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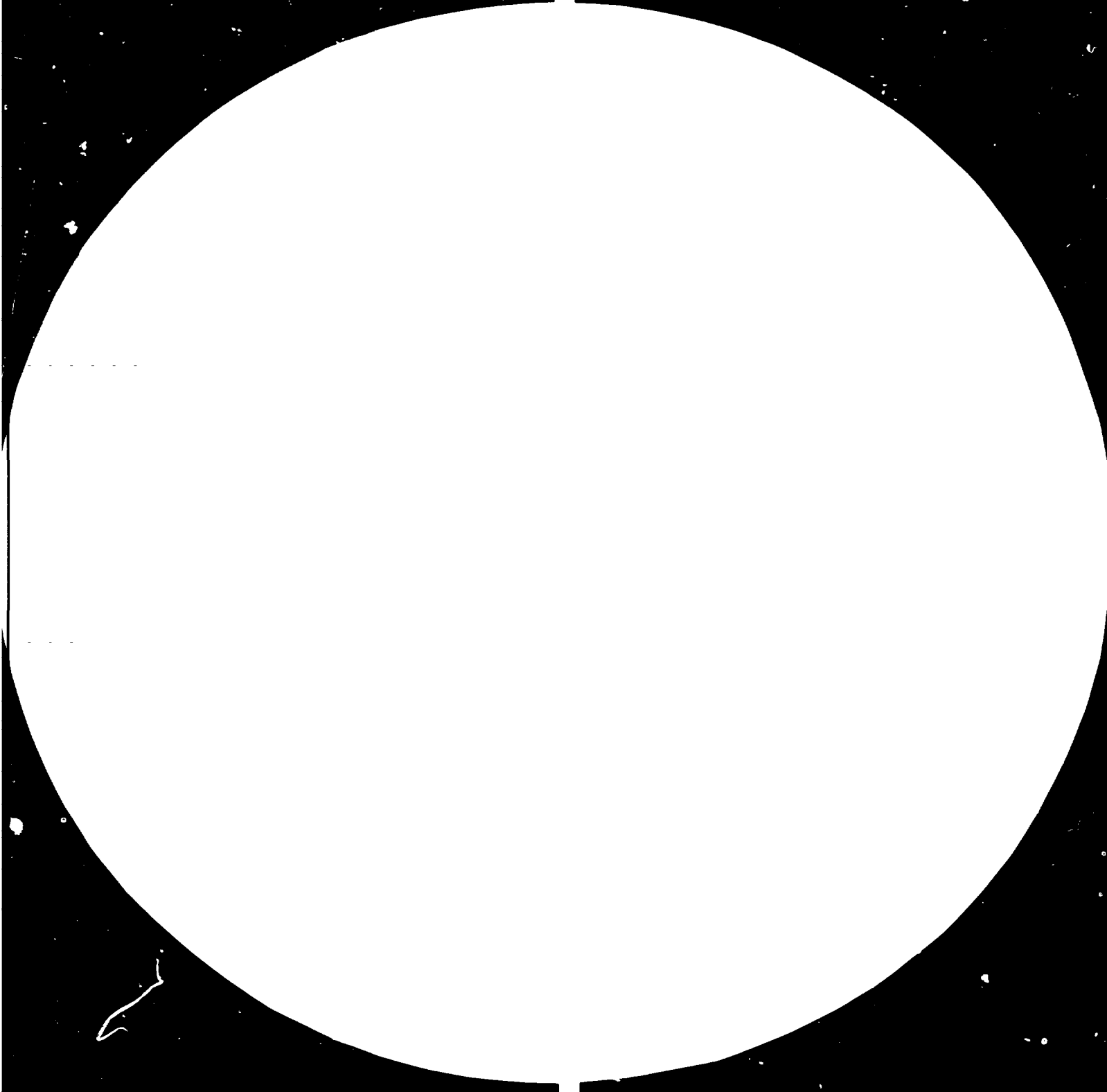
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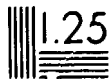
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18 SEP 1980

Argentine Experience
on
Technology Transfer
Law Application
August 1977 - July 1980 *

prepared by
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The following is a Summary of the paper "Argentine Experience on Technology Transfer Law Application, August 1977-July 1980" presented to the Fifth Meeting of Heads of Technology Transfer Registries held in Buenos Aires from 15-19 September 1980.

The information contained in this paper covers agreements registered by the Technology Registry since the approval of Law 21.617 (12 August 1977), which regulates the importation of technology. This study then, covers the period 12 August 1977 to 30 June 1980.

For the purposes of the analysis two groups have been distinguished:

I. Industrial Sectors:

The sectors used correspond to the ISIC classification, used by in the TIES system. The first two digits of this classification system have been utilized, bringing the total to 34 sectors.

II. Countries supplying technology:

The agreements are grouped according to the country supplying technology. Within each of the stated groups, we consider the average approved royalties and the estimated total payments in US dollars.

A subdivision is made with respect to recipient companies tied (vinculated) and not tied to supplier companies. Vinculation is defined as direct ownership of the recipient by licensors, indirect ownership with more than 49% of the capital of the receptor being held by the license or possession of votes sufficient to dominate the shareholders meeting (Art. 2° Law of Foreign Investment).

