THE TECHNOLOGICAL DIMENSION OF ECONOMIC GLOBALIZATION. CASE STUDY: JALISCO

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INTRODUCTION

Although the relation between technological change and economic development is important in the context of a global restructuring of the economy, there are no studies to date of the features of technological development and economic performance in the state of Jalisco. So in this chapter the main features of the reach of the technological revolution in the manufacturing industry of Jalisco are identified and analysed. It is hoped that this work will contribute to filling the gap in the analysis of the region and offer a methodology which could be used in analysing other individual regional areas.

I believe this topic is relevant to the rest of the book because an important consideration in designing policies of technological development is precisely the proposal to establish systems of regional innovation in the form of networks of cooperation between the participating agents.

In the first part of this article the features of the technological dimension of the economic restructuring in Mexico are analysed, and then, in the second part, the range of the technological development in the manufacturing industries of the west of Mexico is determined on the basis of three considerations: a) on the potential these industries have for participating in the development of new technologies; b) on where computer equipment and microelectronic parts are produced and where other activities connected with high technology occur; and c) on the introduction and use of microelectronics and other

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technological developments in local production processes. Finally, the third part draws some conclusions.

I Globalization and technology in semi-industrialised countries: and specifically in Mexico.

The globalization of the economy is promoting and is itself being promoted by the new techno-economic paradigm; and within this paradigm the development of technologies of information and communication (ICT) is constantly becoming the main factor in determining the capacity of a nation, of a sector or of companies to compete in national and international markets without losing high levels of pay. The range of these ICT is differentiated; that is to say, the process of selection and implementation of technically feasible innovations takes place in a differential manner both at the level of sectors and at the level of regions.

It may be deduced from the literature on the subject (see Rada, 1983 and Rodriguez, 1994) that on the whole the implications of the change and expansion brought about by the ICT in developing nations are expressed in three particular effects:

i) The potential for participating in the development of the new technologies and the skills required for them. According to Rodriguez (1994), some analysts argue that periods of technological transition provide a particularly favourable opportunity for developing nations to take advantage of the discontinuity in the progress of technology during the period in which the dynamic sectors of the developed nations are still adapting to the changes. However, it should be noted that the markets for technology are oligopolistic and the development of technology requires a great

effort to be put into research and development, and scientific and technological infrastructure is also needed to develop such potential.

ii) A second effect of the ICT has been to move the production of computers and microelectronic parts for export to semi industrialised countries. This, primary, production was moved to places with cheap labour and later, especially to middle income countries such as the four Asian tigers, plus India, Thailand, Malasia, the Philippines, Brazil, Mexico and Colombia, which between them receive three quarters of all the United States invest in microelectronic industries (Stewart, 1990). Nevertheless, as production has become more automated, the intensive use of human labour has become less important and the cost of wages has come down; also, there has been a tendency for the companies to join up in networks with systems of just on time delivery and greater flexibility which allows the big producers to withdraw a significant proportion of their production processes from where they were stationed abroad - with the result that there might be a counter tendency to that of siting the production of these technologies in moderately industrialised countries such as those mentioned above.

iii) The third effect of the ICT is seen in the introduction and use of microelectronic and other technological developments in local production processes. New technological developments are widely available and have become much cheaper and this has made it easier for them to be incorporated extensively over large areas of the world. However, as such incorporation requires new design, maintenance and administration skills, and complementary infrastructure such as telephone systems

and reliable electricity supplies - requirements which it is not possible to meet in countries which are less than moderately industrialized - it is only in some countries that these new technologies are adopted at all.

Thus in order to identify the challenges and opportunities presented by the technological revolution in Mexico, in the context of the implications of the change and expansion of Information and Communication Technologies in semi industrialized countries, it will be necessary to describe the three principal effects already mentioned as they apply to Mexican manufacturing industries. These effects are: a) the development of new technologies, b) production with high technology activities and c) the introduction and use of microelectronic and other technological developments in local production processes, especially in manufacturing. The description which follows of the features of these effects as reflected in Mexico is necessary in order to contextualize the study of Jalisco.

a) The development of new technologies.

To estimate the potential a country has for participating in the development of the new technologies, and the skills required by them, one of the first things to note is the scale of the quantified technological effort, basically through estimating the amounts spent on research and development (R&D). The reason it is necessary to start with the sums of money spent on R&D is that a technological effort has to be made not just to implement these innovations, but even to adopt them in the first place. The traditional idea of innovation built in to the creation or the purchase of capital goods has been replaced by the idea which emphasises innovation generated by R&D.

