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# The Shaping of a Territorial Institutional System: the Development of Export Structures in Two Different Regions: Jalisco and Chihuahua

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The objective of this paper is to describe the models adopted by territorial systems, as well as the conformation and evolution of the local networks that interweave relations of cooperation and competition, shaped by the new technologies of information and communication.

The interest in putting forward two regions, Jalisco and Chihuahua, with large scale insertion of export assembly plants, as in the case of the electronics sector, lies in the attempt to show the way in which the networks facilitating innovation have been implemented. The paper points to the influence of the strategies developed by the social groups which take part in these changing political and productive processes which orient the creation of new competitive trends in the two aforementioned regions. In both cases, we witness a learning process in which norms and *know how* contribute in an environment of public and private collaboration. The alliances and political pacts, responsible for such a process, have been subject to change due to party political alternation (PAN/PRI), as well as to the weight of local business interests in using foreign investment and the proximity with the United States as an opportunity for regional growth. However, in spite of political and economic uncertainties, a change can be perceived in the formal and informal relations that normally exist between public and private actors, committed to activities of production, trade, research, professional training and the organization of productive growth.

In the case of Jalisco, the initiative comes from a business group prepared to take on the responsibility for the political orientation of the state. The result is the development of programs, instruments and new institutions of productive growth which increase business and territorial modernization. Mid-way through the 90's, the Jalisco economy undergoes a reactivation which is centered on industrialization process based on the attraction of direct foreign investment, the installation of new companies and, in particular, the expansion of the export assembly industry where the electronics sector contributes to the generation of new jobs and a significant change in the production characteristics of the region.

In the case of Chihuahua, the implementation of a regional industrial development proposal stems from a business group linked to a political opposition party (PAN). This business group is successful in consolidating certain local production development projects and receives complementary public support (PRI-led government). The political fluctuations (PRI/PAN/PRI) set the tempo for changing political situations but do not prevent the consolidation of a new growth model centered on the assembly plant sector polarized in two cities, Ciudad Juárez and Chihuahua, the State capital.

In the changes evident in both regions institutional frameworks play a role in way each of the economies performs. These institutions can be transformed through policy choices in order to affect market results. According to Saxenian, industrial systems vary from one locality to another and consist of three primary characteristics: (a) local institutions, (b) a local industry structure based upon relationships among firms, and (c) a dominant organizational structure within firms. These three embedded elements create the basis for a theory of economic development that more accurately depicts how the networks of innovation emerged and how policy can be used to affect economic outcomes in several regions. In the Table annexed, underlined is the matrix

institution which, in both regions, plays a key role in shaping an environment of interchange and diffusion of new networks.

Companies do not act as de-contextualized units. Instead, their strategies include and readjust according to external relations with the institutional milieu. The intensity of these informational and relational fluxes can lead to the conformation of a territorial institutional system which converts the external elements of the territory in direct agents operating on behalf of development. Companies learn within a wider framework of complementary relations with other knowledge-producing units, be these other larger companies, research centers or specialized consultancy clinics at the technological, customs and commercial levels. The creation of knowledge is not only a product of internal developments of the companies themselves (formal, informal, tacit and codified) but the outcome of the recombination of codified knowledge and the socialization of knowledge arising from interaction with other agents.

In this process, we witness the emergence of institutions (bridging institutions, Casalet, 1999/2001) which are closely linked to the generation of an environment of confidence and business certainty. Most of these appear in the 90's as a need of the process of industrial modernization, familiarizing companies with the application of international norms and standards of production and quality and securing new mechanisms of inter-company cooperation. The bridging institutions complement the aid granted by local government and national growth promotion institutions, respond to different legal specifications and can take the form of civil associations, federal organizations and civil societies. Financial sources are many, although the majority seek survival by selling services and formalizing agreements to obtain public and international funding.