Lastly we consider the average duration of the agreements as well as the type of collaboration involved.

Collaboration types cover 9 categories, as used in the TIES system:

- 1) Licence: Agreements of a special character comprising a variety of elements by which the licensee purchases or acquires certain industrial property rights and/or non-patented technological knowledge.
- 2) Know-How: Secret information about processes, formulas and industrial techniques.
- 3) Trade marks
- 4) Patents
- 5) Technical assistance: provision of permanent services to the licensee such as scientific assistance, engineering, etc.

- 6) Basic Engineering: patented or not patented technical data on the production process.
- 7) Detailed Engineering production installations or their control.
- 8) Administrative and management services: market studies, sales promotion methods, etc.
- 9) Training: training of local personnel during limited or extended periods.

Industrial Sectors

I. Royalties

The two most common forms of payment in technology contracts are royalties and lumpsum payments with the latter used normally in service or technical assistance agreements.

The royalties considered in Table I are the average approved royalties taken from the agreements registered each year, subdivided into vinculated and non-vinculated entities. Lumpsum payments have not been included in this Table.

Summary of Table I

In general terms, the royalties approved for companies not tied are superior to those approved for contracts of vinculated companies, except during 1979. The recipient companies are tied for only 17% of the contract registered over the investigated period, the remaining 83% correspond to companies not tied.

The average royalty in the contracts investigated stipulating this form of payment, is about 3.5%, which is less than the 5% stipulated by article 10 item 3, subitem 3 of Law 21.617.

TABLE I

AVERAGE ROYALTY RATE BY INDUSTRIAL SECTOR

SECTOR	August - December 1977						1978						1979						January - June 1980					
	No. of Contracts		Average Royalty		Total		No. of Contracts		Average Royalty		Total		No. of Contracts		Average Royalty		Total		No. of Contracts		Average Royalty		Total	
	Tied	Not Tied	Tied	Not Tied	Tied	Not Tied	Tied	Not Tied	Tied	Not Tied	Tied	Not Tied	Tied	Not Tied	Tied	Not Tied	Tied	Not Tied	Tied	Not Tied	Tied	Not Tied	Tied	Not Tied
1. Agriculture + Livestock							0	1	1	-	-	-	1	3	4	5.0	4.50	4.66	-	2	2	-	4.5	4.50
2. Agricultural Services and Logging							0	1	1	-	-	-												
3. Fishing													-	1	1	-	-	-						
4. Coal Mining	-	1	1	-	-	-	-	1	1	-	-	-												
5. Crude Petroleum + Natural Gas Production							1	2	3	-	-	-	2	13	15	1.25	-	1.25	-	0	0	-	-	-
6. Iron Ore Mining	-	5	5	-	-	-	-	13	13	-	3.25	3.25	0	8	8	-	-	-	-	5	5	-	-	-
7. Non Ferrous Ore Mining													0	2	2	-	-	-						
8. Food, Beverage and Tobacco Industries	-	2	2	-	-	-	4	49	53	-	2.75	2.75	8	42	50	3.16	2.48	2.60	6	21	27	3.0	3.80	3.50
9. Manufacture of Textiles, Wearing Apparel + Leather Products	-	2	2	-	-	-	-	4	4	-	2.00	2.00	4	32	36	2.0	3.26	3.21	1	11	12	3.50	3.16	3.21
10. Manufacture of Wood + Wood Products							-	1	1	-	-	-	-	4	4	-	3.75							
11. Manufacture of Paper, Paper Products, Printing Industry							-	8	8	-	-	-	-	11	11	-	5.0	5.00	-	4	4	-	6.0	6.0
12. Manufacture of Chemical Products, Petrochemicals, Rubber Products + Plastics	2	8	10	3.0	-	3.0	20	48	68	3.43	3.38	3.39	41	66	107	3.76	3.31	3.47	29	30	59	3.01	4.00	3.44
13. Manufacture of Non-metallic mineral products	0	2	2	-	-	-	-	8	8	-	3.03	3.83	2	15	17	-	3.64	3.64	2	2	4	2.00	1.0	1.66
14. Basic Metal Industries	-	7	7	-	-	-	-	14	14	-	5.0	5.00	-	14	14	-	-	-	-	11	11	-	-	-
15. Manufacture of Fabricated Metal Products	2	28	30	-	3.75	3.75	10	90	100	1.70	3.69	3.56	26	153	179	4.63	3.57	3.69	15	60	61	2.60	3.73	3.47
16. Miscellaneous Manufacturing Industries													1	-	1	-	-	-						
17. Electricity, Gas and Steam	-	6	6	-	-	-	-	15	15	-	-	-	-	18	18	-	-	-	-	11	11	-	-	-
18. Water Works + Supply													1	2	3	5.0	-	5.00						
19. Construction	-	1	1	-	-	-	2	6	8	-	4.0	4.00	6	9	15	4.0	4.08	4.02	4	7	7	-	3.0	3.00
20. Wholesale Trade																								

