Handbook of Employment and Society

Working Space

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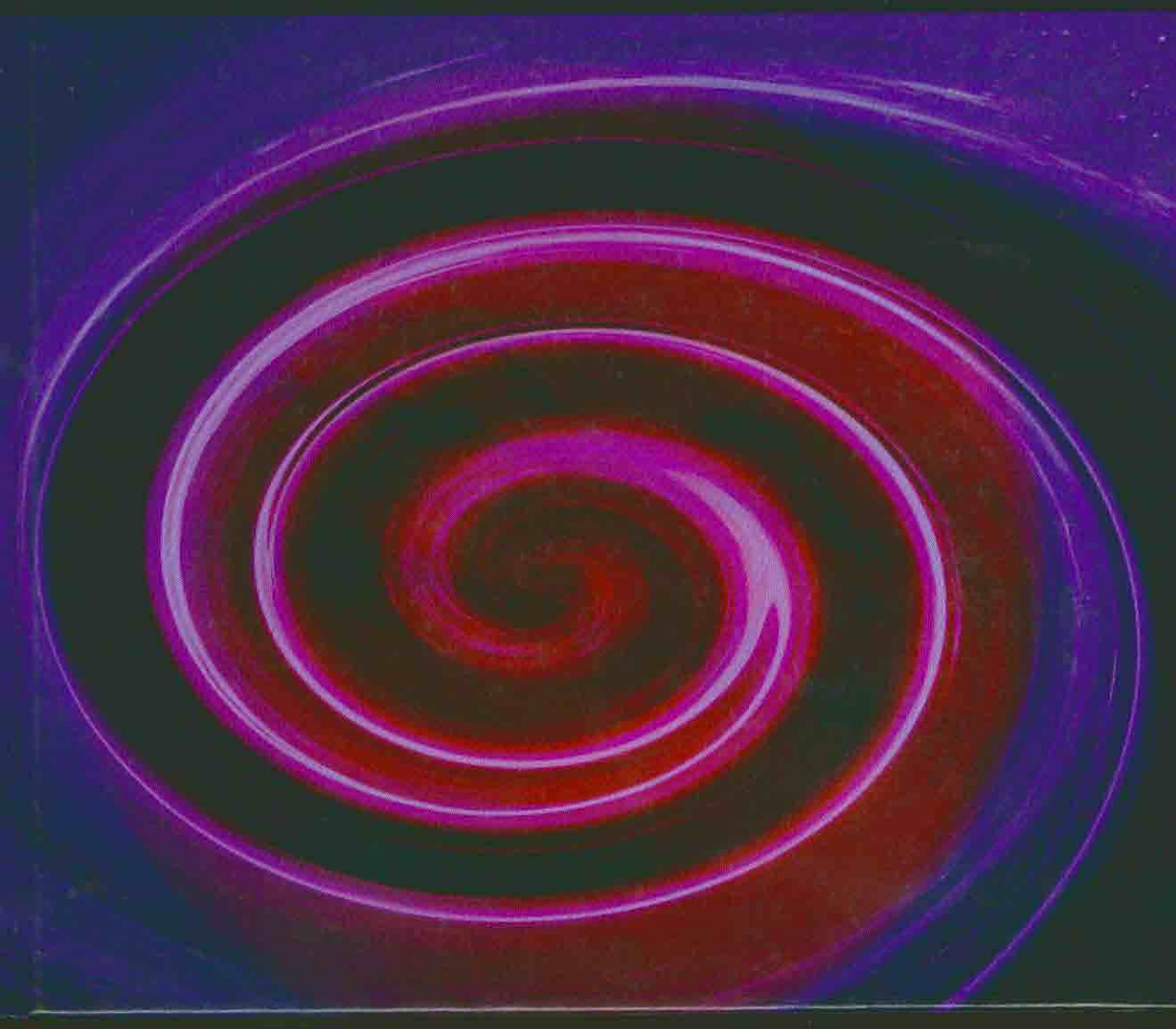

18 The new economic model and spatial changes in labour relations in post-NAFTA Mexico

Enrique de la Garza Toledo

From 1940 until 1982 the Mexican economy was dominated by a policy of import-substitution industrialisation (ISI) characterised by significant state intervention and regulation of the economy, with the state playing two principal roles: direct producer of goods and services, and driver of aggregate demand via public spending. At the same time, economic policies protected national industry through various tax and credit programmes and favourable treatment on prices of raw materials. In spatial terms, three major manufacturing poles were developed – Mexico City, Monterrey and Guadalajara – which were focused mainly on producing for the domestic market. During this period the economy experienced high growth rates. However, in response to the state's fiscal crisis in the early 1980s – a fiscal crisis which took the form of a default on the country's ballooning foreign debt and a subsequent currency devaluation – a new, neoliberal economic model was established. This new model involved the state's withdrawal from production-orientated investment and its giving priority to controlling inflation rather than directly stimulating economic growth through Keynsian macroeconomic policies. In addition, it involved seeking to attract greater levels of foreign direct investment (FDI). Although movements towards establishing this neoliberal policy began soon after Mexico's 1982 default on its foreign debt, the economy really began opening up to foreign capital in 1986, when Mexico joined GATT, and was given a fundamental boost when the North American Free Trade Agreement (NAFTA) went into effect in 1994. Since 1994, the economy has experienced years marked by profound crisis (1995), followed by recuperation (1996–2000), and then, once again, economic deceleration. Under this new economic model, the manufacturing export sector has become the principal engine of the economy (De la Garza, 1993a).

With the implementation of this new economic model, conflicts arose between companies, the state, and corporatist and independent labour union organisations over how a new system of labour relations would take shape. As we will see, the emergence of this new system has several notable territorial elements to it. In order to understand them, though, it is first necessary to be familiar with the system of work relations in Mexico that was constituted during the 1920s and 1930s and which involved a corporatist pact between the state, private enterprise, and the new labour organisations emerging at that time. The most significant aspects of this pact were that the state guaranteed unions a representational monopoly through various legal and extra-legal mechanisms, extended the closed shop and state control over collective bargaining and strikes, and facilitated the removal of non-corporatist-minded labour leaders. The pact also established a mechanism for consulting with labour unions regarding economic, wage and social security policies, and established labour union representation in labour courts, in social security institutions and in the commission that defined minimum wages. In return, the

unions essentially agreed to guarantee labour peace, to support the state's economic policies and to assure that workers voted for the Institutional Revolutionary Party (Partido Revolucionario Institucional – PRI). Union leaders participated in this pact both as union officials and through their positions as elected representatives on various municipal and/or state-level governments and as public functionaries (De la Garza, 1990).

Under this model, then, the state was involved in labour relations on a day-to-day basis, a fact which resulted in their overt politicisation. In exchange for unions' support, the state offered wage and job protections, together with increased job benefits and social security for those members of the working class who were union members. Consequently, industrial workers enjoyed significant protective rules with regard to working conditions and hiring, together with considerable limitations on firing, being involuntarily moved within a firm to another job, being forced to engage in multi-skilling and having their positions undercut by temporary workers and/or subcontractors hired from employment agencies. The formalisation of work rules via legislation was complemented by the clientelistic orientation of labour union leaderships, which, with the support of labour courts, handed out rewards and punishments, depending upon workers' loyalty (or not) to them.