The questions that orient this paper are the following: how have these regions, which do not boast a long tradition of productive consolidation and inter-institutional links, achieved the creation of a structure of exchange and creation of knowledge? How have the options of public policies succeeded in generating a positive local milieu and in developing an intensification of social structures? What mechanisms and events are responsible for generating a social tissue in a region without any prior productive history, with large-scale migratory mobility and without pre-existing social capital? In a country where the concept of the public dimension as commonly shared space, as the milieu of collective responsibility, is non-existent, and where, instead, we have a space manipulated by the few, a space where adhesion to local power groups constitutes a source of provision and privilege?

At the local level, active policies have contributed to stimulating production (arising from state development plans and the creation of specific programs and instruments: clusters, supplier development programs, industrial parks, shelter programs). In both regions, these are of recent creation, dating back to the 90's. Here, the installation of the assembly plant industry is earlier. The reduction of customs tariffs considered in the negotiations for the North America Free Trade Agreement (NAFTA) provided new opportunities to generate a cooperation dynamic which has led to new strategies in bringing public and private actors closer together and in proliferating new business and labor skills favoring a process of state decentralization.

The new trends in growth development and business modernization are evident in the institutional, political and social contexts of Mexico. Although these trends emerge in a somewhat disperse and at times embryonic manner, due to the weakness of the innovation system and the technological and innovative capacities of companies, they do constitute an attempt to develop greater social capacity and increased confidence, inasmuch as the weakness of the social tissue has contributed historically to avoiding commitment in collective action. The problem arising at the present time refers to the continuity and response capacity of these new institutional forms vis-à-vis a crisis situations such as US recession, the leading receptor of the assembly plant export sector. In 2001, the economic slowdown hampered overall economic activity in this area. While maquiladora employment growth exceeded 12 per cent in 2000, figures for January -May 2001 indicate growth of only 3.1 per cent year over year. Certainly U. S. economic activity explains much of the growth, or lack thereof, in the maquiladora industry. Another key factor behind this sector's perfomance is the peso/dollar exchange rate. This variable determines the cost-effectiveness of maquiladora operations because it measures the accessibility, in dollar terms, of labor and other inputs in Mexico relative to the U.S. and other economies.

The maquiladora sector witnessed a boom from 1995 through 2000 and NAFTA became effective in 1994. The agreement has also been credited as a source of industry growth. However, the December 1994 peso devaluation is what actually spurred the industry's rebound. Recent Dallas Fed research shows that NAFTA has not been responsible for maquiladora industry growth. The factors found to predominantly determine the growth pattern of maquiladoras are U.S. industrial production and the manufacturing wage ratio between Mexico and the United States and between Mexico and Asia. Starting this year, Nafta affects the maquiladora industry in one very important way: it abandons the provision of duty-free importation of inputs into Mexico, regardless of origin. Instead, North American rules of origin now determine duty-free status for a given import. Thus, as long as the source of the inputs is either the United States or Canada, no duties are assessed. However, whenever maquiladoras use non-North American inputs, NAFTA'S Article 303 stipulates that duty drawback provisions apply. Specifically, these provisions allow maquiladoras to receive a duty refund for the lesser of the amount of duties paid in Mexico for imported imputs, or the amount of duties paid on the final product in the United States or Canada at the time of importation from Mexico. In fact, one of the sectors most vulnerable to the new rules is the electrics and electronics industry, since this sector has important supplier links with countries outside the NAFTA region, predominantly in East Asia. In December 2000, Mexico passed a decree creating Sectoral Promotion Programs(PSP) aimed at ensuring the continued competitiveness of the maquiladora industry . Thorughout the (PSP), every manufacturer of goods (with independence whether such goods are destined for exportation or the domestic market) has the right to import raw materials and machinery used in its manufacturing process, with import duties from 0 through 5% in most cases. The PSP correspond to 25 productive sectors covering all the country's export activities.