SECTION 1

10. Manufacturing of Textiles																								
11. Manufacture of Wood + Wood Products							-	1	1	-	-	-	-	4	4	-	3.75							
11. Manufacture of Paper, Paper Products, Printing Industry							-	8	8	-	-	-	-	11	11	-	5.0	5.00	-	4	4	-	6.0	6.0
12. Manufacture of Chemical Products, Petrochemicals, Rubber Products + Plastics	2	8	10	3.0	-	3.0	20	48	68	3.43	3.38	3.39	41	66	107	3.76	3.31	3.47	29	30	59	3.01	4.00	3.44
13. Manufacture of Non-metallic mineral products	0	2	2	-	-	-	-	8	8	-	3.83	3.83	2	15	17	-	3.64	3.64	2	2	4	2.00	1.0	1.66
14. Basic Metal Industries	-	7	7	-	-	-	-	14	14	-	5.0	5.00	-	14	14	-	-	-	-	11	11	-	-	-
15. Manufacture of Fabricated Metal Products	0	28	30	-	3.75	3.75	10	80	100	1.70	1.69	1.66	26	153	179	4.63	3.57	3.69	15	46	61	2.60	3.73	3.47
16. Miscellaneous Manufacturing Industries													1	-	1	-	-	-						
17. Electricity, Gas and Steam	-	6	6	-	-	-	-	15	15	-	-	-	-	18	18	-	-	-	-	11	11	-	-	-
18. Water Works + Supply													1	2	3	5.0	-	5.00						
19. Construction	-	1	1	-	-	-	2	6	8	-	4.0	4.00	6	9	15	4.0	4.04	4.02	4	7	7	-	3.0	3.00
20. Wholesale Trade																								
21. Retail Trade																								
22. Restaurants and Hotels																								
23. Transport + Supporting Services	-	1	1	-	-	-	-	2	2	-	-	-	-	8	8	-	2.66	2.66	-	2	2	-	-	-
24. Communication													-	1	1	-	2.5	2.50	1	1	2	-	-	-
25. Financial Institutions													1	0	1	5.0	-	5.0						
26. Insurance																								
27. Business Services	-	1	1	-	-	-	1	18	19	-	3.0	3.00	1	11	12	-	4.0	4.00	1	6	7	-	4.0	4.0
28. Public Administration and Defense													-	1	1	-	-	-	-	1	1	-	-	-
29. Sanitary and Similar Services							-	2	2	-	5.0	5.00	-	1	1	-	5.0	5.00	1	2	3	5.0	5.0	5.0
30. Social Services													-	1	1	-	0.4	0.40						
31. Amusement and Recreational Services																								
32. Personal and Home Services																								
33. International Organizations																								
34. Activities N.E.C.																								
TOTALS	4	64	66	3.00	3.75	3.50	38	285	323	2.69	3.58	3.51	94	416	510	3.00	3.41	3.49	56	171	227	2.24	3.76	3.47

For all years studied, the sector with the most agreements registered is the "Manufacture of fabricated metal products".

This group can be subdivided into transport equipment (automotive, shipbuilding, railway, airtransport industries), manufacture of fabricated metal products N.E.C. (cutlery, hardware, furniture, metalics, etc.), Manufacture of Equipment Except Electrical N.E.C. (engines, turbines, agricultural equipment, office equipment, etc.); and manufacture of electrical industrial machinery & apparatus. (electrical generators engines, transformers, radio, T.V. and communication equipment, domestic electrical apparatus. The average royalty in this group is 3.6%.

The sector which follows in importance in terms of number of agreements is "Manufacture of Chemical Products, Petrochemicals, Rubber Products and Plastics". This sector can be subdivided into manufacture of Industrial Chemicals (basic Industrial chemicals, pesticides, synthetic resins, plastic materials and man made fibres); manufacture of other chemical products (paints, varnishes, drugs, medicines, cosmetics); petroleum refineries, manufacture of miscellaneous products of petroleum and coal, manufacture of Tire and Plastic Products N.E.C. The average royalty in this sector is 3.3%.

The third sector in importance in terms of number of agreements registered is "beverage industries" with an average royalty of 2.9%.

The sector with the highest royalty rate (5%) is Sanitary and smiliar services, which is of minor importance because of the small number of registered contracts.

Lumpsum payments

The amounts shown in the following table represent the total estimated payments (in US\$) over the life of the contract..

The amounts have been converted to US\$ according to the exchange rate valid at the time the agreement was signed.

In general one can say that the principle sectors with respect to estimated payments and number of agreements are: manufacture of chemical products, tire, and plastics including the petroleum refining, petrochemicals, pharmaceuticals, fertilizers and pesticides industries.

The principal sector is the manufacture of metal products, machinery and equipment, in which one can observe the importance of the automotive, construction equipment and machinery (except electrical machinery) and manufacture of electrical appliances industries of all the studied periods, only the first half of 1980 shows estimated payments by the vinculated enterprises to be higher than those by non-vinculated enterprises. This could be explained by the relative importance of an agreement in the automotive sector and an agreement in the communications sector.

