, having a large share in the market, employs only 30 persons.

Some of the enterprises manufacturing auto-parts such as valves, piston ring carriers, etc., has foundries within the factory.

Many foundries suffer from lower operation than the past. Some of them run their business at the rate of 30 - 35% of their production capacity.

Regarding forging products, a company in Cordoba, manufacturing gears for automotive transmissions, has a forging workshop within the company. The company had invested on facilities for forging and machining gears during 1978 and 1980 when there was a large demand for automotive production, expecting a production increase of tractors and trucks for Fiat. However, at the time just after a completion of the workshop, Fiat had abandoned manufacturing trucks and tractors in Cordoba. Eventually, the company has ever been operating the business at the rate of 75% of the production capacity. The company provides 25% of forging products for own use, and sells the rest to another gear manufacturers.

(ii) Machining and machine assembling

Enterprises we interviewed are mainly manufacturing the following products:

- gears for automotive transmissions
- guide valves for automotive engines
- piston ring carriers for automotive engines
- automotive engine blocks
- automotive cylinder blocks
- automotive transmission boxes
- printing machine chassis
- hydro-gear pumps
- fork-lifts
- machine tools (drilling machines, milling machines, lathes, CNC lathes, machining centers)

Most of these products are directly connected with automotive industries, depending heavily on demand from automotive industries and auto-parts industries. At the present time, many enterprises are running at 40 - 70% rate of their production capacity.

Accompanying with dramatical demand decrease, competitions between manufacturers had become so severe that many bankruptcies had occurred. For instance, valve manufacturers for automotive engines had been decreased from 6 to 2 during last decade. Nevertheless, frankly speaking, after competitions were over, most entrepreneurs

seem to be satisfied to stay at the position which they got because of no more competitions.

Demand for machine tools are gradually increasing in Argentina, and machine tool manufacturers, accordingly, try to expand their production capacity. Especially, demand for computerized numerical control (CNC) machine tools have a tendency to increase. In May 1986, an international fair of machine tools, "EMAQH '86" took place in Buenos Aires, inviting more than 300 enterprises, including foreign enterprises. Participants displayed their new models including CNC lathes, machining centers, etc.

Recently, major machine tool manufacturers had jointly established a group LATINEQUIP for promoting exportation mainly to Latin American countries. Members in the group are:

LATINEQUIP

- TURRI S.A.
- AUTOMACION MICROMECHANICA S.A.
- DIAMINT S.A.
- SFS S.A.

In this group, SFS S.A. is special the organization composed of small and medium scale machine tool manufacturers as follows:

SFS S.A.

- DARJE S.A.
- KEORGE S.C.A.
- H.H. FRANCO Y CIA S.R.L.
- BURANI SR.L.

SFS S.A. has selling agents in major cities in Argentina to promote selling members' products. SFS S.A. coordinates the business between the members and the selling agents on commission bases for selling.

Some of the machine tool manufacturers are presently producing not only conventional machines such as drilling machines, milling machines lathes, etc., but CNC laths and machining centers. A lathe manufacturer is assembling CNC lathe and machining center under a Japanese licence since 1984, selling 14 CNC lathes in 1985.

These machine tool manufacturers are exporting 30 - 35% of their products mainly to USA and Latin American countries. However, they are presently running at the rate of 40 - 50% of their production capacity.

(b) Technology and management

(i) Machinery and equipment

Foundries for castings are generally using relatively obsolete machinery and equipment like die-casting machines, centrifugal casting machines, electric furnaces, etc. A foundry for Al-alloy casting has

a die-casting machine of Italian make with an injection capacity of 800 tons, installed 5 to 6 years ago. This machine seems to be relatively newer than the rest of the machinery and equipment in foundries. In addition, foundries scarcely apply fully-automated handling systems for raw materials and products.

A forging workshop is producing materials for gears by a 2,500 tons-hydro-forging press and a 500 kw-induction furnace of East German make installed 6 to 7 years ago.

Tool & die machining workshops are also equipped with obsolete lathes, drilling machines, milling machines, etc. Only one out of companies which we interviewed is equipped with an electric discharged machine of Swiss make installed more than 10 years ago.

As mentioned above, manufacturers of machine parts like gears and valves, etc, are generally using relatively old machinery and equipment. However, they seem to be used deliberately to utilize these machinery and equipment. Little new investment on purchasing new machinery and equipment took place in these 6 - 7 years.

Some of factories of structural components for machinery like engine blocks, cylinder heads, gear pumps are equipped with mostly newest machine tools of Japanese make such as CNC lathes, machining center, etc., purchased within recent 2 - 3 years. One of them has a new CNC lathe under a testing run.

Some of the machine tool manufacturers are assembling CNC lathes and machining centers under a Japanese licence by not utilizing up-to-date machines with high efficiency. They point out that the reason why they hesitate to install new high efficiency machinery and equipment is uncertainties of demand for their products. However, some of the manufacturers are equipped with excellent machines (Swiss make and USA make) installed 4 - 5 years ago.

(ii) Quality control

Many factories which we interviewed have laboratories for quality control with permanent engineers and technicians. Additionally, some of them have quality control staffs who periodically go around factories to check quality of their products. Regarding instruments and equipment for quality control, factories are equipped with suitable testing machines and dimensional measurement instruments. It can be said that system and organizations in factories for quality control are satisfied with the required level.

With regard to quality of castings from subcontractors, a machine tool manufacturer pointed out that they had some problems due to the following reasons:

- Most casting foundries have been so oriented to automotive industries that the quality tends to only satisfy auto-parts standards.
- The fact that most of the foundries consist of small scale enterprises keeps their products low quality level.

On the other hand, according to another machine tool manufacturer, although there are no problems in quality, foundries offer higher prices than in international market by 30%.

(iii) Training and information source

In order to train technical staffs and to get new technological information, entrepreneurs in these industries have the following experiences:

- Dispatching their engineers to technology fairs (for instance, EMO; an international machine tool exhibition hold every two years, in Argentina and/or in foreign countries).
- Sending their engineers to a conference organized by a university in the USA.
- Trying to get technological information through contacts with foreign manufacturers on business bases: A machine tool manufacture is contacting with a Japanese CNC lathe company to get information concerned.

Regarding public organizations for training and technological information, some entrepreneurs pointed out the followings:

- There are scarcely up-to-date technological information from INTI.
- It is very difficult to get specified information through government commercial attaches in embassies abroad.
- It takes a lot of time for entrepreneurs to get necessary information since almost of the technological information from the government is supplied through various kinds of associations and chambers.
- There are not sufficient public institutions and systems for training employees.

(iv) Production technology

The level of production technology of the industry is relatively satisfactory. The fact that a machining company supplies printing machine chassis to an IBM factory in Buenos Aires proves that the products are relatively at high level in quality. The example of factories assembling fork-lift and wheeled loader shows that some of the enterprises have an ability totally to manage sophisticated production technology.

Some of the lathe manufacturers are assembling CNC machines and machining centers under a Japanese licence and/or by their own technology. This seems to be a proof of their high technology level. However, their heavy dependence on imports of major parts such as bearings, servo-motors, NC-systems of CNC lathes seems to be a problem. The ratio of dependency on imports are as follows:

<u>Machine tool</u>	<u>Dependency on imports</u>
CNC lathe	20 - 25%
machining center	60%

It is obvious that the more products depend on imported materials, the higher final products prices will be. In fact, present higher import taxes cause production costs of manufactured goods to be more expensive. According to some information, machine tool prices are generally 100% higher than in international market.

A machine tool manufacturer is trying to diversify business by utilizing existing engineering capabilities in the company such as total engineering system for material handling of rices and beans and engineering system for meat processing plants.

A top-level machine tool manufacturer succeeds in selling small size CNC lathes at reasonable price to small scale enterprises. These CNC lathes are equipped with not most newest NC system but with easy handling system in small capacity. This business seems to imply some suggestions regarding appropriate technology to develop in the future in Argentina.