Public Sector	Creation/Objectives	Main Achievements
Secretariat for the Economic Promotion of the State of Jalisco	1995/2000 Program to promote and foment national and foreign production investment in strategic sectors of Jalisco	Coordination of the planning of industrial and commercial development. Design of policies and programs to foment production. Evaluation of results
Jalisco Center of Design (CEJALDI)	1999. Integral Design of Products	Development of exchange networks with research institutes in the field of design. Training courses for labor certification in the area of SME's. Coordination of the State Award in Design
Jalisco Institute of Foreign Trade (Jaltrade)	1998. Export Aid for the companies of the Region	Promotion of commercial interchange. Analysis of support schemes from Bancomex. Carrying out of trade missions abroad. Creation of the Foreign Trade Specialized Information System
Jalisco Quality Institute	1998. Promote quality via training and up-date programs for SME's	Certification of products made in Jalisco. Creation of the Jalisco Crusade Quality Program. Jalisco Quality Award

# PRINCIPAL PUBLIC AND PRIVATE INSTITUTIONS STRENGTHENING LOCAL NETWORKS IN JALISCO

Regional Development Program	1998. Training of new empresarios	Setting up of Empresarial Clinics in collaboration with local universities
Jalisco Fund for Company Development	development via integral support	1998. Process of restructuring and rationalization of management. Increase in municipal participation. Creation of municipal committees to grant loans, as well as incentives for punctual repayment
Jalisco State Information System (SEIJAL)	1998. Capture, process and generate the socioeconomic information required by the State	Carrying out of the study "Jalisco within a National Environment", which contains basic demographic, economic and infrastructural statistics of the Region

### EDUCATIONAL INSTITUTES ACTIVE IN ESTABLISHING TIES WITH LOCAL COMPANIES

Bridging Institution	Main Linking Programs	Inter-Institutional Relations
Instituto Tecnológico de Estudios Superiores de Occidente (ITESO)	productive sector offering support to SME's. The university consultancy services foment	Companies, together with the public sector, particularly SEPROE and FOJAL. National institutions for productive growth, such as CIMO, NAFIN, the Ministry of Economics, CRECE centers and CANACyT. Company chambers such as Canieti and Cadelec
	Recruitment Agencies generate projects with companies for students completing study programs	
	The Project "Enterprising Young University Graduate" offers support in the creation of small companies	
Instituto Tecnológico de Monterrey (ITESM – Guadalajara)		Companies. Local state government National institutions for productive growth. CIMO. NAFIN

	production, strategic planning). Company clinics. Students take part in curricula work experience	
Centro Universitario de Ciencias Exactas e Ingenierías (CUCEI) Univeridad de Guadalajara	It incorporates the Council of Industrial Chambers of Jalisco. The department of Project Engineering organized, together with the Empresarial Plastics Group, a training program in human recourses within the Plastics Sector of Manufacturing Engineering	Active links with companies such as HP, Phoenix, Kodak, Nypro, Celanese, GE, Phillip
Centro de Investigaciones y Estudios Avanzados (CINVESTAD)	Semiconductors for the	Transnational Enterprises of the electronics sector, SEPROE. Academic institutions from the region
Consejo Estatal de Ciencia y Tecnología (COECyTAL)	It foments and coordinates public and private actions geared to scientific and technological development	SEPROE, institutions from the State sector, Universities, Research Centers, CONACyT, national institutions of productive growth, agreement with OTTAWA (OCRI)
Regional Research Center José María Morelos (SIMORELOS)	Organized by CONACyT to stimulate regional research and coordination between companies, local state government and research centers. Main projects in health, housing, urban development, natural resources	State government, municipalities, research centers, universities and companies
Jalisco State Information System (SEIJAL)	1998. Capture, process and generate the socioeconomic information required by the State	Carrying out of the study "Jalisco within a National Environment", which contains basic demographic, economic and infrastructural statistics of the Region

# BUSINESS ASSOCIATIONS

National Chamber of	Electronics,	Foments production and quality
Telecommunications	and	support for the manufacturing
Information	Technology	industry of spare parts and
(CANIETI)		electronic components,
		telecommunication, IT and
		entertainment equipment, and
		electro-domestic manufacturing.

