OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.

DISCLAIMER

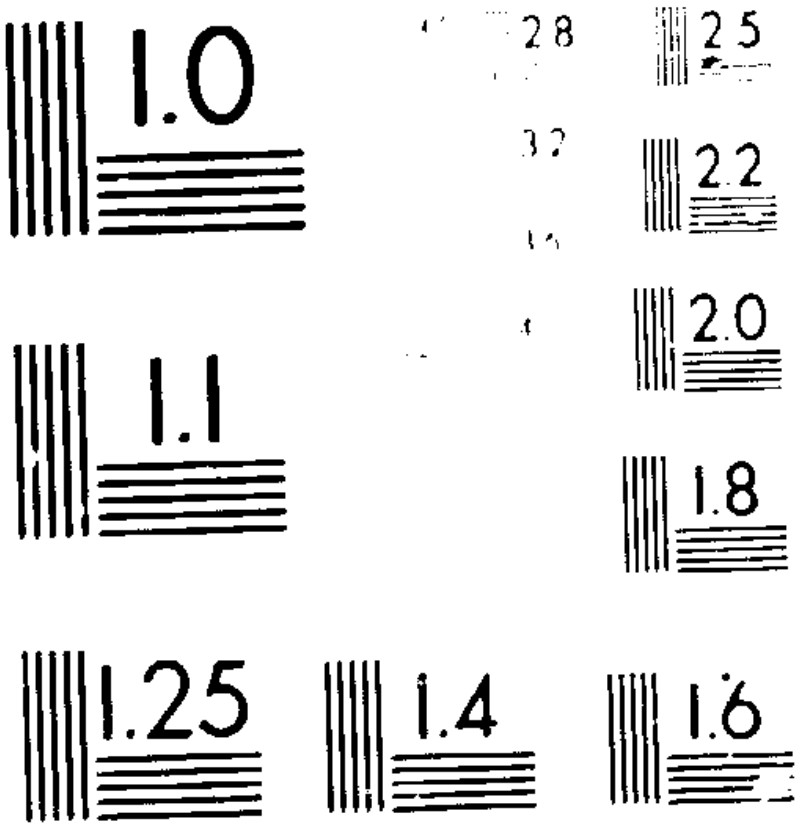
FAIR USE POLICY

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Tel: (+43-1) 26026-0 · www.unido.org · unido@unido.org



TIES NEWSLETTER

TECHNOLOGICAL INFORMATION EXCHANGE SYSTEM

SPECIAL ISSUE 12931 AUGUST 1985

Dear Reader,

I am pleased to introduce this special issue of the TIES Newsletter on the experience of Argentina in the acquisition of technology over the period 1977-1983. This study was prepared by the National Institute of Industrial Technology (INTI) and the Department of Science and Technology of the Ministry of Education and Justice and classifies the economic and technical data available on technology transfer and also refers to the main features of the legal framework in which this technology transfer took place. The study is a good example of the value of maintaining an information base on technology transfer agreements as promoted by TIES.

In this connection, I should like to mention that various countries such as China, Egypt and Greece have recently introduced changes in their legislation on technology transfer, or are in the process of establishing such legislation. In the near future we hope to provide our readers with more detailed information on such changes.

I should also like to take this opportunity to inform you that UNIDO has been converted to a specialized agency of the UN system and Mr. Domingo L. Siazon has been elected as the first Director General of UNIDO as a specialized agency. He succeeds Dr. Adb-El Rahman Khane from 1 September 1985. On behalf of all TIES members, I would like to thank Dr. Khane for the continuous support he has given to TIES, which under his guidance has developed into a substantial programme of UNIDO. I expect that the new Director General will continue to support the programme of TIES.

Yours sincerely,

G. S. Gouri
Director
Division for Industrial Studies

Compiled by the Technology Group of UNIDO P.O. Box 300, A-1400 Vienna, Austria

V.85 30242

CONTRACTS FOR IMPORTING TECHNOLOGY IN ARGENTINA 1977-1983

TABLE OF CONTENTS

INTRODUCTION

SUMMARY AND CONCLUSIONS

1. Technology transfer regulations before 1977
2. The legal situation in the period under review (1977-1983)
3. Trends in the contracting of foreign technology (1977-1983)
4. Sectorial distribution of contracts
5. Country of origin of the technology imported
6. Companies receiving technology
7. Duration of contracts
8. Royalties
9. Taxes on earnings from technology transfer remittances

INTRODUCTION

The period 1977-1983 was characterized by the de-restriction of the technology import market brought about by the economic and industrial policies pursued and the legislation on technology imports based on Act No. 21617 of 1977 and Act No. 22426 of 1981.

These Acts were founded on the principle that the State should not intervene in the technology market, the aim being to encourage the entry of technology into the country. Owing to this criterion, during the period under consideration, contracts were submitted to the application authority, the National Institute of Industrial Technology (INTI), with obviously inflated prices, irrelevant aims and contractual clauses encouraging practices that interfered with development of the receiving firms.

A perceptible deterioration in the application authority's provision of data accompanied this de-restriction. As from 1976, the INTI offered only partial statistical material, which was published primarily outside the country; the methods used to prepare this material were inadequate as well. Only part of the information contained in the contracts was systematized on the basis of Act No. 21617, as a result of which published statistical data is lacking at present on the number of contracts, estimated economic value, contractual objects, duration, royalty rates etc.

The dual purpose of this document is to make good shortcomings by providing quantitative information on technology transfer contracts concluded after the legislation governing these activities had been amended (1977) and to contribute factual data to the debate on the need for new technology transfer regulations.

The period under consideration begins on 25 August 1977, date of the passing of Act No. 21617, and ends on 31 December 1983, thereby embracing the period in which the above-mentioned Act was in force and the initial period of validity of Act No. 22426. In view of the scarce and inadequate primary data, the analysis was confined to contracts registered by the INTI as from that date, ie. it does not include those signed before August 1977 and extending into the period, nor does it consider authorized contracts which were amended or renewed, or those signed in or after 1981 and not examined by the INTI. In sum, the study classifies the economic and technical data available to the INTI on this subject and also refers to the main features of the legal framework in which technology transfer took place during the period.

This work is a joint product of the Division of Study and Research in Policies and Regulations governing Technology of the Department of Science and Technology (SECyT) and the Technology Transfer Office of the INTI.

Dr. Carlos M. Correa (SECyT) was in charge of co-ordinating the study, and the main authors were Luis Alberto Ravizzini (INTI) and Alicia Recalde (SECyT), who were assisted by Liliana L. Lasanta (INTI), Pablo Rojo (SECyT), Daniel N. Sacon (INTI) and Alejandra Turri (INTI). Juan C. del Bello (SECyT) helped prepare the final report.

The information was obtained on the basis of data available in the INTI's computer centre.

SUMMARY AND CONCLUSIONS

1. Act No. 21617, passed in August 1977, marked the starting point of policies that explicitly liberalized the import of foreign technology. This process was stepped up in March 1981 with the passing of Act No. 22426.

2. The legislation in force assigns to the application authority, the INTI, a role primarily restricted to that of a mere information office and dismantles the National Register of Licence Contracts and Technology Transfer (RNCLyTT), which has now become the Technology Transfer Office with reduced powers. The prior approval procedure became redundant for technological transactions between independent companies, and was retained only for transactions between associated firms (i.e. transactions between parent company and subsidiary). Although the evaluation of this latter type of transaction was maintained, the purpose of Act No. 22426 was to promote rather than restrict the flow of foreign exchange from the foreign subsidiaries to the parent companies through technology transfer.

3. A total of 2,497 contracts were recorded in the period 1977-1983, with an estimated value of 2,000 million current dollars. Contracts exhibited an upward trend in number and value until 1980-1981 and a drop in 1982 and 1983, when the figures were similar to those for 1979. The peak was observed in 1980 and 1981, with an average of more than 1 million dollars in remittances abroad per contract.

4. The sectors corresponding to the manufacture of metal products, machinery and equipment (sector 38) and the production of chemicals derived from petroleum and coal, rubber and plastic (35) account for more than 50 per cent of all contracts and their estimated value. Contracts for light and electric power, basic industrial chemicals and automobile production, the branches that registered the highest level of transactions, were examined separately.

5. The source of foreign technology by country is highly concentrated, because the United States and western Europe are the destination of an estimated 89.5 per cent of royalty remittances. The greatest number of contracts originate in the United States, a phenomenon largely due to transactions between subsidiaries linked economically with technology suppliers in that country.

6. Another feature of contracts concluded in 1977 and thereafter is that the main recipients of technology are private firms. Whereas public undertakings accounted for only 15.5 per cent of all contracts concluded in the period 1978-1983, the relative value of such contracts was higher, amounting to 27.5 per cent of the total estimated monetary payments called for under all the agreements registered in the period.

7. From another point of view, the independent local firms were the contracting agents for 85 per cent of the total number of contracts. Although the number of technology transfer contracts signed by associated firms is low, their value in current terms is significant, amounting to US$736 million, or 35.4 per cent of the total expenditure involved in all contracts. It should be pointed out that in the last year of the period (1983), this figure rose to 50.3 per cent, which indicates an increase in the number of intra-firm transactions.

8. Ninety per cent of all contracts have a duration of five years or less, with an average for the period in question of almost four years. The adoption of the more liberal Act No. 22426 (the second half of the period) led to a significant increase in contract duration, in particular for independent firms, which in 1983 signed for a duration of over five years in 20 per cent of all cases.

