OECD Territorial Reviews

Mexico

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Mexico

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Foreword

The globalisation of trade and economic activity is increasingly testing the ability of regional economies to adapt and exploit or maintain their competitive edge. There is a tendency for performance gaps to widen between regions, and the cost of maintaining cohesion is increasing. On the other hand rapid technological change, extended markets and greater use of knowledge are offering new opportunities for local and regional development but demand further investment from enterprises, reorganisation of labour and production, skills upgrading and improvements in the local environment.

All these trends are leading public authorities to rethink their strategies. The role of policies aimed at improving the competitiveness of regions by promoting the valorisation and use of endogenous resources and at capturing trade and additional economic activities has been strengthened. At the same time central governments are no longer the sole provider of development policies. The vertical distribution of power between the different tiers of government needs to be reassessed as well as the decentralisation of fiscal resources in order to better respond to the expectations of the public and improve policy efficiency.

The Territorial Development Policy Committee (TDPC) was created at the beginning of 1999 to assist governments with a forum for discussing the above issues. Within this framework, the TDPC has adopted a programme of work that puts its main focus on reviewing Member countries' territorial policies and on evaluating their impact at regional level. The objectives of Territorial reviews are: *a*) identify the nature and scale of territorial challenges using a common analytical framework; *b*) assist governments in the assessment and improvement of their territorial policy, using comparative policy analysis; *c*) assess the distribution of competencies and resources among the different levels of governments; and *d*) identify and disseminate information on best practices regarding territorial policy and governance.

The Committee produces two types of reviews:

Territorial reviews at the national level. Requested by national authorities, they analyse trends in regional performances and institutional settings and focus on policies to reduce territorial disparities and to assist regions in developing

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competitive advantages. They also concentrate on the governance framework, on the impact of national non-territorial policies on subnational entities and on specific aspects of fiscal federalism. The final report proposes territorial policy recommendations.

Thematic Territorial Reviews at Regional Level. Requested by subnational authorities (local or regional) with the agreement of national ones, they aim to support cross-country analyses on the following themes: multi-level governance, sustainable development at local and regional levels and regional networks for competitiveness.

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Assessment and Recommendations

Despite overall economic growth, Mexico's great social and regional disparities persist as well as poverty and its uneven incidence across regions.

During the 1990s, Mexico registered impressive export-growth performance and sizeable inflows of FDI. Its annual growth rate in volume of net exports and imports was one of the most dynamic among OECD countries. Nevertheless, with respect to both individual and regional income, it is still one of the member countries where disparities are the highest. In this respect, the mid-1980s was an inflection point. The period prior to 1985-1986 was characterised by regional convergence (from 1970) and decreasing individual inequality (from 1950), while between 1985 and 1992, the process of regional convergence reversed to one of regional divergence. Following this period, analysis has confirmed greater regional differentiation and persistence of income disparities. Examination of the entire distribution of income shows that the poorest decile's position deteriorated relative to all the remaining deciles. The share of population living in poverty has remained high throughout the last decade: the proportion of poor stood at around 53% from 1992-2000 but the absolute number in poverty has increased, given growth in national population (from 45.4 to 52.4 million). The uneven incidence of poverty across regions has also persisted. In 1992, the South-Southeast region registered the highest percentage of households living in poverty (70.3%), closely followed by the Centre-West (59.2%); while in the Centre, this concerned almost half of the population (49.9%). In contrast, the northern regions had around only one-third of their total populations living in poverty (in the Northeast, 39.8% and in the Northwest, 32%).[1] By the end of the 1990s, the percentage of poor households in the South-Southeast and Centre regions remained almost unaltered; it had increased steadily in the Centre-West and Northwest regions and fell only in the Northeast.[2]

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The present territorial imbalances are the result of the spatial concentration of growth during both the phase of import substitution and the phase of economic liberalisation.

The present situation is the result of Mexico's development path. The strategy of import substitution that prevailed from the early fifties to the early eighties ultimately resulted in the slow growth of the 1980s as well as in the concentration of economic activity, especially around Mexico City and to a lesser degree, Guadalajara and Monterrey. Spill-over effects were limited: nearby rural areas benefited from the increasing demand for foodstuffs and raw materials, but further diffusion of development was extremely slow or non-existent. The liberalisation of the economy that began in the mid-1980s ensured impressive growth in average per-capita GDP (despite the severe economic crisis in the latter part of 1994), and in recent times the entry into force of the North American Free Trade Agreement (NAFTA) has brought undisputed benefits to the economy as a whole. It has also favoured the concentration of infrastructure and activities in some regions but the capitalisation of other regions' comparative advantages remains a challenge. Reforms and international integration seem to require accompanying policies to spread benefits to a larger part of the population. Not only may this help achieve more equity, it may also strengthen overall growth by building on unused potential.

The unused potential of many parts of the country is relevant, especially as regards natural and cultural resources…

The regional divide, reflected in the superior economic performance of some parts of the North and Centre contrasts, in many respects, with the rich natural and cultural endowments of the South. This is most clearly the case for water resources, forest cover, bio-diversity and archaeological sites (more than half of which discovered until 1999 are concentrated in the South-Southeast). These endowments are an important asset for development, rendering Mexico particularly capable to attract tourism. The country ranks eight in the world regarding tourist inflows (20.6 million tourists during 2000, 10 million of which correspond to trans-border flows) and has approximately two million jobs in the sector. This economic activity holds fourth place in the country in terms of currency receipts, surpassed only by oil production, manufacturing and the high volume of migrant remittances. Nevertheless, most of the natural and cultural resources are located in lagging regions and remain unexploited potential. Moreover, tourist destinations have

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on occasion developed into highly localised mass resort tourism, capable of spreading only few economic benefits to surrounding areas. Notwithstanding recent actions to increase the number of protected areas, natural resources remain threatened by the depletion and degradation of the environment. On the one side, rural populations have been turning forestland into harvesting or cattle-grazing land without regard of natural vocations; while, on the other, urban populations have highly contributed to water, land and air pollution. It will be among the priorities of all levels of government to address such environmental challenge.

… and conditions favourable to the development of industry and particularly of clusters.

Clusters, whose number has been increasing in the country since the economic liberalisation, constitute a competitive advantage for several regions of Mexico. Thus far, *maquiladoras* and multinational investment continue to be concentrated mainly in the Northern and Centre/ Centre-West regions, spreading productivity benefits and reinforcing "virtuous circles" in these regions. Local assets are not purely based on lower transportation costs, but also on organisational closeness to the United States, on company operating practices such as networking and flexible specialisation, as well as on the quality of inputs that are often the result of local standards and practices. At the same time, several other regions have a continuum of non-exporting small- and medium-sized firms that remain oriented towards local markets and have low capacity to modernise their technology and organisation. Although physically close, the firms are juxtaposed and only potentially constitute clusters. They face high transaction costs in business-to-business relationships and are unable to exploit the advantages of networking, and specialisation. Both existing and potential clusters have increasingly to face the possible effects of the new competition from emerging large countries, where technological capacities may facilitate rapid increase in productivity without proportional growth in wages, given the enormous supply of labour ensured by the latent unemployment in rural areas. In these circumstances, permanent up-grading of processes and manufactured products in Mexico is required.

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Together with unexploited potentials, a significant challenge is the structure of human settlements: on the one hand, a high concentration of population and industry in large cities, in particular, Mexico City…

In the last two decades, the distribution of population across regions in Mexico has undergone significant changes. In particular, the country's main metropolitan areas experienced a slowdown in growth parallel to the reorientation of migration flows to small- and medium-sized cities. This trend has the potential to help Mexico's economic and social development, as a more balanced distribution among cities can contribute to the provision of public services at a lower cost, while fostering political-administrative and spatial-physical decentralisation. Despite this trend, patterns of territorial distribution in the country remain very polarised: there is both a high concentration of population in select large cities and a great dispersion of people in thousands of small localities. In 2000, one-third of the population was concentrated in nine cities with more than one million inhabitants. The metropolitan area of Mexico City is in its own class where almost 20% of the country's population (20 million inhabitants) are concentrated. After severe economic difficulties during the 1980s, the area's recovery was mainly driven by the upswing of the Federal District, where GDP grew 3.5% annually (1988-96), markedly above the national average. However, it is not clear if recovery has been reached with increases in employment and standards of living. Economic improvement did not result in the creation of a substantial number of jobs in the formal economy and by the mid-1990s, about 50% of the economically active population worked in the informal economy.

… and on the other hand, a great dispersion of small settlements, especially in the South-Southeast region.

Concerning non-metropolitan areas, a quarter of the Mexican population lives in 196 000 localities, each with less than 2 500 inhabitants. Many of them are commonly associated with conditions of poverty and marginalisation and lag considerably behind urban areas. In the mid-1990s, the average urban income was almost three times larger than that of rural. Since the drive to economic liberalisation started in 1985-1986, rural areas have been less effective in exploiting economic opportunities presented by liberalisation, thereby, further marginalising the population. The insular nature of numerous sparsely populated communities often translates into a substantial lack of access to a wide range of basic public services (as is the case for

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education, health care, water supply and electricity), as well as to government programmes that cannot reach the remotest areas. The resulting living conditions led to migration towards congested urban areas and the United States. Given such a picture of high concentration and dispersion, the major challenges that lie ahead in terms of spatial organisation and planning are to strengthen small- and medium-sized cities with the potential for development, regulate the expansion of greater metropolitan areas, enhance connectivity, and respond to the needs of remote localities through the creation of the necessary critical mass to ensure access to services for people and firms.

Despite the need to address relevant development opportunities and challenges, a comprehensive territorial development strategy has been lacking for decades.

During most of its modern history, Mexico was characterised by a highly centralised political system, in which decision-making was largely held at the federal level; there was lack of continuity of many government programmes, and economic strategies were mostly comprised of centrally-managed, sector-specific policies with only unintended territorial effects. Signs of change began to be seen in the second half of the 1990s. Actions being taken in recent years to favour a more balanced development of the country include: horizontal and vertical co-ordination mechanisms, territorial planning, a better distribution of responsibilities and resources across levels of government and greater accountability.

Recently, new horizontal and vertical co-ordination mechanisms have been put in place at all tiers of government…

The present federal administration (2000-2006) affirms its commitment to bring regional development to the forefront of the public policy agenda and give greater weight to place-based policies *vis-à-vis* the traditional sectoral perspective. This is exemplified by the salient incorporation of a regional-oriented approach into the National Development Plan and by the creation of the Office for Strategic Planning and Regional Development within the Executive Office of the President. This new structure aims to implement policy-making processes in which the federal government is no longer the only actor, but operates as a facilitator of interstate and intersectoral co-ordination, while also allowing for the participation of the private sector and civil society in the definition of common objectives. A stated goal is to promote large-scale development projects in

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the context of areas that have been denominated "Meso-regions", *i.e.* project units – each made up of several states – to co-ordinate states' intervention and provide more "voice" to governors. The governors participate, together with representatives from the federal government, in tables of negotiation and planning chaired by the President. This new approach is supported by the creation of Regional Trust Funds – which also could receive donations from private sources – that allow state governments to finance viability assessment and project proposals.

… and they appear promising.

The new approach gives greater say to states in the channelling of public funds for large-scale projects, by allowing the agreed upon regional projects to be included in the federal budget. One of its defining characteristics is that it functions on the basis of a voluntary agreement among the interested parties. States participate in the process because they perceive that shared goals can be quickly advanced and economies of scale can be obtained from co-operation with other governments. Incentives from Regional Trust Funds may also play an interesting role in improving the design and evaluation of concrete initiatives. To date, some visible results have been reached, including a portfolio of regional projects that has been approved in areas such as communications, agriculture, environment and public security. In order to further carry out a comprehensive territorial development strategy, these promising tools for large-scale projects at the Meso-regional level may benefit from complementary processes on a smaller scale, particularly in the field of local economic development (see the Micro-region strategy).

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The National Programme for Urban Development and Territorial Planning reinforces the territorial perspective of the current government, while underlining the need for improved co-ordination at the federal level.

Together with the creation of the Office for Strategic Planning and Regional Development and the Meso-regional co-ordination, another action that has been presented as a herald of a more place-based approach to solve the inconsistencies of the rigid sectoral orientation of the past is the National Programme for Urban Development and Territorial Planning, 2001-2006 (PNDU-OT) of the Ministry of Social Development (SEDESOL). The programme puts emphasis on the need to encourage orderly growth, to evaluate and support the potential of each territory and in this way, to reduce disparities. In the context of increased federalism, it aims to design and promote a national policy for rural and urban development and to foster the implementation of strategic projects with an integrated approach in regions, metropolitan areas and cities. Nevertheless, the emerging strategic planning for territorial development may face possible shortcomings regarding horizontal co-operation within the different branches of federal government. Previous OECD studies also alert to the risks of fragmented overlapping responsibilities of planning instruments. They propose the definition of precise rules of implementation in order to enhance the effectiveness of instruments for institutional co-ordination and to ensure the participation and co-operation of the actors involved in territorial development policies. Improving the present state of affairs is vital to making the regional planning process a stronger shared commitment across the federal administration.

The allocation of responsibilities and resources across levels of government should undergo additional transformations…

In conjunction with new co-ordination mechanisms, the allocation of responsibilities and resources has a central role in the implementation of a territorial strategy in Mexico. For several years, the federal government has been strengthening sub-national autonomy by decentralising responsibilities to states and municipalities, particularly in education and health care, giving signs of a transition towards a more decentralised and authentically federalist arrangement. Nevertheless, the country remains considerably centralised in various aspects and by international comparison. In particular, the process of decentralisation has not been accompanied by a respective devolution of taxing power, revealed by the fact that around only 5% of

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total Mexican tax revenue are collected at the sub-national level. This can be partly explained by the fact that many municipalities and some states have faced obstacles when trying to administer the budget or raise taxes, for lack of institutional capacity. Nonetheless, the fiscal gap, *i.e.* the difference between taxing power and spending responsibilities, is significant compared to other OECD countries, particularly federal ones, and has even increased over the last two decades. Despite the introduction of new taxation prerogatives, the tax reform package approved at the beginning of 2002 is unlikely to greatly increase the share of tax revenue of sub-national governments that rely on conditional and unconditional transfers (R*amo* 28 and R*amo* 33) for most of their financing. Additionally, the criteria for allocating various intergovernmental transfers could be improved considerably, thereby increasing efficiency of local public service provision as well as reducing state and municipal revenue disparities.

... in order to realise the gains associated with decentralisation.

To fully reap the benefits associated with decentralisation, Mexico will have to undergo additional transformations. I*n the short term*, better formulas for the distribution of most intergovernmental transfers should continue to be developed and implemented. Moreover, as long as state and local governments are financed primarily by transfers rather than own taxes, efforts should be made to improve accountability mechanisms and monitor spending. In particular, conditional transfers should be based on codified indicators that better incorporate equity or efficiency criteria, and that can neither be frequently nor easily modified. Together with the introduction of premium-like devices, this would increase incentives for more efficient sub-national government spending. It would also encourage the implementation of local management control systems, programmes for the training of state and local public officials and feasibility studies to better assess the impacts of investments. I*n the long term*, not only should state and local governments obtain more taxing power, they should also be given greater incentives to raise own-resource revenues, particularly in terms of income taxation. This would allow a closer match of local demands and could lead to greater political accountability. Tax decentralisation

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could be accompanied by a partial fall in transfers, while a remaining part of today's unconditional transfers could be transformed into an equalisation fund, explicitly targeted at regional disparities. Transfer of responsibility and resources to sub-national governments should be accompanied by reinforced tools to enhance capacity building, transparency and accountability.

Lack of accountability, corruption and low security levels can hinder the effective implementation of the new territorial development strategy.

The effectiveness of better co-ordination mechanisms, territorial planning, and allocation of resources and responsibilities across levels of government may be influenced by other important aspects of governance, such as accountability and the control of corruption. Notwithstanding recent progress as a result of democratisation, Mexico is a country where corruption persists as an important development obstacle as it might affect the attraction of FDI. Moreover, it hinders endogenous development, having a negative effect on local framework conditions and governance. In this context, particular attention should be devoted to the risks associated with the on-going decentralisation process. Despite the lack of substantial results to contain widespread corruption, the current strategy carried out by SECODAM represents a step in the right direction in its aim to foster the awareness and participation of civil society and to create competition among states to improve their standing in public rankings. Relevant progress has been made on the government purchases and acquisitions front. In this respect, the opportunities offered by e-procurement systems are being exploited through the introduction of COMPRANET. The system should be further supported to reach the government's objective of increasing the percentage of public bidding on the Web. These changes should be accompanied by actions to foster the diffusion of best practices that are emerging across the country. Of fundamental importance is the recent creation of the independent *Auditoría Fiscal de la Federación* that has greater capacity than its predecessor (the *Contaduría Mayor de Hacienda*) to oversee public spending and initiate the prosecution of offences. Nevertheless, further action is required to reduce red tape and develop new legal tools at all tiers of government to better define the responsibilities of public officials and reduce discretionary power and conflicts of interest. Moreover, the

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judicial system's autonomy from political powers could be further developed, particularly at the state level. As well as corruption, low security levels, particularly in the Mexico City metropolitan area and along the northern border areas, may effect FDI and impair the economic development of regions.

Mexico's territorial development policies should aim at poverty alleviation as a priority…

A comprehensive territorial development strategy needs to take into account not only aspects of governance but also to orient policies towards the three most pressing policy challenges: alleviating poverty, fostering competitiveness and enhancing connectivity. Poverty, with its increasingly uneven spatial concentration, is related to the highly unequal distribution of *education services and attainment*. Despite being one of the richest countries in Latin America in terms of per capita GDP (fourth in rank), Mexico ranks eighth in the mean years of formal schooling in the working population (EAP). Overall, education performance varies widely across regions, with the Northeast and the Northwest showing the highest achievements and the Centre-West and South-Southeast lagging behind. Beyond the platitudes of calls for "more education" as a win-win situation that is repeated in all OECD member countries, transforming the positive incentives accruing to skill into national growth will require policies that stimulate demand among all parents for the comprehensive education of their children. This can only be accomplished by acting both through the efficient and equitable delivery of educational services and through public initiatives that relax liquidity constraints of the most disadvantaged households. Finding ways for the poor to make these investments is an important step in reducing poverty, while increasing the productive capacity of the country. Additionally, *housing* is a critical factor to reduce poverty. In this case too, regional differences exist. Data show the largest deficits in the South-Southeast: nearly one-third of the region's households have soil floors, in stark contrast with the Northeast (under 7%). In order to confront such a situation, structural distortions created by irregular *ejido* and communal land should be overcome, thereby facilitating housing construction and access to credit for low-income families. In particular, the process of land regularisation needs to be

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streamlined, possibly by giving SEDESOL and states greater leeway to establish a coherent strategy.

... by reinforcing successful initiatives and phasing-out inefficient programmes...

The guiding principle in government programmes to fight poverty should continue in the recent shift from mere assistance towards actions that allow for the accumulation of human capital and provide opportunities for local development. This approach has been actually adopted in *Contigo*, a multi-sectoral social development strategy, requiring inter-ministerial co-ordination. Accordingly, *Oportunidades*, initially called PROGRESA (Programme for Health, Food and Education), operates within the framework of *Contigo* and acts as the flagship among governmental programmes to fight poverty. Initiated in 1997, *Oportunidades* covers four million families with a current budget of approximately USD 2 billion. It consists mainly of income transfers to the rural poor conditional on the usage of health, education and nutritional services. The programme has been particularly effective in increasing educational attainment and improving health conditions. *Oportunidades* will extend poverty alleviation actions to urban areas where poverty assumes peculiar characteristics. This is a much needed step given the scope of the situation (today Mexican cities have 18.3 million people living in poverty) and also the result of gradual cuts in general programmes towards urban areas that were not accompanied by policies targeting the most disadvantaged strata of the urban population. While *Oportunidades* represents a recognised best practice, there is still a wide-range of "old generation" programmes, originally designed to provide safety nets for the poor, that need substantial reform or whose funds should be progressively channelled to the more successful programmes.

... continuing the on-going strategy towards a place-based approach...

Originally conceived to fight rural poverty, the strategy for micro-regions merits particular attention for its territorial focus and wide-range applicability. It mainly consists of co-ordinating efforts of various ministries that meet in an inter-sectoral committee chaired by the President, to assist approximately 260 regions comprising around 20 million people and featuring high or very high levels of marginalisation. The aim is to create in rural regions *Strategic*

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Community Centres that have the critical mass necessary for the efficient delivery of public and private services. This strategy has the potential to become one of the most important examples of a place-based policy for rural development, given its comprehensive/non-sectoral focus. Still, it might benefit from more flexibility regarding intervention perimeters and enhanced co-ordination mechanisms between bordering micro-regions. It may also take advantage of mechanisms for monitoring, assessment and dissemination of best practices emerging at the micro level, as well as of qualified technical assistance to local operators. The micro-regional approach, which is currently implemented only in the context of poverty alleviation programmes, should be extended to incorporate a larger number of developmental concerns. In this perspective, it could constitute a crucial tool to foster local economic development, playing an important part in the country's overall territorial development strategy.

… as well as integrating indigenous people in the economy while preserving their cultural specificity.

In terms of poverty alleviation, the indigenous population deserves particular attention. According to the 2000 Census, it stands at around 8 million persons (however INI, the National Indigenous Institute, places the estimates at more than 12 million persons) with a high percentage in poverty, deficits of enabling assets and a complex web of interrelated social and economic problems. After a long history of exclusion that has turned recently into harsh conflicts in some Southern areas (*i.e.* 1994 Chiapas), the government has shown more openness and given more political voice to ethnic minorities. The recent creation of the Representative Office for the Development of Indigenous People within the Executive Office of *Presidencia* has been an important step in this direction. Nevertheless, much remains to be done to ensure that the access to development benefits goes hand in hand with the preservation of their culture that have not only high value but also potential for economic development. In particular, existing programmes should adapt to the peculiar needs and organisational structures of indigenous societies. Empowerment is key but needs to be accompanied by local capacity building as well as monitoring mechanisms to control the effective implementation of programmes and to avoid illegal resource appropriation by unaccountable power holders at the local level.