In order to gain a more specific comparative view of this phenomenon in Mexico and other countries, the indicator I use is the expenditure on R&D with respect to the GDP. Table 1 gives the figures for members of the OECD, of whom Mexico is one.

TABLE 1
PROPORTION OF GDP SPENT ON R&D
- SOME OECD COUNTRIES-

	1975	1981	1985	1990	1993
ESTADOS UNIDOS	2,3	2,4	2,9	2,8	2,7
CANADA	1,1	1,2	1,4	1,5	1,5
MEXICO	..	..	..	..	0,3
TOTAL OECD	..	2	2,3	2,4	2,2

SOURCE: SCIENCE, TECHNOLOGY AND INDUSTRY OUTLOOK, 1996. OECD.

Table 1 shows that for the OECD as a whole, the average amount spent on R&D has been 2.2 per cent of the gross domestic product in the last two or three decades. The amount spent on R&D in Mexico over this period is hardly 0.3 % of the GDP, the lowest figure in the OECD.

To measure the potential any nation has for research, a common indicator is the number of researchers per 10,000 population. As can be seen in table 2, Mexico has only 3, whereas the OECD average is 58.

TABLE 2
RESEARCHERS PER TEN THOUSAND EMPLOYEES - SOME OECD COUNTRIES

	1985	1993
ESTADOS UNIDOS	68	74
CANADA	42	47*
MEXICO	..	3
TOTAL OECD	50	58

* 1991

SOURCE: SCIENCE, TECHNOLOGY AND INDUSTRY OUTLOOK, 1996. OECD.

These figures tell us that the potential for developing new technologies and then incorporating them into productive activities is very limited not only for the economy as a whole but it also appears to be limited in the case of high technology activities.

In fact if we calculate the percentage participation in the total of value added according to each technological group, using the OECD definitions, - see Annex A which classifies activities by size of GDP in relation to their product, and whose results are presented in tables 3 and 4 - we can observe that the participation of the group classified as high technology in the total of the value added in manufacturing in Mexico is very limited, in comparison with the size of the participation for OECD countries taken as a whole. Also, for Mexico, the participation of medium technology is below that shown for the OECD countries on average.

TABLE 3
ALL OECD OUNTRIES
PARTICIPATION OF VALUE ADDED BY TECHNOLOGY GROUP

TECHNOLOGICAL GROUP	1980	1994
High technology	16.8	20.6
Intermediate technology	30.8	30.9
Low technology	52.4	48.5

SOURCE: OECD, 1996a.

TABLE 4
MEXICO
PARTICIPATION OF VALUE ADDED BY TECHNOLOGICAL GROUP

TECHNOLOGICAL GROUP	1980	1994
High technology	8.5	9.1
Intermediate technology	25.1	27.0
Low technology	66.4	63.9

SOURCE: OECD, 1996a.

Nevertheless, it may be inferred from the findings of Corona (1997) from a survey of innovative companies,[2] that from 1985 onwards, a sustained growth may be seen in the number of such companies.

In table 5, the companies included in this survey are listed according to the dates during which they started to operate. From table 5 it can be seen that it is from 1985 onwards that the number of innovative companies begins to increase significantly. In fact, we may

2 Innovative companies are defined by Corona (1997:13) as those which base their competitivity on technological innovations and sell products and services supported by technological mastery maintained through research and development activities and services.

observe that between 1991 and 1995, 45 companies of this kind were started, amounting to almost 30 per cent of the sample. This analysis could be read as showing that although the conditions for developing new technologies are limited, there are signs that for some companies the new technology is beginning to take off.

TABLE 5
MEXICO
INNOVATIVE COMPANIES
CLASSIFIED BY DATE OF STARTING UP

	NUMBER OF COMPANIES	ACCUMULATED PERCENTAGE
1928-1950	8	6.6
1951-1960	21	23.9
1961-1970	6	28.8
1971-1980	9	36.2
1981-1984	11	45.2
1985-1990	32	71.6
1991-1995	45	100.0
TOTAL	121	

Source: own calculations based on Corona (1997).

b) Production in high tec activities

With regard to the second effect of the technological revolution, which we have identified as the relocation in semi-industrialised nations of the production of computer equipment and microelectronic parts for export or for local consumption, it is known that the production of devices related to electronics has been outstandingly dynamic. In fact, from the calculation by technological group, of participation in the value added, as previously explained, it can be seen that there is actually an increase in the share of the activities classed as high technology, which includes activities related to electronics. The share of

these high tec activities in the total of the value added in manufacturing has gone up from 8.5 per cent in 1980 to 9.1 in 1994. See table 4.

c) Adopting new technologies.