9. The liberalization of the legislation was also reflected in the gradual increase in royalty rates. Whereas for 1977 the weighted average rate was 3 per cent, at the end of the period (1983) it had reached 4.5 per cent. The greatest increase occurred in 1982 and 1983, after Act No. 22426 came into force.

10. The effective outflow of foreign exchange by way of royalty remittances rose to 1,700 million US dollars. This figure should be regarded as a minimum, because it does not include payments through other channels and outflow due to the freeing of the foreign exchange market, which items were listed under other headings in the Balance of Foreign Exchange Payments, thereby diluting the real value of the contracts. The rise in royalty remittances abroad was notable, estimated at some 1,187 per cent between 1976 and 1983. This percentage may be even higher if the foreign debt situation is considered.

11. The increase in remittances for technology imports contrasts noticeably with the decrease during the period in the gross domestic product, particularly in industry. Whereas the industrial GDP fell by 17 per cent between 1976 and 1983, expenditure on foreign technology increased nine times in the same period.

12. Argentina's level of expenditure on foreign technology also gives cause for great concern when compared with that of other Latin American countries. For example, remittances by Argentina in this sector were more than double those of Brazil, and whereas 0.33 per cent of Brazil's industrial GDP was spent on technology imports, such imports amounted to 3.3 per cent of Argentina's industrial GDP.

13. Lastly, empirical information shows that apart from the direct and indirect costs ensuing from the technology contracts signed under a legal regime of market liberalization there was also a drop in revenue following changes in the withholding taxes on the profits of technology transfer payments. When Acts No. 21617 and 21481 were passed, the effective withholding rate dropped from 36 per cent to 18 per cent for independent firms and from 45 per cent to 18 per cent for associated undertakings. It is estimated that for this reason, the public treasury lost a sum equal to about US$435 million for the period 1977-1983.

14. For all the above reasons it can be concluded that the regulations governing technology transfer in force between 1977 and the present have had costly economic consequences for the country, both in monetary and fiscal terms. Their very drafting disregards the entire experience accumulated in this area both in Argentina since 1971 and at international level in other developing countries. These regulations led to a spectacular increase in remittances abroad for technology, especially at intra-firm level, which may be attributed to some extent to actual imports of technical know-how or even to the enjoyment of fiscal and exchange advantages, against a background of de-industrialization and growing technological backwardness.

1. Technology transfer regulations before 1977 *

Argentina's first legal provisions governing technology transfer were embodied in Act No. 19231 promulgated in 1977 **, whose purpose was to admit foreign technology when such technology did not exist in the country or could not rapidly be obtained locally, at the same time ensuring that the cost of the licence and the conditions involved were in keeping with the national interest. To that end, the Act created the National Register of Licence and Technology Transfer Contracts (RNCLyTT) as part of the INTI, which had the power to register transactions and contracts subsequent to their evaluation as a condition for their legal validity. The RNCLyTT decided whether a technology transfer contract could be refused for reasons set out in the Act, although the Register was empowered to grant approval if it considered that the overall advantage of a contract made this advisable. Act No. 19231 did not establish a basis for calculating the royalties agreed on as payment for the technological assets transferred.

Until the end of 1972, the RNCLyTT automatically registered a total of 1,672 contracts concluded between local firms and foreign companies.

The second Technology Transfer Act, No. 20794, was passed in November 1974. Unlike its predecessor, it limited the discretionary powers of the application authority by setting not only optional but also mandatory grounds for refusal. While Act No. 20794 was in force, the royalty agreed to by the contracting parties could not exceed 5 per cent of the value of net sales, and the duration of the transaction could not exceed five years. For contracts between associated companies, the Act stipulated that payments in connection with the agreement were to be put on the same footing as profits in all respects, including taxation ***.

---

* Appendix 1 lists the main legal provisions regulating technology transfer between 1971 and the present.

** A local antecedent to the above-mentioned Act was the Act on the Reconversion of the Automotive Industry, No. 19135, which legislated on transactions in this industry and, inter alia, fixed a ceiling of 2 per cent of the net sales turnover as the maximum royalty rate. Act No. 16642 on pharmaceutical products and the decree containing regulations for its application may also be mentioned; this Act stipulated that royalties should not exceed 3 per cent of the production cost of the medicaments.

*** Associated companies are defined in accordance with article 3 of Act No. 21382 on foreign investments, article 9 of Act No. 21617 and article 2 of Act No. 22426, which provide that a local licensee company is considered to be "associated" when more than 49 per cent of the share capital belongs to the licensing company abroad.

2. The legal situation in the period under review (1977-1983)

Act No. 21617 was passed in August 1977 and regulated the matter until April 1981. It was then superseded by Act No. 22426, which is still in force.

Act No. 21617 exempted from regulation transactions regarded as military secrets and those relating to intellectual property rights. Transactions concluded between associated firms, when they involved no royalty payments, were exempt from the registration requirement, but were otherwise subject to the provisions of the Act. Transactions in connection with technical assistance and technical services were registered automatically, i.e. they did not require prior approval by the application authority.

With respect to contracts between associated firms, Act No. 21617 and its regulatory decree No. 1885/78 laid down that such contracts were to be regarded as concluded between independent parties, and payments were only excluded with regard to licences for trademarks.

With regard to monetary payment for the use of transferred technology, the Act assumed that the following prices were normal:

(a) Exclusive licence for trademarks: 1 per cent;

(b) Technology for the automotive industry: 2 per cent;

(c) Other sectors: 5 per cent.

As with Act No. 20794, net sales (turnover) were taken as the basis for applying the royalty rate, although as a departure from the earlier legislation, the deduction corresponding to the value of the input provided by the licensing company (by itself or by other companies assumed to be associated) is not included in the calculation.

Although Act No. 21617 maintained the National Register of Licence and Technology Transfer Contracts (RNCLyTT), the new rules were such that the Register was in fact deprived of its previous character.

Act No. 22426, adopted subsequently (and at present in force), liberalized the situation in this area even more by including a statement based on the concept that the import as such of foreign technology, independently of its use, objective and cost, is conducive to the economic and social development of the country. In essence, the liberal nature of the current regulations results in a passive role for the State confined to that of an information register. With regard to the contracts signed between independent parties, the system of registration requiring prior approval was abolished, i.e. the transaction is notified by the parties concerned solely for information purposes. Contracts between associated firms require prior approval. The absence of registration or approval prior to registration does not affect the legal validity of the transactions, although the ensuing payments are not tax deductable as expenses incurred by the technology recipient.

With regard to payments, the present regulations maintain the flexibility of the earlier system, although for purposes of assessing transactions between associated firms it is assumed (in the regulatory decree) that a royalty rate of not more than 5 per cent is normal and acceptable, regardless of its purpose or utility.

Net sales are declared to be the basis for applying royalty rates, with the same scope as that provided in the previous act.

Act No. 22426 eliminated the assignment of time limits for the validity of transactions. Lastly, this act abolished the RNCLyTT, which was replaced for practical purposes by the Technology Transfer Office, whose main duties were seen as the development of information systems and advice to those domestic undertakings interested in technology transfer contracts.

3. Trends in the contracting of foreign technology

The total number of new contracts registered amounted to 2,497 in the period under consideration. As can be seen in graph 1, the majority of the contracts were concluded in 1979, 1980 and 1981, a three-year period that accounted for 60 per cent of the total.

The estimated total value of transactions concluded throughout the period amounted to US$2,080,200,000 in current terms, or US$1,505,310,000 in constant 1977 terms. The figures correspond to estimates made by the contracting parties in respect of the whole contractual period upon submission of the contract to the INTI for registration or authorization. Consequently, they are not representative of the actual amount outstanding or paid under the agreements in question *.

The trend in the estimated values was similar to the pattern for the number of contracts, both in current and in constant dollars. Between 1978 and 1980, the total in current monetary terms increased by more than 268.42 per cent, and, in the same way as happened with the number of contracts, 1982 showed a marked drop in the total value of contracts.