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Together with poverty alleviation, a second main challenge for territorial development is to reduce the gap between the export and domestic sectors.

A second important policy challenge is to reduce the gap between the export and domestic sectors. Despite encouraging signs from emerging clusters in areas with advanced micro-economic foundations (specifically manufacturing traditions, high levels of formal training, etc.), sustained action is needed to foster the development of linkages, value chains and networking among small firms as well as to enhance their access to innovations and credit. The *Programme of Entrepreneurial Development* (PDE) 2001-2006, launched by the current government, is intended to act as an umbrella for all existing initiatives that have thus far been carried out in an uncoordinated fashion. It sets very ambitious goals to be attained by the end of the current administration. Its success will largely depend on the quality of the collaboration within and between different tiers of government and with the private sector. Key to the new government's strategy will be the ability to introduce an authentic place-based approach, which focuses on improving local conditions for entrepreneurship and business development and providing real services to SMEs rather than relying on direct incentives as in the past. Creation of "one stop shops" for such support services would significantly improve their delivery at the local level. In addition a national system of indicators will need to be set up in order to monitor results and fine-tune such policies.

A third crucial policy challenge is to enhance connectivity across Mexican regions, both in terms of transport infrastructure…

The country's communication and transport system has relevant shortcomings. *Regarding highway infrastructure*, past policies fostered the creation of a radial structure centred on Mexico City and gave rise to high investment, maintenance and operating costs to overcome a very rugged topography. In a related manner, the absence of coastal highways along the northern part of the Gulf of Mexico resulted in the channelling of cargo from the South and the Yucatán Peninsula through the congested Centre to reach the United States. *The railway system* also presents a radial structure. Moreover, despite important structural transformations that have taken place during recent years (particularly through the privatisation of the state-owned *Ferrocarriles Nacionales de México*), large parts of the country remain disconnected from the network. *With respect to ports*,

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capabilities are still weak and inter-modal complementarities have not been adequately developed, thus reducing, both, the zone of influence of cargo distribution capabilities and the potential to overcome the limitations of coastal highways. O*verall*, the geographical areas to be prioritised are the South-Southeast and Centre. Although significant investment in highways has been made for a long time in the latter region, additional efforts are now required to decongest its inter- and intra-regional exchanges. For its part, the South-Southeast region needs to build higher quality infrastructure to become integrated with other regions, improve its access to national and international markets and fully exploit its tourism potential. In the context of severe budgetary constraints, questions regarding financing have high relevance. Of great importance (to accomplish these structural changes) is the need for Mexico to adopt multi-year budgets. Currently most investment plans are annual, with the six-year sectoral plans being more policy documents than operational documents with financial commitments. The present situation gives all actors short-term horizons and increases uncertainty.

… and in terms of telecommunications.

Notwithstanding the advances in *telephony* in the 1990s, there still exists a relatively low development in telecommunication infrastructure. While the national average is only 13 lines for 100 inhabitants (the lowest of all OECD member countries), telephone density follows the regional ordering typical of other productive endowments, with the Centre leading (13.7) and the South-Southeast proving once again to be the most lagging region (only 7.5). The critical challenge facing the development of ICT infrastructure is to achieve universal coverage within a competitive market that could increase regional disparities in infrastructure provision without the introduction of adequate equalisation mechanisms. With respect to I*nternet access*, despite recent increase in the overall number of Internet users and in the ratio of households with a computer, there remains a significant digital divide between the small minority that takes advantage of the new technologies and the large majority that lacks such access. The main policy response has been the design and

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implementation of the E-Mexico project that seeks to cover 80% of the population by 2006. In order to achieve its ambitious objectives, this project should be further developed and several best practices in OECD countries (*i.e.* Finland and Canada) could be used as benchmarks for its implementation.

The aim to enhance connectivity is also pursued through the Plan Puebla-Panama that represents an ambitious initiative for the development of the most lagging parts of the country.

To date, the Mexican government's most significant project to foster regional development in the South is the Plan Puebla-Panama (PPP). The Plan seeks to provide a much needed framework to design, finance and implement regional development projects in an integrated fashion and to allow the region to achieve better connectivity with Central America and the rest of the country. The PPP emphasises the need to bridge the North-South divide through the construction of 2 200 km of roads, which would extend highways and railroad lines from the Pacific Ocean to the Gulf of Mexico. Regarding telecommunications, it seeks to widen and modernise the region's systems, in order to improve basic and value-added services and data transmission networks. Although the PPP is not merely a financing mechanism, its regional development focus is likely to help mobilise funding from international financial institutions, facilitate co-operation with the Central American region, as well as achieve better co-ordination among different actors in Mexico. Nevertheless, its institutional capacity to catalyse support from all levels of government towards such an ambitious strategy requires further work. As large investments are needed to achieve its goals, it will require significant efforts on the part of national and international actors in order to be successful. Notwithstanding its wide mandate, to date, most of the PPP's advances have been mainly limited to road infrastructure. Other areas of interest have not received adequate financial backing (with the exception of some actions such as energy interconnection with Central America).[3]

A medium-term agenda:

The basis for significant progress has been laid. Decentralisation can help foster accountability within government. In addition, the emerging territorial strategy can foster the identification and valorisation of comparative

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advantages across Mexican regions, creating synergies in public investment projects. Yet a series of conditions should be set in order to ensure that current reforms contribute to a coherent and widely supported strategy to favour a much needed convergence process in regional development.

1. *Co-ordination and institutionalisation*. The present federal administration's commitment to a territorial development strategy requires a clear redefinition of responsibilities. To this end, it is necessary to clarify the tasks of the actors in charge of vertical and horizontal institutional co-ordination as well as those related to spatial planning. Moreover, progress is necessary to make sure that the design and implementation of territorial development strategies goes hand in hand with the actions undertaken by sectoral ministries. In addition to defining functions and responsibilities, a legal framework should be given to bodies involved in the implementation of territorial development policies to strengthen their mandate and help institutionalise their respective methods of work. Finally, the design and assessment of policies should involve representation from different ministries and levels of government, possibly constituting a permanent council.

2. *Administrative capacity and reward mechanisms*. In the context of the on-going process of decentralisation and responsibility devolution, attention should be put on enhancing the capacities of local administrations. Likewise, action is required to strengthen planning and project design at all tiers of government. This should also be accompanied by the implementation of an appropriate system of incentives. To this aim, monitoring and related sanction/reward mechanisms need to be set-up at both federal and local levels.

3. *Allocation of resources*. The definition of functions and responsibilities will have to go hand in hand with the allocation of adequate resources. In particular, it will be crucial that the current reform of the regional planning system is backed up by the possibility of establishing multi-year expenditure objectives that allow for consistent, long-term planning.

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Summing up

Mexico is a land of contrasts. Despite overall economic growth, social and regional disparities persist, giving rise to many "Mexicos". The potential of different parts of the country is relevant but has been insufficiently valorised, especially as regards natural and cultural resources and conditions favourable to local economic development. The territorial challenges are equally significant, beginning with the high concentration of population and industry in large cities and the great dispersion of small rural settlements, especially in the South-Southeast region. Although a comprehensive territorial development strategy has been lacking, more recent policy action addresses the aforementioned development opportunities and challenges. New horizontal and vertical co-ordination mechanisms have been put in place, and a National Programme for Urban Development and Territorial Planning reinforces the current government's territorial perspective. With these issues, the allocation of responsibilities and resources across levels of government as well as corruption and lack of accountability should continue to be addressed. Concerning policies, focus should be put on: *a*) alleviating poverty (by reinforcing successful initiatives, phasing-out inefficient programmes, and strengthening the on-going strategy towards a place-based approach); *b*) enhancing competitiveness and reducing the gap between the export and domestic sectors through further cluster formations; and *c*) strengthening connectivity across Mexican regions, both in terms of transport infrastructure and telecommunications. Overall, the main objective is to increase regional access to the modern economy in the context of more efficient and accountable governance.

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Notes

1. Calculations of the Office of Statistical Resources, Presidency of Mexico, based on INEGI, National Population and Housing Census, 2000.
2. The disparities between the country's five meso-regions are even more striking in terms of people living in conditions of extreme poverty (as defined by National Institute of Statistics, Geography and Informatics, INEGI), with the South-Southeast always lagging behind. Similar results are also reflected by the marginalisation index created by Mexico's National Population Council (CONAPO).
3. The Mexican government has also implemented various other programmes to further regional development. For example, positive results have been obtained from the 3X1 programme, through which federal and state governments, as well as the migrant's associations, give funding for development projects in the migrant's municipalities of origin.

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Introduction

With the objective of undertaking an analysis of the main issues facing the Mexican economy from a territorial perspective, the present Review is divided into the following parts. Chapter 1 provides an analysis of regional and social disparities in Mexico, as well as their explanatory factors. This evaluation serves as an introduction to the discussion of the existing, stark division in terms of levels of development and regional distribution of enabling assets, most notably between the North and the South of the country, as well as between urban areas and isolated settlements. The second section of the chapter identifies the unused potentials and development challenges of the different regions, while making reference to successful experiences to increase local comparative advantages. In Chapter 2, an assessment of territorial governance in Mexico addresses the current institutional setting, focusing on the numerous challenges that arise from decentralisation and increased federalism. In a closely related manner, particular attention is given to the territorial distribution of resources and fiscal responsibilities, while putting forward an agenda for reform. Chapter 3 then embarks on an overview and evaluation of the main strategies that have been implemented by Mexican authorities from a territorial perspective. In closing, three policy objectives are identified and advanced as having the greatest priority in confronting and redressing the situation presented in the first chapter. Thus the chapter focuses on policies aiming to: 1) alleviate poverty; 2) foster competitiveness of Mexican regions; and 3) enhance the level of connectivity across the country.

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Chapter 1

Territorial Disparities and Development Potentials

1.1. Disparities

Macroeconomic performance and inequality

Mexico's economy grew at an average rate of 3.6% per year from 1993 until 2000 despite the crisis caused by the 1994 devaluation of the peso. However, these national averages conceal great disparities within Mexico in as much as recent growth has not been shared equally by all social groups, economic regions or even states within them. Understanding the potential causes of this phenomenon is critical to framing policy to promote growth with equity. Mexico presents a particularly instructive case given the extent of economic reforms over the past 15 years, its locational advantage with respect to the US economy, large existing regional and social disparities and emerging developments in democratisation and governance.

Increasing inequality in Mexico is demonstrated by examining the income of the wealthiest population decile as a multiple of the income of the poorest population decile since the early 1980s. Figure 1.1 demonstrates slow GDP growth punctuated by the increase of inequality. The balance of payment's crisis of 1982 highlighted an unsustainable regime of import-substitution, the effects of which impacted adversely the Mexican economy to the end of the decade. The import substitution regime tended to reinforce inequalities in the country – particularly regional disparities between the Centre and the periphery – with individual income inequalities also increasing in the context of the economic crises of the 1980s and the first steps towards the structural transformation of the economy. However, the experience of the 1990s only fulfilled half of the promise of an economy stressing competitiveness. The growth rate in per capita GDP has been impressive despite the severe economic crisis in the latter part of 1994, especially in comparison to the period before reforms were implemented in 1986 with Mexico's entry into the GATT. Likewise, total foreign trade increased threefold from 1993 to 2000, while foreign trade doubled its share in the economy during the decade (from around 30% of GDP in 1991 to 60% in 2000). Since 1994 to 2000,

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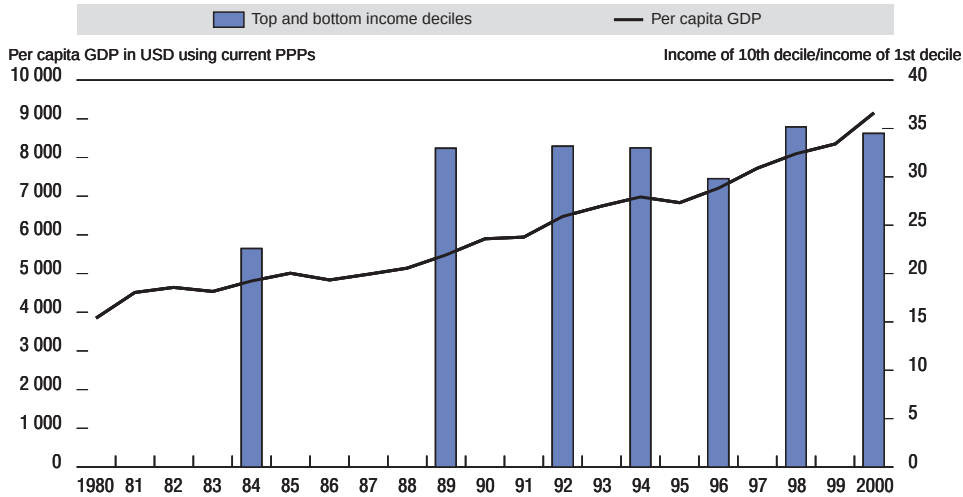
Figure 1.1. **GDP per capita growth and ratio of top and bottom income deciles**



Source: INEGI.

Mexican industry has been able to boost its US market shares in leading US import sectors, such as motor vehicles and auto parts (from 9 to 16%), electrical (from 3 to 17%) and communication equipment (from 8 to 22%). Nevertheless, Figure 1.1 demonstrates that the benefits of economic growth have accrued mainly to the most advantaged citizens relative to the most disadvantaged. Examination of the entire distribution of income shares by decile demonstrates that such regressive growth characterised the poorest decile's position relative to all the remaining deciles (Table 1.1).

The conclusion is that the Mexican income distribution in 2000 is unambiguously more unequal than in 1984. Construction of Lorenz curves for the 1984 and 2000 distributions confirms this as the 1984 curve of cumulative income share by deciles is everywhere above that of the 2000 curve (Figure 1.2).[1] Growth in inequality and the shift in the policy regime from import substitution to trade liberalisation were both driven by the economic crises of the 1980s, which demonstrated the increasingly unsustainable character of ISI. This was compounded by the fact that in the context of ISI, the public sector had an almost dominant position in the economy and exports consisted primarily of raw materials, with the private sector being highly protected and less competitive. The inability to substantially improve the relative position of the most disadvantaged through the 1990s presents a significant development challenge that will likely require

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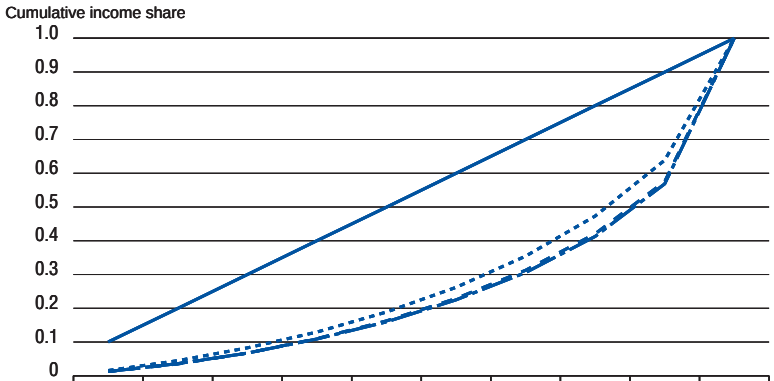
Table 1.1. **Per capita income share by income deciles**

	1984	1989	1992	1994	1996	1998	2000	% change			
								1984-2000	1989-2000	1992-2000	1996-2000
1	0.016	0.013	0.0130	0.0131	0.0138	0.0118	0.0123	–0.2318	–0.0472	–0.0518	–0.1105
2	0.029	0.024	0.0232	0.0230	0.0249	0.0224	0.0231	–0.2002	–0.0409	–0.0041	–0.0729
3	0.038	0.033	0.0317	0.0318	0.0338	0.0325	0.0323	–0.1456	–0.0213	0.0196	–0.0450
4	0.047	0.042	0.0408	0.0410	0.0432	0.0429	0.0419	–0.1117	–0.0065	0.0264	–0.0306
5	0.059	0.053	0.0511	0.0513	0.0542	0.0540	0.0531	–0.1014	0.0096	0.0401	–0.0197
6	0.073	0.066	0.0635	0.0644	0.0672	0.0677	0.0665	–0.0920	0.0116	0.0465	–0.0115
7	0.092	0.083	0.0803	0.0814	0.0838	0.0848	0.0834	–0.0918	0.0094	0.0385	–0.0046
8	0.119	0.107	0.1073	0.1070	0.1095	0.1109	0.1079	–0.0960	0.0116	0.0062	–0.0139
9	0.165	0.155	0.1591	0.1557	0.1576	0.1597	0.1554	–0.0592	0.0021	–0.0234	–0.0137
10	0.361	0.425	0.4300	0.4313	0.4120	0.4134	0.4241	0.1737	–0.0022	–0.0139	0.0293

Source: INEGI.

Figure 1.2. **Lorenz curves for Mexican income distribution: 1984, 1994 and 2000**



	1	2	3	4	5	6	7	8	9	10
Equally distributed income	0.1	0.2	0.3	0.4	0.5	0.6	07	0.8	0.9	1
1984	0.0160	0.0449	0.0827	0.1299	0.1890	0.2622	0.3540	0.4734	0.6386	1
1994	0.0131	0.0361	0.0678	0.1088	0.1601	0.2245	0.3059	0.4129	0.5687	1
2000	0.0123	0.0354	0.0677	0.1096	0.1627	0.2292	0.3126	0.4205	0.5759	1

Source: INEGI.

additional measures targeted specifically to the poor. Nevertheless, the basis of the 1994-1995 crisis is found in variables not directly related to trade liberalisation policies although it did negatively affect both inequality and poverty. To the contrary, it can be argued that stronger linkage to the US economy through trade

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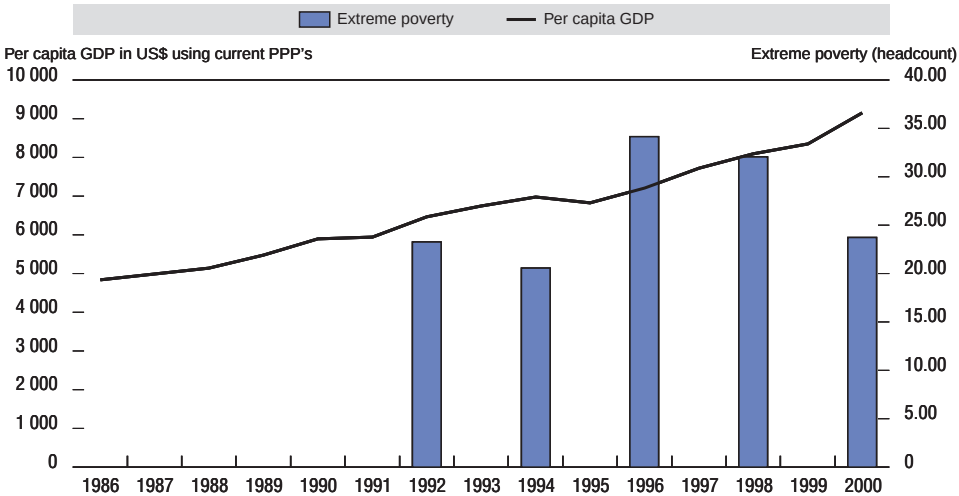
was instrumental in diminishing the depth and duration of the 1994-1995 crisis. In comparison, the effects of the 1982 crisis lasted significantly longer. Moreover, a noteworthy development in the context of recent policies is the relative improvement of those in the middle of income distribution. The Lorenz curves for the 1994 and 2000 distributions cross between the 3rd and 4th population deciles, with deciles 4 through 9 enjoying a larger share of income in 2000 relative to 1994.[2]

Assessing the performance of the Mexican economy on the basis of relative income shares may be especially problematic during a period of economic transformation. Absolute levels of income may be more relevant in assessing whether initial increases in inequality may be tolerated for some time if it results in faster rates of income growth of the poor. Figure 1.3 demonstrates that the share of population in extreme poverty has not improved throughout the period (although some surges were observed following the 1994-1995 peso crisis).[3] However, the percentage of households in extreme poverty increased throughout the period from 23.2% in 1992 to 23.7% in 2000. This percentage refers to the number of individuals with an income inadequate to afford a basket of minimum food requirements – established by the National Institute of Statistics, Geography and Informatics (INEGI) and the Economic Commission for Latin America and the Caribbean (ECLAC): USD 2.34 and USD 1.74 per day adjusted for cost of living differences between urban and rural areas at current July 2001 prices, respectively,

Figure 1.3. **GDP per capita growth and extreme poverty**



Source: INEGI.

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which corresponds to twice and 1.75 times the value of the INEGI-ECLAC expanded basket. In absolute terms, the number of extreme poor increased from 19.7 to 23.3 million people between 1992 and 2000. Thus, over a period when the relative income shares of the poorest declined, the welfare level of this group proxied by income levels was largely unchanged.[4]

An examination of the income groups (deciles) by sources and type of income is useful to understand the response of a particular group to economic growth. The different income groups are usually differentiated by their main source of income. For instance, the first three income deciles approximately correspond to those struggling to satisfy subsistence requirements. Income sources for this group are largely informal either in the form of wage or entrepreneurial rents. In contrast, the top decile receives most of its income in the form of interest, rents and formal sector wages. The middle income groups are differentiated by generating most of their income from either the formal or informal sector. Individuals in Deciles IV to VI derived most of their wage income from informal sources whereas those in Deciles VII to IX derived most of their wage income from formal sources (Székely, 1998). In contrast to the majority of other OECD countries in which formal sector employment makes up an overwhelming majority of labour market participants, in Mexico employment in the informal sector of the economy is quite prominent. Most critically, the significant share of the population that merely responds to the needs of a subsistence economy currently lacks opportunities to share the benefits and regulations linked to the formal market. The expected outcomes of policies that focus on fostering the emergence of a market economy will be hindered by the large segment of population lacking the capability to take full advantage of the new opportunities created. A critical development challenge beyond reforms to reduce the relative costs of formality is the need to integrate all sectors of the society into the economic life of the country.