SECTOR	August - December 1977						1978						1979					
	No. of Contracts			Estimated Payment			No. of Contracts			Estimated Payment			No. of Contracts			Estimated Payment		
	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total
1. Agriculture + Livestock							-	1	1	-	1,237	1,237	1	1	1	291,000	1,135,145	1,398,145
2. Agricultural Services and Logging							-	1	1	-	27,066	27,066						
3. Fishing													0	1	1	0	300,000	300,000
4. Coal Mining	0	1	1	0	44,176	44,176	-	1	1	-	896,570	896,570						
5. Crude Petroleum + Natural Gas Production							1	2	3	750,000	1,170,800	1,920,800	2	11	15	20,098,978	3,519,914	23,618,892
6. Iron Ore Mining	-	5	5	-	1,430,170	1,430,170	-	13	13	-	427,774	427,774	1	4	5	-	58,109	58,109
7. Non Ferrous Ore Mining													0	2	2	-	145,928	145,928
8. Food, Beverage and Tobacco Industries	-	2	2	-	15,188	15,188	4	49	53	-	1,086,189	1,086,189	8	47	55	5,195,995	7,117,265	12,313,260
9. Manufacture of Textiles, Wearing Apparel + Leather Products	-	2	2	-	45,372	45,372	-	4	4	-	716,640	716,640	4	32	36	762,356	3,947,457	4,709,813
10. Manufacture of Wood + Wood Products							-	1	1	-	35,003	35,003	0	4	4	-	720,000	720,000
11. Manufacture of Paper, Paper Products, Printing Industry							-	8	8	-	16,651,811	16,651,811	0	11	11	-	5,162,707	5,162,707
12. Manufacture of Chemical Products, Petrochemicals, Rubber Products + Plastics	2	8	10	1,560,080	2,892,651	4,452,731	20	48	68	6,631,803	49,079,399	55,711,078	41	66	107	32,310,701	58,576,243	90,886,744
13. Manufacture of Non-metallic mineral products	-	2	2	-	2,354,939	2,354,939	-	8	8	-	11,886,512	11,886,512	2	15	17	1,950,000	6,736,123	8,686,123
14. Basic Metal Industries	-	7	7	-	5,174,420	5,174,420	-	14	14	-	4,571,122	4,571,122	1	14	14	-	10,782,533	11,712,533
15. Manufacture of Fabricated Metal Products	2	28	30	-	2,163,294	2,163,294	10	90	100	11,132,159	27,962,245	36,830,006	26	111	137	21,361,315	72,998,167	94,359,482
16. Miscellaneous Manufacturing Industries													1	-	1	-	-	-
17. Electricity, Gas and Steam	-	6	6	-	2,704,323	2,704,323	-	15	15	-	20,638,114	20,638,114	0	14	14	-	16,432,127	24,440,241
18. Water Works + Supply													1	-	1	34,000	34,000	34,000
19. Construction	-	1	1	-	109,826	109,826	2	6	8	187	5,775,641	5,775,641	6	4	10	11,654,286	8,821,918	20,476,204
20. Wholesale Trade																		
21. Retail Trade																		
22. Restaurants and Hotels																		
23. Transport + Supporting Services	-	1	1	-	326,831	326,831	-	2	2	-	329,700	329,700	0	4	4	-	7,050,083	7,380,083
24. Communication													0	1	1	-	23,625	23,625
25. Financial Institutions													1	1	1	561,921	-	561,921
26. Insurance																		
27. Business Services	-	1	1	-	18,396	18,396	1	18	19	385,500	4,111,293	4,519,493	1	11	12	16,667,000	3,848,343	21,517,243
28. Public Administration and Defense													1	1	1	-	60,000	60,000
29. Sanitary and Similar Services							-	2	2	-	654,711	654,711	1	1	1	-	47,711	47,711
30. Social Services																		
31. Amusement and Recreational Services							-	2	2	-	118,232	118,232						
32. Technical and Other Services																		
33. International Organizations																		
34. Activities N.E.C.																		