(v) Management aspects

As metal products and machinery industries depend highly on automobile industry for their demand, they have very difficult problems of decreased demand and low rate of operation. Although general attitude of entrepreneurs in this field is negative under these circumstances, some entrepreneurs are making active efforts to diversify their business and develop new products. For example:

- An Al-alloy forging manufacturer is producing and selling metal molds for plastics.
- A drilling machine manufacturer has formed a group of four small and medium enterprises in order to make joint sales operation.
- A metal machine tools manufacturer is trying to enter into engineering field for further development.
- A manufacturer of conventional lathes has begun production of CNC lathes.

These examples show us that this country has certain number of businessmen with active entrepreneurship who try to develop and enlarge their businesses positively through seeking after new business chances without insisting upon their former business activities and technologies. The government has to take the necessary measures to assist and encourage these voluntary and forward-looking efforts of entrepreneurs in order to reactivate Argentine industry.

However, the level of technology and labor productivity of the enterprises with active entrepreneurship does not still reach the internationally competitive one. And many of the entrepreneurs did not seem to have enough understanding about the backwardness of their technology and productivity compared with international top levels. It is required for the government to take measures - for example, introducing the foreign excellent products and technology - to urge the entrepreneurs to wake up to their backwardness and to induce them to make voluntary efforts to catch up with the international levels.

(3) Auto-parts industry

(a) Present situation of the industry

(i) Automotive industries

Table III-5-10 shows a history of automotive production since 1951. Roughly speaking, automotive industries had annually manufactures 250,000 to 300,000 vehicles between 1969 - 1980 as bonanza years. On the other hand, since 1981 to now, the annual production has dramatically decreased to 160,000 to 170,000 vehicles. In 1984, automotive industries manufactured totally 171,000 vehicles consisted of 132,000 automobiles, 18,000 pick-ups and 10,000 trucks and buses. Table III-5-11 shows automotive production of each company. The followings are major manufacturers in the industry:

- Major automobile manufacturers

Ford Motor Argentina S.A.
Renault Argentina S.A.
Sevel Argentina S.A.
Volkswagen Argentina S.A.

- Major pick-up manufacturers:

Ford Motor Argentina S.A.
Volkswagen Argentina S.A.

- Major truck and bus manufacturers:

Fiat Vehiculos Industriales S.A.A.
Mercedes-Benz Argentina S.A.
Saab-Scania Argentina S.A.
Deutz Argentina S.A.

In addition to above major automotive manufactures under the control of foreign companies, an Argentine company (Ing. Educido Saldari S.A.) is also manufacturing automobiles with approximately 230 employees.

(ii) Auto-parts industries

Auto-parts industries had enjoyed their bonanza during a peak period of automotive production until 1979, when the government applied new policy of enlarging a share of imported auto-parts, i.e. it had allowed automotive industries to import auto-parts up to 26% for automobiles, 36% for buses and 48% for trucks. During a period of automotive production, early in the 1970s at a level of 300,000 vehicles annually, more than 90% of auto-parts were manufactured in Argentina. In 1973 to 1974, auto-parts industries exported their products of US\$200 million. In 1975, there were 2,000 auto-parts manufacturers with 150,000 employees in Argentina.

Table III-5-10 Production of Automobiles

	Automobile	Automobile for rural use	Pick-up ¹⁾	Jeep	Boxcar ²⁾	Bus ³⁾ and truck	Total
1951	-	18	68	-	22	-	108
1952	-	62	54	-	15	838	969
1953	5	58	1,998	-	13	1,000	3,074
1954	127	46	2,421	-	200	565	3,359
1955	211	24	4,180	-	350	1,626	6,391
1956	300	26	2,480	2,389	170	578	5,943
1957	465	4,996	3,884	6,282	1	7	15,635
1958	3,715	10,595	6,244	7,221	58	1	27,834
1959	6,746	11,544	8,145	5,361	319	837	32,952
1960	30,335	9,809	26,878	4,952	1,776	15,588	89,338
1961	71,993	6,281	29,258	3,297	2,153	23,206	136,188
1962	78,667	11,981	21,394	1,615	2,028	14,195	129,880
1963	68,111	7,227	18,795	1,365	959	8,442	104,899
1964	104,549	10,068	34,869	1,238	2,517	13,242	166,483
1965	119,782	13,952	41,119	1,352	1,496	16,835	194,536
1966	123,937	9,875	30,721	943	1,438	12,539	179,453
1967	124,587	6,451	30,441	452	1,207	12,180	175,318
1968	120,224	9,170	34,962	780	2,386	13,454	180,976
1969	147,512	6,373	42,156	441	3,574	18,534	218,590
1970	163,391	4,653	32,788	479	2,634	15,654	219,599
1971 ⁴⁾	189,155	4,230	39,901	265	2,873	17,216	253,640
1972 ⁴⁾	203,421	4,202	46,031	267	5,252	19,049	278,222
1973 ⁴⁾	223,397	10,263	53,891	280	5,066	18,699	311,596
1974 ⁴⁾	232,752	11,884	55,685	420	4,588	17,081	322,410
1975 ⁴⁾	185,663	7,894	38,414	384	3,068	15,703	251,126
1976 ⁴⁾	146,597	7,051	30,953	19	3,065	19,263	206,948
1977 ⁴⁾	176,656	9,657	41,506	162	3,933	24,667	256,581
1978 ⁴⁾	137,408	9,316	29,471	46	2,381	16,065	194,687
1979 ⁴⁾	187,840	13,833	42,249	-	2,700	19,622	266,244
1980 ⁴⁾	204,425	18,265	45,025	-	587	20,615	288,917
1981 ⁴⁾	130,911	10,759	23,394	-	118	10,269	175,451
1982 ⁴⁾	99,382	8,436	16,483	-	3,159	5,875	133,335
1983 ⁴⁾	120,365	9,643	22,295	-	1,803	6,905	161,011
1984 ⁴⁾	132,405	7,588	18,111	-	3,296	9,600	171,000

Source: Asociacion de Fabricas de Automotores, 1984 Industria Automotriz Argentina.

Notes : 1) Including chassis for pick-ups.

2) Including microbus.

3) Including only more-than-1 ton buses and trucks.

4) Including CKD for export.

Table III-5-11 Annual Production by Enterprise

(Unit)

Enterprise	1959/79	1980	1981	1982	1983	1984	1959/84
Deutz Argentina S.A.	2,549	119	58	26	50	68	2,870
Fiat Vehiculos Industriales S.A.A.	17,087	753	242	211	404	916	19,613
Ford Motor Argentina S.A.	733,994	112,592	75,566	50,390	56,047	49,554	1,078,143
Mercedes-Benz Argentina S.A.	108,010	9,797	5,941	4,173	3,851	4,281	136,053
Renault Argentina S.A.	794,983	58,304	44,422	34,278	41,603	43,165	1,016,755
Saab-Scania Argentina S.A.	1,533	788	393	388	675	918	4,695
Sevel Argentina S.A.	1,120,852	65,789	27,213	29,796	39,136	42,924	1,325,710
Volkswagen Argentina S.A.	348,395	31,610	18,528	12,855	18,110	25,497	454,995
Others	903,979	2,041	-	-	-	-	906,020
Total	4,031,382	281,793	172,363	132,117	159,876	167,323	4,944,854

Source: Asociacion de Fabricas de Automotores, 1984 Industria Automotriz Argentina.

At the present time, as mentioned earlier, auto-parts industries are suffering from a shortage of production orders from automotive industries due to Argentine economic stagnation as a whole and automotive industries' dependency on imported auto-parts. An association of auto-parts is campaigning for decreasing shares of auto-parts imports setting import targets to 6% for automobiles, 12% for buses, and 15% for trucks until 1990. Although auto-parts industries, automotive industries and the Secretariat of Foreign Trade and Industry had an agreement for utilizing auto-parts of Argentine make, instead of imported auto-parts in 1985, there are so far no adjustment of relevant policies. 800 auto-parts enterprises presently employ approximately 700,000 persons (almost half of the peak period in the 1970s). As the result of recent decrease of orders from automotive industries, auto-parts industries are running their business at the rate of 50% of their production capacity. Automotive industries are legally allowed to utilize imported auto-parts and also producing 10 - 12% of necessary auto-parts by themselves.