The considerable differentiation across economic groups also helps to make sense of the effects of trade reform on the less well off in Mexico. An expected impact of free trade is to increase the demand for lower-skilled workers in the less developed partners due to specialisation in low-skill, labour-intensive activities. Increased demand for low-skill workers would increase their wages thereby reducing the level of economic inequality and poverty. The phenomenon observed in Mexico is characterised by substantial inflows of foreign direct investment in border regions which has increased the productivity of workers that were already skilled, relative to the composition of existing industrial employment (Feenstra and Hanson, 1995; Zhu and Trefler, 2001). This contention coupled with the discussion on income distribution and the main sources of income by group summarised above suggests that the type of export-led growth pursued up to now cannot be the sole engine of equitable development as it favours groups in the upper middle and highest strata of the income distribution. This is also evident with

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respect to regional disparities, which were already particularly stark in Mexico. The export-led strategy has provided further advantages to those states bordering the US, which have experienced an exploding growth of *maquiladoras* and *maquiladora*-related employment. Nevertheless, a more nuanced examination of industrial development would recognise that not all the opportunities created by NAFTA are *maquiladora*-related. As is further explored in the following section, increasing competitiveness can also be observed in the Centre-West states (*e.g.* Guanajuato, Aguascalientes and Querétaro) as well as in others such as Sonora, Coahuila or Nuevo León. A broader interpretation of increasing income inequality would come from the de-coupling of the export-oriented industries with the internal market economy, reducing the dispersion of benefits from this activity. Nevertheless, before assessing the extent of the regional disparity it is necessary to examine the sources of inequality and poverty in Mexico as it would help isolate the purely territorial effects from those owing to regional differences in population characteristics.

Potential sources of inequality and poverty

Education and human resource investment

As with income, the distribution of human capital in Mexico regionally and across social levels is highly unequal. Characterised by having one of the most unequal distributions of human capital assets of Latin America at the beginning of the 1990s – surpassed only by Brazil and El Salvador – Mexico's distribution, as measured by educational attainment by income deciles, became slightly more equal throughout the 1990s (Table 1.2).[5] However, there are several indications that existing educational disparities have made a large contribution to income

Table 1.2. **Average schooling years of the EAP by deciles**

	1992	1994	1996	1998	2000
1	3.12	3.20	3.60	3.70	3.88
2	3.92	3.87	4.66	4.55	4.61
3	4.73	4.59	5.36	5.22	5.63
4	5.05	5.31	5.87	6.12	6.61
5	5.91	6.03	6.52	6.58	7.04
6	6.49	6.71	7.30	7.29	8.06
7	7.71	7.65	7.88	7.86	8.58
8	8.20	8.48	9.01	8.97	9.56
9	9.77	9.84	10.37	10.50	10.58
10	12.91	13.10	13.46	13.25	14.32

Source: INEGI.

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inequality.[6] Apparently, the returns to education have increased much faster at levels of attainment well above those of the middle and low-income groups.[7] Confirmation of these suggestive results regarding increasing returns to education is provided in a recent study covering the 1988-1997 period (López-Acevedo, 2001). The percentage change in the marginal value of education increased substantially for those completing university education, averaging 30%. The marginal value of completion of upper secondary education also increased over the period although at a significantly more modest average rate of 5%. Unfortunately, the marginal increase in the value of completing lower secondary or primary education was nil relative to failing to complete primary education.[8]

It may be suggested that inequality owing to the increasing returns to education can contribute to national growth and development as it provides incentives based on differential rewards to skill. However, an examination of the existing distribution of human capital assets makes it evident that any dynamic advantages from this type of incentive will only be realised in the long-term (Table 1.2). More pointedly, current levels of poverty may render such incentives meaningless for a large portion of the population as it blocks the accumulation of the significant human capital assets required for growth. The overwhelming majority of individuals in the lower half of the distribution (88%) lack the minimum level of qualification that has an increasing value (Table 1.3). Beyond the platitudes of calls for "more education" as a win-win situation that is repeated in all OECD member countries, transforming the positive incentives accruing to skill into national growth will require policies that stimulate demand among all parents for the comprehensive education of their children. This can only be accomplished through the efficient and equitable delivery of educational services and public initiatives that relax liquidity constraints of the most disadvantaged households.

Table 1.3. **Secondary completion rates for 20-25 year olds by income level, 1994**

Decile	1	2	3	4	5	6	7	8	9	10
Rate	4	9	12	16	18	26	32	39	53	70

Source: INEGI.

Studies attempting to explain poverty in Mexico have concluded that education is the dominant population characteristic differentiating the poor from the non-poor.[9] Comparison of pre- and post-liberalisation data allows to conclude that low education levels increasingly characterise the poor. Most dramatically, low education levels differentiate those in extreme poverty from the rest of the population. From a static perspective, it becomes clear that the highly unequal

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distribution of human capital is reproduced in the distribution of income and the prevalence of poverty, as indicated in Table 1.3. From a dynamic perspective, the ability of these disadvantaged groups to finance investment in upgrading scarce skills is significantly constrained. Providing a scheme of incentives for the poor to make these investments clearly represents a win-win situation in both reducing poverty and inequality, while increasing the productive capacity of the country. However, the fact that other population characteristics are also significant in differentiating the poor from the non-poor indicates that increasing education levels is not a panacea. The finding does contribute significantly to the task of identifying potential points of policy leverage that no longer address poverty issues in Mexico as a purely rural problem.

Segmentation of formal and informal labour markets

Market signals inducing greater investment in education could also be dulled by the large size of the informal sector in the Mexican economy (Table 1.4). If higher returns to education were dependent on participation in the formal sector, then the expected return on investment would have to be discounted by the probability of employment in the sector. A segmented labour market, where the threat of lower returns in the contingent informal sector would provide incentives for high work effort by formal sector workers, admits the possibility that not all workers would be able to secure returns from productivity-enhancing investments in education. Substantial income differentials between formal and informal workers with similar characteristics would provide evidence of this phenomenon. Alternatively, a large share of informal work may be a response to the inflexibility and costs associated with formality. In this perspective, informality would be a rationale choice of workers rather than an imposed penalty. Otherwise identical workers in the formal and informal sector securing similar income would provide support for this interpretation.

The available empirical evidence provides little support for the existence of a segmented labour market. Labour market status (*i.e.* formal or informal) explained a small part of income inequality in 1984 (3.6%) in relation to education (20.5%),

Table 1.4. **Percentage of active labour force (ages 25-45) in informal sector by income level, 1994**

Decile	1	2	3	4	5	6	7	8	9	10	Total
Men	97	83	73	73	63	56	62	52	47	42	62
Women	99	96	91	88	83	65	66	54	37	36	62

Source: INEGI.

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occupation (22.7%) or rural-urban residence (12.4%). This share increased only to 8.6% in 1992, although not at the expense of the other explanatory factors whose shares also increased substantially: education (31.9%), occupation (32.9%) and rural-urban residence (22.9%) (Székely, 1998). The small impact of labour market status is surprising given the conventional belief that this form of economic duality is a prime contributor to income inequality. The impact of labour market status on returns to education is also modest. In the 1988-1992 period, participation in the formal labour market was not associated with increases in returns to education up to completed upper secondary. On the other hand, there was a small but significant contribution of formal status to returns to education for those completing university education. In the 1992-1997 period, formal status makes a modest contribution to the returns of completing primary, lower secondary and upper secondary education. However, the estimated returns to completing university education are halved after controlling for labour market status.

The results above do not directly imply the existence of labour market segmentation as alternative explanations of this result are plausible. An analysis of individual urban labour market transitions between informal and formal employment directly measures the earnings impact of a change in status (Maloney, 1999). A strong asymmetry is identified in which switching from informal salaried to formal salaried status is associated with large earnings increases of about 19%. In contrast, switching from formal to informal salaried employment is not associated with a significant change in earnings. This result is not consistent with a segmented labour market but rather suggests that informality may play two important roles in the labour process. At lower levels of income and experience, informality may provide an opportunity to acquire work experience. For skilled workers leaving formal employment, informality may provide greater flexibility denied in formal salaried employment. This result does not confirm that all qualified workers desiring formal status will be eventually employed in the sector. It does corroborate that labour market status, of itself, contributes little to income inequality.

The impact of informality on poverty is parallel to the finding regarding inequality more generally – evidence suggests that labour market status does not differentiate the poor form the non-poor. This result is somewhat surprising given that informal status characterises the overwhelming majority of individuals in the lowest deciles (Table 1.4). The most obvious explanation for informality not differentiating the poor from the non-poor is that a large share of the non-poor choose informal status to avoid taxes and other regulations. In contrast, informality for the extremely poor is not a choice but a means of survival. In addition, the minimum wage is set at such low levels that remuneration of the lowest paid formal workers are not substantially different from remuneration levels of low-wage informal sector jobs. Income statistics may not be able to discern substantial welfare

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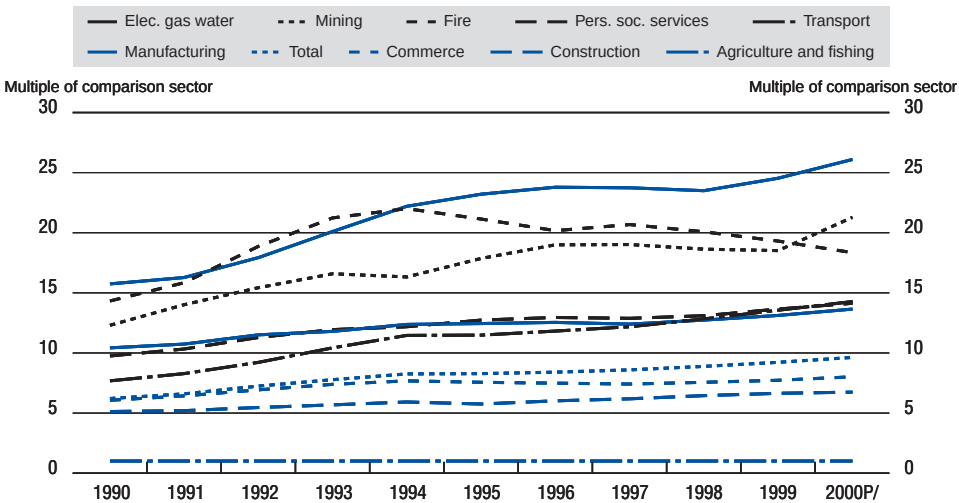
differences between formal and informal workers at the lower income levels as these data fail to capture the non-monetary remuneration in the form of employment benefits and security of employment. Given this caveat that income may be a less reliable proxy of welfare among the poor, it can be concluded that labour market status has not been a significant determinant of poverty defined as a deficiency in income.

Sector of employment

Similar to the impact of labour status, the sector of employment makes a modest, though arguably increasing, contribution to inequality. This result is initially surprising given the enormous difference in the average earnings of workers across sectors. Figure 1.4 normalises average earnings in each sector to the average earnings in agriculture, fishery and forestry (AFF). Economic dualism in Mexico is brought into sharp relief by the graph. Construction and commerce are the two lowest remunerated sectors after AFF but still provide average earnings more than five times larger. The large number of employees in these three sectors (43.3% in 1990) explains why average earnings for all sectors is only slightly above the average earnings for commerce workers in 1990. The economy-

Figure 1.4. **Average earnings of employees by sector relative to agriculture, forestry and fisheries**



Source: INEGI.

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Table 1.5. **Differential growth in average earning by sector relative to agriculture, fishing and forestry**

	Earnings growth relative to agriculture, fisheries, and forestry
Total	**0.548**
Agriculture, fisheries, and forestry	0.000
Mining	0.729
Manufacturing	0.311
Construction	0.315
Electricity, gas, water	0.657
Commerce	0.319
Transportation	0.451
Finance, insurance, real estate	0.280
Personal and social services	0.855

Source: INEGI.

wide average diverges from the three low compensation sectors due to dramatic earnings increases in some sectors. Economy-wide average earnings were nearly 10 times that of AFF by 2000. Table 1.5 demonstrates that the highest paid sectors generally enjoyed the fastest rates of earnings growth. The exception is the finance, insurance and real estate sector that experienced the second slowest rate of earnings growth of all sectors. Manufacturing registered the third slowest rate of earnings growth, which is somewhat surprising given that by far it was the sector with the largest allocation of FDI in the second half of the decade. Finance, insurance and real estate and manufacturing were the only two sectors that did not pull further away from the low-wage construction and commerce sectors.

Despite these large gross differences in earnings between sectors, the marginal contribution of sector of employment to income inequality has remained rather modest. In a decomposition of inequality by population characteristics, it is found that sector of employment explains only 9.5% of inequality in 1984. However, this percentage increased to 16% by 1992 (Székely, 1998). The sector of employment has also become more important over time in explaining differences in the returns to education. Having a negligible influence in the 1988-1992 period of analysis, sector of employment explains up to half of the returns to education in the 1992-1997 period.

The overwhelming impression from the sectoral analysis is the existing disparity between remuneration in AFF and all other sectors. Indeed, in Mexico earnings outside AFF differ by an order of magnitude. Even if rural is no longer synonymous with agriculture and most rural households in Mexico now derive most of their income from non-farm employment, sectoral employment in Mexico is strongly determined by spatial characteristics. Perhaps more importantly in a

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modernising economy, spatial characteristics also condition intra-sectoral disparities in the form of an urban-bias in public expenditure or sectoral policy, wage-setting institutions, bargaining power of workers and specification of the labour contract. Thus, the empirical question regarding the contribution of urban or rural location to inequality cannot be reduced to sectoral disparities and sectoral composition.

Rural-urban dualism

Average urban income was almost three times larger than rural income in the mid-1990s – of Latin American countries only Brazil had a larger urban-rural income gap (IDB, 1998). The fact that the differential is not nearly as large as that between the agricultural and non-farm sectors suggests that the sectoral transformation of the economy has allocated considerable secondary and tertiary employment in rural areas. Indeed, income from non-farm activity accounts for most rural income (55%).[10] The relative growth performance of sparsely populated rural municipalities will be examined in more detail below, but there are economy-wide indications that the development of rural areas has fallen considerably behind that of urban areas in the 1990s. With respect to poverty, rural residence has been the leading population characteristic defining a profile of the poor. This has led some to conclude that urban-rural disparities are the principal source of poverty in Mexico (Levy, 1994). However, analyses that attempt to estimate the net effect of rural residence on poverty have found its contribution important but less so than educational attainment. What is somewhat surprising is that since the drive toward economic liberalisation in 1986, the rural "contribution" to poverty has increased significantly. This could suggest that rural areas have been less effective in exploiting economic opportunities opened by liberalisation, which has further marginalised the rural population. The insular nature of sparsely populated communities is the one characteristic of rurality that would prevent the exploitation of new opportunities.

Indeed, the polarisation in settlement types constitutes an important development challenge for Mexico. In 2000, one-third of the population was concentrated in nine cities with more than one million inhabitants, while at the other extreme one-fourth of Mexicans resided in 201 138 localities each with less than 2 500 inhabitants, of which 198 311 were considered rural localities.[11] The perspective for very small localities regarding their potential for significant development is even more pessimistic. They pose a considerable dilemma given the much higher costs of delivering basic services required to alleviate deprivation and facilitating the human investments required for escaping poverty. 55% of the localities with greatest dispersion (less than 50 persons) reside in mountainous settings, making the task of providing adequate infrastructure and services even more daunting.

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Continuing demographic trends that have reinforced urbanisation throughout the 20th century will alleviate some of the problems of polarisation. It is estimated that by the year 2010 around 78.3% of the country's population will be at urban localities and only 21.7% of them in rural ones. This means that in localities of more than 2 500 inhabitants there will be 88 million people, 12 million more than today, distributed in 28 large cities (of more than 500 000 inhabitants), 52 intermediate cities (between 100 000 and 500 000 inhabitants) and 335 small urban centres (between 15 000 and 100 000 inhabitants). In recent years, larger cities have seen a decrease in their population growth rate, while intermediate cities and some small ones have experienced considerable growth rates. The large city size-distribution gap that has characterised Mexico's development is narrowing. This situation can help its economic and social development as a more balanced distribution among intermediate and small-sized cities will contribute to providing public services at a lower cost, while fostering political-administrative and spatial-physical decentralisation. Another demographic trend of interest that has important development potential is the reduction in the high birth rates of the past and a more balanced distribution among age groups (Box 1.1).

However, it is important to remember that poverty is not solely a rural problem: cities are home to around 18.3 million people living in a situation of poverty. From a territorial perspective, poverty in Mexico cannot be classified either as a predominantly urban or rural issue. The fact that the percentage of poor people in rural areas is much higher than in urban areas contrasts with the fact that 63% of the Mexican poor can be considered as urban. Poverty in urban areas tends to produce a great corrosion of social capital as a result of the close location of immense disparities and the consequent lack of social cohesiveness.

Regional dualism

Regional disparities in Mexico are considerable, similar to North-South divisions in other countries that have posed regional development challenges. The unique dimension in Mexico is the potential locational advantages of the North to the largest economy in the world. Although this theme will be re-examined throughout the review, the purpose of this initial analysis is to determine whether regions confer inherent, absolute advantages in the income generating capacity of residents or if the wide disparities observed are functions of malleable characteristics of regional populations. Here again, there is empirical evidence that regional location up to now has made only a modest, however increasing, contribution to inequality. In 1984, the region where one lived explained 7.4% of inequality. This share increased to 10% in 1992. Despite large observed differences in the rates of poverty and extreme poverty across regions in Mexico (Table 1.6), available evidence suggests that the *macro* region of residence

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Box 1.1. Demographic trends in Mexico

Before the 1970s, Mexico had one of the highest population growth rates in the world, a situation which has gradually started to change, mainly thanks to effective educational policies. In effect, birth rates have passed from 45.55 births per 1 000 inhabitants in 1950 to 30.14 in 1995. Overall, there has been a decrease in fecundity per woman, birth and mortality rates, as well as a corresponding increase in life expectancy. These trends are expected to continue in the foreseeable future. To date they have resulted in an increasingly more balanced distribution between population age groups, with a higher participation of middle age groups in the total, and a decrease in the youngest segment of the population (Figure 1.5).

This situation also explains why the economically active population (those individuals between 15 and 64 years of age) has grown from 50.06% in 1970 to 60.09% of the total in 1995. In effect, as a consequence of the high demographic growth rates that were registered in the past and together with the increase of the population in the workforce – particularly due to higher female participation – job demand has significantly increased over the last 30 years. Nevertheless, this process has occurred in parallel with a lower number of dependants per economically active individual, thus opening the possibility of a "demographic bonus". In effect, during the next 20 years, with this increase in population, the total dependency ratio – which measures the number of children plus the number of people above 65 years divided between the working age population – will diminish from 64% in 2000 to 43% in 2020.This general trend has especially important implications for the South-Southeast, where as with other variables differences can be perceived with respect to the rest of the country, where the dependency is of 71%, a figure higher than the national average. Here the birth rate has passed from 46.39 to 35.24 per 100 inhabitants between 1950 and 1995, a figure higher than the respective national average mentioned above. This will continue to put a higher degree of pressure on the region's labour market. In effect, the Office of the Plan Puebla-Panama estimates that only to satisfy the demand generated by first-time labour entrants, over the next five years 330 000 new well-paid jobs need to be created. Only by doing so will it be possible to take advantage of the aforementioned demographic bonus that is made possible by the change in the age structure of the population.

Another related consideration is that the population above 65 years of age has been growing from 3.37% en 1950 to 4.43% in 1995. This age segment is expected to be the one that registers the highest growth rates in the future, a situation which could have important implications on issues such as pension and public service provision. However, it is expected that the more uniform distribution of the population pyramid will contribute to achieve universal coverage in public services oriented at children and individuals in their early teens. This will in turn make it possible to assign a higher proportion of resources to the needs of higher-age groups.