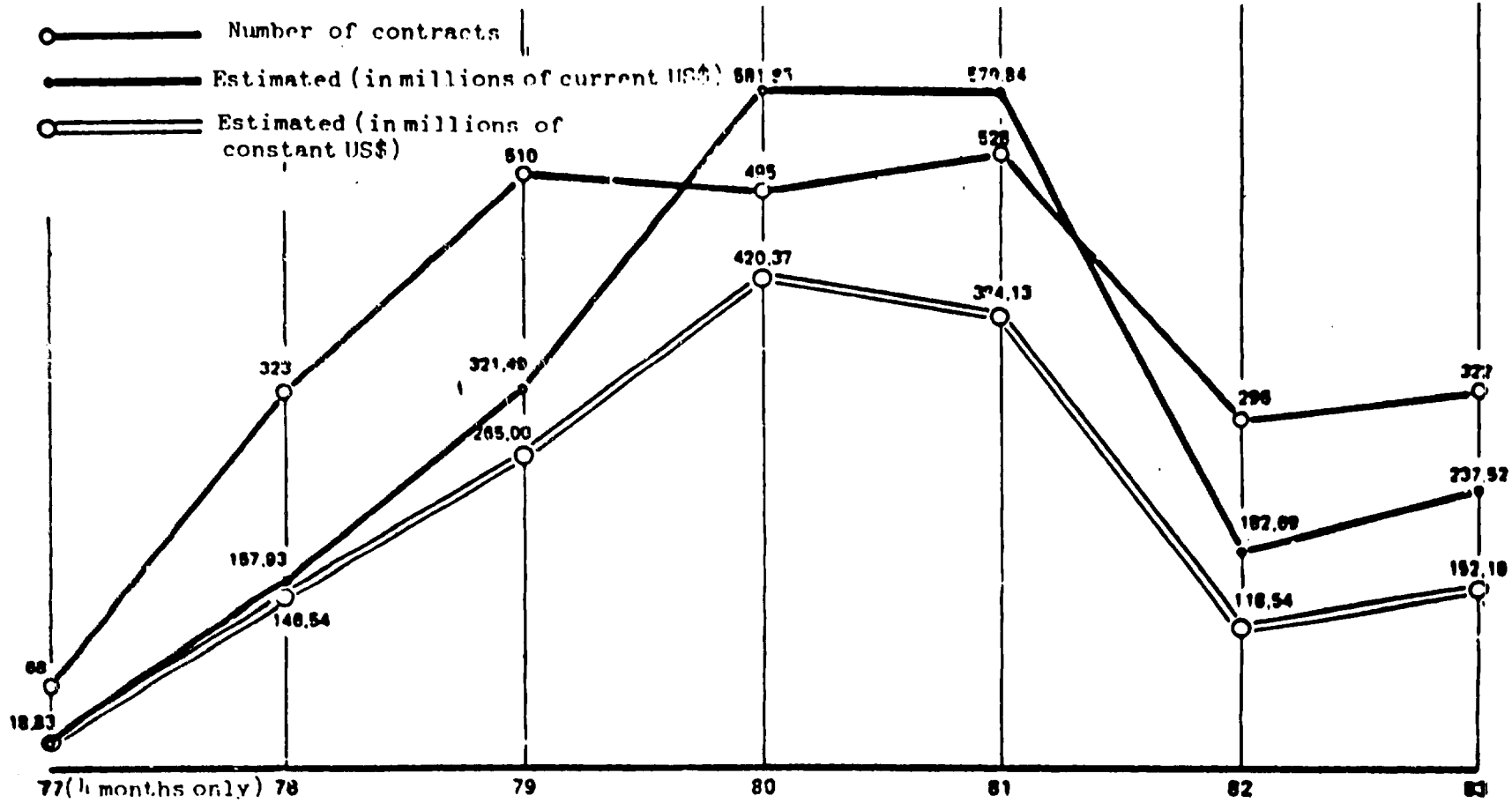
The average value per contract increased significantly between 1977 and 1980; the peak was reached in 1980 and 1981, when the average economic value of each contract exceeded one million current dollars. The simultaneous decrease in the number of contracts and in their value was reflected in the drop in the average amount per contract (US$610,000 in 1982 and US$730,000 in 1983).

---

* For calculating the value of the contracts, use was made of the data requested by the INTI of the contracting parties in the form of estimates of the total amount payable by them for technology transfers. The amount per contract is the sum of: (i) the fixed amount agreed upon in the legal instrument; (ii) the royalties, which are calculated by applying the agreed royalty rate to the estimated net value of sales of products manufactured with transferred technology; (iii) the estimated total cost of salaries and fees (technical assistance and technical services).

Graph 1

Trends in the contracting of foreign technology during the period 1977-1983



* The movement in constant monetary terms is obtained by correcting the amounts in current terms on the basis of the United States wholesale price index for non-agricultural products.

4. Sectorial distribution of contracts

Graph 2 shows the sectorial distribution of contracts registered in accordance with the ISIC, carried out to two decimal places and expressed in quantity and estimated value.

Two divisions, manufacture of metal products, machinery and equipment (38) and manufacture of chemicals and chemical products derived from petroleum and coal, rubber and plastic (35), accounted for approximately 55 per cent of all contracts, in its turn representing 57 per cent of the estimated total value of technological transactions in the period.

The other industrial branches taken individually account for less than 10 per cent, in terms both of the number of contracts and of their value.

Table 1 shows the ten main industrial branches that received foreign technology in the period. It can be seen that 51 per cent of the estimated total amount of return payments is concentrated in only ten industrial branches. Among these three groups stand out: (a) light and electric power, which account for 97.6 per cent in terms of value of the electricity, gas and steam division; (b) manufacture of basic industrial chemicals, which makes up 28.4 per cent of the value of transactions in the chemical products and substances division; (c) manufacture of automobiles, with 24.4 per cent of the value of transactions in the metal products, machinery and equipment division.

A number of particular aspects should be stressed with regard to the main industrial branches that received technology. Firstly, the importance of the public bodies as recipients of foreign technology in the light and electric power group; these contracts are primarily for advising on and supervising the installation of turbogenerators, transformers and other electromechanical equipment. Secondly, in the group covering the manufacture of office equipment, computers and accounting, the contracts for manufacturing auxiliary computer equipment are prominent. Thirdly, private and associated companies predominate as recipients of technology in the chemical and metal products divisions. Fourthly, in the foodstuffs, beverages and tobacco division, independent companies receiving technology are negligible in number in comparison with associated companies, and the preparation of milk products and the tobacco industry make up more than 60 per cent of the value of the division's technological transactions.

The annual trend in the estimated value of the contracts by economic sector is shown in graph 3. It can be seen that the trend reflects the same overall predominant tendencies, although the following remarks should be made: (a) the chemicals division (35) took the overall lead as from 1981, with an increase of close to 100 per cent between 1980 and 1981; (b) the substantial growth of divisions 38 and 35 continued in 1980 and 1981, when they had the largest number of contracts together with the greatest value.

5. Country of origin of the technology imported

Graph 4 shows the origin of the technology by exporting country, expressed in terms of the number of contracts and their estimated value. It can be seen that ten countries received more than 90 per cent of the foreign remittances, which demonstrates the high geographic concentration involved in the acquisition of foreign technology.

The United States stands out as a supplier of technology, with 40.79 per cent of all transactions being concluded with firms there; the Federal Republic of Germany comes second and France third.

Graph 2

Structure of technology transfer contracts by economic sector (1977-83)