No.	Estimated Payment			No. of Contracts					Estimated Payment			January - June 1980			Estimated Payment			
	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total
-	1,237	1,237	1	3	4	101,000	1,135,145	1,398,145	-	2	2	-	412,282	412,282				
-	27,066	27,066																
			0	1	1	300,000	300,000	300,000										
-	896,570	896,570																
750,000	1,170,800	1,920,800	2	13	15	20,098,978	3,519,914	23,618,892	-	9	9	-	2,918,109	2,918,109				
-	427,774	427,774	0	8	8	-	58,109	58,109	-	5	5	-	217,750	217,750				
			0	2	2	-	145,928	145,928										
-	1,086,189	1,086,189	8	42	50	5,195,995	7,117,265	12,313,260	6	21	27	11,340,470	4,499,346	15,839,816				
-	716,640	716,640	4	32	36	762,356	3,947,457	4,709,813	1	10	11	1,296,041	3,545,249	4,841,290				
-	35,003	35,003	0	4	4	-	720,000	720,000										
-	16,653,811	16,653,811	0	11	11	-	5,162,707	5,162,707	-	4	4	-	270,443	270,443				
431,803	49,079,295	55,713,098	41	66	107	32,310,701	58,576,043	90,886,744	29	30	59	20,631,778	13,997,056	34,628,834				
-	11,886,512	11,886,512	2	15	17	1,950,000	6,736,123	8,686,123	2	4	6	901,690	2,070,408	2,972,098				
-	4,571,122	4,571,122	0	14	14	-	10,782,833	10,782,833	-	11	11	-	2,351,146	2,051,146				
11,117,159	27,962,245	39,079,404	26	151	177	21,361,315	72,998,467	94,359,782	15	46	61	31,914,472	17,852,821	49,767,293				
			1	0	1	-	-	-										
-	16,430,167	16,430,167	0	18	18	-	16,430,167	16,430,167	-	11	11	-	9,824,951	9,824,951				
			1	2	3	44,000	30,788	74,788										
147	5,775,641	5,775,641	6	9	15	11,454,286	8,821,918	20,276,204	-	7	7	-	2,775,562	2,775,562				
-	129,700	129,700	0	8	8	-	7,350,089	7,350,089	-	2	2	-	125,670	125,670				
			0	1	1	-	23,625	23,625	1	1	2	23,654,000	1,654,000	24,978,955				
			1	0	1	563,223	-	563,223										
200,500	8,111,291	8,512,791	1	11	12	16,667,000	1,848,264	18,515,264	1	6	7	14,000	4,593,659	4,607,659				
			0	1	1	-	50,000	50,000	-	1	1	-	661,000	661,000				
	504,722	504,722	0	1	1	-	367,711	367,711	1	2	3	5,649,122	1,524,547	7,173,669				
			0	1	1	-	2,403,000	2,403,000										
	119,212	119,212																
									-	1	1	-	411,200	411,200				

TABLE II
TOTAL PAYMENTS BY
INDUSTRIAL SECTOR

These two sectors represent 54% of the total number of contracts with 54% of the total lumpsum payments.

II. Countries of origin of the Technology

The total number of countries supplying technology during the period in which Law 21.617 has been in effect is 38. These can be grouped in seven geographic areas: Western Europe: (F.R. Germany, Austria, Belgium, Denmark, Spain, Finland, France, Greece, Great Britain, Italy, Liechtenstein, Luxemburg, Norway, the Netherlands, Sweden and Switzerland) Eastern Europe: (Poland, Czechoslovakia, Rumania and USSR) Africa: (South Africa) U.S.A. and Canada, Rest of America: (Venezuela, Bermuda, Bolivia, Brazil, Colombia, Chile, Mexico, Panama, Peru, Uruguay) Asia: (India, Israel, Japan) Australia and New Zealand.

The geographic distribution of the number of contracts and estimated total value is as follows:

R.E G I.O.N S.	August-December 1977			1978			1979			January-June 1980		
	Number of Contracts	Thousands of U.S.\$	% Payment	Number of Contracts	Thousands of U.S.\$	% Payment	Number of Contracts	Thousands of U.S.\$	% Payment	Number of Contracts	Thousands of U.S.\$	% Payment
Western Europe	38	8.042	42,7	159	98.463	62,3	261	199.002	61,9	91	76.260	46,4
Eastern Europe	1	2.600	13,8	2	922	0,6	4	4.523	1,4	1	1.400	0,9
U.S.A. and Canada	26	7.396	39,3	143	53.504	33,9	196	106.399	33,1	116	75.665	46,0
Remaining Americas	--	-----	-----	10	2.927	1,9	32	2.257	0,7	10	9.465	5,8
Africa	--	-----	-----	1	-----	--	1	289	0,1	--	-----	-----
Asia	2	800	4,2	8	2.118	1,3	15	8.606	2,7	9	1.708	1,0
Australia and New Zealand	1	1	0,0	-	-----	--	1	420	0,1	--	-----	-----
TOTAL	68	18.389	100%	323	157.934	100%	510	321.496	100%	227	164.498	100%

One can observe that the number and total value of agreements with Western Europe has exceeded agreements with the USA and Canada in 1977, 1978 and 1979, while in the first semester of 1980 the reverse was true leaving both areas almost equal with respect to the total value of agreements. With Eastern Europe only a few ongoing agreements have been registered, but which represent significant payments in the chemical, electrical, gas and steam, carbon mines exploitation subsectors. Only two agreements have been concluded with Africa, one of which was gratis and the other has little impact on the total figure and is related to the manufacture of non-metallic mineral products (except derivatives of petroleum and coal). Australia and New Zealand, have two agreements without any significant value, in the manufacture of metallic products. A continuous flow exists with Asia, specially with Japan, with contracts in the chemical Products, manufacture of non-metallic mineral products, machinery and equipment, electricity gas and steam, construction, transport, storage and communications industries.

The Rest of America is the third area in importance with respect to the quantity of agreements.

The sectors which represented are: beverages, manufacture of paper, manufacture of chemical products, metallic, mineral extraction, textiles, sanitary services, manufacture of metallic products, electricity, gas and steam and agriculture.