It is important to clarify, however, that this model of labour relations did not function equally for all workers during the import substitution period. Thus, whereas workers in large private and state-owned companies generally enjoyed such conditions and protections, those who worked in small- and medium-sized companies typically had fewer protections, whilst the enormous informal labour sector at the bottom of the employment pyramid had virtually no safeguards. Whereas organisationally the labour relations system that emerged out of the Mexican Revolution reached its zenith during the period of ISI within the state-owned and private sector manufacturers orientated toward the domestic market (which was itself protected by the state), geographically speaking it was most evident in the three key industrial heartland areas of Mexico City, Guadalajara and Monterrey, together with the electricity- and petroleum-producing regions of south-eastern Mexico (see Figure 18.1 for locations). Crucially, however, Mexico's northern border area remained largely excluded from this system, since until fairly recently the region had not been heavily industrialised (De la Garza and Bouzas, 1998). This geographical exclusion has had important implications for the labour relations' regime that has emerged under the country's new, neoliberal economic model. In particular, as it has industrialised as a result of the growth largely of *maquila* industries, northern Mexico has served as an important laboratory for experimenting with new forms of labour relations, with such forms involving not so much a questioning of traditional corporatist relationships but, rather, a reworking of them to produce a lower level of protections for almost all workers (Carrillo, 1990).[1]

In this chapter, then, I will analyse the key aspects of the export manufacturing model and the new labour relations model associated with it. Specifically, I will explore how the move towards labour flexibility and managerial unilateralism which has been part and parcel of the economic transformation initiated in the 1980s has reshaped Mexico's economic landscape not only by facilitating the institutionalisation of a new labour relations model in the nascent industrial zones of the north but, perhaps more importantly, by encouraging its geographical extension throughout the entire country. However, despite such spatial diffusion, it is important to recognise that this new economic and

Figure 18.1 States of the Mexican Republic

labour relations model – one characterised by low wages, high voluntary turnover of workers, minimal worker identity with the company and labour unions that exist as little more than paper tigers – itself seemed to have reached its limit in the early part of the twenty-first century, as productivity increases began to diminish.[2] In turn, this current crisis of 'precarious Toyotaism' (De la Garza, 2006) will itself be likely to occasion a new restructuring of the economic landscape in the not-too-distant future.

The export manufacturing model and the territorial restructuring of Mexican manufacturing

The initial moves towards transforming the industrial model established during the ISI period began in the mid-1960s when large manufacturing corporations, especially those in the United States, started to develop the US–Mexico border region as a platform for *maquila* production to take advantage of low-waged labour to assemble goods for reimportation back into the US (De la Garza, 1990). However, it was not until the 1982 economic crisis and growing pressure from organisations like the International Monetary Fund that Mexico really embarked upon the export-orientated neoliberal development model that would greatly exacerbate such a transformation. There are several aspects of this model which are important, but perhaps the most significant is that under it the contribution of manufacturing to Mexico's Gross Domestic Product (GDP) has grown tremendously, with the value of manufacturing production increasing 43 per cent (in 1993 prices) between 1995 and 2004, such that by 2000 manufacturing was generating 22 per cent of the country's GDP. Much of this growth has been because of the expansion of the *maquila* sector, the value of whose production increased 308 per cent between 1993 and 2000. Moreover, whilst manufacturing did not come anywhere close to matching the service sector's GDP contribution, it has, however, been by far the largest element in Mexico's exports, accounting for 88.7 per cent of total exports (by value) in 2001. Importantly, most such manufacturing exports come from the *maquila* sector (55 per cent in 2005), which has seen a substantial increase in FDI in recent years (311 per cent between 1993 and 2000) (see Figure 18.2). However, despite the growth in the value of manufacturing, labour productivity between 1988 and 2002 increased by an annual average rate of only 0.3 per cent, and overall productivity actually declined by 1.7 per cent. Equally, although levels of capital intensity (fixed capital/total employees) increased in the 1990s relative to the previous decade, they were still below what they had been during the ISI period. Finally, despite significant early growth, beginning in about 2000 the manufacturing boom began to decelerate (see Table 18.1).

With regard to the *maquila* sector, although *maquila* manufacturing played a leading role in Mexico's export-led development in the 1980s, by the early 1990s this sector had begun to experience problems and, since then, its productivity growth rates have been much lower than for manufacturing overall. The *maquila* sector's importance for manufacturing, though, means that these problems have contributed greatly to the recent downward trend in manufacturing's overall gross profitability (De la Garza, 2006) and, given manufacturing's importance to GDP, in declining profit rates across the economy more generally (Ortiz, 2006). Equally, in both the *maquila* and non-*maquila* manufacturing sectors, employment, which grew prior to 1994, has recently begun to drop off – total employed personnel in manufacturing decreased 14 per cent between 1994 and 2005 (Hernández Laos, 2006). Moreover, working and living conditions for most waged

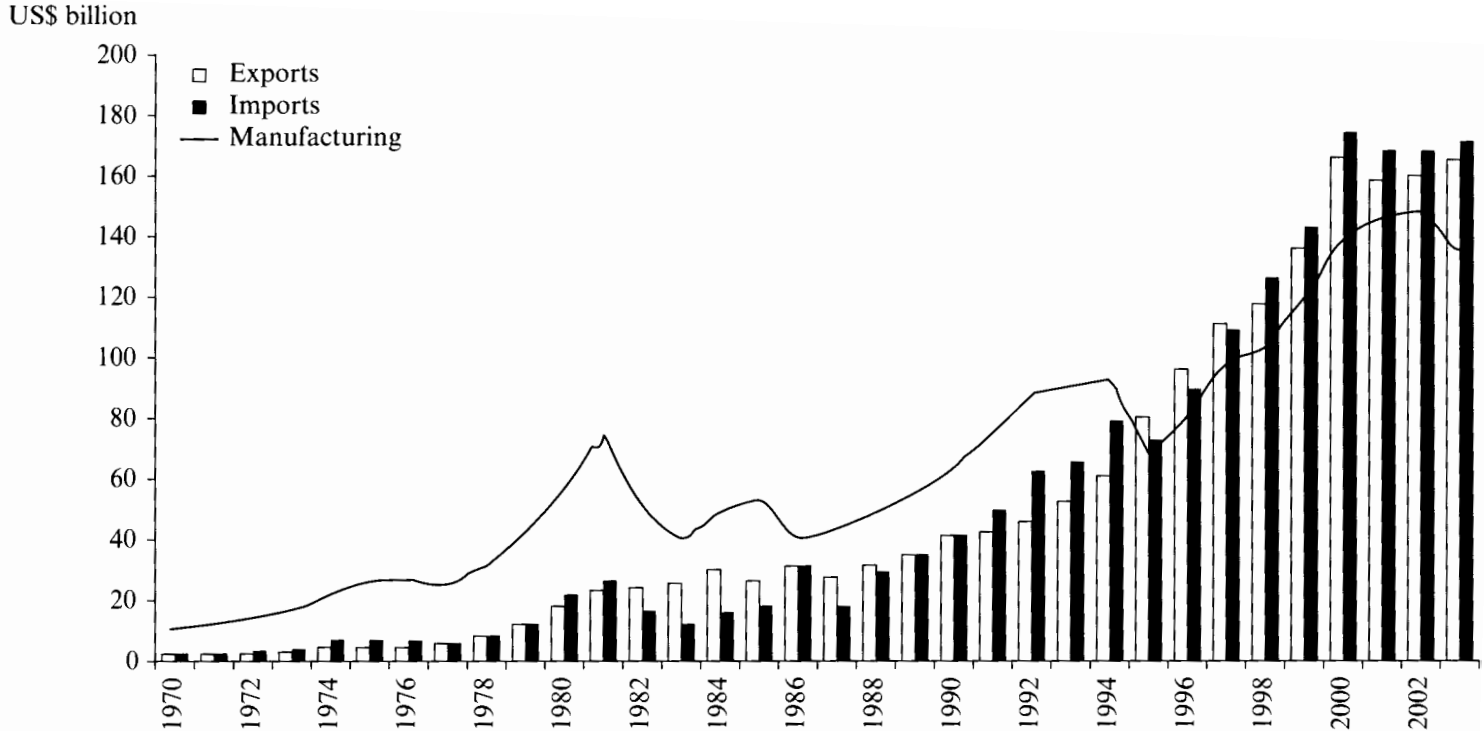

Figure 18.2 Gross value of Mexico's exports, imports, and manufacturing, 1970–2003