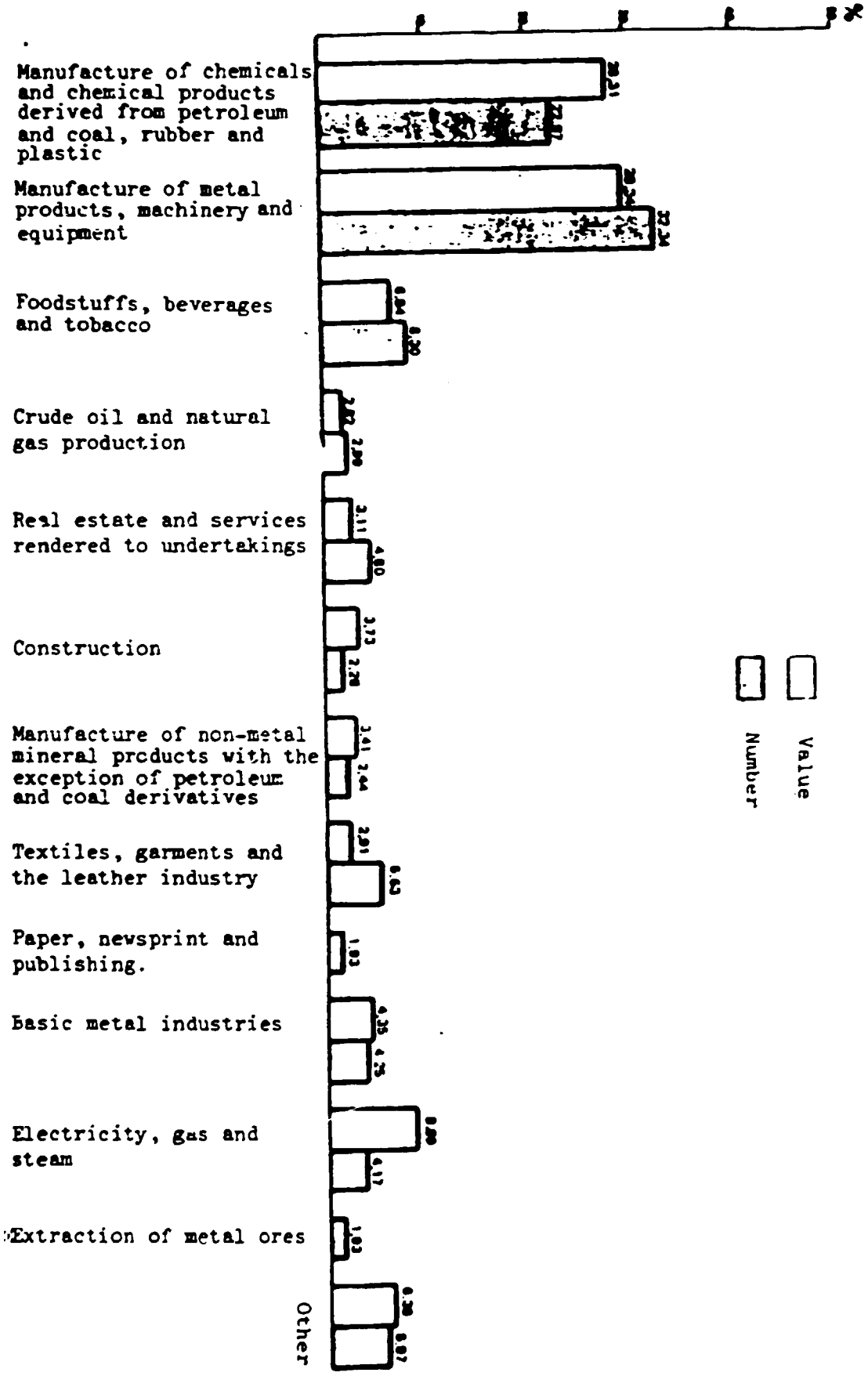


Table 1

Main industrial branches receiving foreign technology

	BRANCHES ISIC	Number	Estimated value of the contracts in millions of US$	Percentage of the value in the division	Percentage of overall total
1.	4101	Light and electric power	180.6	97.6	8.7
2.	3511	Manufacture of basic industrial chemicals except fertilizers	167.3	28.4	8.0
3.	3843	Manufacture of motor vehicles	148.7	24.3	7.2
4.	3522	Manufacture of pharmaceutical products and medicaments	102.0	17.2	4.9
5.	3530	Oil refineries	91.4	15.5	4.4
6.	3825	Production of office equipment, computers and accounting	80.0	13.2	3.8
7.	5000	Construction	77.6	100.0	3.7
8.	3829	Construction of machinery and equipment except electrical machinery	72.7	12.0	3.5
9.	3513	Plastics	68.7	11.7	3.3
10.	3710	Iron and steel	63.2	69.8	3.0
		TOTAL	1,052.20	---	51.0

SOURCE: INTI.

When analysing this variable according to the estimated value of the contracts, which is a logical approach, the United States again stands out, with 38.61 per cent of the estimated total value of the contracts. Switzerland is second, with 12.87 per cent of the total value, which is relatively high, because only 5.47 per cent of the technology contracts were signed with Swiss companies.

Some 2.74 per cent of the prospective foreign exchange outflow for technology contracts went to countries regarded as "tax havens", for example, Panama, Bermuda, Liechtenstein, Luxembourg, Barbados and Grand Cayman, which appear in the role of home of the main suppliers, although in reality the latter are located in advanced industrial countries.

The use of technology from socialist countries was very slight during this period, amounting to only 0.4 per cent of the total number of transactions and accounting for only 0.5 per cent of their total estimated value.

Graphs 5 and 6 indicate the origin of technology according to the type of recipient. Whereas both associated and independent local firms concluded contracts mainly with suppliers in the United States, this tendency is particularly marked in the case of associated companies, whose transactions with US firms accounted for 48.95 per cent of all their contracts, or the equivalent of approximately US$390 million. Independent companies signed 40 per cent of their foreign contracts with companies located in the United States, but the value of these contracts was equivalent to approximately 30 per cent of the outflow foreseen for this type of recipient.

To sum up, in terms of the economic value of the contracts, the United States and Canada accounted for 42 per cent, Western Europe for 51 per cent and the rest of the world, in particular Asia (primarily Japan) and Latin America, for 7 per cent of the total (see table 2).

6. Companies receiving technology

An initial analysis shows that in the period under review 84.5 per cent of the transactions were with private companies (table 3).

Although the number of contracts signed by public bodies was relatively low (15.5 per cent), their value was considerable, accounting for 27.5 per cent of estimated total remittances due from undertakings receiving technology.

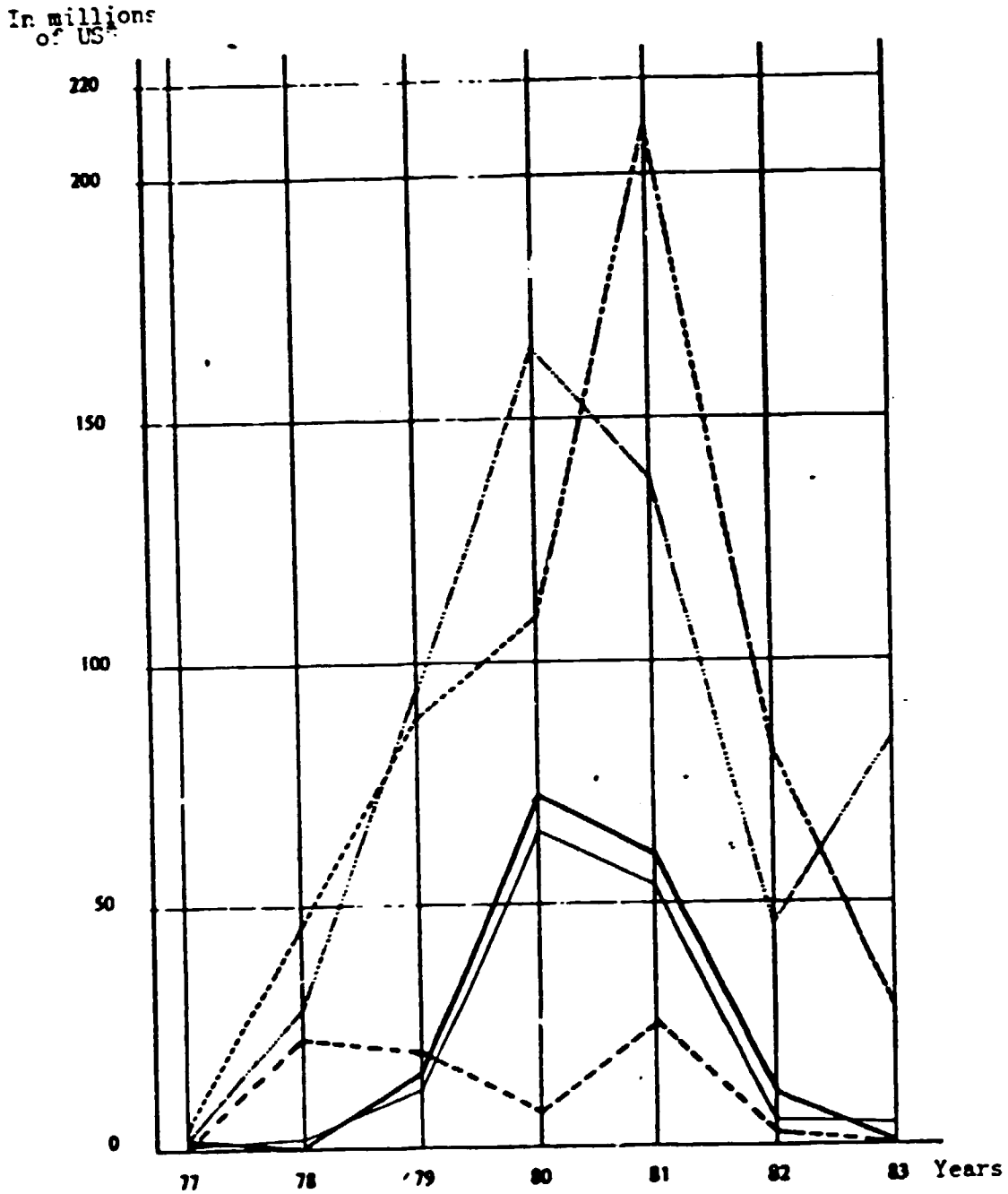
From another point of view, graph 7 and table 4 show that in the period under consideration, 85 per cent of all contracts were concluded by independent companies. The relative share of associated companies rose in 1979 and 1980, coinciding with an overall increase in transactions in those years.

Despite this clear predominance by the independent companies in the number of contracts signed, the value of contracts concluded between associated companies is relatively very high, particularly when it is considered that part of the intra-firm transactions appear as cost free (free assignment of rights or permission to use industrial property rights, especially trademarks). By way of comparison, associated firms signed 380 contracts, or 15.0 per cent of the total, with an estimated value of US$756 million or 35.4 per cent of the total value of all contracts in the period, expressed in current US dollars.

Furthermore, the enhanced role of associated firms, whose share of the estimated total value rose from 12 per cent in 1978 to 34.5 per cent in 1979 and 48.3 per cent in 1980, coincides with the substantial increases in the total number and value of transactions.