Royalties

As in the industrial sector, the royalties considered are the average percentage of approved royalties, without taking into consideration lumpsum agreements.

Country	August - December 1977						1978						1979					
	Number of Contracts			Royalty			Number of Contracts			Royalty			Number of Contracts			Royalty		
	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total
Australia	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Austria	-	1	1	-	-	-	-	3	3	-	3%	3%	-	1	1	-	-	-
Belgium	-	-	-	-	-	-	-	1	1	-	-	-	1	6	7	-	-	-
Bermuda	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	-	-	1
Bolivia	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1%	1%
Brazil	-	-	-	-	-	-	-	2	2	-	-	-	1	13	14	1%	4%	3,25%
Canada	-	1	1	-	-	-	-	6	6	-	-	-	-	3	3	-	-	-
Colombia	-	-	-	-	-	-	1	1	2	-	-	-	-	-	-	-	-	-
Czechoslovakia	-	-	-	-	-	-	-	1	1	-	-	-	-	2	2	-	-	-
Chile	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	1	1	-	-	-	1	1	2	5%	5%	5%
Finland	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-	-
France	-	7	7	-	-	-	5	20	25	1,70%	3,33%	2,79%	5	34	39	4,50%	3,07%	3,3%
F.R. Germany	-	16	16	-	2,50%	2,50%	9	42	51	3,50%	3%	3,27%	12	50	62	3,80%	3,75%	3,75%
Greece	-	-	-	-	-	-	-	1	1	-	3%	3%	-	-	-	-	-	-
India	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Italy	-	3	3	-	-	-	2	23	29	-	4,40%	4,40%	12	29	41	5%	2,98%	3,8%
Japan	-	2	2	-	-	-	-	8	8	-	-	-	-	15	15	-	3,37%	3,37%
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	5%	5%
Luxemburg	-	-	-	-	-	-	-	1	1	-	-	-	1	1	2	-	1%	1%
Mexico	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-
Netherlands	-	-	-	-	-	-	3	5	8	3%	4%	3,66%	2	9	11	3%	3,75%	3,50%
New Zealand	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	3%	3%
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-
Panama	-	-	-	-	-	-	-	-	-	-	-	-	1	8	9	-	5,12%	5,12%
Peru	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	-	-	-
Poland	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	1	1	-	-	-	-	1	1	-	2,50%	2,50%
Spain	-	3	3	-	-	-	-	8	8	-	3,85%	3,85%	1	11	12	-	2,97%	2,97%
Sweden	-	-	-	-	-	-	-	2	2	-	2%	2%	2	6	8	5%	4%	4,00%
Switzerland	-	6	6	-	-	-	-	16	16	-	3,91%	3,91%	13	29	42	4,05%	3,7%	3,9%
U.K.	-	2	2	-	-	-	1	14	15	-	3%	3%	2	21	23	3%	2,91%	2,91%
U.S.A.	4	21	25	3%	5%	4%	17	120	137	3,75%	3,7%	3,7%	4	161	165	3,67%	3,01%	3,0%
U.S.S.R.	-	1	1	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-
Trinidad	-	-	-	-	-	-	-	1	1	-	-	-	-	2	2	-	5%	5%
Venezuela	-	-	-	-	-	-	-	1	1	-	1,10%	1,10%	-	-	-	-	-	-
TOTAL	4	44	48	3%	3,1%	3,1%	49	285	334	3,26%	3,1%	3,1%	49	322	371	3,12%	3,1%	3,1%

TABLE III

ROYALTY PERCENTAGE BY SUPPLIER COUNTRY

Total	1970						January - June 1980					
	Number of Contracts			Royalty			Number of Contracts			Royalty		
	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total
-	-	1	1	-	-	-	-	1	1	-	-	-
-	1	6	7	-	-	-	-	1	1	-	-	-
-	1	1	2	-	-	-	1	-	1	5%	-	5%
-	-	1	1	-	1%	1%	-	-	-	-	-	-
-	1	13	14	1%	4%	3.25%	1	3	4	-	6%	6%
-	-	3	3	-	-	-	-	7	7	-	-	-
-	-	2	2	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	2	2	-	-	-
-	1	1	2	5%	5%	5%	1	-	1	5%	-	5%
\$ 2,79%	5	34	39	4,50%	3,03%	3,36%	2	15	17	2%	2,56%	2,50%
\$ 3,7%	12	50	62	3,80%	3,75%	3,75%	7	20	27	2,90%	4,25%	3,73%
\$ 3%	-	-	-	-	-	-	-	1	1	-	5%	5%
-	-	-	-	-	-	-	-	1	1	-	3,50%	3,50%
\$ 4,40%	12	29	41	5%	2,98%	3,53%	-	13	13	-	4,14%	4,14%
-	-	15	15	-	3,37%	3,37%	-	7	7	-	-	-
-	-	2	2	-	5%	5%	-	-	-	-	-	-
-	1	1	2	-	1%	1%	-	-	-	-	-	-
-	-	-	-	-	-	-	-	1	1	-	-	-
\$ 3,06%	2	9	11	3%	3,75%	3,50%	-	-	-	-	-	-
-	-	1	1	-	3%	3%	-	-	-	-	-	-
-	-	2	2	-	-	-	-	-	-	-	-	-
-	1	8	9	-	5,12%	5,12%	-	2	2	-	4,0%	4,50%
-	-	4	4	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	1	1	-	-	-
-	-	1	1	-	2,50%	2,50%	-	-	-	-	-	-
\$ 3,04%	1	11	12	-	2,87%	2,87%	-	9	9	-	2,30%	2,30%
2%	2	6	8	5%	4%	4,20%	2	2	4	2%	5%	3%
\$ 3,01%	13	29	42	4,07%	3,79%	3,89%	4	3	7	4,33%	3%	4%
1%	2	21	23	1%	2,21%	2,41%	3	8	11	1,50%	3,71%	3,22%
\$ 3,01%	10	161	171	3,67%	3,21%	3,26%	35	74	109	2,81%	3,85%	3,41%
-	-	2	2	-	-	-	-	-	-	-	-	-
-	-	2	2	-	5%	5%	-	-	-	-	-	-
\$ 3,01%	-	-	-	-	-	-	-	-	-	-	-	-
\$ 3,01%	10	161	171	3,67%	3,21%	3,26%	35	74	109	2,81%	3,74%	3,41%