Out of 800 auto-parts enterprises, approximately 100 enterprises are in a category of large scale companies with 558 employees per company. Furthermore, they produce 88% of total output of auto-parts industries. On the contrary, the rest of the enterprises (700 companies) are in small and medium scale with less than 100 employees per company.

Another problems which auto-parts industries are facing are a small order of each model, and fluctuated order from clients. 8 major automotive manufacturers are annually manufacturing only 150,000 vehicles consisted of variety of models. Eventually, each model only has a small number of production; it means that it is very difficult

for auto-parts industries to gain merits from scale of economy by mass production. Fluctuated orders also cause auto-parts industries difficulties for production control in managing production, purchasing raw materials, employing operators, etc.

Major products manufactured by enterprises which we interviewed are as follows:

- electrical parts: ignition coils, spark plug wires, alternators, starters, distributors, etc.
- driving, transmission parts: clutch sets
- inner fittings: glass insulators
- outer fittings: wind screen wipers and driving motors
- wheels: wheels and rims

Some of the enterprises in metal products and machinery industries are also manufacturing other auto-parts as mentioned earlier. These products are mostly oriented to domestic markets. Accordingly, exports are very little and limited to neighboring countries like Uruguay, Chile, Cuba, etc.

(b) Technology and management

(i) Technology aspects

Similarly in metal products and machinery industries, auto-parts enterprises are generally equipped with relatively old machinery and equipment without fully-automated systems (most of their machinery and equipment were installed 5 to 15 years ago; some of them more than 20 years ago). Also, they are well utilizing these production facilities with good maintenance. They similarly conduct quality control at necessary production stages.

Automotive manufacturers give certifications for technology to auto-parts enterprises with whom they have contracts as auto-parts suppliers. Inspectors from automotive manufacturers visit auto-parts enterprises periodically to check the products. Furthermore, from technological point of view, auto-parts enterprises are strongly and tightly connected with automotive industries. Auto-parts industries, eventually, take no initiative for research and development for new products.

Another important technology aspect is that auto-parts industries heavily rely on technology licences from foreign famous manufacturers concerned. It is said that 40% of the domestically manufactured auto-parts are produced under licence agreements. This fact will imply that auto-parts industries have very stabilized technology to manufacture their products. At the same time, they have a possibility to stay at the level they once acquired and to lose a challenge mind for new technology development.

Regarding production costs of auto-parts, a entrepreneur disclosed that they may be 20 - 40% higher than international ones, due to accumulations higher import duties, expensive subcontractors' products and low productivities. Insufficient standardizations of auto-parts also cause their higher production costs. Since early in

the 1970s, trials to establish systems to standardize auto-parts, however, there are little successful result in reducing production costs by increasing interchangeability of auto-parts through standardization.

(ii) Management aspects

Production of auto-parts has decreased very much owing to the decreased production of automobiles, and the operating rate of auto-parts industry is staying around 50% as mentioned above. As a result, entrepreneurs' desire to perform equipment investment is extremely low. And automation of production process in auto-parts industry lags far behind the level of Japanese auto-parts subcontractors.

In spite of these situations, few enterprises are trying to get clear of the dependence upon automobile industry and to search for the business development in the new fields. This seems to be mainly because automobile industry in this country is protected against foreign competition by import control, and enterprises are able to keep certain level of profit in spite of their low productivity. This is creating the attitude of entrepreneurs to stay in the former technologies and business activities, which will impede the healthy development of the Argentine economy.

In order to change such attitude of entrepreneurs and activate auto-parts industry, the government should take adequate measures to encourage the voluntary efforts of entrepreneurs toward improvement of productivity and development of new technology and new business fields through gradual introduction of foreign competition as well as measures to assist their efforts.

(4) Present situation and problems of small and medium industries

On the basis of the limited number of interviews conducted during the present Study, small and medium enterprises of the industrial sector in Argentina were found to have the following characteristics. Firstly, they employ stabilized production technologies and manufacture products of stabilized quality. Secondly, they do not rely on external financing. Lastly, they manage to continue their operations although the levels of capacity utilization are generally low.

One of the immediately noticeable problems is that small and medium enterprises lack forward-looking entrepreneurial attitudes. Except for a few in machine tool industries, the interviewed enterprises do not exhibit strong interest in the introduction of new technologies, the development of new technologies and products on their own, and the new market development. As a matter of fact, in these 6 to 7 years, little investment on machinery and equipment took place in the factories. It has to be recognized that these business situations will cause the Argentine industries to lose international competitiveness of their products and eventually to suffer from disadvantages in international business.

Many small and medium enterprises maintain their old machinery and equipment rather well, and apparently have continued to manufacture the same old set of products for years. Few of them intend to introduce new plant equipment or to venture manufacturing new products. Such passive attitudes are understandable to a certain degree, because they must have been related to the deterioration of the business environment which was caused by the economic fluctuations and frequent changes of government economic policies especially since the mid-1970s. At the same time, their passivity must have been related to the long-standing import substitution policies which protected the domestic industries from competition.

Passive entrepreneurial attitudes are not limited to small and medium enterprises and apparently one of the general characteristics of the industrial sector in Argentina where the competition has not been very strong. But they appear to be more manifest among small and medium enterprises, primarily because it is more difficult for these enterprises to bear the risks of investments in new technologies and new products. It has been found during the present Study that entrepreneurs of small and medium industries often have other industrial or non-industrial lines of business. This might be related to their need of distributing the risks of business undertakings, given the economic fluctuations they experienced for quite some time. The overall business environment in Argentina might have been unfavorable for them to commit themselves fully to manufacturing. In order to stimulate the dynamism of small and medium industries, it would be useful to study the behaviors and motivations of small- and medium-scale entrepreneurs in Argentina.

5-3 Promotion Policies and Institutional Support for Small and Medium Industries

5-3-1 Promotion Policies for Small and Medium Industries

Necessity for promotion policy for SMIs is based on the fact that SMIs have economic disadvantages compared with large industries. For example, regarding technology development the costs required by the installation of laboratories, the performance of material tests and the development of research and development programs cannot be borne by small- and medium-scale enterprises. The purpose of the SMI promotion policy is to lessen these disadvantages.

The Argentine government considers the promotion of SMIs as one of the key issues for industrial reactivation. Promotion policies for SMIs are now considering under the leadership of the new Subsecretariat of Small and Medium Enterprises in the Secretariat of Foreign Trade and Industry.

Promotion policies for SMIs must be consistent with the overall national strategy for industrialization. At the same time, it is necessary to vary the relative emphasis of such promotion policies in accordance with the types of SMIs. For instance, the majority of SMIs are "traditional" in the sense that they manufacture standardized products with standardized production technologies for local markets,

such as bakeries and repair shops. Another type of industries also manufacture standardized products with standardized technologies but with wider market orientation, including overseas markets, such as machine tool manufacturers and other types of machinery industries. The last type consists of those small and medium industries which are "progressive" in the sense that they are interested in developing new products, new production technologies and new markets by taking advantage of their highly skilled manpower and the flexibility derived from the small size of their operations, such as high technology industries in electronics or biotechnology.

The first two types of SMIs will need technical information and training to upgrade their products and production technologies, and supports to their efforts for market expansion in addition to usual types of financing. The last type of industries will essentially require financing which supports their technology and product development efforts.

As institutional supports for SMIs, two government organizations play key roles in Argentina, namely the National Development Bank (Banco Nacional de Desarrollo: BANADE) which supplies medium- and long-term funds to industry and the National Institute for Industrial Technology (Instituto Nacional de Tecnologia Industrial: INTI) which carries out and promotes technology research and development activities for industry.

In this section, we would like to discuss the present situations of promotion policies and institutional supports for SMIs in Argentina focusing upon these two organizations' function and performance.

5-3-2 Financial Assistance

(1) BANADE's credit lines for small and medium enterprises

The most important suppliers of business funds to small and medium enterprises are ordinary private financial institutions, typically commercial banks. The private financial institutions in Argentina, however, are not able to provide medium- and long-term capital because of the economic environments such as hyper-inflation. Under these circumstances, BANADE has been playing the most important role in supplying the medium- and long-term loans to small and medium enterprises.