Table 18.1 Index of minimum wage, wages in labour contracts and average real remuneration in manufacturing sector (1993 = 100)

Year	Minimum wage	Wages in labour contracts	Average remuneration for person in manufacturing sector
1990	116.0	99.3	94.1
1993	100.0	100.0	100.0
2000	74.9	76.1	90.4
2001	76.9	78.0	96.2
2002	76.1	78.6	98.1
2003	76.3	78.7	99.4
2004	74.7	78.3	99.5
2005	78.1	79.2	95.8

Source: STPS (2005).

workers have not improved during the NAFTA period: 45 per cent of workers do not have a written labour contract; the number of workers who have no labour benefits at all has increased; the percentage of waged workers without health services remains at just below 60 per cent; and the proportion of waged workers in micro-businesses with fewer than five workers (jobs that are generally precarious) has also remained the same. At the same time, the minimum wage in Mexico has declined in real terms (by 22 per cent between 1993 and 2005), as have wages covered by labour contracts (a 21 per cent decrease), and total remunerations for manufacturing personnel (a 4 per cent fall) (see Table 18.1). Unionisation rates have also declined since the emergence of the new economic model, decreasing nationally from 15 per cent in 1992 to 10 per cent in 2002. This has been especially so in the manufacturing sector, wherein coverage dropped from 22 per cent to 15 per cent (see Table 18.2). Meanwhile, Mexican workers appear to have become more quiescent, as the number of strikes decreased from 629 in 1993 to 243 in 2003 and the number of collective conflicts without strikes decreased from 3150 in 1993 to 1693 in 2003.

Part of the explanation for these changes in work and working conditions lies in the fact that the early 1980s heralded the beginning of substantial automation of productive processes, the introduction of new forms of work organisation, a flexibilisation of labour relations, and the formation of clusters amongst clients and suppliers, together with the creation of strategic alliances between large corporations, growing subcontracting and the territorial restructuring of industrial production. Nevertheless, whilst part of the manufacturing sector was modernised and new plants (*maquila* and non-*maquila*) established, it is important to recognise that much industry was not, such that manufacturing became increasingly polarised between a majority of companies that have been unable to make changes – often those located in the traditional manufacturing centres, with their older plant and equipment – and those that have become more productive and more competitive – often located in new industrial regions (De la Garza, 1998). Putting all of this together, then, by the end of nearly three decades of neoliberal-inspired restructuring, it was possible to characterise Mexican manufacturing as follows:

Table 18.2 Unionised workers/EAP in different industries*

	Percent unionised	
	1992	2002
Agriculture	0.57	0.29
Mines, electricity, water and natural gas supply	42.17	52.95
Manufacturing	21.57	15.02
Building	4.36	1.42
Trade	4.24	1.37
Transport, communication and storage	25.34	8.73
Restaurants and hotels	7.54	3.00
Finances and administration	18.46	9.96
Communal and social services	28.23	22.47
National average	14.54	10.00

Note: * EAP: Economically Active Population.

Source: Esquinca (2006).

1. Only a relatively few companies have focused much on developing and introducing new technologies (in 2000 only 0.7 per cent of income generated in the manufacturing sector was dedicated to research and development);
2. Most companies have made relatively simple changes in work organisation;
3. Although most large companies (primarily export companies) remain unionised (66 per cent of large manufacturing establishments had labour unions in 2001) and workers have certain protections through labour contracts concerning working time and full-time employment (94.9 per cent of the workers had regular, full-time employment), they receive low wages (in 1999 average remuneration per hour, including benefits, for workers in manufacturing was just US$2.00) (De la Garza, 2007);
4. Most of the labour force is unskilled (63 per cent of workers in manufacturing in 2001), has little seniority in the company, and has a low level of schooling.

Whatever increases have been made in Mexican manufacturing's productivity, then, especially in the 1990s, appear to have been the result not so much of technological change nor of the payment of productivity bonuses, which represented only a small proportion of total remunerations (De la Garza, 2006), nor of the introduction of numerical flexibility through the use of temporary workers who can readily be hired and fired, depending upon employer need. Rather, they have come from growing functional flexibility in collective bargaining agreements, which have increasingly allowed for greater internal labour mobility, multi-skilling of labour, and promotion based upon skills as opposed to seniority.

Clearly, the new economic model has inaugurated a momentous organisational restructuring of Mexican industry in the past two decades. However, it has also instigated a dramatic spatial restructuring as well. Of the six Mexican states that border the US, prior to the 1980s only two (Coahuila and Nuevo León) had already been fairly heavily

industrialised and the region as a whole was dominated by low-value-adding services and agriculture, with a very minimal presence of labour unions (with the exception of agricultural unions in the northern Gulf area and a small number of mining enclaves). Since the 1980s, though, there has been a tremendous growth in the number of *maquila* and other (for instance, automotive) plants in northern Mexico, with virtually all such plants' output being exported – a locational and production strategy that contrasted with the longstanding ISI patterns in which manufacturing plants were located in the central region and orientated toward the domestic market (De la Garza, 1992). Equally, some of the older facilities built during the ISI period have refocused their production towards manufacturing for export.

Certainly, it is not hard to understand why this northern region has grown in terms of industrial production – proximity to the US market and local state governments' promotion of FDI (through tax exemption, donation of land, free infrastructure) have been key. However, a central consideration has also been a desire on the part of many manufacturers to find production sites without a tradition of unionisation in which they can experiment with new ways of organising production. Consequently, in the years prior to NAFTA's passage *maquilas* were established in those cities along Mexico's northern border which did not have much of an industrial or labour union history (Matamoros in the Gulf region was an exception). Likewise, the most complex automotive plants were established in medium-sized cities such as Hermosillo, Chihuahua and Saltillo, although they avoided Monterrey, a city with a long industrial tradition. As time went by, though, this new pattern of industrialisation was further expanded geographically. Thus, toward the mid-1990s, in the second stage of the neoliberal model's adoption, a new manufacturing zone began emerging in central Mexico, focused upon states such as Michoacan, Aguascalientes, Puebla, Tlaxcala, Morelos, and Querétaro, together with Yucatán (see Figure 18.3). Although both *maquila* and non-*maquila* manufacturing establishments were installed in these states, in both sectors manufacturing for export prevailed. The primary factor shaping this locational strategy was the search for low wages and labour tranquility.

Industrial restructuring in the post-ISI era, then, has been decidedly spatial in nature. Certainly, older industrial areas have continued to be important – Monterrey retains numerous non-*maquila* plants established during the ISI period, Guadalajara has experienced some new *maquila* development, and the Mexico City region continues to be home to many small and medium-sized manufacturing establishments which remain focused on the domestic market and are rather traditional in terms of their use of technology and organisation (Ruiz Durán and Dussel, 1999). However, the central characteristic of this post-ISI restructuring has been the formation of the highly industrialised and largely new export region in the states bordering the US, together with the emergence of zones of *maquila* production in central Mexico and the Yucatán peninsula (see Figure 18.4). Furthermore, not only has Mexico's economic geography been transformed in terms of the location of manufacturing facilities but it has also been transformed in terms of the geography of capital intensity. Hence, between 1992 and 2002 such intensity diminished in the northern states as a result of the expansion of the *maquilas* (which are very labour-intensive) and increased only in Nuevo León and Coahuila, where industry is more diversified. (Interestingly, these two states were the only ones in the north to see an increase in labour productivity.)