Individual countries with the greater number of registered contracts are:
USA with 41%, average royalty 3%, F.R. Germany 14%, average royalty 3%,
France 7,8% average royalty 2,5%, Italy 7,3% average royalty 4%, Switzerland
6,3% with an average royalty 3,5%.

Total Estimated Lump Sum Payments

The five major countries in terms of estimated lump sum payments during the period studied are:

USA	34%
Switzerland	14%
France	13%
F.R. Germany	10%
Italy	7%

These five countries account for 78% of total estimated lump sum payments and some 76% of the agreements registered.

Country	August - December 1977						1978						1979						January - 1979		
	Number of Contracts			Payment US\$			Number of Contracts				Payment US\$		Total		Number of Contracts						
	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total			
Australia	-	1	1	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-		
Austria	-	1	1	-	4	4	-	3	3	-	22	22	-	1	1	-	136	136	-	1	1
Belgium	-	-	-	-	-	-	-	1	1	-	2,331	2,331	1	6	7	-	1,719	1,719	-	1	1
Canada	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	-	301	301	1	-	1
Chile	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	13	13	-	-	-
France	-	-	-	-	-	-	-	2	2	-	17	17	1	13	14	56	842	842	1	3	4
Germany	-	1	1	-	112	112	-	6	6	-	13,400	13,400	-	3	3	-	7,459	7,459	-	-	-
India	-	-	-	-	-	-	2	1	2	-	41	41	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	1	1	-	25	25	-	2	2	-	2,912	2,912	-	-	-
Italy	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	2	2
Japan	-	-	-	-	-	-	-	1	1	-	5,360	5,360	1	1	2	76	24	170	1	-	1
South Korea	-	-	-	-	-	-	-	2	2	-	142	142	-	-	-	-	-	-	-	-	-
Spain	-	7	7	-	1,332	1,332	5	20	25	12,375	2,906	15,181	5	14	19	594	20,413	30,113	2	14	16
U.S. Germany	-	16	16	0	648	648	9	42	51	1,020	24,132	25,152	12	50	62	6,506	24,147	30,753	-	21	21
Sweden	-	-	-	-	-	-	-	1	1	-	1,077	1,077	-	-	-	-	-	-	-	-	-
Switzerland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Taiwan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Thailand	-	1	1	-	1,656	1,656	2	23	25	197	20,341	21,341	12	24	36	4,328	18,844	23,172	-	13	13
United Kingdom	-	2	2	-	500	500	-	4	4	-	2,118	2,118	-	15	15	-	8,607	8,607	-	-	-
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	1,624	1,624	-	-	-
Norway	-	-	-	-	-	-	-	1	1	-	350	350	1	1	2	-	240	36	-	-	-
Philippines	-	-	-	-	-	-	-	1	1	-	2,316	2,316	-	-	-	-	-	-	-	-	-
Portugal	-	-	-	-	-	-	3	5	8	169	452	720	2	9	11	20,193	1,911	21,007	-	-	-
New Zealand	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	400	400	-	-	-
Denmark	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	713	713	-	-	-
Finland	-	-	-	-	-	-	-	-	-	-	-	-	1	4	5	-	198	133	-	-	-
Ghana	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	-	713	713	-	-	-
Greece	-	-	-	-	-	-	-	1	1	-	147	147	-	-	-	-	-	-	-	-	-
Hong Kong	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
India	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Iran	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Italy	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Japan	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
South Korea	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Spain	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Switzerland	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Taiwan	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Thailand	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
West Germany	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Yugoslavia	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE IV