As for the third effect of the technological revolution, which we identified as the introduction and use of micro-electronics and other technological developments in the local production processes, it is difficult to get a clear indicator, from the information available, for the adoption of these technologies.

In general one might expect that the intensity of the GID in the intermediate technology sectors, would make it likely for the potential for incorporating new technologies to be concentrated here. In fact at worldwide level, the incorporation of these new technologies in these activities has led to a restructuring which has affected the geographic location of their production. One example of this is the restructuring of the automobile industry. If this circumstance were to extend to the other sectors of intermediate technology, then the size of this technological group would give a rough idea of the potential these new technologies have for being incorporated into manufacturing. In the case of Mexico, this would mean that as there has been an increase in the share of this sector in the GID between 1980 and 1993, when it went up from 25.1 to 27 per cent of the manufacturing production, one could infer that something of the new technologies is being brought in to these activities.

In order to delineate the limits of the reach of the economic restructuring in regional areas, the second part of this chapter presents an analysis of the case of the Jalisco manufacturers.

II The dynamics of technology in Jalisco manufacturing

An analysis of the dynamics of technology in manufacturing using the categories defined in the previous section will allow us to do two things. Firstly, it will enable us to analyse how it shows up in certain types of activity that have equally complex technology to deal with the global economic restructuring that is going on. Secondly, it will allow us to analyse certain relevant factors that are related to the development of technology in the region. I shall describe specifically the features of the technological change in Jalisco on the basis of the three effects described at length above. It is necessary to add that the analysis was conducted in terms of employment rather than value added, as an analysis of employment is more straightforward and information is provided not only for Jalisco but is given also for Aguascalientes and Guanajuato, for purposes of comparison.

The development of new technologies

As previously mentioned, one indicator of how much recent technological changes have affected the potential for participating in the growth of new technologies and the development of the skills they require, is the size of the technological effort measured by expenditure on research and development (R&D). Unfortunately, we do not have this indicator at regional level, so we must proceed by identifying the potential for participation in the new technologies by estimating the size of the participation by activities related to an expenditure on R&D which is high relative to the value of what they produce, according to the classification used previously by the OECD, which defines them as high tec activities. In this way we may get a rough idea of the measure in question.

As table 6 shows, the manufacturers of west Mexico show only a very limited use of high technology, even less than the national average, as it was only of 6.01 in 1993, while the annual average for the same year was of 14.62.

TABLE 6
PROPORTION BY TECHNOLOGICAL GROUP, OF TOTAL EMPLOYMENT IN THE MANUFACTURING INDUSTRIES OF MEXICO AND WEST MEXICO. 1985-1993

	MEXICO		WEST****	
	1985	1993	1985	1993
AT*	10.29	14.62	3.72	6.01
MT**	27.35	16.12	36.02	15.93
BT***	62.36	69.92	60.25	78.04

*High tec **Intermediate tec ***Low tec ****Western region covers Aguascalientes, Jalisco and Guanajuato.

FUENTE: Cálculos propios en base a los censos de manufacturas, Mexico, 1986 y 1994.. .
SOURCE: Own calculations based on manufacturing census, México, 1986 y 1994.

Table 7 shows the proportion of total employment in technology in each of the three states, by technological group, according to the OECD classification, and this gives the largest participation to Jalisco at 7.74 per cent of the total for 1994, 7.27 to Aguascalientes close behind, but both figures are well below the national average of 14.62, according to the census data presented in table 6.

It may be seen from the foregoing that although high tec activities show signs of being very dynamic as their share of the economy increases, because of its relatively small share of employment as a whole, employment in high tec activities has only a limited potential for being intensively developed. This should however only be accepted tentatively until we have more precise indicators of the amounts spent on research and development.

TABLE 7
SHARE OF TOTAL EMPLOYMENT IN MANUFACTURING INDUSTRY, BY TYPE OF TECHNOLOGY IN SELECTED REGIONS 1985-1993

	AGUASCALIENTES		JALISCO		GUANAJUATO	
	1985	1993	1985	1993	1985	1993

AT*	3.37	7.27	5.06	7.74	1.04	3.16
MT**	4.46	20.61	46.73	19.13	20.99	12.32
BT***	92.16	72.06	48.20	73.13	77.96	84.35

*High tec **Intermediate tec ***Low tec
SOURCE: own calculations based on census of manufactories

It is worth noting that increased employment and production in high tec activities do not necessarily mean that new technologies are being developed in these activities; it merely shows that there are activities connected to new technologies.