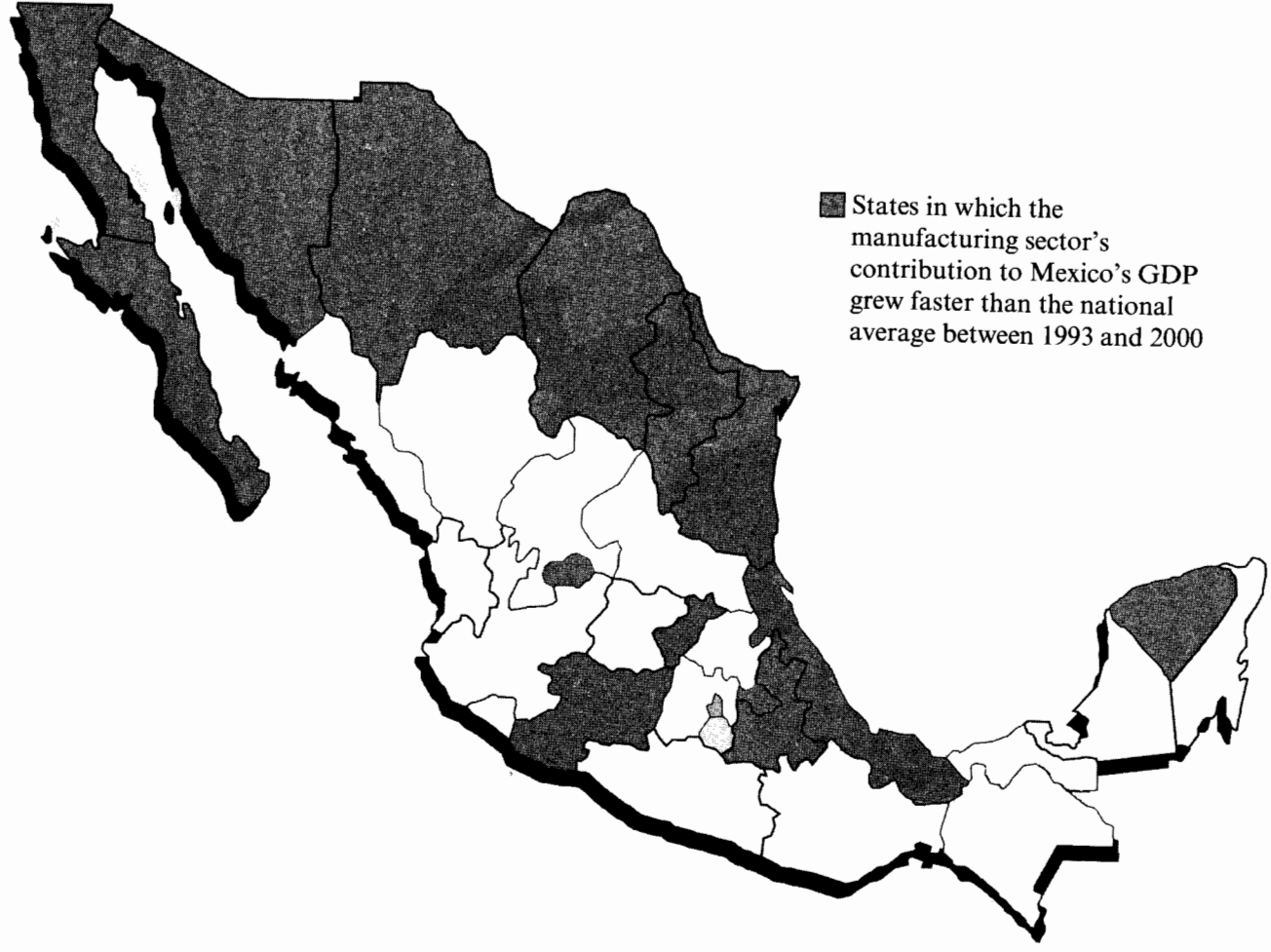

Figure 18.3 The changing geography of manufacturing's contribution to Mexico's GDP growth, 1993–2000