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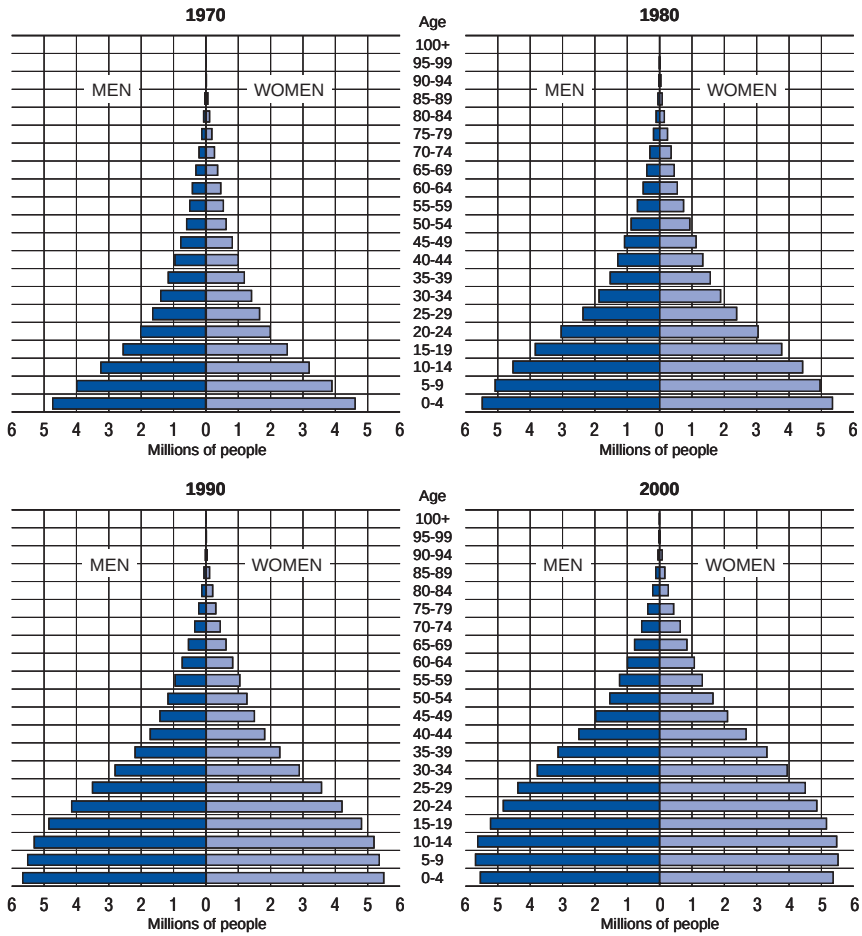
Box 1.1. **Demographic trends in Mexico** (*cont.*)

Figure 1.5. **Pyramids of age groups in the population, 1970-2000**



Source: Estimates and projections by the National Population Council.

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Table 1.6. **Poverty and extreme poverty rates by Meso-region, 1992 and 2000**

Meso region	Poverty rate		Extreme poverty rate	
	1992	2000	1992	2000
Centre	49.93	49.98	20.08	18.62
Centre-West	55.23	59.20	22.57	24.09
Northeast	39.84	33.66	9.44	9.56
Northwest	32.01	34.19	11.66	8.71
South/Southeast	70.37	70.20	38.46	43.87

Source: INEGI.

has had a modest marginal impact on one of two factors: the probability of being poor or the probability of escaping poverty amid the new opportunities created by economic liberalisation. The relationship between region and inequality has been greater at the state or sub-state level as described below.

Examining poverty and income inequality as a function of individual characteristics provides important insight into the magnitude of the problem and the marginal contributions of various factors. With respect to the analysis of regional development policy, the available evidence suggests that most of observed disparity and poverty are accounted for by capital endowment of the population within regions, rather than by differential regional impediments to the returns of capital. Indeed, public policy has contributed to create significant distortions of regional competitive advantages (relative prices) and hence to restrict the productive potential of some regions. Public investment in hydro-agricultural infrastructure traditionally has been largely allocated in the North. There are still substantial cross-subsidisation among regions as prices and tariffs of public sector goods and services traditionally have not been related to costs of production and distribution. The sale price of basic industrial inputs such as electric power and primary petrochemicals was for a long period homogeneous across regions. These policies clearly restricted the competitive advantages of the South-Southeast as this region possesses by far the country's largest hydroelectric capacity and potential and the most important endowments of petroleum. Otherwise, these advantages of the South-Southeast would have been reflected in lower prices and adequate supply of electricity and natural gas.[12] Inherent locational disadvantages are mainly due to the diseconomies of sparse rural settlement. The implication is that regional development policy at a macro scale should focus on removing constraints to the accumulation of productive capital. Also, there is a wide margin to design and implement public policy aimed at unleashing the productive potential of the South-Southeast through the elimination of distortions in relative prices of basic industrial inputs and of regional biases in the allocation of public investment in infrastructure. Thus, an important part of the territorial diagnostic will concern issues regarding the

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allocation of productive capital across regions and the differential rates of investment growth between them. A comprehensive positive analysis should also investigate in more detail the experience of sub-state regions to identify the potential advantages or disadvantages of different settlement types.

The territorial dimension of inequality and poverty

The mid-1980s represent an inflection point with respect to both individual and regional income inequality. The period prior to 1985-1986 was characterised by regional convergence (from 1970) and decreasing individual inequality (from 1950). It should be said though that such long-term trend conceals that individual inequality actually started to be aggravated since the beginning of the 1980s and throughout the decade. The process of regional convergence identified in the 1970 to 1985 period reversed to one of regional divergence between 1985 and 1993 (Juan-Ramón and Rivera-Bátiz, 1996).[13] Analysis since the signing of NAFTA has confirmed greater regional differentiation consistent with FDI concentrated in the border regions that have important transportation advantages to the US market.[14] Regional incomes have diverged in step with increasing income inequality following the start of economic liberalisation. As the previous section illustrated, regional "causes" of growing inequality are not confirmed when the individual is the unit of analysis. Rather differential characteristics of regional populations are much more powerful in explaining growing inequality. First, the finding that regional location results in the concentration of benefits created is especially compelling given the relatively recent signing of NAFTA and the fact that the economic impacts of integration may not be fully realised in the short-term. Second, policy must respond to a reality made up of quite heterogeneous regions, not merely to a conditional mean. The identification of trends that are attached to particular places at particular times will be essential to devising productive approaches to the country's development challenges (Box 1.2).

Trends in productive capacity of Mexican regions and entities

Analysis of relative per capita GDP levels for the 1993-1999 period by Meso-region is provided in Figure 1.7. Although the categories mask some wide intra-regional disparities – particularly in the South-Southeast and Centre regions – the performance of the regional aggregates does confirm expectations regarding the regional impacts of integration. The two regions diverging from the national average are the Northwest and Northeast regions. Relative growth in the Northeast is especially notable given its magnitude and its overtaking the Centre as the Meso-region with greatest productive capacity per capita. The Centre of the country provides the two seemingly converging regions, with the relative productive capacity of the Centre declining from above the national average, on one

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Box 1.2. The definition of Meso-regions for development planning

The base units in the process of regional planning are the Meso-regions. These are made up of several states, gathered to co-ordinate design and implementation of large-scale projects with impacts that go beyond the limits of a single state. Additionally, the Meso-regions are useful as a framework to organise and facilitate planning and collaboration between regions as well as regions *vis-à-vis* the federal government. Their definition is based on states' natural affinities as well as on the spontaneous regionalisation process that has been occurring in recent years. However, this definition is flexible and allows modifications when dealing with a specific topic.

Centre: **Federal District, Querétaro, Hidalgo, Tlaxcala, Puebla, Morelos and the State of Mexico.**

Centre-West: **Jalisco, Michoacán, Colima, Aguascalientes, Nayarit, Zacatecas, San Luis Potosí, Guanajuato and Querétaro.**

Northeast: **Tamaulipas, Nuevo León, Coahuila, Chihuahua and Durango.**

Northwest: **Baja California, Baja California Sur, Sonora, Sinaloa, Chihuahua and Durango.**

South-Southeast: **Campeche, Yucatán, Chiapas, Oaxaca, Quintana Roo, Tabasco, Guerrero, Veracruz and Puebla.**

In contrast to other regionalisation schemes (watersheds, irrigation districts, communications and transport), the current regional development scheme (Figure 1.6) allows for a permanent process of analysis, assessment and decision-making by the federal and state governments on issues and projects, aiming to generate an integrated regional impact.

To be operative, this regional definition must be flexible. For this reason, the regional development scheme permits individual states to participate in more than one Meso-region. These states are known as "articulating" states and are the following: Puebla, Querétaro, Chihuahua and Durango. Another expression of this flexibility is the capacity for any state to participate in certain projects of interest from a different Meso-region.

The regional planning model emphasises the Meso-regional level, but it also considers the Micro-regional level – city and municipal development. In order to integrate both levels, it is expected that one of the Meso-regional strategic lines will foster the generation of Micro-regional development projects. A major challenge is to co-ordinate the strategies of Micro-regions with the broader development objectives at the national level. In so doing, states and Meso-regions play a strategic role in linking efforts to harmonise supply and demand at the regional level.

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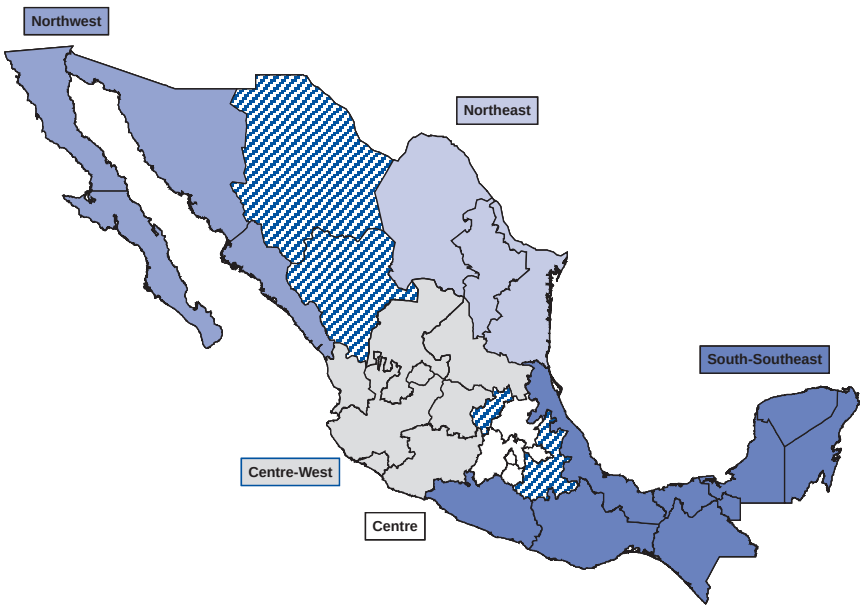
Box 1.2. **The definition of Meso-regions for development planning** (*cont.*)

Figure 1.6. **Meso-regions**



Source: OECD/TDS-TSI.

hand, and a slight relative advance of the Centre-West from below, on the other. The position of the South-Southeast relative to the national average remained unchanged. With the Centre swapping the top spot with the Northeast the degree of regional disparity shows only a marginal change as measured by the ratio of the most productive to least productive region, which increases from 2.17 to 2.23.

Examination of relative per capita GDP levels for the same period by states reveal the extent to which great disparities within some of the Meso-regions mask much larger territorial differentials (Figure 1.8). The ratio of the most productive (Federal District) to least productive state (Oaxaca) over the period increased from (about) 3.5 to (about) 6.1, more than twice the Meso-regional ratio. While relatively small internal differences characterise the Northeast and Northwest, the Centre and

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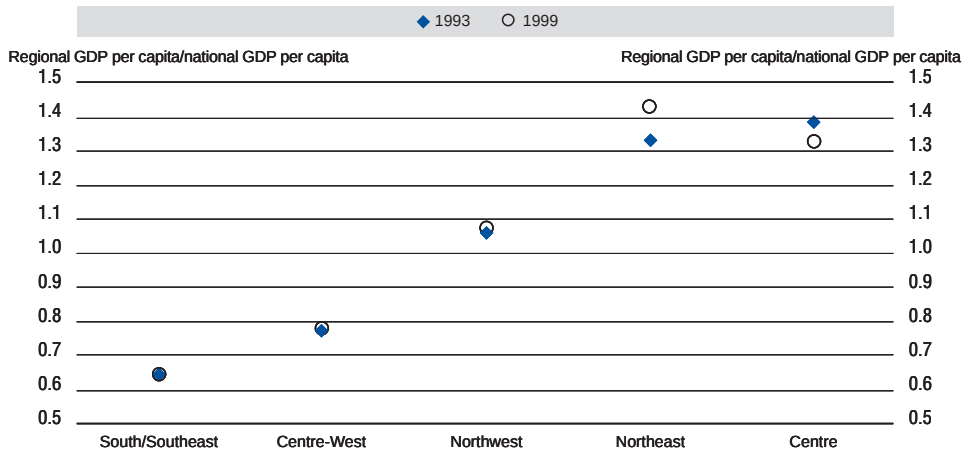
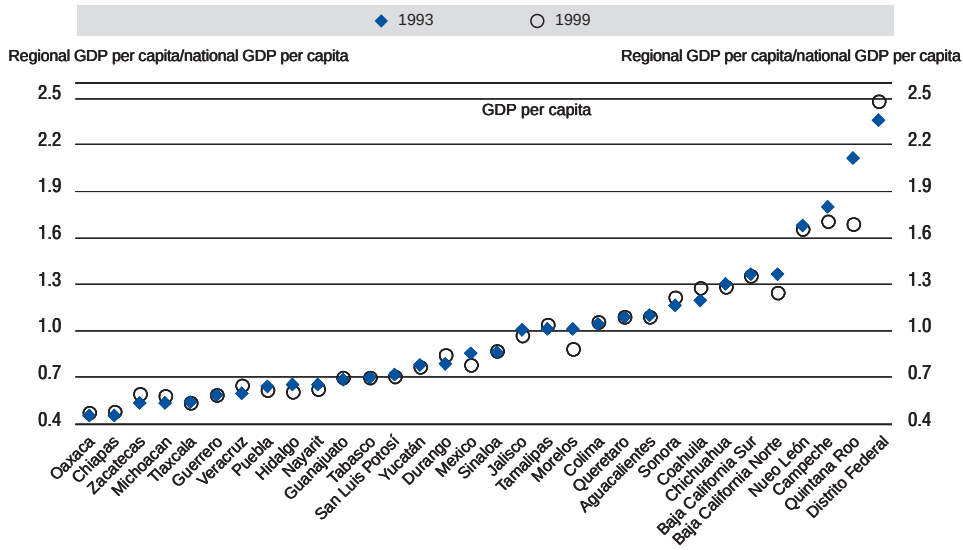
Figure 1.7. **Meso-region GDP as share of national average GDP, 1993 and 1999**



Source: INEGI.

Figure 1.8. **Entity GDP as share of national average, 1993 and 1999**



Source: INEGI.

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South-Southeast contain a mix of highly productive and weakly productive states. Two of the most productive states in the country are in the South-Southeast (Campeche and Quintana Roo) due largely to oil and resort tourism development. The same region contains the two least productive states (Oaxaca and Chiapas). The Federal District was the most advantaged of all entities in the initial period and reinforces its position at the end of the period. This provides a stark contrast to other entities in the Central region that not only are characterised by below average production per capita (with the exception of Morelos) but also by falling relative production over the period (including Morelos). The fall of the Centre region relative to the Northeast is due to weak performance of its more disadvantaged entities, *not* to declining prominence of a dynamic Federal District.

Although the measurement of territorial disparities using a region's gross domestic product is an established convention, the measure is flawed in assessing regional disparities in individual welfare or levels of regional development. In measuring the productive capacity of a region (the total sum of its value added), it combines the value added of labour and of capital. It will fail to gauge the true level of per capita income if a significant share of value added accrues to capital held outside the region. These problems are exacerbated for several states in Mexico where oil and petrochemical production is localised as extraction generates enormous value added relative to its modest regional impact in the form of employment and household income. For this reason, development levels and regional welfare disparities are better represented by measures of per capita income.[15]

Trends in per capita income of Mexican regions and entities

Comparing the level and rate of change of per capita income to GDP income provides a much starker picture of regional divergence in Mexico. The first notable difference is the deterioration of the South-Southeast's labour income position relative to the nation between 1990 and 2000 (Figure 1.9) compared to mere stagnation in productive capacity in Figure 1.7 between 1993 and 1999. The second notable difference is that all of the remaining Meso-regions pull farther away from the South-Southeast over the period. The results with respect to relative productive capacity are mixed. Finally, though the Centre-West – the second most disadvantaged Meso-region – demonstrates more robust performance in labour income (Figure 1.9) relative to productive capacity (Figure 1.7), it is still the most modest of the positive increases. As a much clearer indication of the welfare of households, the regional data on per capita labour income suggest that regional patterns of advantage and disadvantage are being reinforced.

Aggregation in Meso-regions masks the much wider differences between states as was apparent with respect to per capita GDP. Again, the message provided by per capita labour income reinforces the extent of regional divergence characterising the 1990s (Figure 1.10). Although the ranking from highest to lowest

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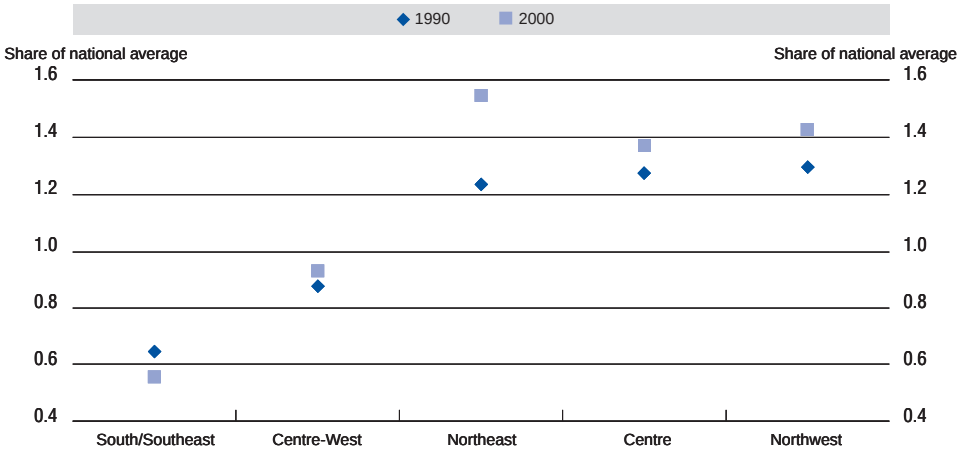
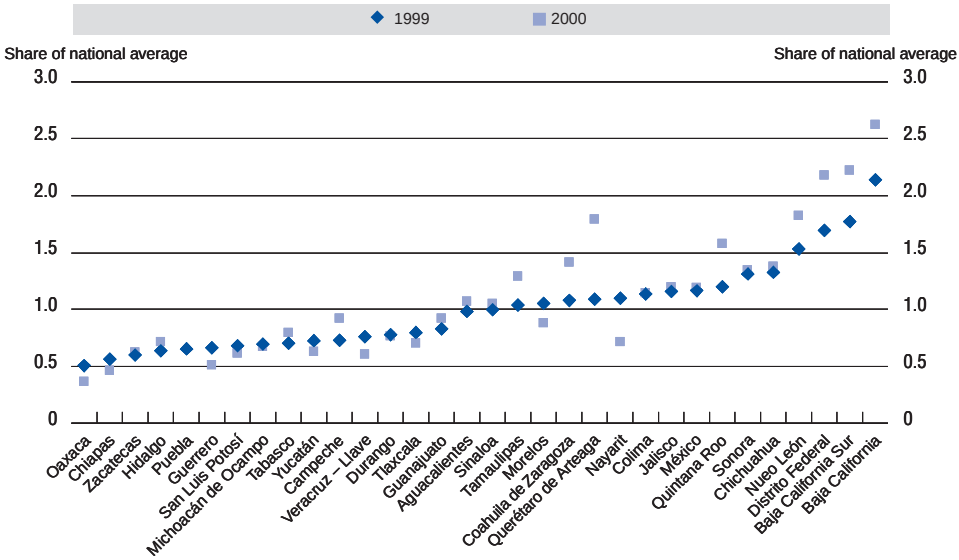
Figure 1.9. **Meso-region per capita labour income as share of national average, 1990 and 2000**



Source: INEGI, National Population and Housing Census, 1990 and 2000.

Figure 1.10. **Entity per capita income as share of national average, 1990 and 2000**



Source: INEGI, National Population and Housing Census, 1990 and 2000.