BANADE was founded in 1944 under the name of Argentine Industrial Credit Bank, renamed in 1952 as Industrial Bank of the Argentine Republic, and renamed again in 1970 as the present name.

BANADE's loans to small and medium enterprises do not show a satisfactory performance in these several years. Especially after 1977, BANADE's loans were concentrated on large enterprises. As of the end of 1983, 75% of the BANADE's loan outstandings were extended to large enterprises. In 1984 BANADE changed their loan policies and has laid stress upon giving financial assistance to small and medium enterprises. At present BANADE operates five types of credit lines shown in Table II-5-12.

Table III-5-12 Regulations of BANADE's Principal Credit Lines

Name of Loans	Objective	Eligible Borrowers	Maximum Amount	Repayment Period	Repayment Method	Interest	Securities
(1) Special Loans for Acquisition of Small and Medium Enterprises	Purchase of new na- tional machineries and equipment, re- lated to renewal, en- largement and in- tegration of produc- tion equipment.	Small and medium enterprise (indus- trial and mining).	Up to 70% of the calculated invest- ment, not exceed- ing ₱150,000.	Up to 5 years in- cluding 1 year of grace period.	Quarterly, equal and consecutive installments.	8% per annum on the adjusted capital payable every 3 months.	Fixed pledge on the goods to be financed and guarantee.
	Payment of increased working capital due to equipping capital goods which are fi- nanced.		Up to 30% of the credit agreed for the fixed assets.	Up to 2 years in- cluding 6 months of grace period.			
(2) Loans for Purchase of Capital Goods of National Origin	Purchase of new na- tional machineries and equipment, re- lated to renewal, en- largement and in- tegration of produc- tion equipment.	Industrial and min- ing enterprises.	Up to ₱500,000. Larger amount can be considered in syndicate loans.	Up to 5 years in- cluding 1 year of grace period.	Quarterly, equal and consecutive installments.	8% per annum on the adjusted capital payable every 3 months.	Fixed pledge on the goods to be financed and guarantee.
	Investment in fixed assets of national origin for similar purposes (construc- tion and/or enlarge- ment of immovables).		Up to 50% of the calculated invest- ment, not exceed- ing ₱50,000.	Up to 18 months.			
(3) Special Loans for Small Industrial Enterprises	Investment in sec- ondhand or new for- eign-made fixed as- sets which exist in the country.	Small enterprises.	Up to 40% of the calculated invest- ment, not exceed- ing ₱50,000.	Up to 18 months.	Quarterly, equal and consecutive installments.	Non-regulated rate payable in advance or on its due date.	1st order fixed pledge on the goods to be financed and guarantee.
	Discount of docu- ments of third par- ties and documents with one signature.		Up to 25% of the un-dated net as- sets according to the latest balance sheet presented by the firm.				
(4) Loans for Finan- cing Need for Work- ing Capital of Small and Medium Enterprises	Payment of increased working capital.	Small and medium enterprises.	Up to 70% of the certificates and invoices presented	Up to 180 days.	Monthly, equal and consecutive in- stallments.	Non-regulated rate payable monthly.	1st order fixed pledge on the properties of the firm and guarantee.
	Financing discount of certificates of state organizations and/or conformed in- voices of major enterprises.		Up to 50% of the calculated invest- ment, not exceed- ing ₱1,000,000.				
(5) Special Loans for Promotion of Technological In- novation of Na- tional Origin in Industrial and Mining Projects of Small and Medium Enterprises	Financing technol- ogical innovation projects which will increase technol- ogical knowledge and help to develop the economy.	Small and medium in- dustrial and min- ing enterprises. For the technical analysis of the operation, it is necessary to have technical assistance of technological in- stitutions such as INTI, INTA, CONICET, etc., if the case requires.	Up to 50% of the calculated invest- ment, not exceed- ing ₱1,000,000.	Up to 5 years in- cluding 1 year of grace period.	Quarterly, equal and consecutive installments.	8% per annum on the adjusted capital payable every 3 months.	According to the Bank's wishes.
	Financing discount of certificates of state organizations and/or conformed in- voices of major enterprises.		Up to 50% of the calculated invest- ment, not exceed- ing ₱1,000,000.	Up to 5 years in- cluding 1 year of grace period.	Quarterly, equal and consecutive installments.	8% per annum on the adjusted capital payable every 3 months.	According to the Bank's wishes.

Among five credit lines shown in the table, Loans for Purchase of Capital Goods of National Origin (2) is intended to supply funds not only to small and medium enterprises but also to large enterprises, Special Loans for Small Industrial Enterprises (3) has less preferable loan conditions than Special Loans for Reequipment of Small and Medium Enterprises (1) and Rules for Financing Need for Working Capital of Small and Medium Enterprises (4) is intended to give short-term credit. Accordingly, Special Loans for Reequipment of Small and Medium Enterprises and Special Loans for Promotion of Technological Innovation of National Origin in Industrial and Mining Projects of Small and Medium Enterprises (5) are the most important as medium- and long-term loans for small and medium enterprises.

(a) Special Loans for Reequipment of Small and Medium Enterprises

This credit line started on March 3, 1986. Its purpose is a) to supply small and medium enterprises engaged in manufacturing and mining industries with equipment investment funds to purchase new national machinery in the form of long-term loans (up to 5 years) and b) to make them medium-term loans (up to 2 years) for the working capital which becomes necessary as a result of the investment financed by the loans of the first purpose.

(b) Special Loans for Promotion of Technological Innovation of National Origin in Industrial and Mining Projects of Small and Medium Enterprises

This credit line has just started on June 12, 1986, and no loans under this credit line have yet been made before our visit to BANADE during this study. The purpose of this credit line is to supply small and medium enterprises engaged in manufacturing and mining industries who carry out the technological innovation project with the funds required for the project in the form of long-term loans (up to 5 years). A noticeable characteristic of this credit line is that technical institutions such as INTI, INTA, CONICET, etc. (see Chapter III, 1-3-2) will make the analysis of the operation concerning the technological aspects of project. It is usually very difficult for a financial institution to have enough technological staff within its organization and it is also very difficult for a technological institution to extend effective technological assistance without any financial backing. From this point of view, this credit line will be able to solve problems of both institutions by combining them. We, however, have to see the result of the credit line before saying something definite about it.

(c) Indirect loan method

BANADE had formerly only one method of loans, in which they made loans to small and medium enterprises directly through its 33 branch offices located all over the country. BANADE has recently introduced a new method of loans to finance indirectly through ordinary private and provincial banks. The reasons for introduction of new method are as follows:

- 1) The number of small and medium enterprises is too large and the area of this country is too great to be covered by BANADE's own branch network which are located in capitals of provinces.
- 2) BANADE's organization is not completely free from bureaucracy and the way they handle loan applications is not necessarily efficient. It is possible to increase efficiency by fully utilizing the existing banking system.

Although this method of loans has just started in 1986, BANADE has already concluded agreements with 60 banks. BANADE intends that most of the loan applications shall be handled through this new method and BANADE itself will function more as a planning organization of financial assistance for industrial and mining sectors than as a lending organization.

(2) Results of BANADE's loans for small and medium enterprises

Table III-5-13 shows the results of BANADE's Special Loans for Reequipment of Small and Medium Enterprises ((1) of Table III-5-12) since the credit line was initiated on March 3, 1986 until June 15, 1986. During these 3.4 months (from March 3 to June 15, 1986) BANADE received 970 loan applications, the total amount of which was A26.7 million (for equipment investment A22.6 million, for working capital A4.0 million). Among these applications, BANADE approved 351 loans (A6.2 million) and rejected 122 applications (A3.7 million). As a result, 497 applications (51.0% to total applications) with the amount of A16.7 million (62.6% of total applications) are pending as of June 15, 1986. The amount of money actually disbursed to borrowers is A2.0 million and 32.4% of the amount approved.

When we see the loan applications by industrial sectors, foods and drinks made the largest number of applications (421 applications with A11.0 million), followed by metal, machines and electric (246 applications with A6.4 million), construction and lumber (187 applications with A5.3 million) and chemicals and leather (86 applications with A3.2 million).