	Business Center offers events, organization, information and infrastructure for sector members	
Asociación de las Industrias Maquiladoras de Occidente	Support for the Export Assembly Plant sector. Active role in implementing a more flexible tax scheme and moderating the effects of articles 303 and 304	National Council for the Export Assembly Plant Industry (CNIME) Joint action, with CANIETI and CADELEC for the Development of Suppliers
PRODUCTIVE CHAIN OF THE ELECTRONICS INDUSTRY (CADELEC)	Promotion of the insertion of local national suppliers into the electronics industry of Jalisco. Creation of business opportunities via study projects and a database. Incorporation of a working committee on markets, quality and evaluation of suppliers	Effective OEM support (original equipment manufacturers), from companies such as IBM, HP, Motorola, NEC, Phillip, as well as from CEM's (contract electronic manufacturers), with companies such as Siemens, Flextronic and Natsteel With research centers and universities, business chambers, national growth promotion organizations: Nafin, Bancomext, CRECE.

#### INSTITUTIONS PROMOTING INDUSTRIAL DEVELOPMENT

## IN THE STATE OF CHIHUAHUA

Private Enterprise Institutions	Creation/Objectives	Main Achievements
Civil Association for the Economic Development of the State of Chihuahua (DESC)	Search for new industrialized solutions for the region, affected by the crisis in the mining, forestry and agricultural sectors	Committee for Industrial Promotion. Drive to set up industrial parks
	Promotion of foreign investment, creation of promotion groups of industrial parks and the installation of new plants	Labor-oriented Training Center. Areas include soldering, smelting and tool machines

		Economic Information Center Systematizes data on companies employees and growth
		Association Towards (an) Improved Quality of Life (Civil Association), its goal being to promote integra development in the State o Chihuahua
Chihuahua 21 <sup>st</sup> Century Program	1 <sup>st</sup> Stage: diagnostic of the State's economy and commitment from the different economic sectors to promote (electronics, the motor industry, tourism, livestock, etc.)	Participation from ITESM and international consultants. Promotion of Human Resources Research and Training Centers. CIMAV: research center in advanced materials
	2 <sup>nd</sup> Stage: Support for the creation of research centers	CEMyT (molds and dies)
		CIAD (Research into Foodstuffs)
		Information Technologies Center
		Training Center in Technology
Chihuahua Suppliers Center (CEDEP)	1997. Promotion of business opportunities. Creation of a register of local suppliers and reinforcement of ties with educational and business institutions in aiding in the selection of suppliers	It avails of support from national growth production institutions Nafin, Bancomext, the state government and business organizations (Concamin, Assembly Plant Industry Association Canacintra), as well as educational institutes
State government institutions Development Secretariat	Fomentation of cluster development Support for the creation of high technology centers	The recent 1999/2005 political change in state government implied a revision of support policies However, continuity existed in cluste growth, the specialization of human resources and the creation of othe development poles to arress migratory flow

Fiscal backing for investors relocating in alternative regions	
Provision of equipment and development of infrastructure	

#### NATIONAL INSTITUTIONS OPERATING IN BOTH REGIONS

Growth Production Institutions	Objectives	Main Achievements
NAFIN: Development Bank	Development of suppliers programs, technical assistance, credits for SME's	Support for Cadelec in Jalisco
		Suppliers Program in Chihuahua and Ciudad Juarez
Bancomext: Export Development Bank	Export stimulation for SME's	Support for the electronics and automobile industries in both regions
Secretariat of the Economy (ex Secofi)	Promotion of: industrial groups, quality, and special attention to SME's	COMPITEprogram.CRECEcenters.Incubator companyprogramgeared to SMEdevelopment
Support Institutions for Research and Development National Council for Science and Technology (CONACyT)	of postgraduate scholarship	Linkage Programs. R&D funds for

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