In table 8 below, which is based on the research co-ordinated by Corona (1997), showing the location of the 100 innovative companies included in his sample, one may observe that the region of Guadalajara, which includes the municipalities of Guadalajara, Zapopan in Jalisco and the state of Colima, as defined in his research, comes third as an area for the development of innovative firms with 12.1% of the total. This makes it possible for us to confirm that although the state of Jalisco is not an important centre of innovative activity, still it has a significant role in comparison with other regions in Mexico.

TABLE 8
MEXICO
GEOGRAPHICAL DISTRIBUTION OF INNOVATIVE FIRMS

PLACE	NUMBER	PERCENTAGE
Zona Metropolitana de la Ciudad de México	30	26.0
Cuernavaca	27	23.5
Guadalajara	14	12.1
Ensenada	13	11.3
Querétaro	13	11.3
Monterrey	12	10.4
Rest of the country	6	5.4
Total	115	100.0

Source: own calculations based on Corona (1997)
* according to the sample described by Corona (1997)
** The development areas (*polos*) are defined as regions consisting of the following cities or clusters

Cuernavaca: Cuernavaca, Cuautla, Temixco.

Ensenada: Ensenada, Mexicali, Tijuana.

Guadalajara: Guadalajara, Zapopan and Colima

Monterrey: Monterrey, Saltillo.

Querétaro: Querétaro and the Bajío Region.

The sitting of the production of computer equipment and activities related to high technology in Jalisco manufactories.

To establish the levels of production of high technologies, by analysing the transfer of the production of computer equipment and microelectronic parts, and in general of activities related to high technology, for the national or the international markets, we use the dynamics of the participation of activities related to a high GID in relation to the value of their production, according to the OECD classification used above, which defines such activities as high tech activities.

As the census data show, the manufactories in the west of Mexico which are related to these high tech activities give signs of a relatively dynamic performance in terms of the national average; between 1985 and 1993, the share of the region in this kind of activity has increased from 4.6% of all the value added in national manufacturing in 1985, to 8.6% in 1993. In other words the participation of the region in the production of goods which have to do with high technology, has increased with respect to the country as a whole.

Individual states of the federation have the following proportions of the total figure for employment in high tech activities for the nation as a whole: in 1994, Jalisco had 5.78% ; Guanajuato had 1.66% and Aguascalientes, 1.16%.

With respect to the growth of employment in high technology activities in each state, we can see in table 7 how the participation of this group of activities has changed in the states which make up the west of Mexico as a percentage of all employment in the state. The table shows that there has been an increase of employment in high technology activities which is above the average increase in all employment in each of the states considered. The

largest increase is in Aguascalientes, where the proportion of employment dedicated to high tec activities has risen from 3.37% of all employment in the state in 1985 to 7.27 in 1993.

It is worth repeating that increased employment and production in high tec activities does not necessarily mean that new technologies are being developed as part of these activities, only that activities associated with high technology are being promoted.

The introduction and use of microelectronics and other technological developments in local production processes.

In order to assess to what extent the use of computer equipment has spread among Jalisco manufacturers, Annex B shows the intensity at which such equipment is used according to the amount spent on computers in relation to personnel employed and the net value of fixed assets by manufacturing group and technology type, following the OECD classification defined above.

Annex B also shows that the high and intermediate technology groups have a more intense use of computer equipment than the other group does; in accordance with our previous comment that the intermediate and high technology groups have a greater potential for an expanded use of computers, the activities which stand out are those to do with the manufacture and assembly of office machinery, the calculation and processing of information, and the production of chemical substances and of transportation equipment. In the low technology group the outstanding activities are those which have to do with paper products and publishing.

CONCLUSIONS

It has been evident throughout this chapter that with respect to the technological aspect of the development of local manufacturing, as also in the pattern observed nationally, there has been a significant development in the three areas touched on: a) the development of new technologies, b) production in high tec activities, c) the introduction and use of microelectronics through the whole economic structure, especially in manufacturing. Nevertheless, these developments are limited to just a few activities which also have very little weight in relation to the remaining activities.

We therefore find ourselves with a productive structure whose development is very uneven in so far as technology goes.