Average amount of loan application is A35.6 thousand for equipment investment and A12.1 thousand for working capital. Table III-5-14 shows the results of lending during one month from May 15 to June 15 in 1986. According to this table, 293 loan applications were received, 174 applications were approved and 74 applications were rejected. As a result, number of pending applications increased by 45 in this one month. As the number of applications which BANADE made any decisions (approval or rejection) was 248, the pending applications as of June 15, 1986 (497) is equivalent to two-month work. In other word, the average period of application handling will be around 60 days. 60 days is a reasonable length of time for credit analysis and project evaluation of long-term financing. However, it is not desirable that we see the tendency of increasing number of pending applications which will eventually prolong the period of application handling.

Table III-5-13 BANADE's Special Loans for Small and Medium Enterprises (as of June 15, 1986)

	Loan Applications						Loan Disbursement	
	Presented (a)		Approved (b)		Rejected * (c)		(d + e = b)	
	No.	Amount	No.	Amount	No.	Amount	Made (d)	Pending (e)
Loans for Purchasing New National Machinery and Equipment	636	22,622,151 (35,569)	245	5,471,590 (22,333)	82	3,193,308 (38,943)	1,807,831	3,663,759
Construction and Lumber	120	4,592,608	45	1,085,809	19	917,858	590,004	495,805
Metal, Machines and Electric	166	5,469,698	64	1,547,337	26	1,001,155	418,505	1,128,892
Chemicals and Leather	53	2,609,508	17	584,320	7	334,239	81,860	482,460
Textiles	19	541,512	4	69,330	5	158,118	14,890	54,530
Foods and Drinks	275	9,285,755	113	2,131,364	25	781,938	638,165	1,492,199
Mining	3	143,070	2	73,370	-	-	63,497	9,873
Loans for Working Capital	334	4,038,718 (12,092)	106	796,297 (7,484)	40	533,935 (13,348)	215,490	580,807
Construction and Lumber	67	712,605	22	162,250	9	133,560	83,550	78,700
Metal, Machines and Electric	80	972,528	32	265,660	12	205,443	37,040	228,623
Chemicals and Leather	33	579,337	9	91,200	4	77,230	21,600	69,600
Textiles	7	69,820	-	-	1	3,400	-	-
Foods and Drinks	146	1,692,928	42	265,687	14	114,296	64,790	200,897
Mining	1	11,500	1	11,500	-	-	8,510	2,990
Total	970	26,660,869 (27,485)	351	6,240,887 (17,780)	122	3,727,243 (30,551)	2,023,321	4,244,566
								(33,533)

Source: BANADE.

- Note: 1. These credit lines have started on March 3, 1986.
 2. Figures under "Rejected *" include applications lacking sufficient data.
 3. Figures in () show average amount per one application.

Table III-5-14 BANADE's Special Loans for Small and Medium Enterprises
(from May 15, 1986 to June 15, 1986)

	Loan Applications						Loan Disbursement	
	Presented (a)		Approved (b)		Rejected * (c)		(d + e = b)	
	No.	Amount	No.	Amount	No.	Amount	Made (d)	Pending (e)
Loans for Purchasing New National Machinery and Equipment	188	6,736,390 (35,635) [28.8]	127	3,115,938 (24,535) [56.9]	50	2,093,803 (40,182) [62.8]	1,212,520	2,014,416
Loans for Working Capital	105	1,173,978 (11,181) [29.1]	47	454,647 (9,873) [57.1]	24	329,790 (13,741) [61.8]	130,235	324,412
Total	293	7,910,368 (27,000) [29.7]	174	3,570,583 (20,521) [57.0]	74	2,356,353 (31,573) [62.7]	1,342,755	2,338,828

Source: BANADE.

Notes: 1. These credit lines have started on March 3, 1986.

2. Figures under "Rejected *" include applications lacking sufficient data.

3. Figures in () show the average amount per one application.

4. Figures in [] show the ratio of the amount for one month (from May 15 to June 15) to the amount since the credit lines started (3.4 month...from May 3 to June 15).

5-3-3 Technical Assistance

(1) Activities of INTI

Among institutions in the field of technology development, INTI plays a key role in promotion programs for SMIs. INTI was established in 1957 and operates as an autonomous public institution affiliated with the Secretariat of Foreign Trade and Industry (see Chapter III 1-3-2 (1) (a)). Its main functions consist in fostering and carrying out applied research to improve the technical and economic development of industry and in providing technical supports to mainly small and medium industries. INTI has totally 1,544 staffs, including 536 professionals and 452 qualified technicians. The activities of INTI are channelled through two separate and coordinated institutions:

- a group of central laboratories
- a system of research centers

INTI conducts research and development activities and provides technical services through a network of the following central laboratories:

Physics,	Chemistry,
Construction,	Mechanics,
Food Processing,	Thermodynamics,
Computation and Data Processing,	Projects and Prototypes,
Biotechnology,	Applied Electrochemistry.

In addition, the research centers are currently operating in conjunction with other government agencies, universities and industrial enterprises, to meet specific needs of industry in the following areas:

Cellulose and Paper,	Dairy Industry,
Documentary Research,	Environmental Engineering,
Fish Industry,	Fruits and Vegetables,
Meat Industry,	Methods and Techniques for SMIs,
Minerals,	National Safety Regulations for Civil
Wood,	Constructions,
Leather Industry,	Industrial and Graphic design,
Materials,	Industrialized construction,
Machine Tools,	Technical Assistance to Industry
Plastic Industry,	(Santa Fe),
Rubber Industry,	Technical Assistance to Industry
Telecommunications,	(Villa Regina),
Textiles.	

(2) Technical support programs for SMIs

In addition to the activities for technology development, INTI offers technical supports mainly to SMIs as follows:

- Applied research
- Technical counseling
- Laboratory services
- Technical publications

- Documentary informations
- Human resource training

Additionally, INTI has laboratories and centers distributed in the provinces of Mendoza (Mendoza), Buenos Aires (Castelar, La Plata, Mar del Plata), Cordoba (Cordoba), Rio Negro (Villa Regina), Santa Fe (Rosario), to support local productive activities.

(a) Technical service to SMIs

1) Machine Tools Center (CIMHER)

CIMHER is equipped with sophisticated modern machinery and equipment like NC machining center, NC lathe, laser beams measurement instrument, etc. The Center provides SMIs with technical services regarding how to use these machines, how to perform measurements for accuracy controls to manufacture more precise products. In some cases, the center actually manufactures machine tool components on request from enterprises.

2) Mechanics Department

Mechanics Department of INTI supplies SMIs with inspection and testing services like tensile strength testings, non-destructive testings, fatigue testings, etc. on request. This department also contribute in promoting technology development for quality control, mechanical design, safety, etc., for SMIs.

(b) Joint technological development projects

INTI organizes joint project teams with SMIs to conduct research and development programs based on subjected request from small and medium enterprises. In this case, INTI provides technology, facilities and qualified staffs. On the other hand, enterprises have to pay all expenditures for conducting projects.

(c) Information services regarding subcontracting

INTI provides information services regarding subcontracting especially in metal products industries, playing so-called "Data Bank".

(d) Technical training courses

The Center for Methods and Techniques for Small and Medium Scale Industries (CIME) has training courses for managers, engineers of small and medium enterprises. Major training courses are as follows:

- basical management
- education for administrative managers
- planning and production control
- quality control
- technical acquisition, patent, licencing

Almost of the lectures are conducting for 2 months (totally 25 - 35 hours) twice a week at night. Lecturers from universities and industries mainly train participants by lecture in teaching rooms but not by practicing in laboratories.

(e) Regional activities

1) A technical support program in Santa Fe

In Santa Fe, the Technological Research Center of the Province of Santa Fe (CITSAFE) provides technical supports to SMIs with National University of Rosario. This program aims at improving entrepreneurs management capabilities through meetings and discussions with entrepreneurs of SMIs in this area.