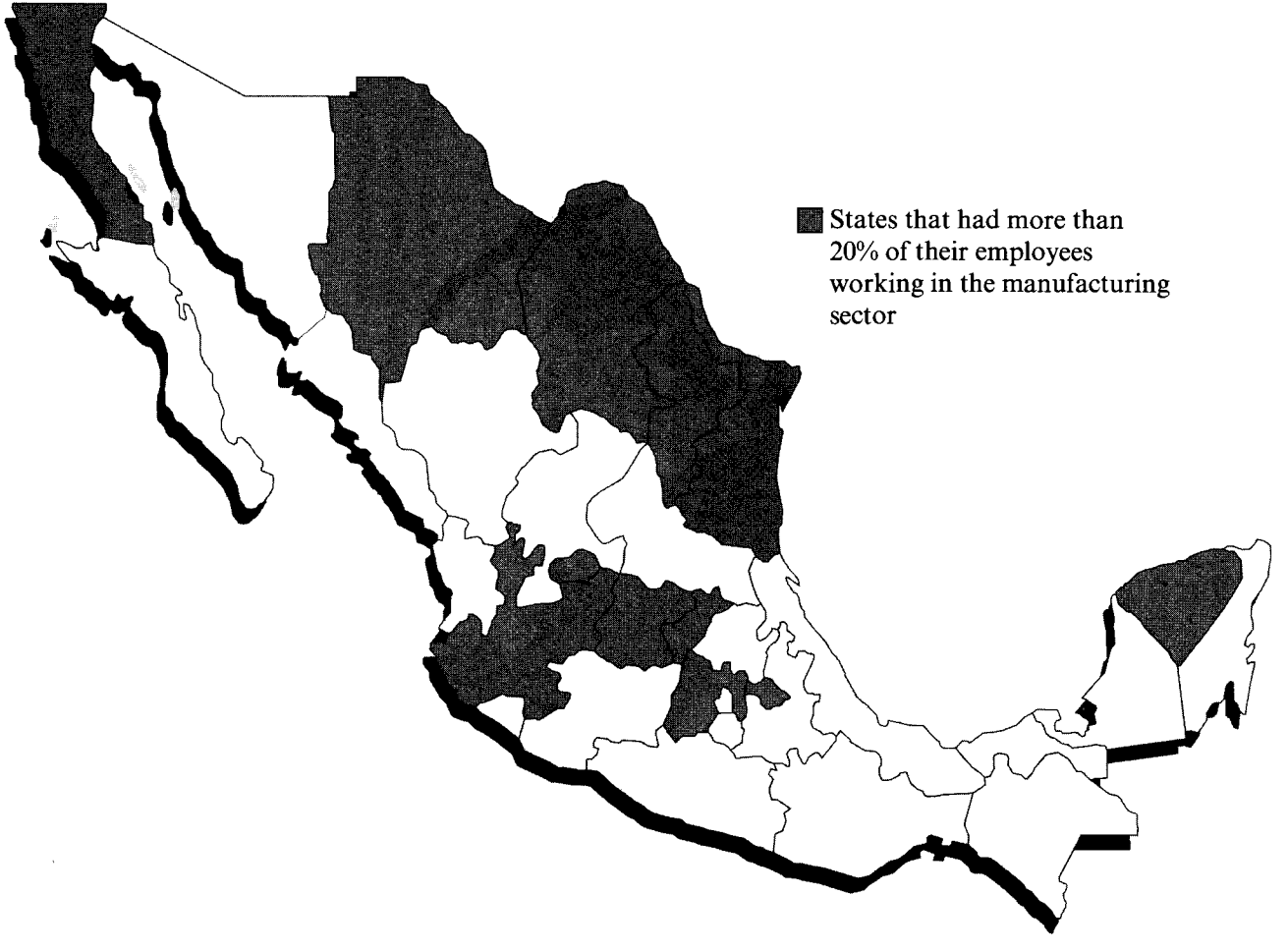

Figure 18.4 The geography of manufacturing employment, 2002

Significantly, then, it is possible to identify at least two phases in the development of this new geography of Mexican manufacturing in the neoliberal era: whereas in the 1980s *maquilas* tended to locate in the north and in Jalisco, since the early 1990s a growing number have located in the second emerging zone in central Mexico, as well as in Puebla and the Yucatán. This two-part geographical spread of *maquila* manufacturing is important because the new industrial sector in the north has served as the laboratory for the country's nascent flexible labour relations, providing a space for employers both to avoid the 'corporatist protections' granted to workers in the major industries of the import substitution era and to experiment with new systems of work organisation before extending them to other parts of the country. Nevertheless, it is important to recognise that the growth of the *maquila* and final-assembly automotive industry in the north and the establishment of the new flexible model of labour relations that later expanded to the rest of the country took place within, rather than in confrontation with, the corporatist system. Hence, the emergence of the neoliberal economic model has not signified so much an end to the pact between the state and corporatist labour unions as it has a reworking of it (resulting in what some authors have referred to as neoliberal corporatism). Therefore, the old corporatist PRI-affiliated labour unions continue to have nearly unlimited prerogative in the unionisation of new plants in the north because they have been largely willing to accept new flexible labour relations (if with a radical change in the contractual model) in exchange for a continued monopoly over representation of the new labour force, an agreement supported by both the state and the companies involved.[3] As a result, any collective resistance by workers to the new labour regime, though having received significant attention abroad, has been virtually ineffective in practice (De la Garza, 1993b); complaints filed with the NAFTA labour office (NALCA) regarding violations of union freedoms, as well as the struggles waged by the Authentic Labour Front (Frente Auténtico del Trabajo), for instance, have had practically no impact on the nearly absolute control still enjoyed by the PRI unions.

For its part, the new contractual model for labour relations that was introduced in the *maquila* industry in the north (and in the automotive industry that had been installed in the same region) in the 1980s is characterised by: flexibility in internal mobility and multi-skilling; the hiring of temporary workers and of subcontracting; a change in the criteria for moving up the job scale (now it is workers' capabilities rather than seniority that is key); the elimination of obstacles for management to hire and fire personnel; decreased benefits relative to those received at the old plants in central Mexico; the acceptance of managerial unilateralism in determining technological changes and work organisation; the extension of workdays relative to traditional industrial zones in central Mexico; and the lowering of wages (generally *maquilas* pay 40 per cent of what is paid in non-*maquila* manufacturing). Overall, then, key elements of the labour relations model that began in the north but which has now been extended to central Mexico are the greater flexibility and unilateralism in decisions regarding the labour force enjoyed by management and the much lower costs per worker (De la Garza, 1993a). Undertaken by subsidiaries of major multinational corporations, as well as by establishments with reorganised or new Mexican capital, the adoption of this new model was heavily supported by the state and by corporatist labour union leaders – the former not only promoted the policy but also pressured labour unions to maintain low wages and flexibility in labour relations, whereas the latter helped keep strikes and collective demands to a minimum (De la Garza, 1990).

Table 18.3 Unionised workers/EAP in manufacturing by region*

	1992		2002	
	Percent unionised	Distribution of all unionised	Percent unionised	Distribution of all unionised
North-west	14.00	3.74	9.64	5.61
North	22.02	6.83	14.54	9.07
North-east	42.47	16.58	35.97	23.30
Central north	12.26	6.36	14.86	10.32
West	22.16	10.77	7.90	5.61
Central	16.14	5.98	12.12	7.28
Central Gulf	36.14	15.85	17.53	8.56
Pacific South	3.63	0.72	3.51	1.04
Yuacatán	15.50	2.11	13.82	2.78
Capital	25.22	31.05	14.72	26.43
National average	23.00	100.00	15.06	100.00

Note: * EAP: Economically Active Population.

Source: Esquinca (2006).

What is important, though, is that this new model not only was adopted in much of the new industry in the country's central and southern regions, but it also exerted pressure for change in how labour relations were conducted and structured in those companies that had been established during the ISI period – companies which were at the very core of labour union corporatism. However, unlike in the new industrialisation zones, in the older zones efforts to impose the new model of labour relations have been met with much greater collective resistance, resistance sometimes led by independent labour union leaders but also, at times, even by corporatist union leaders. Perhaps as a result of this resistance, then, the growth in flexibility and unilateralism in collective bargaining contracts has not been as extreme in the areas dominated by industries established during the ISI period as it has been in the new industrialisation zones (De la Garza, 2006).

In assessing the overall transformation of Mexico's contemporary space-economy, though, it is important to recognise that whereas the recent crisis in *maquila* employment has affected all regions, it has not done so equally. Thus, the emerging region in central Mexico has been the most affected in relative terms by the recent losses of jobs, nearly 42 per cent (165 000) between mid-2000 and the end of 2003. Equally, the geography of deunionisation has been quite uneven. Hence, the regions least affected by deunionisation have been the central, southern Pacific, and Yucatán peninsular regions, together with Mexico City. In contrast, the regions most affected by a decrease in unionisation rates have been the north-eastern, north-western, western, central Gulf, and northern regions – with the exception of Veracruz, all new industrial zones (see Table 18.3). The crisis of unionisation, then, appears to be mostly one affecting the new industries and the new zones of industrialisation (De la Garza, 2006).

As mentioned, in terms of worker resistance to the new flexible, unilateralist model of labour relations, the most important examples have tended to occur in regions with a

preponderance of companies established during the ISI period (see Figure 18.5), though the number of strikes and collective conflicts has generally diminished since NAFTA went into effect (De la Garza, 1993a). Typically, worker resistance has not involved striking because of the degree of corporatist control over unions in both old and new industries (by and large, the new, independent unions are to be found in public services – telephone, electricity in the central zone, social security, universities – whilst they are nearly non-existent in the areas of new, private-sector industrialisation, particularly in the *maquila* industry). Rather, instead of collective actions worker resistance has tended to take the form of voluntary individual decisions to leave jobs considered to have poor working conditions and low wages, a voluntary external turnover that has especially affected new industry in the northern and central regions of the country (Carrillo and Santibáñez, 1993). At the same time, a second common form of worker resistance has been the growing number of individual complaints initiated by workers through labour tribunals against companies, though usually without any intervention on their behalf by labour unions (De la Garza, 2005) (see Figure 18.6).

In sum, we can see three significant changes in how the Mexican space-economy is being restructured in the post-NAFTA era. First, a number of new industrial zones have been established *de novo* or have been superimposed over older industrial zones (as with the states of Coahuila and Nuevo León). Second, the productivity crisis which has impacted Mexican industry in the past decade or so has been especially felt in the *maquila* zones in the northern region, with the exception of Nuevo León and Coahuila, where industrial development is more diversified. Finally, it shows that 'maquilaisation' does not bring with it an increase in capital intensity – in fact, quite the opposite.

New work forms – a north–south comparison

Initially, then, *maquilas* were located only in Mexico's northern border states, though changes in the law in the late 1980s allowing them to locate further from the US border subsequently meant that they have now been established in nearly all of the country's states – a geographical expansion that has been called the '*marcha al sur*' ('march to the south'). This expansion appears largely due to *maquilas*' search for lower wages and other regional advantages in other parts of Mexico, and the difficulty in finding workers in the northern border region, as many have preferred either to emigrate to the US or to join the informal sector, where they can earn more money (*maquila* wages have increased since the 1990s, but are now still only 50 or 60 per cent of those in the manufacturing sector (De la Garza, 2005)). Although the growth of *maquilas* has certainly transformed Mexico's overall space-economy, it is important, however, to recognise that there are significant differences within the export *maquila* sector, depending on the branch (the main branches are autoparts, metalworking, garments and electronics), the region, type of capital, and the size of establishment. At the same time, though, as I have argued above, the northern border zone has served as a laboratory for the development of a new production model, and this can clearly be seen in the similarities between *maquilas* in this area and those being established in other parts of Mexico. In order to move beyond the mere assertion that the older *maquila* zone in the north has served as the incubator for the mode of labour regulation that is spreading across the country, then, here I will briefly draw upon two studies to flesh out empirically claims for such a geographical diffusion. These studies are one by Carrillo and Gomis (2004) on the northern border zone