Graph 3

Annual trend in the value of technology transfer contracts by economic sector



—— Foodstuffs, beverages and tobacco

---- Manufacture of chemicals and chemical products derived from petroleum and coal, rubber and plastic

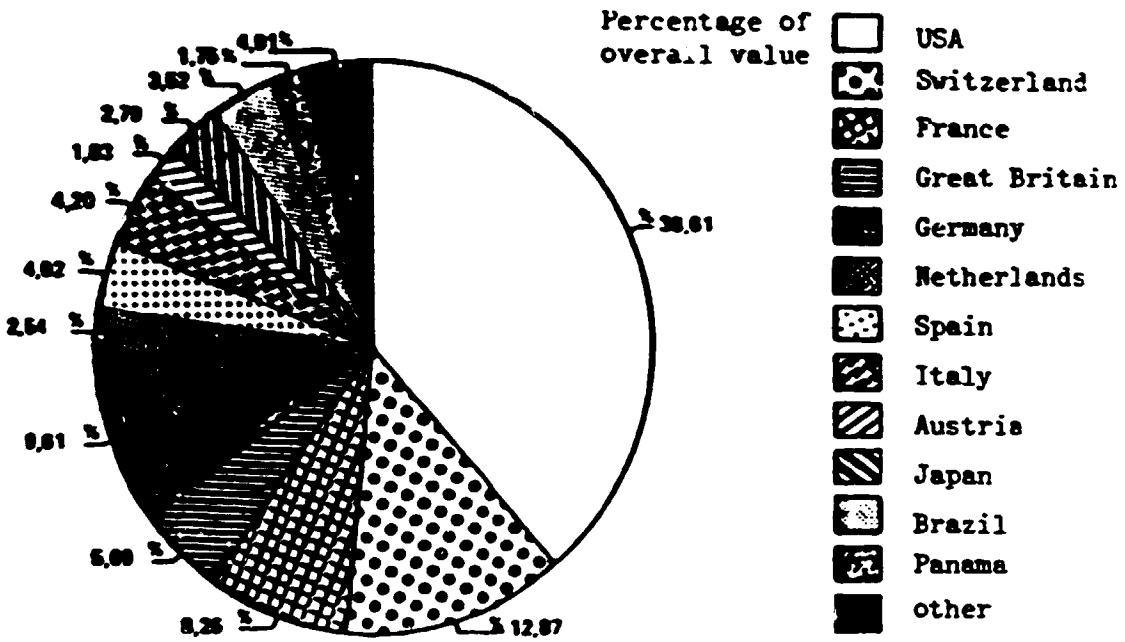
-·-· Manufacture of metal products, machinery and equipment

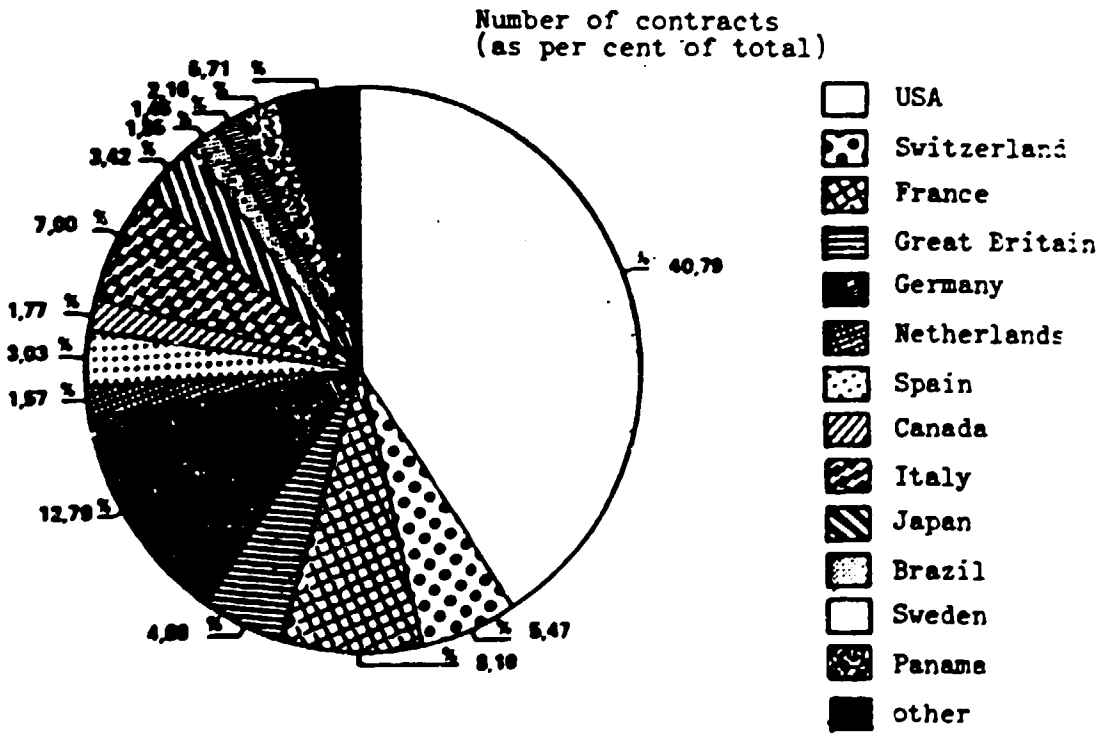
—— Electricity, gas and steam

- - - Real estate and services rendered to the undertakings

Graph 4

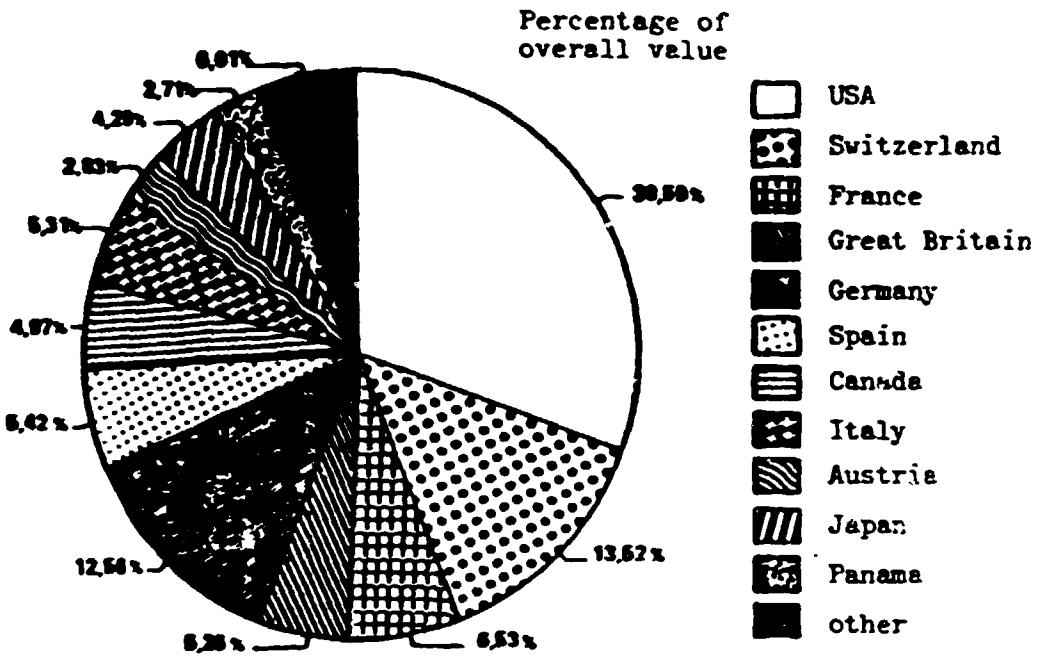
Origin of technology by country
Grand total (1977-83)