TOTAL ESTIMATED PAYMENTS BY SUPPLIER COMPANY

Contract No.	1979			1980			January - June 1980			1981		
	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total	Tied	Not Tied	Total
1	1	1	-	136	136	176	-	1	1	-	45	45
2	1	1	-	1,719	1,719	1,719	-	1	1	-	12	12
3	1	1	2	301	301	301	1	-	1	5,649	-	5,649
4	1	1	1	17	17	17	-	-	-	-	-	-
5	1	13	14	547	547	547	1	3	4	175	98	276
6	1	3	3	7,450	7,450	7,450	-	7	7	-	4,250	4,250
7	1	1	2	2,917	2,917	2,917	-	-	-	-	-	-
8	1	1	2	2,917	2,917	2,917	-	2	2	-	47	47
9	1	1	2	76	94	170	1	-	1	176	-	176
10	1	14	30	594	29,419	30,013	2	15	17	25,708	11,291	36,999
11	17	50	62	4,596	24,147	30,753	7	20	27	2,240	9,063	11,303
12	1	1	2	150	150	150	-	1	1	-	150	150
13	1	1	2	151	151	151	-	1	1	-	151	151
14	17	79	41	4,324	14,844	21,172	-	13	13	-	1,987	1,987
15	1	15	15	8,607	8,607	8,607	-	7	7	-	1,407	1,407
16	1	2	2	1,624	1,624	1,624	-	-	-	-	-	-
17	1	1	2	360	360	360	-	-	-	-	-	-
18	1	1	2	360	360	360	-	1	1	-	4	4
19	1	9	11	21,190	1,311	21,200	-	-	-	-	-	-
20	1	1	2	420	420	420	-	-	-	-	-	-
21	1	1	2	713	713	713	-	-	-	-	-	-
22	1	2	3	198	198	198	-	2	2	-	3,489	3,489
23	1	4	5	713	713	713	-	-	-	-	-	-
24	1	1	2	1,400	1,400	1,400	-	1	1	-	1,400	1,400
25	1	1	2	280	280	280	-	-	-	-	-	-
26	1	11	12	17,276	1,314	17,660	-	3	3	-	3,334	3,334
27	1	3	4	441	1,718	2,071	2	2	4	3,055	812	4,767
28	17	4	45	16,237	41,758	65,218	4	3	7	1,409	1,312	5,715
29	1	11	12	1,441	1,944	3,385	3	3	11	17,104	1,818	11,222
30	17	14	31	17,247	17,119	34,366	15	74	104	42,289	24,197	71,186
31	1	1	2	117	117	117	-	-	-	-	-	-
32	1	1	2	117	117	117	-	-	-	-	-	-
33	17	107	124	17,276	17,119	34,395	74	171	245	25,247	69,206	164,498

Collaboration Type

Collaboration with technology suppliers has been divided into 9 categories as specified in the introduction.

Within each category two percentage figures are listed; the first (A) refers to the ratio of number of instances of each collaboration type to number of contracts and the second (B) to the ratio of number of instances of each collaboration type to number of instances in a given year.

This is to say that A represents the percent of agreements containing a given collaboration type and reflects the fact that a single agreement can be comprised of various collaboration types. Percentage figure B represents the incidence of each collaboration type with respect to the total number of agreements studied.

During 1978, 79 and the first half of 1980 the principal collaboration types in order of importance were technical assistance, know how, trademarks and patents.

In 1977 only, trademarks were of minor importance with technical assistance, know how, and basic engineering taking greater predominance.

The great prevalence of technical assistance as a collaboration type derives from the large number of contracts of short duration with technical assistance as the only type of collaboration in the agreement.

COLLABORATION TYPES

- 20 -

Y. E A R	License 1	know how 2	Trademark 3	Patent 4	Technical Assistance 5	Basic Engineering 6	Detailed Engineering 7	Management & Administ. Services 8	Trainin 9
August- December 1977	A) 1,47 B) 1,07	19,11 13,97	1,47 1,07	11,76 8,60	75,00 54,83	13,23 9,67	5,88 4,30	1,47 1,07	7,35 5,37
1978	A) 1,23 B) 0,84	26,31 18,04	32,19 22,08	8,97 6,15	55,10 37,79	4,95 3,39	4,64 3,18	0,61 0,42	11,76 8,06
1979	A) 1,37 B) 0,84	47,25 29,10	34,11 21,01	10,98 6,76	52,74 32,48	1,37 0,84	1,17 0,72	2,74 1,69	10,58 6,52
January- June 1980	A) 0,68 B) 0,47	50,66 27,61	38,76 21,05	14,09 7,65	57,70 31,33	3,52 1,91	3,08 1,67	1,32 0,71	14,09 7,65

Duration

Average (in months)

	<u>Tied Enterprises</u>	<u>Not-Tied Enterprises</u>	<u>TOTAL</u>
August-December 1977	52.7	19.8	21.8
1978	55.1	35.7	38.0
1979	51.0	45.5	46.5
January-June 1980	59.3	40.6	45.2

The average duration of agreements is approximately 3 years. It should be noted that there are many technical assistance contracts of between 3 and 6 months, whereas know how agreements normally run to 5 years.

In specific industrial sectors or agreements with certain countries, duration can exceed 5 years; this normally corresponds to the period of validity of a trademark or patent.

As may be noted in the table, agreements between vinculated companies are an average of 4 1/2 years long which is higher than that for non-vinculated firms.