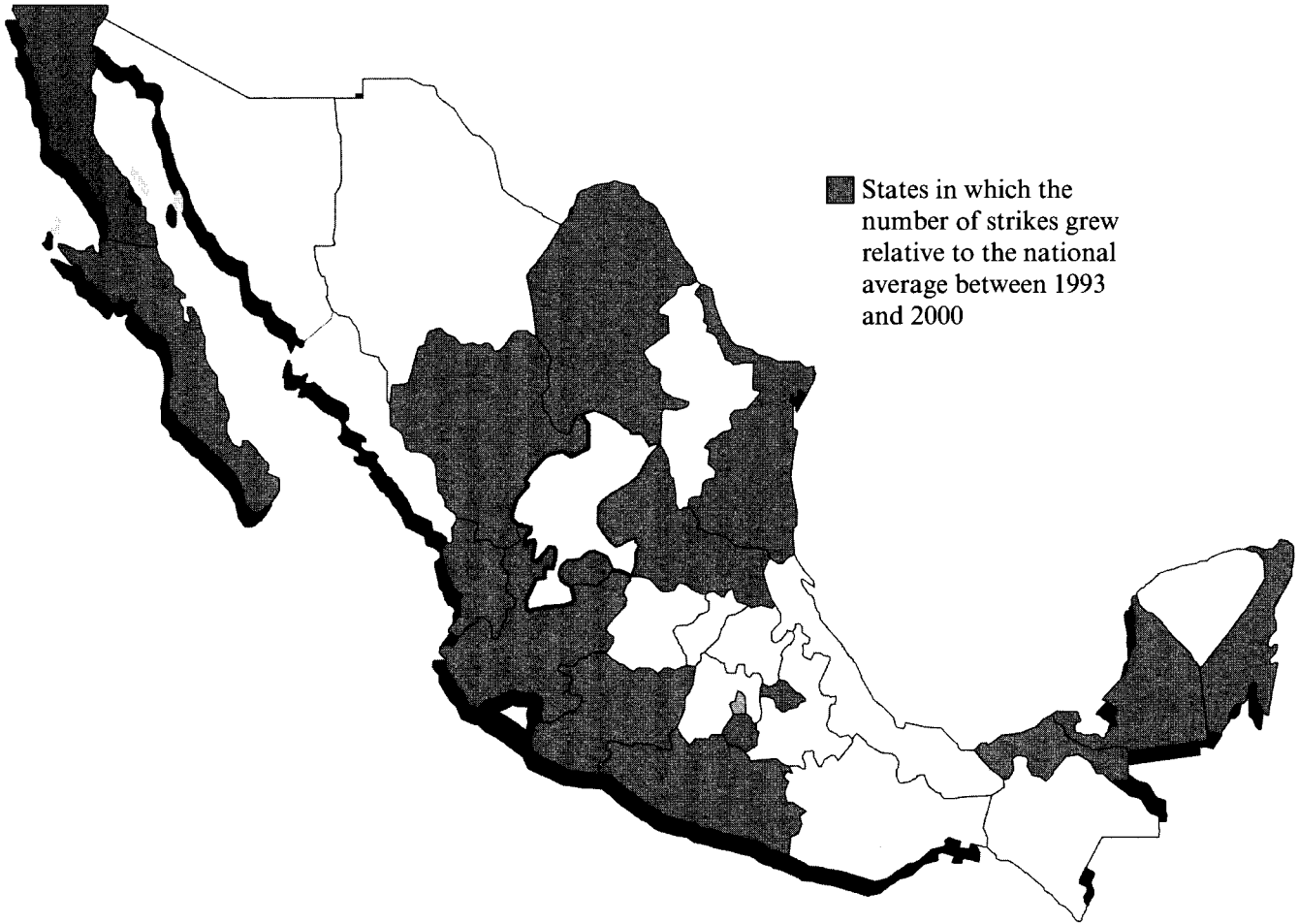

Figure 18.5 Growth of industrial strikes, 1993–2000

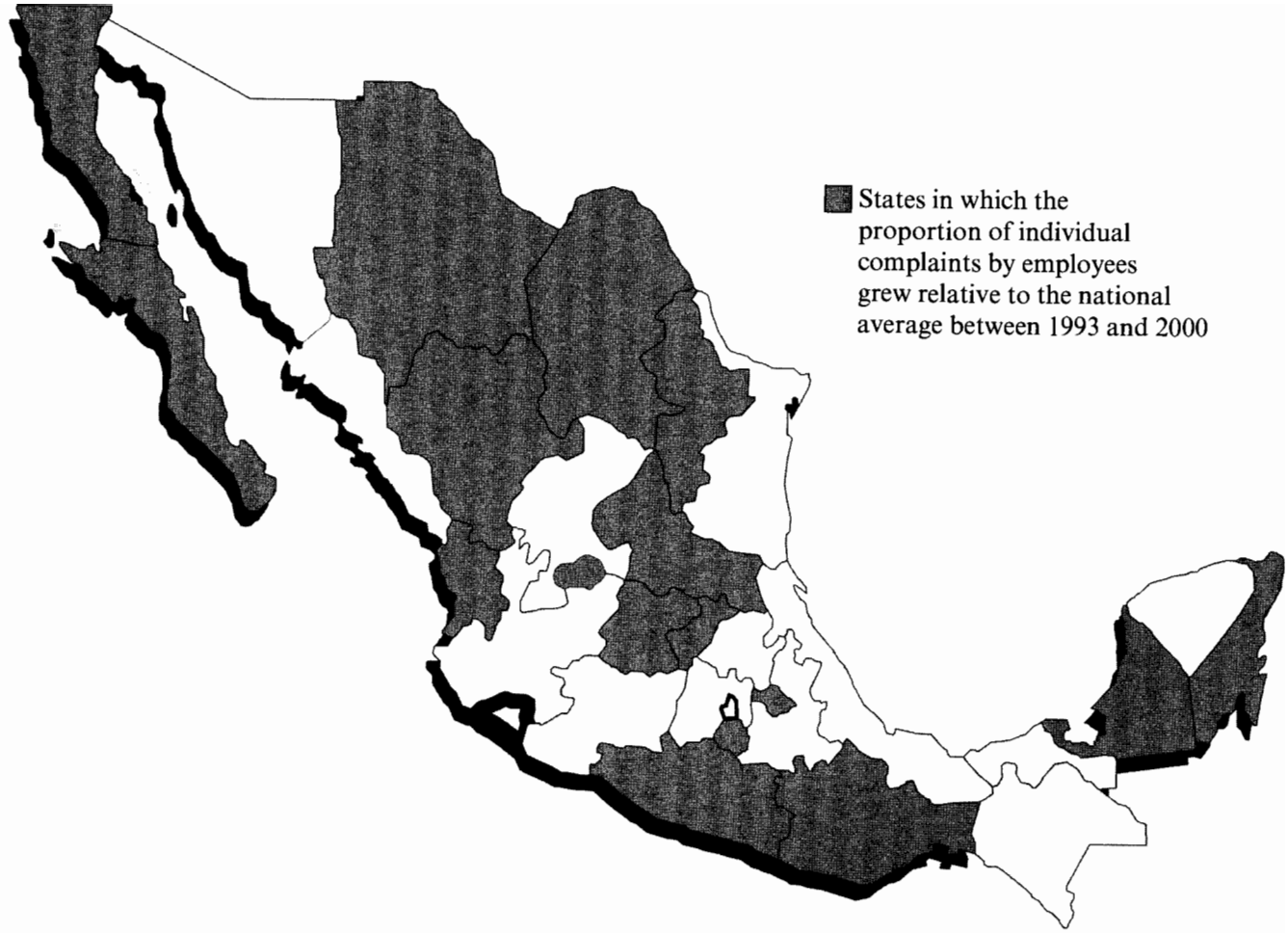

Figure 18.6 Growth of individual complaints by employees, 1993–2000

and a study of the *maquila* sector in central Mexico (including Puebla) and Yucatán in which I was involved and in which data were collected as part of the Maquila Production Models Survey/Encuesta Modelos de Producción en la Maquila (EMIM).[4]