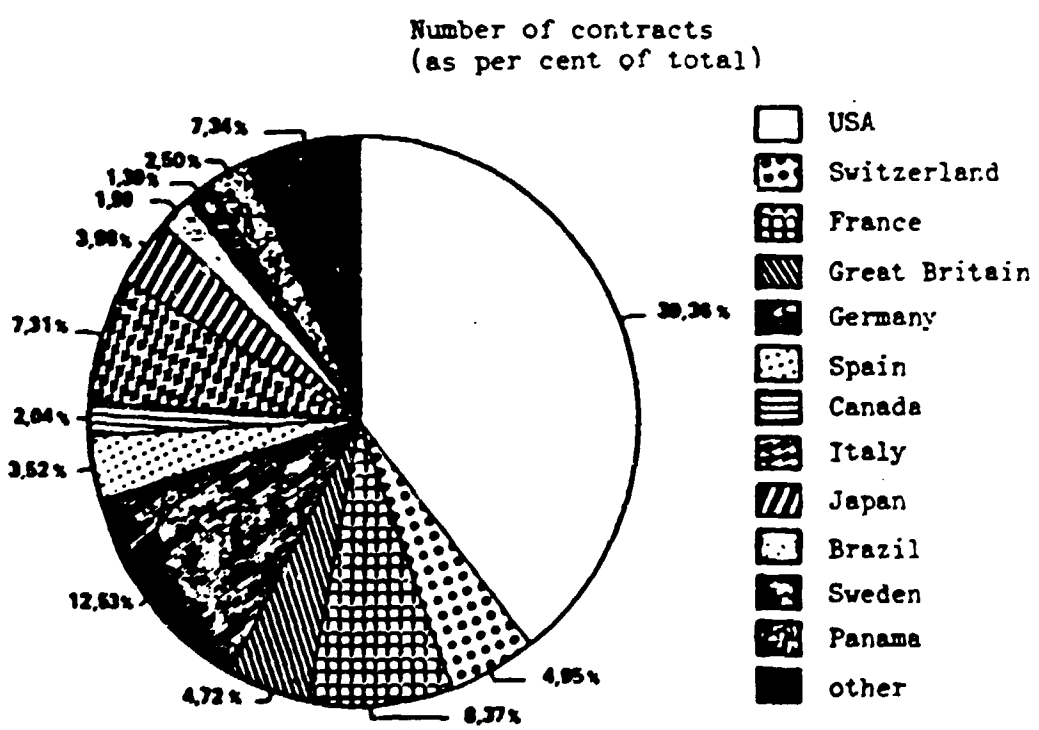




Graph 5

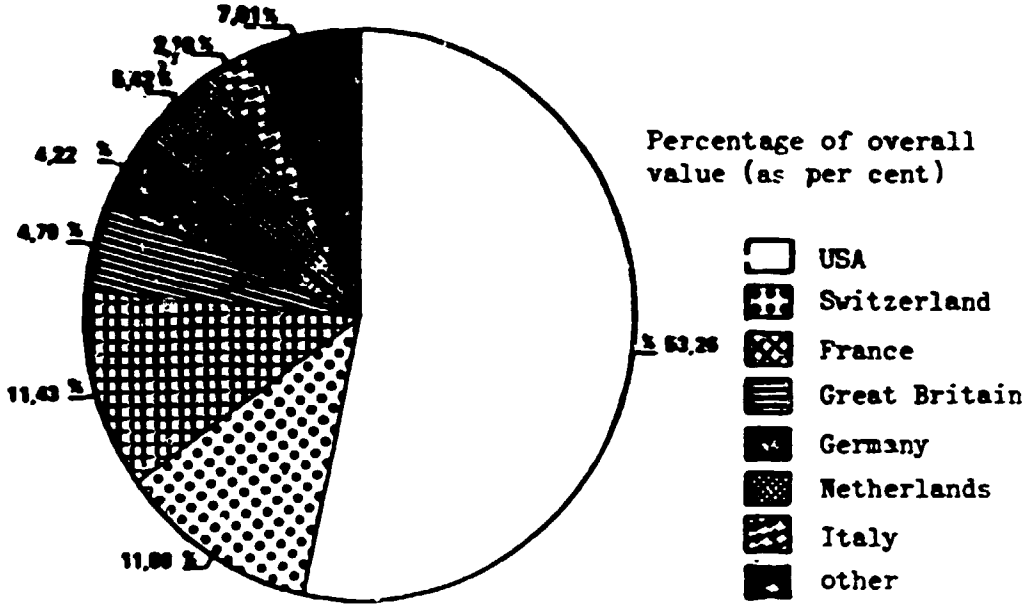
Independent companies, origin of technology by country
Grand total (1977-83)
Independent companies





Graph 6

Associated companies, origin of technology by country
Grand total (1977-83)
Associated companies



The relative decrease in the value of intra-firm transactions in 1981 and 1982 contrasts with the significant recovery in 1983, when for the first time in the entire period under review the intra-firm market accounted for more than 50 per cent of the estimated total value of all transactions (graph 8).

Taken together graphs 7 and 8 show that the average value of contracts signed by associated companies is higher than in the case of independent companies.

As can be seen in graph 9, the share of independent companies in the purchase of foreign technology predominates in all economic sectors with the exception of the foodstuffs, beverages and tobacco branch, in which associated companies have a strong lead over independent undertakings. This graph also shows the great importance of independent companies in the sub-sector electricity, gas and steam, which is on a level with the public bodies as a recipient of foreign technology.

Although both the independent and the associated companies are concentrated primarily in the chemical and metal engineering branches, the associated companies are almost exclusively in these branches, whereas the independent companies are to be found in practically all sectors.

7. Duration of contracts

Although the new legislation granted greater flexibility to the contracting parties in the matter of setting the duration of technology contracts, 90 per cent of the contracts signed during the period were for five years or less.

Ninety-five per cent of the contracts between associated companies were concluded for a term not exceeding five years.

Independent companies signed a relatively large number of contracts for one year or less, mainly for technical services; 32.79 per cent of the contracts provided for this duration.

Only 6.11 per cent of all contracts during the period 1977-1981 stipulated a duration of more than five years, and no significant differences were noted in this respect between independent and associated firms, although for the second half of the period (1981-83), this percentage increased significantly in the case of the independent companies. In those three years, 16.61 per cent of the independent companies concluded contracts with a duration of more than five years; such contracts were usually for ten years, although there were some cases of 20, 30 and even 50 years. This phenomenon coincides with the complete de-restriction of the market for independent companies through the passing of Act No. 22426.

With regard to associated firms, the contracts whose terms exceeded five years included industrial property rights as their main contractual features.

Table 5 shows the average duration of contracts for independent and for associated companies. In 1978, average contract duration grew by approximately 80 per cent compared with 1977, continued to increase in 1979 and for the rest of the review period remained virtually unchanged at approximately four years.

Another interesting aspect is the analysis of contract duration in terms of estimated value. 85.63 per cent of the total value of contracts between associated companies related to transactions with a duration of four to five years, whereas this figure fell to 46.99 per cent for contracts signed by independent companies. Contracts with a duration of less than one year accounted for 3.5 per cent of the total value of contracts between associated undertakings and 9.66 per cent for those concluded by independent firms.

Table 2

Origin of technology by region: value and number of contracts

(in per cent)

Regions	Percentage of value	Percentage of contracts
Western Europe	50.9	47.2
USA and Canada	42.1	42.6
Latin America	3.6	5.8
Asia and Oceania	2.9	3.9
Socialist countries	0.5	0.4
Africa	0.0	0.1
TOTAL	100.0	100.0

SOURCE: INTI

Table 3

Participation by public and private undertakings in the the purchase of technology, 1978-1983

(in millions of US dollars and per cent)

Undertakings	Number of contracts	%	Estimated value	%
Public	383	15.5	566	27.5
Private	2,091	84.5	1,492	72.5
TOTAL	2,474	100.0	2,058	100.0

SOURCE: INTI

Graph 7

Annual trend in the number of technology transfer contracts signed by associated and by independent companies