On the basis of the findings made, in terms of economic development, it would appear that the options are two. One is for the group of technological activities to be extended and linked to the remaining activities, through economic policy incentives. The other is to give incentives to the technological development of the low and intermediate technology sectors. Obviously, the two options are not mutually exclusive. In either case we should not forget that the planning strategies should be linked together within a regional system of innovation in which the participating agents construct a complex of cooperation networks in order to face the challenges of technological development.

As this study was based on secondary information, a promising project for future research, would be to conduct a deeper analysis using first hand information.

BIBLIOGRAPHY

Annerstedt, Jan . “La medición de la ciencia, la tecnología y la innovación”. In Jean-Jacques Salomon, Francisco Sagasti and Celine Sachs (comp.), *Una Búsqueda Incierta.*

Ciencia, Tecnologia y Desarrollo, Serie Lecturas No. 82. Editorial de la Universidad de las Naciones Unidas, Centro de Investigación y Docencia Económica, El Trimestre Económico (FCE). Mexico DF: 1994.

Corona Treviño, Leonel (Coordinator), *Cien Empresas Innovadoras en México*, Grupo Editorial Miguel Angel Porrúa-UNAM, 1997.

Freeman, C. and C. Pérez, "Structural Crises of Adjustment, Business Cycles and Investment Behavior" in Dosi, G. et alt., *Technological Change and Economic Theory*. London: Frances Pinter, 1988.

Organisation for Economic Co-Operation and Development . **Science,** *Technology and Industry Outlook*, OECD Publications Paris: 1996a.

Organisation for Economic Co-Operation and Development . *Technology, Productivity and Job Creation*., Vol . 2 Analytical Report. (Unemployment in the OECD area, 1950-1997). OECD Publications, Paris: 1996b.

Rodrigues Pereira, Paulo. "Las nuevas tecnologías: Oportunidades y riesgos". In Jean-Jacques Salomon, Francisco Sagasti and Celine Sachs (Comp.), *Una Búsqueda Incierta. Ciencia, Tecnologia y Desarrollo*, Serie Lecturas No. 82. Editorial de la Universidad de las Naciones Unidas, Centro de Investigación y Docencia Económica, El trimestre Económico (FCE). Mexico, D F: 1994

Rada, Juan F. *La microelectrónica, la tecnología de la información y sus efectos en los países en vía de desarrollo*. Jornadas 97, El Colegio de México, Mexico, DF: 1983.

Stewart, Frances. "Technology Transfer for Development". In R. Evenson and G. Ranis (comp.), *Science and Technology: Lessons for Development Policy*, Boulder: Westview Press, 1990.

ANNEX A

	OECD CLASFCN	OWN CLASFCN
HIGH TECHNOLOGY		
Manufacture and/or assembly of office machines, calculation and processing of data	3825	3823
Manufacture and/or assembly of electronic equipment for radio, TV. Communications and medical use	3832	3832
Manufacturing and/or assembly of electric machinery, equipment and accessories; including eqpmt for generation of electricity	383-3832	3831
Pharmaceutical industry	3522	3521
Manufacture, repair and/or assembly of precision instruments and equipment; including surgical equipment, but excluding electronics.	385	3850
INTERMEDIATE TECHNOLOGY		
Chemical substances. Excluding pharmaceutical products, oil refinery, rubber industry and production of plastics.	351+ 352+3522	35-3521-3530- 3550-3560
Rubber and plastic industries.	355+356	3550+3560
Basic non ferric metal industries; including the treatment of nuclear fuels.	372	3720
Manufacture, repair and/or assembly of machinery and equipment for specific purposes and for general use with or without integrated electric motor. Includes farm machinery and armaments.	382-3825	3821+3822

Automobile industry.	3843	3841
Manufacture, repair and/or assembly of transportation equipment and parts. Excluding cars and trucks.	3842+3844+3849	3842
Other manufacturing industries.	39	39
LOW TECHNOLOGY		
Food products, drinks and tobacco	31	31
Textiles, clothing and leather industry.	32	32
Timber industry and wood products. Includes furniture.	33	33
Paper and paper products, publishers and printers.	34	34
Oil processing.	353+354	3530
Non-metallic mineral products. Excluding carbon and petrol derivatives.	36	36
Basic iron and steel industry.	371	3710
Smelting and casting of metal and non-metal pieces. Manufacture of metal structures, tanks and industrial boilers. Excluding machinery and equipment.	381	3811+3812+3813+3814