For their part, in the early 2000s Carrillo and Gomis (2004) surveyed approximately 200 plants in the northern border cities of Tijuana, Mexicali and Ciudad Juarez to catalogue the types of work organisation and labour relations that have developed in the oldest and allegedly most developed zone of *maquila* production. Their research showed that 65 per cent of the plants do not have a technical centre for research and development, 75 per cent do not carry out research and development, and 82 per cent do not design new products. Furthermore, the majority reported that the most important production changes made in the two years prior to being surveyed were related to final assembly and process engineering, and that in 89 per cent of the plants technology was transferred from their corporate networks located in other countries. On average, they considered 40 per cent of their productive processes to be automated, while 70 per cent of their purchases were imported. With regard to the labour force, 50 per cent of workers were women, 75 per cent were line-workers and 12 per cent technicians. *Maquila* workers in this region had worked in an average of 3.1 *maquilas* during their lifetimes and 69 per cent had other labour experience. Their average length of tenure was 3.6 years, whilst their average age was 26. Average monthly turnover was 9 per cent and the primary labour problem identified by management was workers' lack of responsibility.

The research carried out by Carrillo and Gomis (2004), then, provides a good overview of the production methods and worker characteristics that have developed in the oldest *maquila* zones. As *maquilas* have spread to other parts of the country, though, these types of production methods and worker characteristics have spread with them. Thus, the EMIM, which contains a sample of 200 *maquila* establishments in non-border regions, shows that most of the *maquila* manufacturing operations (60 per cent) in these regions are similarly carried out using non-automated equipment and machinery, whilst operations carried out with automated/computerised devices, some integrated in networks and others not, are clearly a minority (15 per cent). This finding reaffirms that *maquilas* generally do not use the highest level of technology available in the manufacturing process but, instead, use labour-intensive forms of production. At the same time, though, most *maquilas* viewed themselves as having outdated technology, and reported that visual – rather than automated – quality control predominates. Equally, just-in-time inventory control is rarely used and they generally do not carry out their own research and development, acquiring technology instead either from their corporate network or purchasing it from other companies. In total, some 77 per cent of *maquila* establishments operate according to a Taylorist–Fordist model (non-automated technology and routine, standardised work), a form of organisation consistent with the intensive use of unskilled labour and with low and medium levels of (non-automated) technology.

Whilst the EMIM catalogued a number of characteristics concerning the *maquilas* in non-border regions of Mexico, it also allowed the development of an index that considers different types of flexibility: numeric (covering companies' capacity to hire or fire workers in accordance with production needs); functional (covering companies' capacity to move and/or use multi-skilled workers within the productive process); and flexibility based upon providing bonuses for productivity and performance. Based on a weighting developed through factorial analysis (for more details see De la Garza, 2005), it is evident

that the vast majority (85 per cent) of *maquilas* utilise at least medium levels of work flexibility. Although high levels of flexibility can often be associated with new forms of work organisation (Rankin, 1990), the Taylorist forms of organisation that predominate in *maquilas* and in which each job position has a specialised operator who, preferably, is not moved, however, do not favour the employment of multi-skilled labour. Finally, given the predominance of regular, full-time employees in *maquilas*, the use of bonuses is relatively uncommon. In terms of the profile of the labour force employed in *maquilas* in the south-eastern and central zone, there is nearly an equal number of male and female workers (43 per cent of general workers are male); workers are young (most general workers are between 18 and 26 years of age); workers have little length of time in the job (most general workers have worked in their plant for less than one year); they have a low level of schooling (most general workers have not continued beyond elementary school, and some have not finished elementary school); personnel turnover is high (81 per cent of workers who left the companies did so voluntarily); and there is a common perception among these workers that their wages are low.

In terms of the connections between *maquilas* and other companies within Mexico, the data collected from the EMIM survey indicate that the great majority of *maquilas* do not conduct market and sales research, personnel hiring, training, research and development, publicity, purchase of raw materials and acquisition of machinery and equipment, nor do they share machinery and equipment or engage in any other activity in collaboration with other national establishments. Of these activities, *maquilas* are more likely to share the purchase of machinery, equipment and raw materials than to engage in any of the other activities identified, but even here a very small proportion actually do so (far fewer than 50 per cent). These data are consistent with those concerning the older *maquila* zones regarding the frequency with which raw materials, machinery and equipment are imported from abroad; most raw materials, machinery, and equipment are imported for use in *maquilas* because of tax advantages, so there is little incentive to coordinate and cooperate with other local *maquilas*. Nevertheless, fiscal considerations do not seem to explain the limited occurrence of other types of networking and cooperation between *maquilas* and other companies located within Mexico – the percentage of production value that these *maquilas* subcontract with other companies in Mexico was only 3.7 per cent in 2003, whilst the percentage of income that *maquilas* obtain from being subcontracted by other establishments was only 15.6 per cent in that same year. Rather, it appears that corporations' desire to segment the production process in the international arena may be key in explaining this pattern.

To summarise, on the basis of the micro-data on establishments collected in the EMIM survey it is clear that *maquilas* in the non-border region are organisationally much like those found by Carrillo and Gomis (2004) in the northern border area and are characterised by a combination of Fordist organisation, low or medium-level technology, low or medium flexibility, and low or medium-skilled labour (47.2 per cent of establishments). However, they also exhibit a somewhat greater degree of 'precarious Toyotaism', which involves a combination of Toyotaist organisation (team work, multi-skilled labour, internal mobility) and low or medium-skilled labour, though without extensive delegation of decision-making to workers and with low or medium levels of technology and flexibility. This is, perhaps, due to the fact that they are newer facilities and so were constructed after Toyotaist principles began to shape industrial production – a fact which

highlights how the economic landscape crystallises in material form the organisational and productive systems extant at the time of its being put in place.

Discussion

In the 1980s and 1990s, many management gurus, academics (Piore and Sabel, 1984; Pollert, 1989; Pruijt, 1997; Novick and Gallart, 1997; Ozaki, 1999), governments and international organisations suggested that the way to resolve the productivitiy crisis of the 1970s was to implement Toyotaism. They advocated principles of task reintegration (in contrast to the segmentation characteristic of Taylorism); multi-skilled labour versus simplified, routine work; internal mobility among job positions, categories and departments versus fixed jobs for each person; the participation and involvement of workers in placing their tacit, accumulated know-how at the company's disposal versus workers who simply obey the rules; the creation of a specific organisational culture shared by both managers and workers; and the need for workers to identify with the company and their work rather than their adopting a confrontational attitude towards management (Boyer, 1988, 1989). Nevertheless, as one perhaps finds with all abstract formulas, this proposed model had the defect of having ignored the fact that management doctrines are always based on specific territories and local actors, which have their own histories and geographical concerns – such that the actual forms and results of these doctrines' attempted application may differ from the ideal-types of work organisation proposed in the abstract (Anfossi, 1968). Whereas, then, Toyotaism had largely been theorised as a way to reinvigorate the old manufacturing regions of advanced industrial nations like Japan, the US and the Western European economies, its application to manufacturing in a Newly Industrialising Country such as Mexico encouraged the emergence of a particular variety of Toyotaism. Thus, several national and regional particularities have distinctively shaped Toyotaism's adoption in Mexico in much the same way that they had Taylorism's, including:

1. an abundant labour force that has low educational levels, is young, and lacks industrial job experience yet is in search of employment, however unskilled;
2. a labour force that is willing to accept low wages;
3. corporatist labour unions that have largely been willing to accept poor labour conditions;
4. a government that, together with labour unions, has been willing to limit labour dissent through various means;
5. the existence of areas of the country without traditions of unionisation or collective bargaining (Castillo, 1988).