2) Materials Research Center (CIM) in Cordoba

CIM has activities in providing technical supports to regional industries especially in the field of metallurgy technology. CIM consists of 6 departments in charge of technical support and 5 research and development centers, with 72 staffs (47 professionals, 25 technicians). The executive committee organized by INTI, Cordoba University, Cordoba Provincial government and Industrial Chamber of Cordoba is managing CIM. INTI mainly finances CIM for almost all the staff expenditures and purchasing new machinery and equipment. A little financial supports are from the University and the provincial government. Technical service fees which come from enterprises who receive testing services and result of research and development projects to SMI can finance 28% of total expenditures of CIM.

Testing services have a share of 80% out of total technical services. At the moment, 16 research and development projects are on going, including a characteristics study for special alloyed steels by the request from Industrial Chamber of Cordoba.

In 1985, CIM provided 24.1% of technical services to small enterprises (in this case, less than 100 employees), 24.7% to medium enterprises (less than 500 employees) and 51.9% to large enterprises (more than 500 employees).

5-4 Suggestions

The followings are our suggestions for the Argentine government on promotion policies for small and medium industries.

(1) Understanding of the actual conditions of small and medium industries

The Argentine government well recognizes the importance of SMIs in the economy. However, it is difficult to say that the government knows about the actual situations of them. In order to make promotional measures for SMIs, it should grasp at the situation and problems of their own. There is no reason to protect SMIs simply because of their size. It is important to improve the environment for SMIs to compete and/or coexist with large industries. For this purpose, it is necessary to understand the present positions and needs of small and medium enterprises in various industrial subsectors.

(2) Institutional support for enlightenment of entrepreneurs

According to our observation, small and medium enterprises do not have enough information about present situations of market and technology in the world, and they tend to be unconsciously satisfied with their status. Some entrepreneurs are not much interested in technical research and development of new products in order to diversify their business in the future.

We understand that these attitudes of entrepreneurs are generated through the economic situations surrounding them, such as discontinuity and/or inconsistency of economic policies, lack of confidence in the government policies and hyperinflation.

However, considering the experiences of Japan where the most important factors in the dynamic growth of SMIs are their own strong inclination to grow and their constant efforts at technological innovations, the lack of interest of Argentine SMI entrepreneurs in expansion and product development seems the real issue for future development.

In order to enlighten entrepreneurs, recognition of the importance of technology development and international marketing activities, some institutional support programs such as international exhibitions of technology and inspection tour to developed countries are very important.

(3) Financial assistance for small and medium industries - suggestions for BANADE's activities

The following are our suggestions concerning the loans for small and medium enterprises made by BANADE.

(a) Special loans for selected industries

It is recommended that BANADE should concentrate their loans to some selected industries in order to use their fund capacity more efficiently. The eligible industries should be selected based upon

the government's industrial policies for the future development of Argentine economy.

In connection with this, it may be useful to introduce the Japanese experience of Loans for Specific Machinery Industries conducted by Japan Development Bank and Small Business Finance Corporation from August 1956 to March 1971 (see 5-A-1 for details). The Loan was made in order to promote and modernize small and medium enterprises in machinery industries and played a remarkable role in the development of machinery industries during the Rapid Economic Growth of Japanese economy.

The situation of the Japanese machinery industries around the mid-1950s is often called as "dual structure", in which there were finished capital goods manufacturing sector consisted of large-scale enterprises and materials and parts supplying sector consisted of many small and medium enterprises whose production equipment was old and level of productivity was low. The government attached great importance to the role of machinery industries during the expected development of the Japanese economy because the machinery industries were considered to have high potential in job creation, export increase and technology development. The government also considered that the inefficient part of machinery industries, in other words small and medium industries, would impede the balanced growth of machinery industries as a whole if the situation was not improved. So the government started the Loan for Specific Machinery Industries in 1956 in order to modernize basic machinery industries and machinery parts industries, etc. where small and medium enterprises are dominant.

In addition, we consider that comprehensive and detailed study on the present situation of small and medium enterprises in Argentina should be conducted before selection of eligible industries is made.

(b) Balanced use of direct loan and indirect loan

It is recommended that BANADE should use both Direct and Indirect Loan Method considering the advantages and disadvantages of the two methods. BANADE's Indirect Loan Method is very similar to the Agency Loan System in Japan. Small Business Finance Corporation of Japan, the governmental financial institution for small and medium enterprises, makes loans through both Direct Loan System and Agency Loan System (see 5-A-2 for detail).

The purpose of the Agency Loan System is to make relatively small amount of loans quickly to a large number of small and medium enterprises located all over the country. And the special-purpose loans which intend to accomplish some specific policy objectives are scarcely made through the Agency Loan System. In contrast, the purpose of Direct Loan System is to make relatively large amount of loans with detailed credit appraisal and project evaluation of Small Business Finance Corporation itself and the ratio of special-purpose loans among total loans is rather high.

When we consider these experiences of Japan, it does not seem to be appropriate for BANADE to focus upon Indirect Loan Method if they intend to increase special loans with specific policy objectives.

(c) Appropriate level of interest rate

It is recommended that BANADE should try to determine the interest rate of their loans at the level which is not too low compared to the rates determined in private financial market.

If the interest rate on loans of governmental institutions is too low compared to the market level, it might become very difficult for them to maintain the right use of loan funds. Some borrowers might illegally use the loan for some unproductive or speculative purposes and it might be very expensive for governmental institutions to prevent this to happen.

In Japan, the interest rate of governmental financial institutions for small and medium enterprise such as Small Business Finance Corporation and National Finance Corporation is generally set at the same level as the long-term prime rate which private long-term credit banks determines based upon the situation of long-term financial market.

We understand that the present situation of Argentine financial market is so extraordinary that the interest rate determined there is almost unbearable for industrial entrepreneurs and we do not mean that BANADE is not fully controlling the borrower's actual use of funds. We, however, consider that if the gap between BANADE's lending rate and market rates continues to exist long in the future, it will possibly create a difficult problem for BANADE.

(4) Technical assistance for small and medium industries

Regarding technical support for SMIs, the following points are important.

- 1) Providing small and medium enterprises with the up-to-date and appropriate information on technology and market (quick response to their needs is necessary),
- 2) Assisting small and medium enterprises for research and development of their technology, through activities such as consulting and providing facilities,
- 3) Training and educating manpowers in small and medium enterprises for encouraging their self-reliance on technology development and improvement.

According to our observation, it is hard to say that there are sufficient institutional support for technology development of SMIs. Of course, INTI and other public institutions are playing important roles in assisting SMIs in this field. However, their activities are limited at this moment due to the fiscal and manpower constraints. To keep close contacts with the industry is a key point for promotion of SMIs.

Our suggestions regarding technical assistance for SMIs are as follows.

1) To strengthen the activities of INTI in the following directions:

- providing information on international marketing and technology to SMIs
- training manpowers of SMIs.

2) To grasp the needs of local SMIs and provide them appropriate technical service accordingly.

As to the second point of 1), INTI already has training courses for small and medium enterprises. However, these training courses are "lecture-oriented" and the duration of these courses seems not to be enough. It is necessary for INTI to put stress on practical training in the laboratories.

In connection with the point 2), it may be useful to introduce the Japanese experience of regional public institutions. In Japan, more than 190 public institutions for experimentations and research are located in prefectures and cities throughout the country. These public institutions are intimately connected with enterprises in each region, specializing their activities into the technology of regional special products. For instance, a technical institution in Aichi Prefecture is mainly conducting research and development projects on ceramics, because this prefecture is one of major production centers of ceramics in Japan. Another example is Saitama Prefectural Casting and Machinery Research Institute in Saitama Prefecture where there is a long history of producing castings.

Typical public regional institutions have the following programs:

- Technical guidance: In order to improve the technical level and productivity in small and medium enterprises, the institutions provide guidance and consultation on a wide range of fields including machinery, metals, electricity, chemistry and industrial arts, etc.
- Open guidance room: For those small and medium businesses not equipped with testing and research facilities, the institutions have installed various measuring equipment, testing equipment and machine tools which can be used for nominal charges, while providing technical guidance for them.
- Technical advisor system: Technical specialists in the private sector are registered with the prefectural governments as technical advisors so these human resources may be utilized to support small and medium enterprises on their request.
- Guidance tours: The institutions organize guidance tours to those plants faced with technical problems to provide appropriate guidance on the spot and to solve such problems.