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state in GDP and per capita labour income graphs are similar – characterised by a multiple of about 5 – the relative performance over the period is much more regressive with respect to labour income. This is demonstrated qualitatively by the deterioration or improvement of the relative position of states below and above the nation average. With respect to GDP, the states starting below the national average did better as a group (11 out of 17 states demonstrated improvement) relative to those states starting above the average (only 6 out of 15 states demonstrate improvement). With respect to labour income the position of a majority of states starting below the national average deteriorated (9 of 17) while this was true of only 2 of the 15 states above the national average. While quantitative evidence of an increase in regional inequality with respect to productive capacity is dependent on the choice of inequality measure used, the result for the regional distribution of labour income is unambiguous. Regional labour incomes are more unequal in 2000 in comparison to 1990.[16]

Trends in economic performance by settlement type

In addition to relative locational advantages to the large US economy, entities in Mexico demonstrate considerable difference in the level of urbanisation and the distribution of the population in settlement types varying in size from less than 500 inhabitants to the largest city in the world. Approximately 20 million people live in the Metropolitan Area of Mexico City. Scale economies with respect to production, service provision as well as agglomerative advantages in stimulating demand all point to potential advantages of city size and increasing impediments to development associated with very small size. It is important to stress that this relationship is not linear with advantage increasing inevitably with size.[17] But even at a relatively low population threshold of at least 15 000 inhabitants, there is a strong association between this level of urbanisation and the development prospects of Mexican states. Table 1.7 provides information on the urbanisation rate of states as well as the share of state population in small (less 2 500) and very small (less than 500) settlements. Nine of the 10 poorest states in 2000 in terms of per capita labour income have less than 50% of their population in settlements of more than 15 000 residents.[18] In contrast, none of the 10 most prosperous states have less than 50% of population in settlements of at least 15 000 and for all but two this share is greater than 70%. The interesting question this raises is whether the relative performance of similar settlement types across Meso-regions is more or less similar than the performance of different settlement types within regions. Figure 1.11 demonstrates that the "within region variance" is much greater than the "across region variance" among similar settlement types. From this perspective, the lagging performance of the South-Southeast appears to be a function of the very large share of population in settlements of less than 2 500 (Table 1.8). Other regions also demonstrate poor performance among their smallest settlements, notably the

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Table 1.7. **Entity population share by settlement size**

	Entity population	Population share			
		1 to 499 inhabitants	500 to 2 499 inhabitants	2 500 to 14 999 inhabitants	15 000 inhabitants
Total	**97 483 412**	**0.109**	**0.145**	**0.137**	**0.610**
Aguascalientes	944 285	0.068	0.130	0.074	0.729
Baja California	2 487 367	0.035	0.049	0.076	0.840
Baja California Sur	424 041	0.100	0.087	0.182	0.631
Campeche	690 689	0.128	0.162	0.180	0.530
Coahuila de Zaragoza	2 298 070	0.053	0.053	0.051	0.843
Colima	542 627	0.060	0.084	0.154	0.702
Chiapas	3 920 892	0.271	0.272	0.171	0.286
Chihuahua	3 052 907	0.116	0.059	0.071	0.754
Distrito Federal	8 605 239	0.002	0.000	0.009	0.988
Durango	1 448 661	0.185	0.177	0.129	0.509
Guanajuato	4 663 032	0.131	0.197	0.088	0.584
Guerrero	3 079 649	0.181	0.266	0.163	0.390
Hidalgo	2 235 591	0.204	0.303	0.187	0.306
Jalisco	6 322 002	0.077	0.077	0.132	0.714
México	13 096 686	0.037	0.100	0.134	0.729
Michoacán de Ocampo	3 985 667	0.149	0.197	0.215	0.439
Morelos	1 555 296	0.051	0.094	0.260	0.594
Nayarit	920 185	0.119	0.240	0.223	0.418
Nuevo León	3 834 141	0.044	0.022	0.046	0.888
Oaxaca	3 438 765	0.252	0.303	0.221	0.225
Puebla	5 076 686	0.103	0.214	0.239	0.444
Querétaro de Arteaga	1 404 306	0.123	0.201	0.166	0.510
Quintana Roo	874 963	0.060	0.115	0.093	0.732
San Luis Potosí	2 299 360	0.213	0.196	0.118	0.472
Sinaloa	2 536 844	0.138	0.188	0.148	0.526
Sonora	2 216 969	0.086	0.083	0.113	0.718
Tabasco	1 891 829	0.143	0.319	0.195	0.342
Tamaulipas	2 753 222	0.092	0.054	0.068	0.786
Tlaxcala	962 646	0.041	0.174	0.399	0.386
Veracruz-Llave	6 908 975	0.198	0.212	0.174	0.417
Yucatán	1 658 210	0.053	0.134	0.225	0.588
Zacatecas	1 353 610	0.207	0.260	0.198	0.336

Source: CONAPO.

Centre-West and Northwest. In contrast, only about 12% of the regional population in the South-Southeast live in settlements of greater than 100 000 demonstrated some dynamism in the 1990s. Figure 1.11 also demonstrates that relative performance of settlement types has differed across Meso-regions. The Northeast stands out as the one Meso-region where all settlement types on average witnessed a relative increase in per capita labour income. For the Centre, dynamism tended to characterise settlements of more than 100 000 inhabitants. The Centre also provides the only instance of smaller cities (settlements of 15 000 to 99 999) that experienced a deterioration in their relative position.

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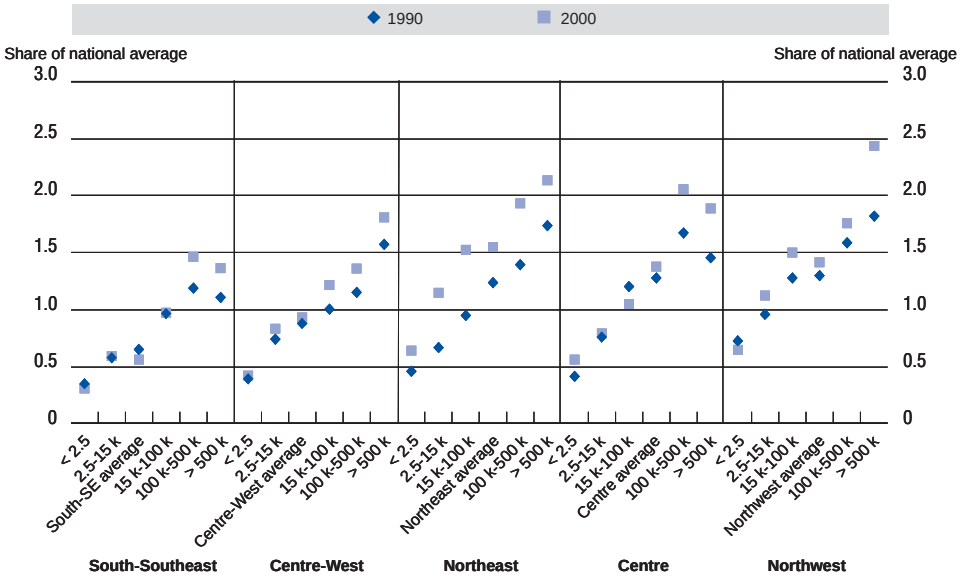
Figure 1.11. **Intra-regional income disparities exceed inter-regional disparities, 1990 and 2000**



Source: INEGI, National Population and Housing Census, 1990 and 2000.

Table 1.8. **Share of Meso-region population by settlement size, 2000**

Settlement type	Centre	Centre-West	Northeast	Northwest	South/Southeast
Less than 2 500	0.227	0.408	0.240	0.368	0.585
2 500 to 14 999	0.162	0.195	0.099	0.127	0.202
15 000 to 99 999	0.087	0.141	0.109	0.110	0.090
100 000 to 499 999	0.242	0.083	0.309	0.135	0.078
500 000 or more	0.282	0.174	0.243	0.260	0.046

Source: INEGI, National Population and Housing Census, 2000.

Territorial marginalisation and poverty

Mexico shows a much higher incidence of poverty and marginalisation across regions and socio-economic groups than would be expected given its level of per capita GDP. In 1996, the country occupied fourth place in terms of per capita GDP

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among 17 countries within the Latin American region. However, it ranked ninth in terms of poverty incidence – using a poverty line of USD 4.17, the minimum income considered necessary to satisfy basic needs in the average country within the region. In terms of a comparison with other OECD countries, Greece had a similar level of per capita GDP in the early 1990s while registering a poverty rate of about 6%. The comparison makes it evident that poverty observed in middle income countries is principally a problem of distribution. As discussed above, the variation in regional poverty rates is mainly explained by large variation in the spatial distribution of productive assets.

In 1992, of the households with family incomes lower than the price of an expanded basket of basic goods, the South-Southeast region registered the highest number of households living in poverty in the country (70.4%) and was closely followed by the Centre-West region (59.2%) (Table 1.6). In contrast, the northern regions had only around one-third of their total populations living in this situation (in the Northeast 39.8% and in the Northwest 32%), while in the Centre almost half of the population (49.9%) were classified as in poverty.

The contrasting poverty trends were maintained throughout the 1990s. Between 1992 and 2000, the percentage of poor households in the South-Southeast remained almost unaltered, although the number of poor households increased in absolute terms from 14.5 million people in 1992 to 16 million people in 2000. Likewise, in the Centre region the proportion of poor households rose from 49.93% in 1992 to 49.98% in 2000, and in absolute terms from 13.8 million people to 15.8 million. In contrast, the percentage of households in poverty fell throughout the period from 39.8% (4 462 432 people) in 1992 to 33.7% (4 435 105 people) in 2000. Both the Centre-West and Northwest regions experienced a steady relative and absolute increase in the poor population during this period. In the first case, the proportion of poor households went from 55.2% (10.8 million people) in 1992 to 59.2% (13.4 million people) in 2000. In the Northwest, the proportion of poor households increased from 32% (1 903 834 people) in 1992 to 34.2% (2 662 551 people) in 2000.

However, with respect to extreme poverty, regional differentiation became more acute in the 1990s. Indeed, the two Meso-regions with the highest levels in 1992 experienced higher rates of extreme poverty in 2000. In the South-Southeast, the extreme poverty rate increased from 38.5% (7 901 360) to 43.9% (10 million people) in 2000. The increase in the Centre-West region was less pronounced going from 22.6% (4 396 516) to 24.1% (5 469 882). In the Northeast, both the population share and absolute number of people in extreme poverty fell from 11.7% (1 305 680 people) in 1992 to 8.7% in 2000 (1 147 830 people). In the Centre region, the share of households in extreme poverty decreased from 20.1% in 1992 to 18.6% in 2000; yet in absolute terms, it increased from 5 543 132 to 5 892 626 persons. The slight percentage increase in the Northwest from 9.4%

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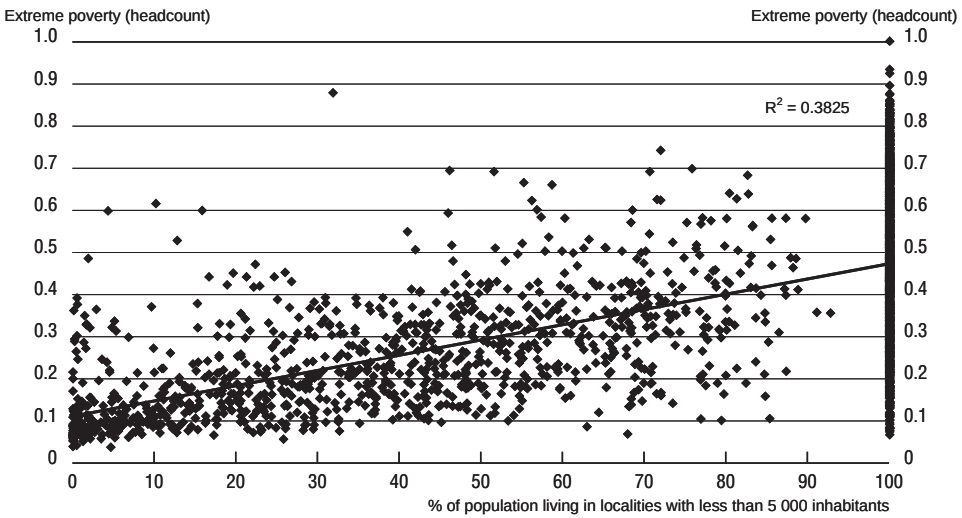
(561 590) to 9.6% (744 261) was more modest than that in the South-Southeast and Centre-West but condition more commendable aspects of regional development performance over the period.

As the analysis of sub-state performance demonstrated, settlement size has been critical in the local ability to exploit economic opportunities. Extending this result to the dynamics of poverty, one would anticipate that larger settlements have also been more successful in fighting poverty. Alternatively, greater success of larger cities and towns could also serve as a strong attraction for those in more disadvantaged areas, even though the latter may swell the poverty headcount, at least initially. The compelling empirical question is whether the growth or decline of the population in poverty is associated with settlement size. Unfortunately, data on poverty rates at the locality or municipality level are not available for 1990 obviating such an analysis. However, a snapshot of the 2000 data does provide a clearer picture of the spatial distribution of poverty across settlement types. Figure 1.12 plots the extreme poverty rate by the share of municipal population in localities of less than 5 000 inhabitants. A clear relationship between small settlements and poverty is identified. Figure 1.13 plots the extreme poverty rate by log of municipal population. The salient point from this graph is that extreme poverty

Figure 1.12. **Municipal extreme poverty rates in localities with less than 5 000 inhabitants, 2000**



Source: CONAPO estimations, based on INEGI, National Population and Housing Census, 2000.

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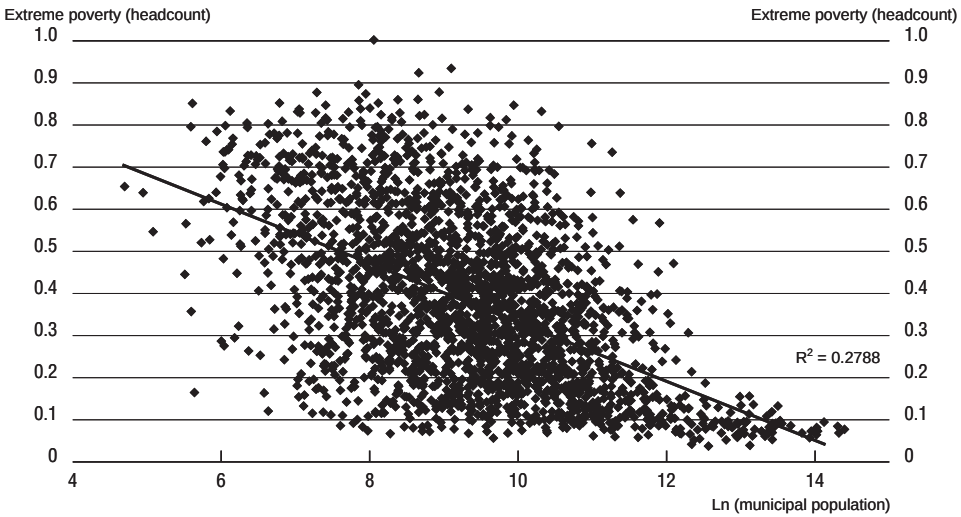
Figure 1.13. **Extreme poverty by log of municipal population, 2000**



Source: CONAPO estimations, based on INEGI, National Population and Housing Census, 2000.

in the largest municipalities never exceeds 20%. Table 1.9 provides information on the average poverty rates by municipal size class as well as on the national share of the poor and extremely poor in each size class.[19] The tables demonstrate that extreme poverty in the largest municipalities (greater than 500 000) is still a significant problem, making up more than 10% of the national total of the extremely poor. However, the national share of extreme poverty in municipalities of

Table 1.9. **Poverty rates and share of national poverty by municipal size**

Municipal size	Average poverty rate	Average extreme poverty rate	Population share	National share poverty	National share extreme poverty
> 1 million	0.212	0.073	0.149	0.074	0.055
500 000 to 1 000 000	0.236	0.085	0.141	0.077	0.060
100 000 to 500 000	0.367	0.150	0.302	0.258	0.228
50 000 to 100 000	0.524	0.236	0.125	0.153	0.148
15 000 to 50 000	0.588	0.279	0.144	0.197	0.202
5 000 to 15 000	0.596	0.276	0.024	0.033	0.033
No settlement > 5 k	0.776	0.474	0.115	0.207	0.273
Nation	0.430	0.199			

Source: CONAPO.

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100 000 people or less exceeds the national share of population for these size classes confirming the disproportionate share of extremely poor in smaller and rural municipalities.

The existence of wide regional disparities in Mexico is also reflected in the marginalisation index created by Mexico's National Population Council (CONAPO).[20] According to this index, the South-Southeast region is the most marginalised of the country, with almost half of its total population (45.7%) living in municipalities with high and very high marginalisation. The Centre-West region ranks second with 11.4% of its population living in this condition. In contrast, the northern regions show the highest living standards. In the Northwest, 5.7% of the population lives in municipalities characterised by high or very high levels of marginalisation, and in the Northeast only 4.1% of them are in this situation. Finally, the Centre region is situated between both extremes with 12.9% of its population residing in high and extremely high marginalised municipalities. The dynamics of marginalisation also point to greater polarisation in the country. Between 1990 and 2000 the population living in municipalities with high or very high marginalisation increased from 16.9 to 18.6%. This was matched by an increase in the population living in municipalities with very low marginalisation, from 43.7 to 52.7% during the same period (Box 1.3).

The locational dynamics of polarisation with respect to marginalisation resemble those with respect to poverty. Regional differences in the marginalisation of communities have widened during the last decade (Figure 1.14). The South-Southeast, already encumbered with half of its population living in municipalities with high or very high levels of marginalisation, registered the largest percentage increase (5%) in this category. However, all the Meso-regions experienced some increase in the share of population in this category ranging from negligible increases in the Centre and Northwest to increases of 3% and 1.5% in the Northeast and Centre-West, respectively.

A critical policy question posed by the methodology of targeting very high marginalisation municipalities is whether this metric is associated with lesser ability to combat poverty and promote growth. While data on poverty rates at the municipal level are not available for 1990, there are data on the share of the working population earning less than two minimum wages. Given the significant problems of income distribution already identified in Mexico, a reasonable measure of economic performance is the extent to which municipalities have been able to reduce this share through the 1990s. The hypothesis to be tested is that those municipalities characterised by very high marginalisation in 1990 were less able to reduce this share. Grouping or clustering municipalities statistically on the basis of the initial and ending share of the working population with less than two minimum wages produces important insights with respect to municipal performance (Table 1.10).[21] The identification of very high marginalisation municipalities

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Box 1.3. Identifying high marginalisaton areas

The marginalisation indicators established by CONAPO in 1995 and updated in 1998 were used for the identification of priority regions, immediate attention regions, and, therefore, Micro-regions. According to these indicators, the municipalities with high levels of marginalisation were designated as priority assistance regions and those with very high levels of marginalisation were established as immediate assistance regions.

CONAPO works under the premise that marginalisation is a structural phenomenon originated by the historical pattern of development. Regarding economic growth, marginalisation emerges as the difficulty in disseminating technical progress in productive sectors. In the social context, marginalisation means that citizens and social groups have experienced a prevalent inequity in their participation during the process of development and its benefits.

Irrespective of its multi-dimensional features, socio-economic marginalisation can be defined as that sector of the population with no access to basic goods and services. It is certainly a cause for exclusion during the process of development and its eradication requires comprehensive systematic and permanent strategies oriented to fighting its structural causes and effects.

CONAPO's marginalisation index for 1995 shows the intensity of the marginalisation phenomenon by considering the percentage of the population that has no access to basic goods and services. This index is based on diversified analysis techniques and serves as a summary to differentiate observation units (states, municipalities and villages) according to the global impact of their backwardness. Moreover, the marginalisation index identifies social and spatial inequalities caused by population patterns and their economic and social conditions.

The marginalisation index has proved to be an ideal deficit measurement to be incorporated into geographical information systems. Since all territorial units can function as geographical references, this index can provide information to prepare maps showing backwardness intensity, relating them to such variables as settlements' accessibility, geographical characteristics of natural resources and environmental conditions. These and other critical variables are used for the formulation of strategies and the operation of specific programmes.

The marginalisation index combines the following variables:

- Percentage of illiterate individuals over 15 years of age, according to the Population and Housing Census carried out by INEGI in 1995.
- Percentage of individuals living in their private house with no drainage service, according to the Population and Housing Census carried out by INEGI in 1995.
- Percentage of individuals living in their private house with no electricity, according to the Population and Housing Census carried out by INEGI in 1995.

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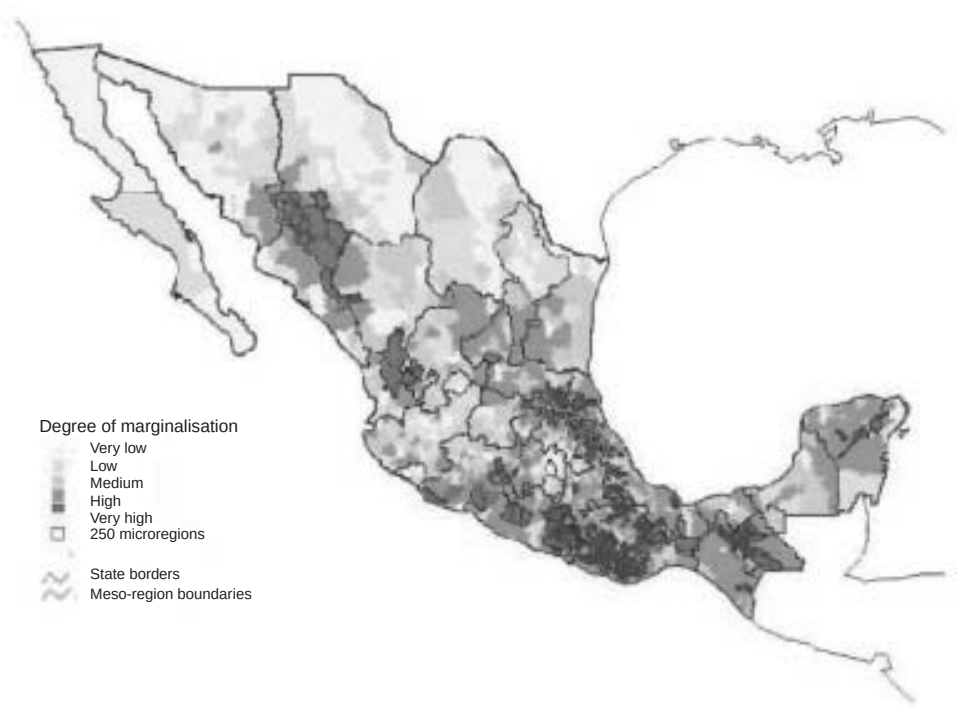
Box 1.3. **Identifying high marginalisaton areas** (*cont.*)

- Percentage of individuals living in their private house with no drinking water system, according to the Population and Housing Census carried out by INEGI in 1995.
- Percentage of private houses characterised by overcrowding, according to the Population and Housing Census carried out by INEGI in 1995.
- Percentage of individuals living in private houses with soil floors, according to the Population and Housing Census in 1990.
- Percentage of working population earning less than two minimum wages, according to the Population and Housing Census in 1990.

Figure 1.14. **High marginalisation localities from PNDU**



Source: SEDESOL, Programa Nacional de Desarrollo Urbano y Ordenación del Territorio, 2001.