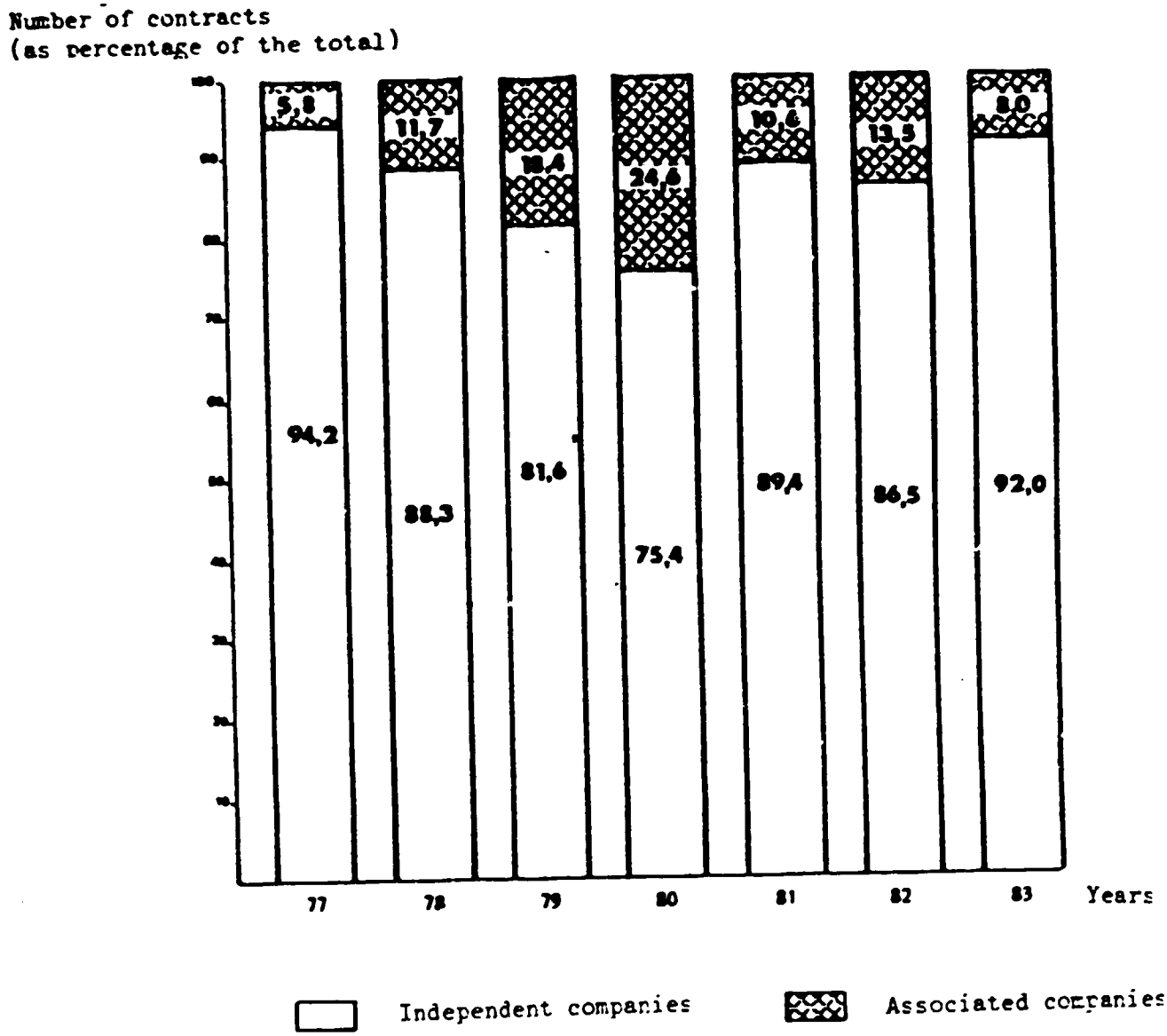


Table 4

Number of contracts broken down by period and by type of company

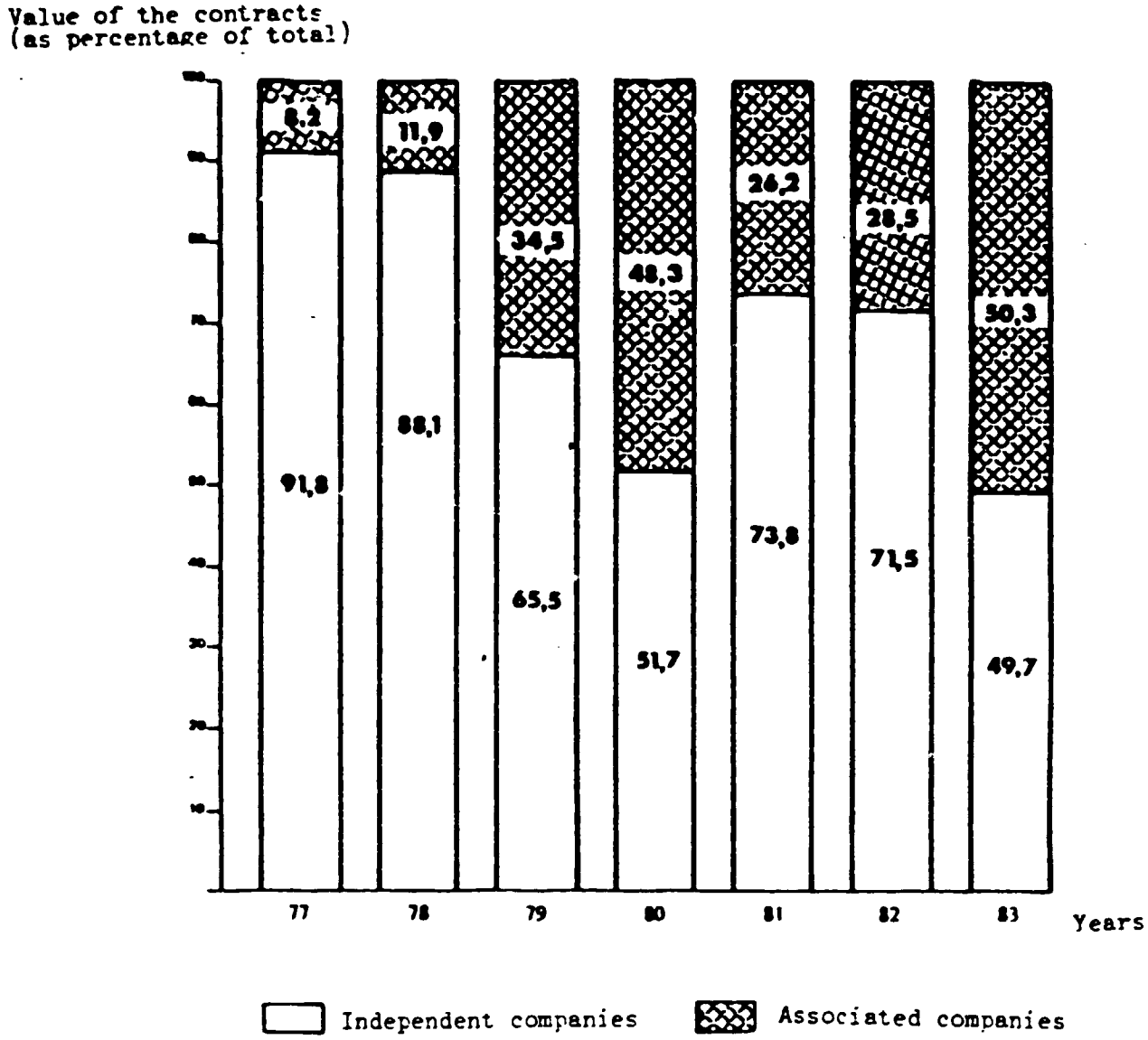
(in per cent)

Companies	1977/1981 (Act No. 21617)	1981-1983 (Act No. 22426)	TOTAL (1977-1983)
Associated companies	19	9	15
Independent companies	81	91	85
TOTAL	100	100	100

SOURCE: INTI

Graph 8

Annual trend in the estimated value of technology transfer contracts signed by associated and independent companies



Graph 9

Breakdown by economic sector of technology purchases by associated and independent companies (1977-83)

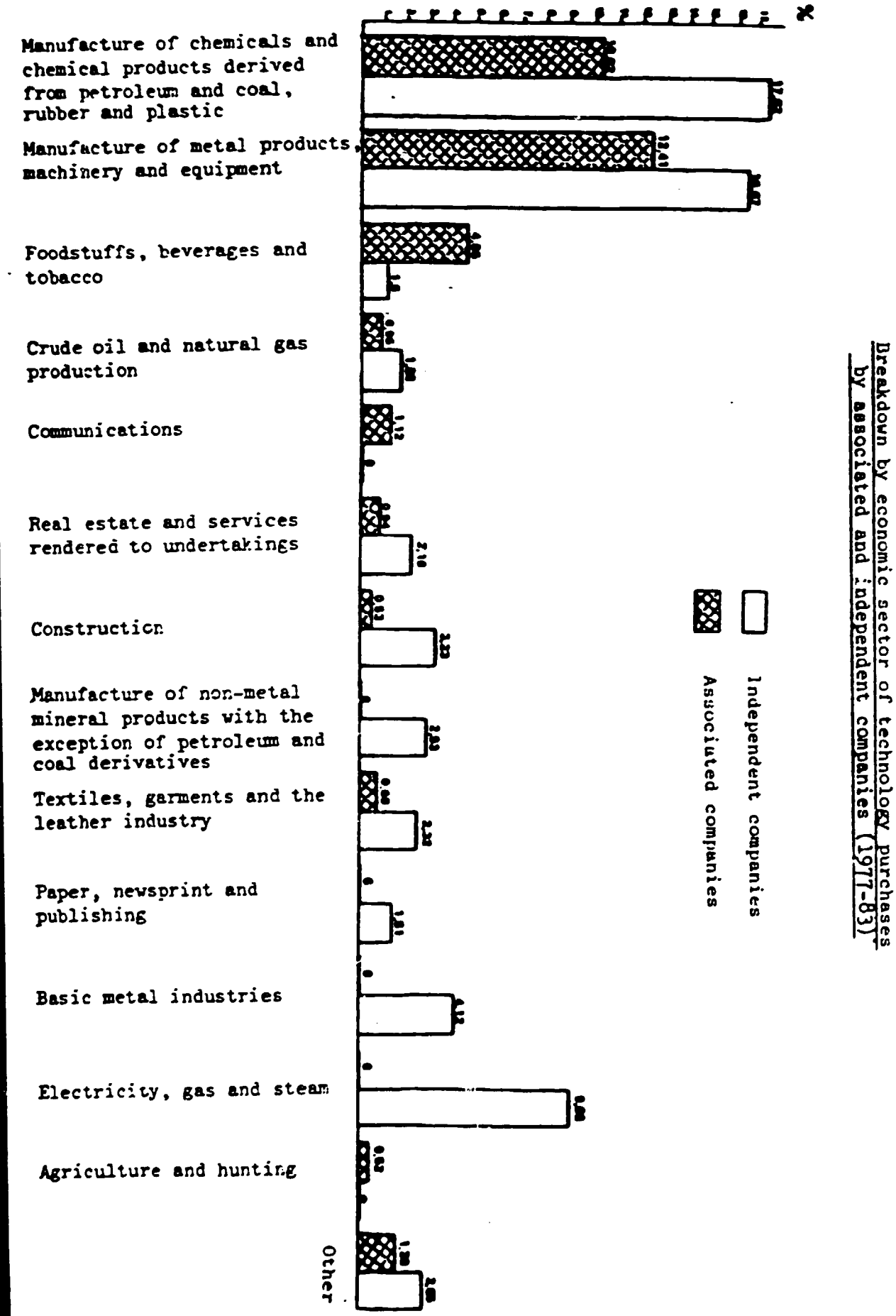


Table 5

Average duration of new contracts depending on type of recipient

(in months)

Year	Total	Contracts between companies	
		Independent	Associated
1977	21	19	52
1978	38	36	55
1979	46	45	52
1980	46	42	59
1981	45	44	54
1982	49	47	55
1983	47	46	55
TOTAL	45	43	55

SOURCE: INTI

8. Royalties

Table 6 shows the yearly average royalty rates, weighted for value, in respect of contracts signed by independent and associated companies during the period.

An upward trend was observed in royalty rates over the period. Whereas in 1977 the weighted average rate was 3 per cent, by the end of the period (1983) it had risen to 4.5 per cent, representing a 50 per cent increase.

The greatest growth took place in 1982 and 1983, the period of full application of Act No. 22426, which led to a general freeing of technology imports. If the royalty rates as fixed are compared with estimated total royalties paid, it can be said that although a drop in overall payments began in 1982 (reversing the upward trend observed between 1977 and 1981), at the same time there was a relative increase in the value of the imported technology.

The analysis by type of recipient shows, on the one hand, an increase in rates agreed for independent firms in 1982 and 1983, which was closely related to the abolition of the prior approval procedure up to then applicable to this type of firm; this obviously had an adverse effect on the negotiating position of such firms, in particular the national companies. On the other hand, associated companies' royalty rates ranged around 3 per cent between 1977 and 1982, before increasing to 4.8 per cent in 1983, which affected the overall weighted average of the rates agreed. This increase reflects a greater use of technology payments as a channel for remitting profits, with considerable fiscal savings for the receiving firm and a significant transfer of revenues to the parent companies abroad.