In addition, national institutions for research and development belonging to the central government can technically support these regional institutions, according to the need.

In order to grasp at the need of SMIs, establishment of technical institutions at regional level is very important. And the system of exchange experiences and human resources between the central institutions like INTI and regional institutions are necessary for the effectiveness of the government promotion measures for SMIs.

5-A Appendixes: Some Japanese Experience of Financial Assistance

5-A-1 Loans for Specific Machinery Industries

(1) Enactment of Temporary Measures Law for the Promotion of Machinery Industries

Loans for Specific Machinery Industries were made as a part of Japanese government's policies to promote specific machinery industries based on the Temporary Measures Law of Promotion for Machinery Industries enacted in June 1956. This was the special-purpose loan for small and medium enterprises which the government designed under the very clear intention of guiding the industrial sector to the desirable direction described below. This loan program played a very important role in promoting and modernizing the small and medium enterprises in machinery industries.

The Japanese machinery industries in the latter half of 1950s consisted of two parts: finished capital goods manufacturing sector of big enterprises and material and parts supplying sector. Most of the enterprises which belong to the latter sector were small and medium enterprises whose production equipments were old and productivity was low. This situation was called as a "dual structure", and it had become to be recognized that the "dual structure" would impede the balanced growth of machinery industries which had the great potential of high value-added and job creation.

Under these situations, the Temporary Measures Law for the Promotion of Machinery Industries was enacted as a law with the term of validity of 5 years. The purpose of the Law was to modernize production equipment, increase productivity and improve production technology especially in the sector of basic machineries and parts industry, which was the fundamental but backward part of machinery industries.

The general structure of the Law was as follows:

- 1) The Minister of International Trade and Industry designates "specific machinery industries" by Enforcement Ordinance of the Law

The following 21 industries were designated as specific machinery industries. These industries were selected by the following criteria: a) the sectors where small and medium enterprises with obsolete equipment, low productivity and low profitability are dominant, b) the industries whose products are considered to be appropriate to be produced by small and medium enterprises even in the future and c) the sectors which will contribute the increase of export.

Basic Machine: machine tools, electric welding machines, electric tools, metal molds, measuring apparatuses, testing apparatuses, forging machines, gas cutting machines, wind-driven and hydraulic machines, oil pressure machines.

Common Parts: high strength cast iron, die casting, powder metallurgy, screws, bearing, gearwheels, valves.

Special Parts: sewing machine parts, clock and watch parts, automobile parts, railroad vehicle parts.

- 2) Rationalization Basic Plans and annual Execution Plans are drawn up for the specific machinery industries, which contains a) rationalization targets such as qualities, capacities and production cost of each machinery in the target year (FY 1970) and b) installation of production equipment, method of scrapping and diverting of obsolete equipment, improvement of production technology, increase of efficiency, etc.
- 3) The government carries out necessary measures which consist of a) securing of the necessary funds for modernization of production equipment, b) giving directions for rationalization cartels and c) official announcement of standards of technology improvement.

As for securing of funds, Japan Development Bank took charge of operation first and after 1961 Small Business Finance Corporation took charge of handling the loans for small and medium enterprises.

(2) Loans for Specific Machinery Industries through Japan Development Bank

Japan Development Bank (JDB) started Loans for Specific Machinery Industries in August 1956. During FY 1956-1960, JDB made ¥10,609 thousand loans under this loan program. Among them, loans to machine tool industry had the largest share (24.8%), followed by electric tools (13.9%), automobile parts (13.1%), gearwheels (8.4%), high strength cast iron (5.7%) and die casting (5.0%).

About 60% of the 294 enterprises which received the Loans were small and medium enterprises (enterprises with 300 or less employees or with ¥10 million or less capital). As for the loan conditions, interest rate was 6.5% per annum and term of loan was within 10 years.

(3) Amendment and extension of the Law

The Temporary Measures Law for the Promotion of Machinery Industries which was enacted with the term of validity of 5 years was amended in April 1961 and its term of validity was extended by 5 years. The purpose of the amendment is to improve the international competitiveness of machinery industries to cope with the transition to the open economy due to trade liberalization, etc. And specific machinery industries were selected by the following criteria: a) fundamental sectors for the development and growth of machine industries as a whole, b) industries whose demand is expected to increase rapidly in future and which are considered to be necessary to strengthen international competitiveness against trade liberalization and c) industries whose products are considered to be suitable for export.

The main points of the amendment were a) extension of the term of validity of the Law by 5 years, b) increase of the number of specific machinery industries from 21 to 40, c) enlargement of supply of fiscal funds, etc. The Rationalization Basic Plans were renamed as "Promotion Basic Plans" and improved by adding targets of production and export, adequate scale of production, specialization of kind of products, setting of target year for each industry, etc. When the Law was amended, Small Business Finance Corporation (SBFC) took charge of handling the Loans for small and medium enterprises in place of JDB.

(4) Loans for Specific Machinery Industries through Small Business Finance Corporation

Outline of Loans for Specific Machinery Industries which SBFC started in June 1961 was as follows:

1) Eligible borrowers

Small and medium enterprises who are engaged in the following specific machinery industries and have recommendation of Small and Medium Enterprise Agency of MITI.

artificial grindstones, cast iron and forged iron, forging, pig iron casting, die casting, powder metallurgy, screws, internal combustion engines for land use, bearings, gearwheels, metal machine tools, forging machines, electric welding machines, cutting tools, metal molds, conveying equipment, wind-driven and hydraulic machineries, textile machineries, mining earth-moving and construction machineries, agriculture machineries, wood working machineries, industrial furnaces, casting machines, precision measurement apparatuses, testing apparatuses, analyzing machines, industrial measuring instruments, industrial weighing instruments, clock and watch parts, office machineries, safety equipment for railroad signals, valves, railroad vehicle parts, automobile parts, oil pressure machineries, chemical machineries, plastic machineries, machineries for automobile, industrial trucks, heat treatment

2) Use of funds

Funds for purchasing machineries designated in Promotion Basic Plans of Machinery Industries.

3) Method of loans

Through Direct Loan System (This loan program is not available through Agency Loan System).

Loan procedure of this loan program was as follows:

- (step 1) Annual Execution Plans are drawn up based upon Promotion Basic Plans and submitted to the Machinery Industries Council.

- (step 2) Minister of International Trade and Industry and Minister of Transportation officially announces the Execution Plans.
- (step 3) Enterprises who fulfill the requirements of the Plans make applications of loans to Heavy Industry Bureau of MITI or Ministry of Transportation.
- (step 4) Heavy Industry Bureau makes examinations on the applications.
- (step 5) Small and Medium Enterprise Agency of MITI recommends the enterprises as eligible borrowers to SBFC.
- (step 6) The enterprises make loan applications to SBFC.
- (step 7) SBFC approves or disapproves the application based upon their own credit appraisals.

4) Conditions of Loans

- Maximum Amount: Maximum amount of loans was determined for each fiscal year as follows.

Maximum Amount of Loans for Designated Machineries		
FY	New Loans	Loan Outstandings
1961	¥30 million	¥30 million
1962	¥30 million	¥60 million
1963	¥50 million	¥80 million

- Interest Rate: 7.5 - 7.6% per annum
- Repayment Period: Generally 3 - 7 years, longer than 7 years if necessary
- Grace Period: Within 2 years.
- Others: Collateral and guarantor are necessary in principle.

5) Results of the Loans

The term of validity of the Law was extended again in June 1966 by 5 years and this loan program continued until the end of FY 1970.

During FY 1961-1970, SBFC made 1,606 loans, the total amount of which reached ¥36,474 million, under this loan program. The average amount of loan increased from ¥18,839 thousand in FY 1961 to ¥30,720 thousand in FY 1970. And the rate of increase in scale of borrowers (in terms of amount of total assets, amount of fixed assets, amount of sales and number of employees) was larger than that of borrowers of general purpose loans, which shows that the borrowers of this loan program expanded their scale of business remarkably.