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Table 1.10. **Mexican municipalities grouped by economic performance**

Change in the share of households with less than two minimum wages

Group	Mean 1990 share of working population earning < 2 minimum wages	Mean 2000 share of working population earning < 2 minimum wages	Number	Share very high margina-lisation 1990	2000 mean population	2000 median population	Total population (national share)	Centre (share)	Centre West (share)	North east (share)	North west (share)	South/ South east (share)
Medium level	45.57	25.62	21	0.00	373 060	194 463	7 834 263	2	3	6	9	1
Large improvement							(8.11)	(9.52)	(14.29)	(28.57)	(42.86)	(4.76)
Medium level	44.21	41.72	41	0.00	144 293	32 061	5 915 997	2	15	3	14	7
Modest improvement							(6.12)	4.88	36.59	7.32	34.15	17.07
Medium high level	59.95	42.16	190	0.00	183 361	66 527	34 838 590	52	41	41	37	19
Large improvement							(36.06)	27.37	21.58	21.58	19.47	10.00
Medium high level	57.22	58.59	195	0.00	40 596	23 773	7 916 170	33	93	8	21	40
Slight deterioration							(8.19)	16.92	47.69	4.10	10.77	20.51
High level	73.07	53.10	112	0.00	67 635	10 821	7 575 104	18	26	25	16	27
Large improvement							(7.84)	16.07	23.21	22.32	14.29	24.11
High level	72.92	67.44	565	1.77	29 914	16 656	16 901 431	111	187	22	81	164
Modest improvement							(17.49)	19.65	33.10	3.89	14.34	29.03
High level	74.45	83.97	155	14.19	14 385	7 852	2 229 698	2	28	3	3	119
Modest deterioration							(2.31)	1.29	18.06	1.94	1.94	76.77
Very high level	84.52	79.96	492	8.13	16 947	10 467	8 337 723	59	53	19	20	341
Modest improvement							(8.63)	11.99	10.77	3.86	4.07	69.31
Very high level							5 062 443	19	6	5	1	600
Negligible improvement	91.32	90.92	631	42.63	8 023	4 302	(5.24)	3.01	0.95	0.79	0.16	95.09

Source: OECD computation of CONAPO data.

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corresponds very well with impeded economic performance. Very high marginalisation municipalities are only found in those groups characterised by high or very high levels of low-wage workers.[22] However, in those two groups demonstrating modest improvement over the period they make up a significantly smaller share (1.8 and 8.1%) relative to the groups that experienced deterioration or negligible improvement (14.2 and 42.6%).

The largest group in terms of national population share (36% represented by Medium High Level, Large Improvement) also demonstrated commendable performance reducing the share of the working population with less than two minimum wages by almost 18%. The two groups demonstrating even larger reductions were the High Level Large Improvement (19.97% making up 7.8% of national population) and the Medium Level Large Improvement (19.95% making up 8.1% of national population). Importantly, municipalities from every Meso-region were members of these groups – very evenly distributed among the Medium High and High Level Large Improvement groups – suggesting that examples of good economic performance assessed by this metric are found throughout the country. It is also significant that those municipalities that experienced only negligible improvement or deterioration account for a relatively small share of national population (slightly more than 15%). However, these municipalities are found overwhelmingly in the South-Southeast.

The regional distribution of enabling assets

- Education

As discussed above, the highly unequal distribution of education is identified as the principal source of poverty and inequality in Mexico. The importance of education in explaining these phenomena has increased in step with the opening of the Mexican economy to international competition. From this perspective, it is not only important to examine the relative distribution of educational attainment across regions, but also to compare with relevant international benchmarks.

In national comparisons, Mexico lags behind other countries in Latin America. Despite being one of the richest countries in Latin America in terms of per capita GDP (fourth in rank), Mexico ranks eighth in the mean years of formal schooling of the Economically Active Population (EAP). The average attainment of eight years lags that of countries with lower per capita GDP (Peru and Ecuador) and more than two years behind that of Argentina. Educational attainment of the EAP however reflects deficiencies in educational policies or distorted market signals that affected the educational choices of all current labour market cohorts. The expected years of schooling is a better measure reflecting the anticipated choices of the current school age population.[23] OECD calculates the expected years of schooling in Mexico as 12.4

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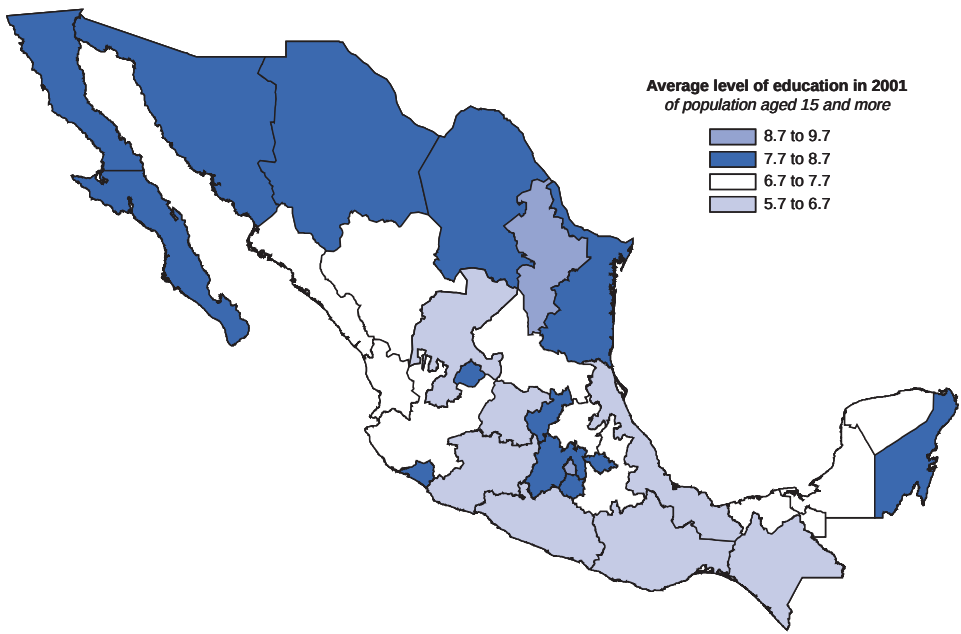
in 1999. This figure is significant as it indicates that secondary completion characterises average anticipated attainment. Empirical evidence suggests that returns to this level of education have been increasing. Unfortunately, the indicator also suggests that the relative competency of nations reflected as human capital is a moving target. The expected years of schooling for Argentina is 14.2 years and 13.2 for Peru. In other OECD member countries, the average is 16.7 years, the highest expected years anticipated for Sweden with 20.3 years.

Overall, education performance in Mexico varies widely across regions and states (Figure 1.15). In general, the Northeast and the Northwest show the highest achievements, followed by the Centre region. In contrast, the Centre-West and the South-Southeast lag behind. In addition, the Northern states show more balanced indicators among them in terms of education as compared to the states located in the central and southern regions of the country. The range of educational attainment of the EAP between entities again illustrates that there are "several Mexicos" on the territory. On average, the EAP in Oaxaca has 5.5 years of education, similar to the national average of Nicaragua. In contrast, the Federal District has 10.5 years of schooling on average, which is practically the national average of Argentina (the

Figure 1.15. **Average level of education of population aged 15 and more, 2001**



Source: SEP, Sectoral Program, 2001-2006.

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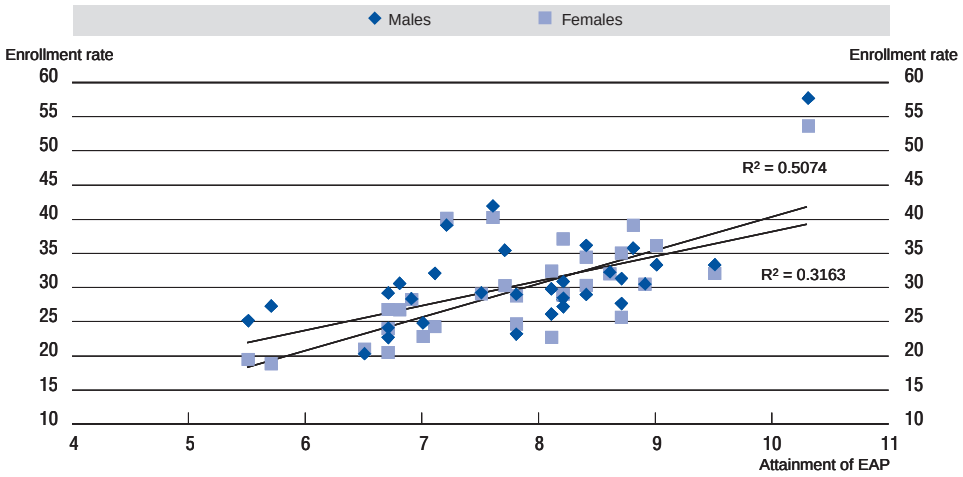
Latin-American country with the highest level of schooling). Meanwhile, regarding literacy, the problem once again arises when performance is disaggregated by regions. The northern regions exhibit rates of illiteracy that hover around 5%. In contrast, the South-Southeast and the Centre-West regions sustain respectively 17.2 and 9.8% illiteracy rate.

An important consideration with respect to education is the ability of more disadvantaged regions to catch-up. Although this process will be prolonged given the considerable inertia existing in the education attainment of the current labour force, progress would be immediately identifiable, as would economic benefits. For example, if universal coverage through secondary completion was established today, regional disparities in educational attainment would continually decline as less educated older generations left the labour force. Employment creation for new labour force entrants could also exploit their much higher level of preparation relative to the current labour force. Unfortunately, there are indicators suggesting that regional disparity in education levels will persist through the long-term. Figure 1.16 demonstrates that those regions with the lowest levels of educational attainment also have the lowest enrolment rates of 18-year-olds. Although the enrolment rates of males in this cohort in Chiapas and Oaxaca are not the lowest in the country, roughly three-fourths are not enrolled implying no possibility of catch-up with the Federal District where nearly 60% of males in this cohort attend school. In fact, enrolment rates in the Federal District are significantly higher than

Figure 1.16. **Current attainment and enrolment of 18-year-olds, 2000**



Source: INEGI, 2000.

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what would be expected given the empirical association between EAP and enrolment rates in the rest of Mexico. Rather, the accomplishment of the education system has been universal coverage in primary education that has already had an impact on reducing educational disparities. While commendable, this success will have little impact on income inequality given the increasing demands for and growing value attached to secondary and post-secondary completion, particularly considering recent demographic trends that signal continued growth of the population segment between 15 to 24 (until 2010).

Earlier analysis also confirmed the inability of smaller settlements to exploit opportunities in the new economic environment. An important parallel is the tendency for poverty to be concentrated in smaller settlements, which would deny an opportunity for education above the primary level for many children in these households. An examination of educational attainment by settlement type in each of the Meso-regions confirms the significant human capital deficit of rural settlements relative to larger localities. Table 1.11 provides the share of the economically active population that has completed secondary education or higher. Although the growth in secondary completion rates was highest in rural areas – more than doubling in the Centre and Centre-West – over the decade, their share is still less than half of those of the largest localities in all Meso-regions and less than a quarter in the South-Southeast. While the Centre-West, with the second lowest rate of secondary completion (24.1%), demonstrated the fastest growth over the 1990s consistent with eventual catch-up, the South-Southeast has had its low level of human capital endowment (17.6%) compounded by the slowest rate of growth (20.6%). But again, the South-Southeast appears to be most

Table 1.11. **Secondary completion of economically active population by settlement type and Meso-region**
In 2000 and per cent change 1990 to 2000

Settlement type	Centre	Centre-West	Northeast	Northwest	South/Southeast
Less than 2 500	19.41	11.53	17.54	16.14	9.7
	(105.18%)	(105.89%)	(87.59%)	(71.52%)	(90.20%)
2 500 to 14 999	28.88	21.47	30.51	27.11	19.02
	(57.04%)	(54.91%)	(46.05%)	(34.81%)	(45.86%)
15 000 to 99 999	35.63	28.69	35.61	35.05	30.08
	(35.84%)	(37.60%)	(39.43%)	(31.62%)	(31.12%)
100 000 to 499 999	47.08	36.66	43.19	41.94	42.20
	(32.69%)	(28.59%)	(29.58%)	(22.85%)	(33.59%)
500 000 or more	47.96	41.83	47.47	42.34	42.03
	(35.60%)	(39.81%)	(25.52%)	(41.27%)	(30.37%)
Total	**37.37**	**24.06**	**36.55**	**30.73**	**17.59**
	(27.11%)	(34.49%)	(24.40%)	(25.58%)	(20.64%)

Source: INEGI, National Population and Housing Census, 1990 and 2000.

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seriously disadvantaged by its large share of population in small settlements as secondary completion rates in cities of more than 15 000 people are comparable to rates in the Meso-regions.

- Health care

The health sector in Mexico faces a similar situation to education. On the one hand, several achievements have been accomplished. The vaccination schemes for one year-old children have reached 94.8% improving to 98.3% coverage for pre-school children. Both measures have also demonstrated yearly improvement. Similarly, since 1990 there have been no cases of poliomyelitis or diphtheria reported, and significant reductions in whooping cough and tetanus have been accomplished. In addition, there has been a significant decline in fertility levels. The total fertility rate decreased from 6 children per woman in 1975 to 2.4 children in 2000.

Nevertheless, in several health indicators, Mexico is in a much weaker position than would be expected given its level of economic development. Among 17 Latin American countries, Mexico occupies ninth place in regards to the rate of infant mortality (24.9 per thousand in 2000), and tenth place in terms of life expectancy at birth – with 72.1 years according to international sources and 75.4 according to CONAPO. This holds true despite having the fourth highest per capita GDP in the region. Mexico also lags behind many other countries in Latin America regarding the number of births assisted by medical personnel as well as hospital beds per 1 000 inhabitants.

Two demographic processes of significance to the delivery of health services is the decrease in infant mortality combined with the rapid drop in fertility, which has led to the ageing of the population, and the spatial distribution of the population. The average number of children per woman decreased from 5.9 in 1975 to 2.4 in 2000. The country's rapid urbanisation and deficient urban planning over the past three decades has created new health risks while simultaneously bringing a larger proportion of the national population closer to the urban agglomerations where medical resources are found and health care is better. Yet, population dispersion in rural areas has been maintained in absolute terms. However, national aggregates mask considerable regional variation that parallels the finding with respect to income and level of economic development. In the Federal District and the urban area of the state of Mexico, children in the 0-5 year-old group share a similar mortality risk to those of Chile or Costa Rica. Whereas in the rural areas of Chiapas and Oaxaca, this risk is similar to that found in countries such as Peru, Guatemala or Nicaragua. In extreme cases, such as the rural area of Guerrero, the mortality risk is analogous to Bolivia. In terms of mortality rates, in 2000, the mortality rate for male children in the 0-5 year-old group was 40 per 1 000 births in the South-Southeast region, whereas in the Northeast the same rate was only

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29 per 1 000 births. The Northeast was closely followed by the Centre and Northwest regions with 29.28 and 29.37 deaths, respectively.

Disparities between states are also clearly observable in the epidemiological transition. Mortality is less likely in prosperous regions than in those in precarious conditions. In 1999, the number of deaths related to infectious diseases or parasites was higher for the states of Chiapas, Oaxaca and Puebla: 19.2, 15.7 and 9.6 deaths per 100 000 inhabitants, respectively. In contrast, the states of Nuevo León, Durango and Tamaulipas presented the lowest rates: 2.2, 2.6 and 2.6, respectively. During 1999, the incidence of respiratory diseases also showed major differences between states. The state of Mexico had the highest rate with 32.7 deaths per 100 000 inhabitants, followed by Puebla with 32.4 and Tlaxcala with 28.9. On the other hand, the states of Coahuila, Tamaulipas and Aguascalientes had the lowest rates: 8.4, 9.6 and 10.2, respectively. A summary statistic that incorporates these phenomena is the probability of premature death for the population of 15-59 years that is also differentiated by entity. In the states of Nuevo León, Baja California Sur and Quintana Roo, the probability of dying for this age group is similar to the one observed in some European countries or the United States. At the other extreme, in the rural areas of Guerrero, Puebla and Oaxaca the probability of dying is comparable to countries such as El Salvador, Nicaragua and Honduras.

Given the large disparities in some regional health outcomes, one might expect large disparities in health service infrastructure. This hypothesis is not supported at more aggregate levels of analysis. For example, in terms of medical units per 1 000 inhabitants: the Centre region has 17.8; Centre-West 21.8; Northeast 19.3; Northwest 20.5; and finally in the South-Southeast region there are 20.5 units. Also the number of physicians per 100 000 inhabitants display only moderate variation with no clear relationship between outcomes and inputs: the Centre region has 127.6 on average; the Centre-West 113.98; the Northeast 126.9; the Northwest 154.8; and the South-Southeast 122.7. At a more disaggregate level, greater disparities become apparent. For example, the rate of physicians per 1 000 inhabitants in municipalities with very high marginalisation is 0.7, whereas in municipalities with very low marginalisation it is almost 2.5. The most extreme case is that of the indigenous municipalities in Oaxaca, which have only 0.13 physicians per 1 000 inhabitants. The extreme polarities are further seen in the number of beds per 100 000 inhabitants in which the Northwest is the most advantaged area, with 96.73, and the least advantaged is the South-Southeast with 65.18.

At the regional level, it appears that the differential rate of access in the form of health coverage is the main cause of health inequalities among regions and social groups. By regions, in the Centre 34.9% of the population has coverage for medical services; in the Centre-West 39.8%; in the Northeast 57.8%; in the Northwest 56.9%; and finally in the South-Southeast 30.5%. Another indicator that illustrates the regional disparities in health care is the coverage deficit of the

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Mexican Social Security Institute (IMSS). The percentage of people with no access to the IMSS medical services ranges from 27.8% in the most developed states up to 84.9% in the states with the lowest per capita incomes. In this respect, while all the states in the South-Southeast region show a high or extreme coverage deficit, the totality of entities in the Northeast and Northwest – except Durango – show the lowest coverage deficits in the country (Table 1.12).

Table 1.12. **IMSS coverage deficits**

	2000	2005	2010
		%	
Extreme			
Oaxaca	84.9	84.0	82.9
Chiapas	84.2	84.1	83.0
Hidalgo	82.3	81.1	79.4
Guerrero	77.6	76.1	74.1
Michoacán	76.6	76.4	75.8
Puebla	72.7	70.9	68.6
Zacatecas	71.9	70.0	67.5
Tlaxcala	68.6	66.0	62.6
Veracruz	68.4	65.7	62.3
Tabasco	66.9	65.2	63.0
High			
Colima	64.4	59.5	52.8
Guanajuato	64.2	61.7	58.5
Morelos	64.0	60.4	55.9
San Luis Potosí	64.0	61.5	58.2
Nayarit	60.9	57.9	54.1
Campeche	58.4	48.2	44.4
State of México	56.3	52.4	47.5
Durango	55.9	53.2	49.4
Yucatán	55.6	50.5	44.4
Quintana Roo	53.6	49.7	44.6
Jalisco	53.3	49.1	43.8
Querétaro	51.1	46.7	41.0
Medium			
Distrito Federal	45.3	40.1	33.8
Sonora	44.6	38.9	31.8
Tamaulipas	43.4	37.7	30.5
Aguascalientes	42.1	42.1	42.1
Sinaloa	41.0	35.5	28.6
Baja California	40.8	39.1	37.8
Chihuahua	39.8	34.6	26.5
Baja California Sur	36.5	31.2	24.4
Nuevo León	28.8	21.0	11.3
Coahuila	27.8	21.9	11.0

Source: Mexican Social Security Institute (IMSS).

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Apart from the workers who carry out activities in the informal sector of the economy, other segments of the population without social insurance are rural families in small localities, urban inhabitants in marginalised areas with temporary insurance (who often lose their coverage due to their labour mobility), and migrants who lose their rights once they leave the formal labour force. In general, the profile of households without social security is the following: large number of members, precarious conditions (breadwinner with a wage below two minimum wages), and concentrated in localities with less than 2 500 inhabitants. This profile is confirmed by an examination of the share of the economically active population with no health coverage from the 2000 Census (Table 1.13). The Northeast stands out as having better coverage than the other regions across all settlement types. But even there, 64% of the economically active population in rural areas is without health coverage. Rural settlements in the South-Southeast are again the most disadvantaged with a coverage deficit of 88.4%.

Table 1.13. **Share of Meso-region economically active population with no health coverage**

Settlement type	Centre	Centre-West	Northeast	Northwest	South/Southeast
Less than 2 500	80.80	81.66	63.93	69.09	88.38
2 500 to 14 999	68.74	70.37	41.11	51.82	78.43
15 000 to 99 999	58.35	57.28	34.09	37.49	63.18
100 000 to 499 999	47.00	44.63	30.59	31.33	47.67
500 000 or more	47.27	40.23	26.73	31.12	45.95
Total	**58.94**	**64.61**	**38.34**	**47.24**	**78.78**

Source: INEGI, National Population and Housing Census, 2000.

- Housing

The quality of housing and the availability of basic services are critical inputs to the quality of life realised and by extension to the economic capacity of residents. There are significant differences in the range of regional disparity across individual measures, being relatively modest with respect to access to electricity and starker with respect to availability of safe water. However, in all cases, the South-Southeast region demonstrates the largest service deficits while the smallest deficits are registered in the northern regions. Housing characteristics follow similar patterns.

The demand for housing is currently being met by two very different market segments: self-built and developer built. The former include units typically constructed over time with uncertain legal titles, meaning the land may or may not

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be registered and titled to the occupant and thus, may not initially have municipal services such as sewerage and water as well as electricity (supplied by a federal government monopoly). Due in great measure to the uncertainty regarding land tenure which will be further analysed in the following section, mortgage financing is very scarce for the self-built homes market, and transactions are usually made in cash with very limited financing available in some cases. Each year between 50 and 65% (200 000 and 300 000 units per year) of all new homes built in Mexico are of this type. In contrast, certainty and regulatory compliance are critical in the developer built segment. The growth trend for developer-built homes in Mexico is 5% although from 1997 to 2000, it was higher than 10%.