This 'grounding' of Toyotaism (Kochan et al., 1997) in which universal organisational principles have come face-to-face with Mexico's particular conditions of industrialisation have given shape to what I am here calling a 'precarious Toyotaism', particularly in the newly emergent industrial zones. Thus, production in these zones has been characterised by: the partial application of just-in-time and Total Quality Control, which in most companies was reduced to their simplest aspects, such as quality control circles; the continued segmentation between, on the one hand, workers and, on the other, technicians, engineers, and managers, with a predominance of unskilled workers; the flattening

of wage scales for workers; extensive wage productivity agreements that mostly reward punctuality and attendance, though with such bonuses being fairly minimal; the persistence of rigidity in employment in the formal sector (the result of the continuance of corporatist labour unions' control over representation – a control endorsed by the state – and the fact that general rules on how to dismiss workers have not changed but remain contained in the Federal Labour Law); functional flexibility that is broader than numerical flexibility; and low wages resulting in a majority of workers living on the edge of poverty (De la Garza, 1990, 1993b). Combined with the greater flexibility seen in collective bargaining agreements negotiated in the second half of the 1980s in *maquila* and new automobile plants in the north (ACLAN, 1997, 1998), 'precarious Toyotaism' has been characterised by high voluntary external turnover and numerous worker claims filed (individually rather than through labour unions) before Labour Relations Boards alleging violations of labour rights (Middlebrook and Quintero, 1998).

Although 'precarious Toyotaism' undergirded Mexico's neoliberal economic expansion in the 1990s and became geographically more widespread as manufacturing, the 'star' sector of the neoliberal model in Mexico, spread beyond the northern border region, its potential for continuing to do so has increasingly come into question at the beginning of the current century, just as Taylorism-Fordism did in the second half of the 1970s. In particular, the combination of economic recession in the United States in the early 2000s, which has lowered the demand for Mexican manufactured products, and competition in overseas markets from countries like China have plunged Mexico into its own recession. This crisis has been exacerbated by domestic factors, including the expansion of the dominant productive models in the *maquila* sector to other sectors; the persistent deficit in the manufacturing balance of payments which has resulted from Mexico choosing to pursue a largely low-value, export-orientated manufacturing model; the almost complete lack of research and development in the country's companies and an increasing trend toward importing machinery and equipment; the problems of access to credit faced by manufacturers as a result of the privatisation of the banks; and, finally, the lack of an industrial promotion policy that might compensate for a time for the disadvantages affecting those subjected to international competition both within and outside the country (Dombois and Pries, 1998). In short, unlike in the early 1980s, when Mexico defaulted on its foreign debts, in the present period it has not been the financial sector which has been at the core of the economic crisis but, instead, it has been manufacturing, particularly manufacturing that adopted the organisational model that emerged in the 1980s. As a result, the crisis has been especially felt in the emerging northern zones (excluding Monterrey), in central Mexico, and in places like Puebla, Guadalajara and Yucatán.

Toyotaism, then, just like Taylorism, is a labour system based on the intensification of work, though this intensification has not come through the adoption of high levels of automation of productive processes. As a result, it can have dramatic physical and social impacts on workers within the workplace, impacts that are formally acknowledged in Japan, where death from excess work is legally recognised (Boyer and Yamada, 2000). However, the crisis of Toyotaism can also be viewed as generating crises outside the workplace – workers' families, for instance, are often forgotten in the face of the long work hours that are necessary to comply with productivity goals (Maurice and Nohara, 1991). Crises in the spaces of paid employment, then, quickly bleed over into the spaces of social reproduction as workers are increasingly forced to make a choice between living

and working (Berggren, 1994). Interestingly, though, Mexican workers' responses to such intensification have not generally come through strikes, which have been heavily restricted by the corporatist labour unions that predominate in the emerging zones. Instead, worker resistance has most commonly taken the form of voluntary turnover, which is frequent in Mexico's export *maquila* sector.

As we contemplate changes in the Mexican space-economy and the state's response to this, though, it is important to recognise that not only has corporatism long been part of the Mexican state's *modus operandi* (Cook, 1999) but that this has not ended simply because of the change in government that took place in 2000 when the PRI candidate was defeated in the Presidential elections by the National Action Party's (Partido Acción Nacional) Vicente Fox. Although corporatism has been linked for decades with the PRI, the 2000 election that occurred in the midst of economic crisis demonstrated that its roots run deep in the labour arena as corporatist unions remain connected to the state, even if the party to which they historically owed allegiance (the PRI) is not in power. Thus, although labour unions may be increasingly less important in electoral terms, they remain significant players within the labour relations system. This has been built up over a long period of time and involves the Labour Department and Labour Relations Boards, institutions in which employers and labour union leaders continue to come together and in which corporatism is reproduced primarily as a relationship in which labour peace through labour union control is offered in exchange for labour union leaders maintaining a degree of political power (Bronstein, 1997).

Although corporatism is still alive and well in Mexico, then, there is, however, an important geography to its unfolding politics in the early twenty-first century. In spatial terms, the type of corporatism that is coming to dominate in the newer industrial zones is a type that has lost its capacity to mediate exchanges among workers, companies and the state and is being revealed to be simply an instrument of control for the benefit of companies and labour union leaders (Carrillo and Ramírez, 1990). For instance, in response to the conditions found in these areas, resistance by the new working class in the north generally has not found expression through support for labour unions but, instead, has been seen in individual struggles and dissatisfaction with work, which have led to high labour turnover and/or migration to the United States. This is perhaps related to the fact that the new working class that has emerged in the nascent industrialisation zones in the northern and central regions of the country is different from the old working class – primarily, it is younger and there are more women than has been the case with industrial workers in the past.

Moreover, although this working class is affiliated with corporatist labour unions, as most in the old working class were, its members have never enjoyed the corporatist protections that workers in large companies in the ISI period did, with the result that their loyalty to union leaders is nominal at best, they are largely free from clientelistic ties and corporatist traditions and their working and living conditions are more precarious than were those enjoyed by manufacturing workers employed under the old ISI regime. Consequently, to date members of this new working class have tended not to develop collectivist responses but have, instead, opted for individual or family solutions to the precarious conditions experienced. As a result, arguably the greatest difference between the old and new working classes is that the new working class has a high degree of employment and spatial mobility – it is, in other words, nomadic and is so by its own

'choice'. Hence, unlike what is often theorised to be the case in developed countries, this working class is generally not fired from employment, except in years of crisis. Rather, the workers in this class leave employment due to an accelerated wearing down process, a lack of identity with their employer and poor working conditions. The escape valves for this class of worker, then, typically consist not of unionisation but of movement into the informal sector and international migration, with all of the geographical implications for the tying together of the US and Mexican space-economies and the depopulating of the new industrial zones in Mexico that this brings with it.

Notes

1. The *maquila* sector is a manufacturing sector focused on the final assembly of products for export, especially to the United States. It imports most of its inputs and is subject to a legal system wherein its products are exempted from import, export and value added taxes.
2. For a comparison with China, another rapidly industrialising economy, see Pun and Smith's Chapter 13 in this volume.
3. In the Mexican neoliberal model, 82 per cent of labour unions belong to traditional corporatist organisations. Although the pact with the state has not been broken, labour unions nevertheless do have less influence in designing economic and labour policies, and they are increasingly less able to maintain real wages, to assure job stability and to control working conditions. In addition, the political force of corporatist leaders in the PRI is constantly diminishing, with fewer legislative representatives, senators and governors from this faction.
4. The primary instrument was a survey of *maquila* establishments divided by size, in the states of Zacatecas, Aguascalientes, Michoacan, Guanajuato, Queretaro, the Federal District (Mexico City), Tlaxcala, Puebla and Yucatán. In each state a minimum of 20 per cent of the registered establishments were used (in states with only a few *maquilas*, a census was taken) and they were distributed proportionately according to three sizes: large (with more than 250 workers), medium (with between 100 and 250 workers) and small (with from 15 to 99 workers) (De la Garza, 2005).

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