Until now, the value of the contracts has been estimated on the basis of the total figure for royalties that the contracting parties submitted to the INCI for the duration of each contract.

Table 7 shows actual annual outflow based on data provided by the Central Bank on royalties, which between 1977 and 1983 climbed to US$1,687.4 million. It should be pointed out that half of the outflow during the period occurred in the last two years (1982 and 1983).

Outflow during the period 1977-1983 was much higher than in 1970-1976; whereas for the period 1970-1976, average annual outflow was US$69.3 million in current terms, the figure rose to US$241 million in current terms for the later period, which contrasts with the noticeable drop in the industrial gross domestic product.

According to INDEC statistics, the industrial gross domestic product for 1976-1983 fell by some 19.65 per cent. Nevertheless, remittances abroad in the form of royalties grew by some 1,137 per cent during the same period.

This headlong growth in foreign remittances for technology imports registered a particularly spectacular jump in 1978, when the increase was 188 per cent. Quantitatively speaking, however, the greatest increases were in 1982 and 1983, exceeding 100 million dollars in spite of the recession that the manufacturing sector was experiencing at the time.

Table 6

Average royalty rates by economic value, depending on type of recipient 1977-1983

(as percentage of contract value)

Recipient	1977	1978	1979	1980	1981	1982	1983	Total average
Independent companies	4.9	3 8	3.3	3.9	4.3	5.0	4.0	4.0
Associated companies	3.0	2.6	3.4	3.3	3.1	2.9	4.8	3.5
Overall	3.0	3.2	3.4	3.5	3.6	4.0	4.5	3.7

SOURCE: INTI

Table 7

Effective outflow in terms of royalties *
in millions of current dollars and in per cent

Year	Outflow **	%	Annual growth rate
1977	51.4	3.0	
1978	148.2	8.8	188.3
1979	156.7	9.3	5.7
1980	239.2	14.2	52.6
1981	246.9	14.6	3.2
1982	361.1	21.4	46.3
1983	483.9	28.7	34.0
TOTAL	1,687.4	100.0	

SOURCE: Central Bank of the Republic of Argentina

* Includes all types of technical services.

** Includes only foreign currency transactions and payments made with "Bonos Externos" (foreign vouchers).

The level of Argentina's remittances for foreign technology also gives cause for great concern when compared with that of other Latin American countries. When foreign currency outflow from Argentina and Brazil in respect of technology imports are compared it can be seen that as from 1981, when the recession in Argentina had reached its peak, remittances abroad for technology were almost twice as high as in the case of Brazil. Proportionally, the discrepancy is even greater, for while Brazil spent 0.33 per cent of its industrial gross domestic product on importing technology, for Argentina this figure reached 3.3 per cent.

9. Taxes on earnings from technology transfer remittances

The Revenue Taxes Act, 1972, is the first tax legislation which refers to registration of technology transfer agreements with the RNCLyTT. *

The resulting effective rate of withholding was then 32.8 per cent. From 1974, with the Taxation of Earnings Act No. 20628, the effective withholding rate was fixed at 36 per cent. ** These regulations were modified by Act No. 21418 of 30 December 1976, which deemed the net profit of the foreign beneficiary to be 40 per cent of the amounts paid for services included in agreements covered by the Technology Transfer Act which comply with the requirements established in that Act. As a result of this amendment, the effective withholding rate fell from 36 per cent to 18 per cent for independent companies, while for associated companies it remained at 45 per cent until Technology Transfer Act No. 21617/77 was passed, making the effective rate of 18 per cent universal.

Table 8 shows the evolution of withholding rates from the beginning of technology regulation in Argentina. Bearing in mind that the amount of royalties paid reached US$1,687.4 million, between 1977 and 1983 the value thus attributable to taxation on earnings was US$370.4 million, where the effective withholding rate was maintained at 36 per cent for independent companies and 45 per cent for associated companies, as was the case prior to 1977 and assuming that the amount of actual remittances by the associated and independent companies was equal to the estimated amounts submitted by the parties to the INTI. It is then estimated that the Treasury failed to collect, between 1978 and 1983, approximately US$435.3 million (US$270.8 million from independent companies and US$194.5 million from associated ones).

---

* Article 5 of this Act states: "When any class of revenue is paid or credited to firms or companies registered abroad or any foreign beneficiary, or their attorneys, agents, representatives or any other authorized person in the country, the person paying or crediting the revenue shall withhold or pay definitively to the authorities 41 per cent. Where sums arising out of the situations envisaged in article 2 of Act No. 19231 are involved, in the absence of contrary proof being accepted, the net taxable revenue will be deemed to be 80 per cent of the sums paid or credited ...".

** For associated companies this was 45 per cent under the Technology Transfer Act.

Table 8

Evolution of withholding rates for taxation of earnings

Period	Tax legislation in force	Net profit	Withholding rate independent	Withholding rate associated	Effective withholding rate independent	Effective withholding rate associated	Technology transfer legislation
1972/73	19409/71 enacted 1972	80%	41%	41%	32.8%	32.8%	19.231/71
1974	20628/73	80%	45% Additional 20%	45% Additional 20%	43.2%	54% 1/	19231/71-20794/74
1975/76	20628/73	80%	45%	45%	36%	45%	20.794/74
1977	20.628/73 amended 21.481/76	40%	45%	45%	18% 18%	45% 18%	20.794/74 21.617/77
1978/80	20.628/73 amended 21.481/76	40%	45%	45%	18%	18%	20.794/74 21.617/77
1981/83	20.628/73 amended 21.481/76	40%	45%	45%	18% R 2/ 45% No R	18% I 3/ 45% No I	22.426/81
1984	20.628/73 amended 21.481/76	40%	45% 4/ Additional 20%	45% 4/ Additional 20%	21.6% R 54% No R	21.6% I 54% No I	22.426/81

SOURCE: INTI

1/ In the period 74/77 remittances relating to technology transfer under agreements between associated companies received a different treatment from that laid down under the earnings legislation, by virtue of the provisions in article 14 of Technology Transfer Act No. 20794/74 which stated that any remittance in respect of technology arising from agreements between associated companies would be deemed for all purposes to be profits the full amount of which was taxable at the rate of 45 per cent.

2/ R: registered. No R: not registered.

3/ I: registered with RNCLyTT. No I: not registered with RNCLyTT.

4/ The additional 20 per cent (emergency surcharge on taxation of earnings) is applied under Act No. 22915 of 15 September 1983 for periods of account ending between 31 August 1983 and 31 July 1984.

ANNEX I

PRINCIPAL ACTS, DECREES AND RESOLUTIONS ON TECHNOLOGY TRANSFER (1971-83)

Act No. 19231, Establishment of Technology Transfer Register 21.9.71, repealed 5.11.74

Legislative Decree No. 6187/71. Provision implementing SEDI Resolution 119/73. Governs the layout of the model contract recommended by RNCLyTT and establishes limits on royalties.

Decree No. 953/73. Conditions governing contracts signed before the passing of Act No. 19231 under which they are required to fulfil certain minimum requirements. 27.12.73

SEDI Resolution 119/73. Minimum requirements for the application of Decree No. 956/73.

Decree No. 146/74. Extends the final date for presentation of the model contract 17.6.74

Decree No. 1125/74. Sets out exceptional regulations for contracts signed within the public sector.

Act No. 20794. Foreign technology transfer. 6.11.74, repealed 24.8.77

Act No. 21617. Technology transfer. 25.8.77, repealed 1.4.81

Act No. 21879 (B.O. 22.8.78). Amends article 9 of Act No. 21617 (associated companies). Includes an additional article fixing the manner of calculation of registration fees charged by RNCLyTT.

Decree No. 1885/78 (B.O. 22.8.78). Decree regulating Act No. 21617.

SST Resolution 87/79. Refers to associated-company technology transfer contracts or those arising from Act No. 21778 (petroleum risk). Provides that in such cases the opinion of the Secretariat of State for Energy will carry particular weight.

SST Resolutions 26/79 and 41/79. Provide that in those agreements involving the National Atomic Energy Commission, the views of the latter will carry special weight when the agreements are evaluated.

SST Resolutions 27/79 and 31/79. Statement on certification of signatures and accreditation of persons in order to simplify the administrative procedure.

SST Resolution 28/79. Provides that the duration of the registration certificates shall be equivalent to the duration of the registered legal document.

SST Resolution 58/79. Provides that when the royalty rates exceed the values set out in Act No. 21617, the agreed royalties will not be enforceable.

SS Resolution 7/80 (B.O. 14.180). Provides that technical service contracts only come within the scope of Act No. 21617 if they envisage (in addition to the performance of the service) the transfer of know-how.

Memorandum 101/79 (31.7.79). This is an interpretation of the text of article 10 subparagraph (d) of Act No. 21617 undertaken by the application authority. It means in practice that a contract can include royalties of 5 per cent of turnover in respect of use of technology and in addition 1 per cent of turnover for the licence to use trademarks, which raises the maximum limit from 5 to 6 per cent of turnover.

SST Resolution 211/77 (B.O. 4.1.78). Lays down conditions for the automatic extension of registered contracts until 31.12.79.

SST Resolution 121/78 (B.O. 4.4.78). Extends the time limit for submission of contracts to 3.6.78.

Act No. 22426. Transfer of Technology 1.4.81.

Decree No. 580. Regulations under Act No. 22426. 25.3.81.