With regard to access to water supply or drainage, deficits in most regions are relatively small as compared to the South-Southeast: in the Centre region, 16.7 and 8.0% of the population have no drainage system or access to safe water, respectively; in the Northeast, 17.5 and 5.4%, in the same order; in the Northwest, 22.7 and 6.9%, and in the Centre-West, 21.4 and 9.9%. However, in the South-Southeast, the same indicators reach levels of 40.2 and 25.9%. The magnitude of these differences is clearly significant as are the increases in health risks connected to these deficits. The variation with respect to households with soil floors is even greater. Nearly one-third of the households in the South-Southeast have soil floors (30.4%), the proportion is less than 10% in the Centre (9.6%) and Northeast (6.6%) and only slightly above 10% in the Northwest (10.9%) and Centre-West (12.5%).

The two main trends with regard to geographical disparities in terms of basic services and housing facilities across the country are also observed at the municipal level. On the one hand, the municipalities with the most critical levels in the selected indicators are found in the South-Southeast and Centre-West regions. In contrast, the Centre, Northeast and Northwest show a higher quality of life as measured by these parameters. On the other hand, the disparities in basic service provision and housing characteristics at the regional level are reproduced within the regions. Even within the best performing regions some states lag behind. The regional deficiencies in housing are perhaps best captured by the marginalisation index constructed by CONAPO that incorporates a number of characteristics of the municipal housing stock.

Disadvantages of the indigenous population

The indigenous population in Mexico is characterised by much higher deficits with respect to the enabling assets above and suffers from a complex web of interrelated social and economic problems. The indigenous population stands at around eight million persons (equivalent to 8.6% of the national population)[24] according to the 2000 Census. However, the indigenous population is estimated

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at 12 707 000 by the National Indigenous Institute (INI). It is a predominantly rural and isolated population: 59.8% live in rural areas, in localities of less than 2 500 inhabitants (while at the national level, only 25.4% of Mexicans are rural), whereas only 13.2% live in cities of more than 100 000 inhabitants (against 47.3% for all Mexicans). They often live in very small localities, dispersed all over Mexico; many of which are in high sierras or in the forests. This relative isolation is the core of many of the problems, whether in terms of infrastructure, education, health or production.

Indigenous people are far behind the national average in terms of education. According to INEGI, 44.3% are illiterate (against a national 10.5%), 75% drop school before completing primary education (against 36% of all Mexicans), 1 002 236 indigenous people over the age of five (16.6% of the population) cannot speak or read Spanish. In terms of health and living conditions, poor nutrition and sanitation are closely associated with a high infant mortality rate among indigenous children (48/1 000 against 28/1 000 for national rate). The proportion of undernourished children among indigenous under the age of 5 is 58.3%, that is 20% more than the national average. All of these factors contribute to lower incomes of indigenous people relative to the nation as a whole, reinforced by their economic activity in low remuneration sectors. 61% of the indigenous population works in agriculture. In contrast, an indigenous Mexican is less than half as likely to be working in the service industry. The outcome is that the percentage of the indigenous working population that receives less than a minimum wage (38%) is nearly double the national percentage. Moreover, the percentage of the working indigenous population, which does not receive an income, is nearly three times the national average.

The indigenous issue in Mexico has a strong territorial dimension, *i.e.* this population is highly concentrated in the South. Although there are indigenous people in every Mexican State, 69.3% of the national indigenous population is concentrated in seven Southern states: Oaxaca, Chiapas, Veracruz, Puebla, Guerrero, Quintana Roo and Yucatán (INEGI, 2000).[25] The percentage of indigenous inhabitants reach 24.9% in Chiapas, 38.2% in Oaxaca, and make up 39% of the population in Yucatán. Information for all states is presented in Table 1.14. There is also a very high correlation between high indigenous populations and low-income rates across states. All states with over 10% of indigenous inhabitants are far below national average in terms of income.[26] While it may be an exaggeration to speak of "indigenous states" in Mexico, it is entirely pertinent to speak of indigenous municipalities. For instance, of 119 municipalities in Chiapas, 25 have populations that are over 80% indigenous. To the extent that the indigenous condition is related to poverty, the enormous policy challenge to enable those Mexicans to achieve a better social and economic situation should be concentrated in the southern region.

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Table 1.14. **Indigenous population per federal entity**

	Total population (a)	Total indigenous population (b)[1]	b/a (%)	In percentage of total
Mexico	**97 483 412**	**7 278 002**	**07.47**	**100.00**
Aguascalientes	944 285	1 647	0.17	0.02
Baja California	2 487 367	48 062	1.93	0.66
Baja California Sur	424 041	6 841	1.61	0.09
Campeche	690 689	113 020	16.36	1.55
Coahuila	2 298 070	3 785	0.16	0.05
Colima	542 627	3 620	0.67	0.05
Chiapas	3 920 892	979 614	24.98	13.46
Chihuahua	3 052 907	103 057	3.38	1.42
Distrito Federal	8 605 239	172 558	2.01	2.37
Durango	1 448 661	30 546	2.11	0.42
Guanajuato	4 663 032	13 717	0.29	0.19
Guerrero	3 079 649	449 304	14.59	6.17
Hidalgo	2 235 591	402 940	18.02	5.54
Jalisco	6 322 002	48 504	0.77	0.67
México	13 096 686	466 112	3.56	6.4
Michoacán	3 985 667	143 967	3.61	1.98
Morelos	1 555 296	38 338	2.46	0.53
Nayarit	920 185	45 791	4.98	0.63
Nuevo León	3 834 141	18 873	0.49	0.26
Oaxaca	3 438 765	1 314 917	38.24	18.07
Puebla	5 076 686	681 980	13.43	9.37
Querétaro	1 404 306	31 146	2.22	0.43
Quintana Roo	874 963	214 963	24.57	2.95
San Luis Potosí	2 299 360	281 074	12.22	3.86
Sinaloa	2 536 844	60 896	2.4	0.84
Sonora	2 216 969	68 164	3.07	0.94
Tabasco	1 891 829	75 626	4.00	1.04
Tamaulipas	2 753 222	21 806	0.79	0.3
Tlaxcala	962 646	33 061	3.43	0.45
Veracruz	6 908 975	754 265	10.92	10.36
Yucatán	1 658 210	647 441	39.04	8.9
Zacatecas	1 353 610	2 367	0.17	0.03

1. Data obtained by adding the INEGI estimates of "indigenous language speakers 5 years old and over" and their estimates of "children under 5 years living in a household whose head is an ILS".

Source: INEGI, National Population and Housing Census, 2000.

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1.2. Unused potentials, local comparative advantages and development challenges

A territorial analysis of Mexico's economic development reveals a series of imbalances regarding the provision of infrastructure, natural resources and man-made assets, which hamper the population's equal access to public amenities as well as the efficient use of the country's endowments. This situation nevertheless exists in parallel with growing examples of a promising development of comparative advantages – as will be shown in the case of industrial clusters – although still concentrated in certain regions. Resolving the aforementioned imbalances and taking fuller advantage of potentials constitute an important opportunity to achieve more equitable and sustainable development and redress the stark territorial disparities that have been outlined in the previous section.

Land regularisation

An obstacle for the adequate development of both rural and urban areas is the considerable space of land that is currently without well-defined land titles and thus unable to be commercialised and used for productive processes. The *ejido* system of agricultural land tenure dates back to the end of the revolutionary period and defines the collective use of land by a group of labourers. The *ejido* system complicates the privatisation and subsequent commercialisation of land, therefore hindering housing construction and access to credit for low-income families and communities. Likewise, it constrains the possibility of opening up greater extensions of land to more efficient productive agricultural methods. Although modifications to the Constitution were carried out in 1992 to allow converting *ejidos* into private property, there exists a complicated legal process that has to be fulfilled by petitioners (OECD, 1998a).

Thus for example, in the state of Morelos land considered social property (land under the *ejido* system plus communal lands, which are located mainly in indigenous communities) represents close to 70% of the total. This situation has in turn provoked a proliferation of urban neighbourhoods built on land not regularised and has constrained severely the availability of land for industrial use.

Accordingly, this circumstance has negatively affected the development potential of rural areas, while causing severe distortions to the peri-urban land market. Between 1995 and 2000, out of 150 000 hectares used for urban development more than two-thirds (105 000 hectares) were from the *ejido* sector. Profound inequalities regarding access to housing have been greatly exacerbated as a result of these difficulties (in this respect see also Chapter 3.2 on poverty alleviation). Although most large cities have by now urban zoning regulations and a functioning land market, at the fringes of the cities the *ejido* system has placed significant obstacles to the efficient mobilisation of land for harmonious urban development.

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In effect, currently 51% of the land correspond to *ejido* and communal land while two-thirds of the land that surrounds urban agglomerations is considered social land. It therefore seems necessary for Mexico to implement a more efficient system of land management that allows for sufficient land to be available for the urban market in a timely fashion.

Infrastructure

Together with the problems regarding land tenure, the development potentials of various regions have been unable to be adequately utilised as a result of an inadequate and skewed national infrastructure system. Although significant progress in this respect has been made in certain areas (which in turn helps explain the continued growth of various states in the context of stronger international linkages), stark contrasts among the different Mexican regions exist. The development of communications and transport systems are characterised by marked regional differences. In particular, the transportation system connecting South and North is rather inadequate as in either direction the most modern highways are traced through the Federal District, which since the beginning of the 20th century became and still is the hub of the national network. Moreover, connections to regions south of Mexico City have remain quite inadequate despite recent developments in highway modernisation. That is, regardless of the modernisation of highways, quite notorious during the 1990s, the basic configuration of the main system (a marked radial structure centred at Mexico City) remains virtually unchanged. It should be mentioned that the economic and demographic hierarchy of the cities in Mexico remained quite stable for the most part of the 20th century, being largely determined by the configuration of the transportation system (Tamayo-Flores, 2001).

In effect, the radial configuration of land transportation saturates the central region, dividing the system into four disconnected segments and provoking very high investment, maintenance and operation costs for the economic activity of the Southern states given the necessity to overcome a rugged topography to arrive to Mexico City.[27] Regarding railways, there are no coastal lines along the northern part of the Gulf of Mexico, which makes it necessary to transport the cargo coming from the South-east and Yucatán Peninsula through the Centre of Mexico in order to reach the US market. Moreover, a large part of the territory of the Southern states of Guerrero and Oaxaca is disconnected (with important negative implications for tourism, as will be seen below). More specifically, the railway network is bifurcated: North and South are linked only through the Querétaro-Mexico City line. Hence, traffic originating in the Southeast (including the seaport of Veracruz) and going north must pass through Mexico City. 70% of the rail traffic occurs on the Mexico City-Nuevo Laredo line.

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Although the radial structure of the highway network is less pronounced than in the case of railways, radiality reappears when taking into account the quality of infrastructure. Mexico City is connected with the main cities in the Centre and Centre-West as well as with Northeast and Northwest through four lane highways, whereas there are no four-lane highways to the north of the Gulf of Mexico nor in the South Pacific. In the coastal zones of the Yucatán Peninsula and Southern Gulf of Mexico, four-lane highways do not form an integrated axis. Neither in the north of the Gulf of Mexico nor in the South Pacific are there coastal axes. In addition, seaport infrastructure is underdeveloped. Intermodal linkages have not been adequately developed, thus limiting cargo distribution capabilities toward the ports' zone of influence. In turn, this situation has not allowed for the possibility of maritime transportation compensating for the limitations of coastal highways (Davila *et al.*, 2000).

Accordingly, to increase competitiveness, the South-Southeast region needs to improve its connectivity and be equipped with quality infrastructure. The completion and modernisation of coastal highways on both the South Pacific and the Gulf of Mexico as well as the construction of modern connections between them are of the utmost importance. Overall, development of southern Mexico is highly dependent on the creation of better infrastructure, as it will enable the region to exploit its comparative advantages and development potentials, and avoid falling further behind with respect to the rest of the country (Tamayo-Flores, 2001).

Infrastructure will also have to respond to increased migratory flows towards the northern part of the country, in particular Baja California and Nuevo León. Together with increased attention to the South, it would be desirable to consolidate the infrastructure that has been gradually developed in the Centre-West region in order to continue exploiting its potential to become the link that unites the North with the Centre (as Querétaro is being able to do). This will also tap its industrial and agricultural potential as well as its opportunities to develop regional distribution projects. Last but not least, and vital in the context of NAFTA, consideration should be given to the lack of a transversal axis connecting the different northern regions.

Natural and cultural resources

Environmental threats and potentials

A striking characteristic of Mexico's economic structure is the fact that a significant proportion of the territory (64%), considered as having low and very low quality of natural resources, is the area in which more than one-third of the population lives and 40% of the production value is generated. In this sense, it is possible to perceive that some regions over-exploit their scarce resources, while others have impressive natural resource potentials that are not adequately utilised.

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Likewise, environmental depletion constitutes a significant threat. In Mexico, forestlands cover around 25% of the national territory (48.7 million hectares are forests, 23 million are agricultural lands and 79 million are pasturelands). It has been estimated that 600 000 hectares of forest are lost every year, which is equivalent to a very high deforestation rate of 1.2% (SEMARNAT, 2001). The ISI development model that was followed in Mexico roughly from 1940 to 1980, had a severe impact on the environment,[28] and thus is held responsible for some of the current imbalances. Together with the lack of adequate environmental regulation, it promoted specialisation in a type of industrialisation highly intensive in utilisation of natural resources that mainly located itself in the Centre and the North (for a more detailed discussion see Chapter 3.1 on Strategies). This process in turn provoked the progressive marginalisation of the rural population, which promoted the conversion of forestlands into harvesting or cattle-grazing land. Overall, poverty in rural areas has promoted a direct dependence on natural resources and environmental degradation through unsustainable practices such as parcel burning and illegal exploitation of wooded areas.[29] It has also fostered the infringement of zoning laws converting land for agrarian purposes. Other important factors contributing to water, land and air degradation consist of the correlative high concentration of economic activities in cities and the ensuing traffic congestion. In Mexico these negative factors have still not been sufficiently addressed.

An interesting case in point regarding the imbalance among regions is that of water resources. These are constrained by the following three mismatches. First, annual water fall is concentrated in four months, while a large part is lost. Second, most water consumption occurs in the North while rainfall and water reserves are more abundant in the South (Figure 1.17). Third, 80% of the water storage is below 500 metres in elevation whereas 75% of the population lives above this elevation. Paradoxically, despite the abundance of water resources in the South, the states with the lowest percentage of access to clean water are the southern states of Chiapas, Tabasco, Oaxaca, Guerrero and Veracruz and the Centre state of San Luis Potosí. 54% of the national population that does not have access to clean water live in these states (Table 1.15). In a related manner, a substantial share of the water tables in the wealthiest part of the country is used beyond sustainable capacity. There is a considerable amount of aquifers in the country but many are overexploited, particularly in the central and northern regions, a process that in turn provokes its pollution. Overall, the availability of potable water is seriously constrained with only 5% classified as excellent, 22% in an acceptable state, 49% slightly polluted and 24% polluted. As a result, aquifers in the North require continuously high amounts of public investment in order to satisfy the increasing demand for drinking water (Figure 1.18). In turn, in the South, while sanitation is accessible to most households, only a small part of wastewater is treated. As a

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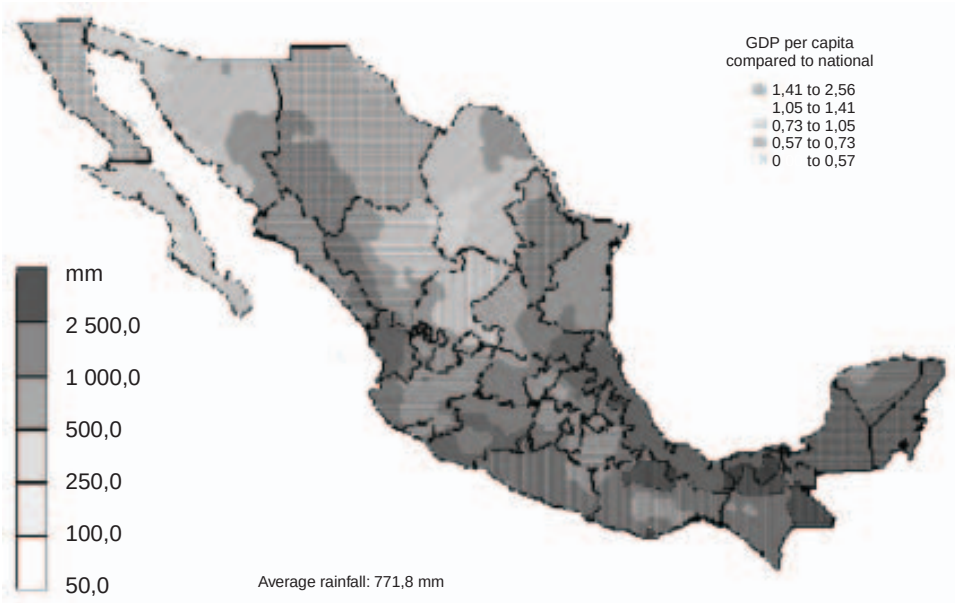
Figure 1.17. **Water resources**



Source: National Water Commission (CNA).

result, water ends up in river and ground water tables, which likewise result in high levels of pollution.

The northern and central regions seem to be in need of paying closer attention to the sustainability of their development focus. There are difficulties derived from water and environmental depletion which may reach critical levels unless timely action is taken, particularly in the North where the growth of desert zones is an acute problem. Therefore, it is highly desirable for the North to foster projects that exploit the region's important comparative advantages in a more sustainable way, while continuing the development of the Northern border as a pole for FDI.

Past public policy has played an important role in bringing about the aforementioned territorial imbalances, as will be analysed more closely in the section on Strategies. For example, the North historically benefited the most from public investments in irrigation infrastructure projects. Contrary to what would be expected, large agricultural districts were created in arid and semi-arid zones. Accordingly, out of 6.3 million hectares of irrigated land in the country, 52.2% is in the

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Table 1.15. **Comparison on specific variables between states**

In percentage

States	Population (in numbers)	No clean water	No electricity	No fixed telephone	No medical insurance
Aguascalientes	936 872	1.3	2.2	58.9	43.4
Baja California	2 272 952	6.7	2.9	44.2	38.1
Baja California Sur	416 536	6.2	5.3	56.4	39.2
Campeche	684 742	14.5	9.1	78.7	60.5
Chiapas	**3 775 439**	**24.5**	**12.5**	**88.2**	**77.8**
Chihuahua	2 952 401	5.8	6.7	58.0	39.3
Coahuila	2 269 189	2.2	1.7	58.5	28.4
Colima	508 592	2.2	2.3	60.8	48.2
Distrito Federal	8 450 809	1.5	0.5	34.0	45.9
Durango	1 432 005	6.9	7.3	69.2	49.2
Estado de México	12 472 648	6.2	2.2	59.6	54.8
Guanajuato	4 625 930	6.8	3.8	69.5	64.5
Guerrero	**3 041 892**	**29.0**	**11.8**	**79.9**	**78.1**
Hidalgo	2 220 014	15.1	7.9	80.2	69.6
Jalisco	6 235 981	6.7	2.6	52.3	53.8
Michoacán	3 931 372	10.7	4.8	73.3	72.0
Morelos	1 495 193	7.2	2.2	63.0	61.7
Nayarit	907 791	9.4	5.1	71.4	58.5
Nuevo León	3 781 624	3.6	1.4	42.5	31.2
Oaxaca	**3 416 849**	**26.6**	**12.9**	**87.9**	**76.0**
Puebla	4 914 782	16.1	5.1	75.0	71.4
Querétaro	1 387 927	6.5	6.2	66.8	52.6
Quintana Roo	860 281	5.3	4.6	70.8	51.5
San Luis Potosí	**2 281 812**	**20.7**	**12.0**	**74.1**	**61.2**
Sinaloa	2 514 540	7.1	3.7	63.8	45.4
Sonora	2 186 002	3.4	3.6	57.6	41.7
Tabasco	**1 877 280**	**26.2**	**6.2**	**82.0**	**69.5**
Tamaulipas	2 720 159	5.0	5.3	60.2	46.5
Tlaxcala	953 842	2.5	2.8	78.4	68.8
Veracruz	**6 857 389**	**29.2**	**11.3**	**78.3**	**68.1**
Yucatán	1 645 421	5.7	4.3	71.7	53.9
Zacatecas	1 345 213	10.9	4.5	80.5	66.3
Federation	95 373 479	11.1	5.2	63.8	57.0

Source: INEGI, National Population and Housing Census, 2000.