This loan program played a very important role in the development of small and medium enterprise in machinery industries by expansion of production capacity, improvement of quality and precision of products, improvement of productivity, decrease in defective products, etc.

5-A-2 Agency Loan System

As of March 1986, Small Business Finance Corporation (SBFC) has extended ¥5,185 million loans to small and medium enterprises, among which 71.4% is made through Direct Loan System and 28.6% through Agency Loan System.

In Direct Loan System SBFC makes loans to small and medium enterprises directly through their own branch network. Although they have 58 branch offices throughout Japan, most branches are located in big cities and provincial capitals. In order to spread SBFC's funds to a large number of small and medium enterprises located all over the country, it is more effective to utilize the existing private financial institutions rather than to expand their own branch network. This is one of the main reasons why SBFC operates the Agency Loan System.

In Agency Loan System SBFC entrusts handling of SBFC's loan to private financial institutions by concluding agency agreement with them. Agency banks are authorized to make SBFC loans on their own discretion, provided that borrowers fall in the definition of small and medium enterprises prescribed by Small Business Finance Corporation Law.

The risk of loans is shared between SBFC and agencies. The share of the risk to be borne by agencies (80% of loans) is higher than that of SBFC (29%) so that agencies have a larger responsibility in administering the funds.

The maximum amount of loans in Agency Loan is much smaller than in Direct Loan and repayment period in Agency Loan is shorter than in Direct Loan. SBFC pays commission to agencies for their services.

This system has the following advantages:

- 1) Agencies are in a position to be well informed about the credit ratings of their customers who apply for loans and about the economic and industrial conditions of their particular areas because they usually maintain close contact through daily banking services. Therefore, there is no need for agencies to make a detailed investigation everytime they receive loan applications from their customers, thus elimination to a large extent much time and many procedural steps.
- 2) It is considered acceptable that small loans often become costly and unprofitable for the lenders if close feasibility studies are made. The cost of making loans through Agency Loan System, however, can be reduced as compared to cases in which SBFC makes loans directly.

- 3) The system is more efficient and inexpensive than expanding SBFC's own branch network. This system, however, has following disadvantages at the same time.
- 4) SBFC can not control agencies concerning individual loans so that this system is for making loans to the specific sectors of industry in order to accomplish some specific policy objectives.
- 5) Agencies are generally reluctant to make special-purpose loans, because the loan procedures of special-purpose loans is somewhat complicated compared to that of general-purpose loans.

Table III-5-A1 Comparison of Loan Conditions of Direct Loans and Agency Loans of Small Business Finance Corporation of Japan

(As of July 1986)

		Direct Loans	Agency Loans
Amount of Loans		Up to ¥270 million (including a maximum of ¥140 million for use as long-term operating funds)	Up to ¥45 million
Interest Rate		6.4% per annum	
Repay- ment Period	Plant and Equipment Funds	Up to 10 years in prin- ciple, but up to 20 years in some cases.	Up to 7 years in prin- ciple, but up to 10 years in some cases.
	Long-term Operating Funds	Up to 5 years in prin- ciple, but up to 7 years in some cases.	Up to 5 years.
Grace Period	Plant and Equipment Funds	Up to 1 year in prin- ciple.	Up to 1 year in prin- ciple.
	Long-term Operating Funds	Up to 1 year.	Up to 6 months.

Repayment Terms Following the grace period, repayments are generally made in equal bimonthly installment.

Note: These are the conditions for General-Purpose Loans.

Table III-5-A2 Comparison between Direct Loans and Agency Loans of
Small Business Finance Corporation of Japan

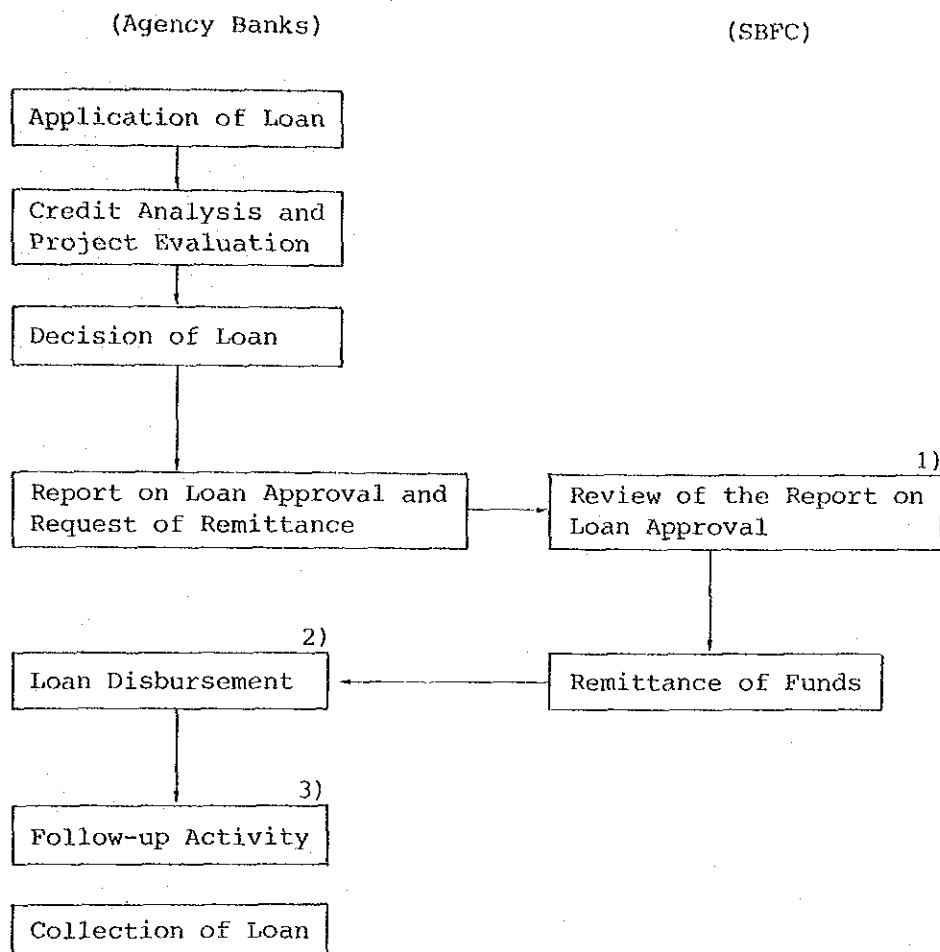
		Direct Loans	Agency Loans	Total
Number of Offices ¹⁾		59 offices (SBFC's offices)	14,230 offices (848 agencies)	
Loan Out- stand- ings ¹⁾	Number of Loans	122,247 (43.8%)	156,616 (56.2%)	278,863 (100.0%)
	Amount of Loans (¥ million)	3,704,423 (71.4%)	1,480,811 (28.6%)	5,185,234 (100.0%)
	Number of Enterprises	54,130	120,837	163,976 ³⁾
Average Amount of Loan ²⁾ (¥ thousand)		48,850	17,417	32,567
Average Term of Loan ²⁾		6 years 7 month	4 years 11 month	5 years 9 month

Notes: 1) As of the end of March 1986.

2) Figures for the Loans made in FY 1985 (April 1985 -
March 1986).

3) 10,991 enterprises borrow both Direct and Agency Loans.

Figure III-5-A1 Lending Procedure of SBFC Agency Loans



- Notes:
- 1) For every quarter SBFC asks the agencies beforehand for information on the agencies' loan capacity and on the number of loan applications received from small businesses. Based on this information, SBFC determines the total amount of loans to make in the quarter and authorize the agencies to make loans within the limits of the budget.
 - 2) When the funds arrive at the agency, the agency should conclude loan agreement with the applicant without delay. The agency should transfer the amount of the loan to the borrower's account simultaneously with the loan agreement.
 - 3) SBFC pays the agencies 3.5%-26% (about 11% on the average) of interest actually received on the loans as commission for their services. The rate of commission depends on the interest rate, the amount of loans and the types of loans. This provision is made as an incentive for the agencies to make smaller loans which, as a rule, are not profitable because net earnings on small loans are low.