ANNEX B

INDICATORS OF INTENSITY FOR TECHNOLOGICAL ACTIVITIES

MEXICO

Branch	CONCEPT	INTENSITY OF CAPITAL	
		COMPUTER/ PERSONNEL EMPLOYED	COMPUTER/ NET FIXED ASSETS
		MILES DE PESOS	POR CIENTO
HIGH TEHNOLOGY	**HIGH TEC GROUP**		
3521	PHARMACEUTICAL INDUSTRY.	1.1364	1.15%
3823	MANUFACTURE AND/OR ASSEMBLY OF OFFICE MACHINES, CALCULATION & PROCESSING OF DATA.	4.8885	5.35%
3831	MANUFACTURE AND /OR ASSEMBLY OF ELECTRICAL MACHINERY & EQUIPMENT & ACCESSORIES INCLUDING EQPMT FOR GENERATING ELECTRICITY.	0.9062	2.10%
3832	MANUFACTURE AND/OR ASSEMBLY OF ELECTRONIC EQUIPMENT FOR RADIO, TV. COMMUNICATIONS AND MEDICAL USE	0.9065	3.67%
3850	MANUF., REPAIR AND/OR ASSEMBLY OF PRECISION INSTRUMENTS & EQUIPMENT, INCLUDING SURGICAL EQUIPMENT. EXCLUDING ELECTRONICS. .	0.4014	1.17%
INTERMEDIATE TECHNOLOGY	**INTERMEDIATE TECHNOLOGY GROUP**		
35	CHEMICAL SUBSTANCES, PETROL AND COAL DERIVATIVES, RUBBERS AND PLASTICS.	1.2385	128%
3512	MANUFACTURE OF BASIC CHEMICALS, BUT EXCLUDING BASIC PETRO-CHEMICALS.	1.3817	0.85%
3513	INDUSTRIA DE LAS FIBRAS ARTIFICIALES Y/O SINTETICAS	1.2996	0.47%
3522	MANUFACTURE OF OTHER CHEMICAL SUBSTANCES AND PRODUCTS.	3.1512	3.64%
2540	COKE INDUSTRY INCLUDES OTHER COAL AND PETROL DERIVATIVES.	1.8020	2.28%
3550	RUBBER INDUSTRY.	0.4335	0.63%

3560	PLASTICS	0.4946	0.89%
3720	BASIC NON-FERRIC METAL INDUSTRIES. INCLUDES NUCLEAR FUEL TREATMENT.	1.3284	0.83%
3821	MANUF., REPAIR AND/OR ASSEMBLY OF MACHINERY AND EQUIPMENT FOR GENERAL USE, WITH OR WITHOUT ELECTRIC MOTOR BUILT IN. INCLUDES AGRICULTURAL MACHINERY.	0.7498	1.27%
3822	MANUF., REPAIR AND/OR ASSEMBLY OF MACHINERY AND EQUIPMENT FOR GENERAL USE, WITH OR WITHOUT ELECTRIC MOTOR BUILT IN. INCLUDES ARMAMENTS.	0.9353	1.81%
3841	AUTOMOBILE INDUSTRY	0.386	0.52%
3842	MANUFACTURE, REPAIR AND/OR ASSEMBLY OF TRANSPORTATION EQUIPMENT AND PARTS INCLUDING CARS AND TRUCKS.	2.2946	1.24%
39	OTHER MANUFACTURING INDUSTRIES	0.2987	2.01%
	LOW TECHNOLOGY GROUP		
31	FOOD PRODUCTS, DRINKS AND TOBACCO.	0.6007	0.66%
32	TEXTILES, CLOTHING AND LEATHER INDUSTRIES.	0.4472	1.47%
33	TIMBER INDUSTRY AND WOOD PRODUCTS, INCLUDING FURNITURE.	0.2033	0.77%
34	PAPER AND PAPER PRODUCTS. PUBLISHERS AND PRINTERS.	2.1236	2.23%
36	NON-METAL MINERAL PRODUCTS. EXCLUDING PETROL AND COAL DERIVATIVES.	0.5755	0.49%
3710	BASIC IRON AND STEEL INDUSTRY.	1.1100	0.29%
3812	MANUFACTURE OF METAL STRUCTURES, INDUSTRIAL TANKS AND BOILERS. INCLUDES IRONWORK.	0.2810	0.96%
3813	MANUFACTURE AND REPIAR OF METAL FURNITURE	0.2639	109%
3814	MANUFACTURE OF OTHER METAL PRODUCTS, EXCLUDING MACHINERY AND EQUIPMENT.	0.8531	0.810