North, 38.4% in Centre-West and only 9.4% in the South-Southeast, notwithstanding this last region's comparative advantage regarding water resources. Another significant example in this respect is the exemptions in water fees granted by the federal government for agricultural activities in the northern region. These exemptions worked against the South with its much larger water endowments by making the amount of the subsidy actually much larger for the North (Dávila *et al.*, 2000). In addition, this policy led to the over-exploitation and exhaustion of aquifers in this

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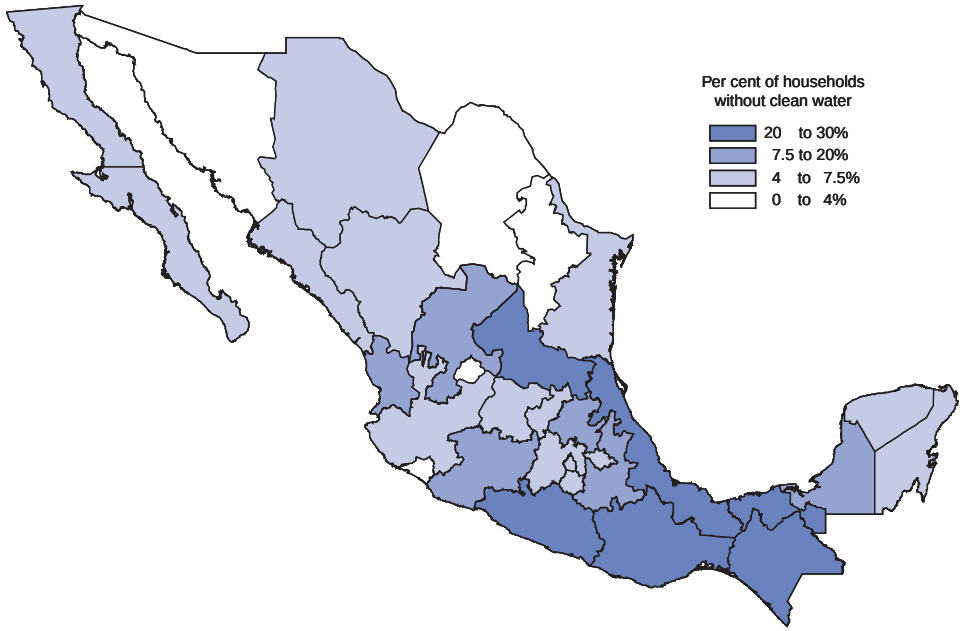
Figure 1.18. **Per cent of households without clean water**



Source: National Water Commission (CNA).

last region and hence the need for enormous investments in infrastructure to supply potable water for human consumption. In Chiapas, Tabasco and Veracruz, hydraulic resources have up to now mostly been used for electricity generation to the benefit of the whole country. Overall, better use of the impressive unused potential of hydraulic resources in the region is necessary. By doing so, for example, it would be possible to increase the area of irrigation, allowing for an extension of the agricultural cycle beyond the seasonal cycle.

Likewise, it is necessary to take into consideration that water tariffs cover on average only 70% of the direct cost of water provision (however, this does not include maintenance costs or the existence of insufficient bill collection (only 29% of water bills are actually paid for). In this respect, introducing more realistic prices (reducing the subsidy) as well as possible environmental "green" taxes should be given a closer consideration. If used appropriately, the South's natural endowments could constitute important factors for development of the region.

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Not only is it necessary to redress the unfavourable situations stemming from erroneous public policies, but it is also important to recognise the region's great biodiversity as a source of significant development potential. In this respect, it is relevant to highlight that with 1.47% of the world's surface Mexico occupies the fourth place regarding biologic megadiversity, while possessing nearly 10% of all known species. Additionally, it has a wide array of unique species not found anywhere. The conservation and multiplication of this natural capital has immense economic potentials, for example in areas such as biotechnology or tourism (SEMARNAT, 2001).

Opportunities for tourism development

The utilisation of the South's natural and cultural assets to foster tourism represents an important development potential which still needs to be more effectively utilised. Although this activity has already brought benefits to the region, its positive effects could be further enhanced in order to foster more balanced regional development. Together with its natural endowments, it should be recalled that Mexico has vast cultural resources related to its rich colonial and pre-Colombian heritage. In the case of archaeological zones, these can be divided into two, first regarding supply and second regarding visitors. In 1999, more than half of the country's resources – 84 out of 147 sites – were concentrated in the South-Southeast, serving as a major tourist attraction in the region.[30] Overall, 62% of foreign tourists (1 907 987) and 41% of domestic tourists (2 660 078) visiting archaeological zones went to sites located in the South-Southeast region. Overall, the South-Southeast has made great strides regarding tourism – placing itself as a mayor national and international attraction. Nevertheless, it has still not been able to exploit this potential fully by fostering balanced development across its territory.

In this respect, a striking characteristic is Mexico's dependence on resort tourism that has also made Mexican tourism highly dependent on beach destinations. This type of tourism has been shown to be vulnerable to price competition and unable to capture the world's fastest growing tourism sector – experiential tourism (which includes adventure, ecological, cultural and rural tourism). In addition, resort tourism activity has been found to produce high environmental degradation, a loss of a region's cultural specificity as well as disorderly urban growth around tourist resorts. Most importantly, a fundamental problem for Mexico, that in turn can be explained by the traditional lack of a coherent regional development strategy, is the failure of large-scale tourism projects to foster regional development despite having received the decided support of federal and local authorities over the years. In particular, in Mexico "*while tourism development is closely associated with an increase in human development indices in the particular destinations in which it takes place, the irradiation effects to their 'hinterland' are quite limited*" (OECD, 2001a).

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Additionally, a serious problem for Mexico as a whole, but with a particular impact on tourism development, resides in the presence of a large informal sector, mainly in the form of street vendors, that places pressure on the enjoyable use of amenities in tourist centres. Furthermore, the high crime levels registered in Mexico in recent years have very probably affected tourist inflows into Mexico. A recent survey carried out among foreign visitors to Mexico signalled insecurity as the most negative aspect of Mexico as a tourist destination.[31] In effect, overall crime and violence in Mexico are likely to have affected negatively both leisure tourism and as business tourism.

Related to the aforementioned discussion on infrastructure, insufficient connectivity across the country also helps explain the partial success and unused potential of different resort destinations, which have fallen short of the optimistic goals originally envisioned by the authorities. For example, lack of highway infrastructure has limited tourism development in the coasts of Guerrero and Oaxaca. In effect, resorts such as Bahias de Huatulco is only accessible by air, while Puerto Angel, Puerto Escondido and Ixtapa have not been able to capitalise on its relative closeness to the Mexico-Acapulco highway (Dávila *et al.*, 2000). Infrastructure development policy should thus co-ordinate itself closer with other public policy considerations. Specifically, there is need of a coastal highway in Mexico's South Pacific, which would promote tourism and the economic activity of the South-Southeast in general.

Overall, although important advances have been made, the country's tourism strategy is in need of actions to confront the aforementioned concerns, as well as to reverse the following negative developments:

- In 1990, Mexico dropped from 10th to 12th place on a world scale with respect to tourism-generated income.
- Mexico's participation in the world tourist market has decreased from 3.8% in 1990 to 3.0% in 2000.
- The average spending of tourists that arrive by air has significantly decreased from USD 718.4 in 1992 to USD 655.6 in 2000. In this respect, Mexico currently occupies 40th place in the world.
- Of the total passengers that arrived on international flights in 2000 (8 285 196), 83% arrived at only five airports (Federal District, Cancún, Guadalajara, Los Cabos and Puerto Vallarta). This signals a very high geographical concentration of tourist flows, even though a large number of foreign tourists arriving at the Federal District and Guadalajara have as their final destination a diversity of places within the Centre and Centre-West regions.
- A high seasonal variance continues to prevail. This manifests itself in low occupation rates during weekends in business destinations and at the end of holidays in beach resorts. Meanwhile, international tourist arrivals continue to concentrate in the winter season.

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Previous OECD work signals important changes in trends of world tourism demand that could be useful if applied to the Mexican context (Box 1.4). The support of more dynamic tourism segments should be further encouraged. Decreased dependence on massive resort tourism would probably extend development to wider regions. In particular, and in lieu of its vast natural and cultural

Box 1.4. Best practices: Sustainable tourism in Siena

Current global trends affecting tourism give way to new types of tourism based on specialised interests in nature and culture that are closely linked to rural amenities (landscapes, mountains, rivers, ancient monuments). The *Guide for Local Authorities on Developing Sustainable Tourism* (WTO, 1998) provides a comprehensive outline of these qualitative trends, reflecting the drive to find new destinations and new tourism products. Today's tourists vary from the environmentally and socially sensitive to the physically and intellectually active.

By developing new tourism industries, Siena has set off on the path to sustainable tourism. These trends in tourism have given it the opportunity to exploit its aesthetic, agricultural landscape with the purpose to further develop its *agriturismo* (farm tourism) capacity. *Agriturismo* effectively lengthens the average tourist stay (5 days in 2000) by catering to the more physically and intellectually active tourists who seek to learn about the areas they visit. It also brings varied and considerable benefits to the province. Through *agriturismo*, farmers are provided with a means through which they can diversify their agricultural activities. It serves as an additional source of income that is acquired through room and board sales as well as agro-food product sales (wine, olive oil). Also, the income generation of this activity is more evenly shared throughout the province, thus revitalising some of its more deprived areas.

Another form of sustainable tourism is found in two notable cultural valorisation initiatives: *Arte all'Arte* (*www.arteallarte.org/*) and *Sistema dei Musei Senesi*. *Arte all'Arte* gathers works of art by famous contemporary artists in five towns of the Province of Siena and the town of Volterra in Pisa and also involves the participation of local craftsmen. The initiative provides an art route, an art catalogue (with international circulation) and a visitor's guide that supplies descriptions of the towns and surrounding countryside and recommendations of restaurants, wineries, local products and hotels. *Sistema dei Musei Senesi* is a museum network which seeks to increase tourists' experiential value of the province while easing the carrying capacity problem of the most popular destinations. This is carried out by redirecting visitors of the main museums in the city to less popular areas. Each museum provides links to other museums in the network that helps visitors discover other museums and resources.

Source: OECD, 2002a.

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endowments, the incursion into modalities such as rural, adventure, ecological and cultural tourism would be highly desirable for Mexico as a whole, but particularly for the southern region, opening up important new avenues for sustainable and equitable development.

Industrial clusters

Together with the aforementioned challenges, there exist some noteworthy examples of actions on a territorial basis that have been beneficial for the creation of local comparative advantages. In particular, this is the case of experiences with industrial agglomerations and clusters in some Mexican regions.

As in many developing countries, industries in Mexico have historically consisted mainly of isolated sets of firms with very limited subcontracting down the productive streams. Arguably, this has had a lot to do with the lack of competitive suppliers. This in turn provoked the need to import a great majority of components, while forcing enterprises to implement mostly vertically integrated processes (Indacochea Cáceda, 2001). To date this continues to be a particular characteristic of most segments of Mexican industry, with significant consequences. In effect, in many instances there is a lack of linkage between small- and medium-sized domestic producers and many of the large export-oriented enterprises – both national and foreign – that have established operations in the country and achieved great dynamism in recent years. In particular, the *maquiladoras* (or in-bond mode of production), which have shown impressive growth throughout the 1990s and until the recent recession of the US economy are characterised by a minimal utilisation of domestic suppliers, thus de-linking from the internal market to a great extent. There are already around 3 000 of these plants, which account for more than one-half of Mexico's manufacturing exports. Approximately, 90% of them are located in Northern border states. This apparent fragmentation of the economy is linked to the inferior ability of southern Mexico to share in the dynamic export-led growth of the Mexican economy during the late 1990s, which has favoured the North and Centre to a greater degree. Overall, it can be stated that "*the Mexican private sector has a bifurcated structure in which large internationally competitive firms, located mostly in North-Central Mexico, coexist with largely domestically oriented and often non-competitive SMEs, with limited linkages between these two sectors* [...] *Furthermore, the Mexican export sector remains very dependent on imports of intermediate and capital goods, while Mexican firms supply only 4% of inputs to the export sector*" (World Bank, 2002).

However, in what constitutes an interesting development of recent years, there have been signals that a different pattern of industrial development may be starting to emerge in certain areas and industries. In particular, the number of endogenous developed clusters has been increasing in the country, mainly in the northern region and some areas of the Centre. To date, some of the best

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developed clusters in Mexico include the glass, cement, steel, chemicals, beverages and biotechnology clusters in Monterrey; the auto-parts clusters in Saltillo and Chihuahua city; the electronics clusters in Guadalajara, Tijuana and Ciudad Juárez; the milk-production cluster in Torreón; the shoe and leather-goods clusters in León and Guadalajara; the tequila cluster in the state of Jalisco; the avocado cluster in parts of the state of Michoacán; the fruit and vegetable cluster in the state of Sinaloa; the pharmaceutical in the Mexico City Metropolitan Area; the tourism cluster in Quintana Roo; the automotive cluster in Aguascalientes and Querétaro; and the garment producing clusters of Matamoros, Reynosa, Laredo, Ciudad Juárez, Mexicali and Tijuana (Table 1.16). To date, the Programme for the Promotion of Entrepreneurial Groupings has been implemented with the diagnosis and guidelines established for 12 economic sectors: automotive and auto parts; electronics; fibers-textile-dressmaking; fruits and vegetables; silver jewellery; construction materials; metal-mechanic; furniture; fishing and aquaculture; petro-chemistry; meat products; and tourism. The programme has been carried out in a co-ordinated way by entrepreneurs, institutions providing assistance, and federal and state governments.

Table 1.16. **Well-developed clusters by region and CCI**

CCI rank	Region	Well developed clusters
1	West	Electronics, auto parts, shoes, furniture, beverages, tequila
2	Northwest	Electronics, garments, fruits and vegetables
3	Northeast	Auto parts, electronics, steel, cement, beer, glass, milk
4	Mexico City	Pharmaceuticals, finance
5	Bajío	Auto parts, shoes and leather goods, fruit and vegetables
6	Yucatán	Tourism
7	Gulf	None
8	Centre	None
9	South	None

Source: Ramírez Magaña, 2001b.

This diffusion of clusters is implying a different micro-economic place-based foundation for economic development. Overall, the entry into force of NAFTA in 1994 has played a pivotal role in explaining the increased competitiveness of northern and central Mexico. These regions were enabled to further exploit their locational advantages conferred by proximity to the United States, in order to attract FDI and increase exports. Indeed, once Mexico is chosen to allocate foreign investment arguably because of its competitive labour costs and guaranteed access to the US-market, a northern location is preferred *vis-à-vis* Southern region cities because it provides better access to the US-market – transport costs of inputs and outputs are minimised. In addition, there are advantages regarding the

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co-ordination with parent firms in the United States and the supply of technical and executive US personnel, among others. Likewise, the development of productive clusters and higher quality of domestic suppliers provides a source of competitive advantage for the regions hosting the clusters. In this respect, the increase in inter-firm relationships within regional settings that has been witnessed since the entry into force of the agreement has had positive effects on microeconomic conditions in certain regions, with important territorial implications. On the one hand, there are the West and North with very high levels of competitiveness, followed fairly closely by the Mexico City Metropolitan Area. On the other hand, extremely low levels of competitiveness are identified in the South, confirming the regional variance previously mentioned across various indicators. This argument is supported by the Current Competitiveness Index (CCI), a recent study on Mexico which measured microeconomic competitiveness by means of a survey applied to Mexican senior business leaders and government officials.[32] Overall, there seems to be a close relationship between microeconomic circumstances and regional performance. Further evidence in this respect stems from a regression of the CCI against regional per capita GDP, which explained 63.8% of the variance across regions, with the coefficient being both positive and statistically significant at the 1% level (Ramírez Magaña, 2001b). Another survey analyses this differential regional performance is the Regional Business Environment (RBE) Index (Table 1.17). As measured by the RBE index, the West is identified as having the highest quality microeconomic business environment, followed closely by the Northwest and Northeast. The Mexico City Metropolitan Area ranks well below with respect to the quality of its microeconomic business environment, mainly as a result of insecurity and violence, more burdensome administrative results, overcrowding and environmental degradation. For the Gulf, Centre and South, there is no change and are found at the bottom of both rankings (Ramírez Magaña, 2001b).

Table 1.17. **Regional rankings according to the sophistication of company operations and the quality of the regional business environment**

Region	Index of the sophistication of COS	Region	Index of the quality of the RBE
Northwest	1.24102	West	0.99523
Metropolitan Area	0.8707	Northeast	0.81561
Northeast	0.81318	Northwest	0.73165
West	0.55520	Metropolitan Area	0.55625
Yucatán	–0.17037	Bajío	0.40688
Bajío	–0.17502	Yucatán	0.0376
Gulf	–0.4812	Gulf	–0.41501
Centre	–0.64836	Centre	–1.19838
South	–2.00515	South	–1.92983

Source: Ramírez Magaña, 2001b.

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Currently most industrial clusters in Mexico are located in industrial parks or "corridors" (Box 1.5).[33] In this respect, data show that the regions with the weakest microeconomic foundations are also the regions with the lowest number of industrial parks and the lowest number of companies located in industrial parks and corridors. While the Northeast and Northwest regions show over 100 industrial parks and corridors, the four lowest ranking regions in terms of the CCI (South, Centre, Gulf and Yucatán Peninsula) have less than nine industrial parks each. Furthermore, these same regions also have a very low number of companies in industrial parks (less than 450) and employ a relatively small amount of people (less than 38 000) while the more competitive regions in terms of microeconomic conditions each have more than 2 000 companies and employ over 100 000 people in parks. Finally, the regions that scored low in the CCI show not only a smaller absolute number of companies in parks than regions who scored high, but also a smaller proportion of the total number of companies located in industrial parks in a region (Table 1.18).

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Box 1.5. Clusters in Mexico: The case of Aguascalientes

Aguascalientes is located in Central-West Mexico, 800 miles south of the United States. It serves as a clear example of a state that has profited from public policies oriented towards industrial park and cluster development as a tool to create regional comparative advantages and tap unused potentials. Until the late 1970s, Aguascalientes had traditionally been a predominantly agricultural state. By the mid-1970s, however the state government shifted emphasis from agriculture to manufacturing. At the beginning of the 1980s and with the help of federal agencies, it started a programme for the creation of industrial parks that also widely supported infrastructure creation. Since then it has been able to successfully increase competitiveness, exhibiting extraordinary performance in terms of economic growth and development during recent years. It should be noted that the policy objective of industrialisation has been shared and maintained through several government administrations for more than two decades, and currently Aguascalientes is the state with the largest number of companies in industrial parks (2.9%). Reportedly, there has been a good deal of information and innovation dissemination mainly among large firms. The traditional distrust between government and private sector was successfully bridged through development of *ad hoc* local institutions. Moreover, the establishment of some specialised research centres has promoted to some degree technological development in various firms.

Thus, Aguascalientes achieved the second largest real GDP increase between 1993-1999 (35.9%). It was only surpassed by Querétaro (with 45.9%), another highly successful state in the promotion of private sector activity through clusters, industrial parks and FDI attraction. In the case of Aguascalientes, it also advanced its position concerning total GDP by state, from 16 in 1980 to 11 in 1999. Likewise, it has experienced rates of growth in both manufacturing and exports that have far exceeded the national average. This performance has been largely fuelled by considerable amounts of FDI, particularly from Japanese automobile and US electronic industries. The above-average performance of Querétaro and Aguascalientes was particularly evident after the first three years of entry into force of NAFTA.

Although clusters are not yet sufficiently integrated, as is shown by the fact that the amount of inputs provided by local firms is still quite small, there are clear signs that concerted private-public initiatives have resulted in better investment environments. This contention is also bolstered by the fact that Aguascalientes finished first in investment climate and attractiveness in the Index for Investment Localisation elaborated by the *Instituto Tecnológico y de Estudios Superiores de Monterrey* (ITESM). In this respect, the state of Guanajuato in Centre-West Mexico has also shown increased dynamism and placed 6th in this survey. Overall, an important element to take into consideration is that Querétarto, Aguascalientes, Guanajuato and Jalisco can be catalogued as states that followed an industrial district trajectory in which FDI-driven industrial clusters emerged (World Bank, 2002).

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Table 1.18. **Companies in industrial parks**
Per state and region

Region and CCI rank	States	Industrial parks and corridors	Number of companies in industrial parks	Average number of companies per industrial park	People employed in industrial parks	Percentage of all companies in industrial parks
1. West	Aguascalientes	7	978	139.7	46 164	2.89
	Jalisco	13	1 853	142.5	80 195	0.81
	Colima	2	96	48.0	1 467	0.45
	Nayarit	3	42	14.0	864	0.14
	Total	**25**	**2 969**	**118.8**	**128 690**	
2. Northwest	Baja California	60	1 354	22.6	123 255	2.00
	Baja California S.	2	26	13.0	379	0.16
	Sonora	33	904	27.4	75 214	1.24
	Sinaloa	11	1 284	116.7	19 629	1.93
	Total	**106**	**3 568**	**33.7**	**218 477**	**1.65**
3. Northeast	Chihuahua	26	549	21.1	98 214	0.62
	Coahuila	27	593	22.0	83 107	0.80
	Nuevo León	34	857	25.2	64 803	0.71
	Tamaulipas	21	146	7.0	28 364	0.15
	Durango	3	998	332.7	42 311	2.38
	Total	**111**	**3 143**	**28.3**	**316 799**	**0.77**
4. Mexico City Metropolitan Area	D.F.	0	0	0	0	0
	State of Mexico	42	2 137	50.9	129 457	0.59
	Puebla	13	355	27.3	42 678	0.21
	Morelos	3	240	80.0	13 691	0.38
	Hidalgo	5	241	48.2	6 810	0.39
	Tlaxcala	6	152	25.3	12 176	0.40
	Total	**69**	**3 125**	**45.3**	**204 812**	**0.47**
5. Bajío	Guanajuato	16	1 198	74.9	39 693	0.77
	Michoacán	5	196	39.2	12 181	0.14
	Querétaro	17	870	51.2	58 051	2.11
	Total	**38**	**2 264**	**59.6**	**109 925**	**0.71**
6. Yucatán	Yucatán	4	259	64.8	13 002	0.42
	Quintana Roo	2	9	4.5	114	0.03
	Campeche	3	105	35.0	4 178	0.46
	Total	**9**	**373**	**41.4**	**17 294**	**0.32**
7. Gulf	Tabasco	2	82	41.0	3 748	0.19
	Veracruz	6	151	25.2	10 017	0.08
	Total	**8**	**233**	**29.1**	**13 765**	**0.10**
8. Centre	San Luis Potosí	6	336	56.0	33 484	0.51
	Zacatecas	3	91	30.3	4 104	0.21
	Total	**9**	**427**	**47.4**	**37 588**	**0.40**
9. South	Chiapas	1	2	2.0	12	0.002
	Oaxaca	5	38	7.6	860	0.030
	Guerrero	0	0	0	0	0
	Total	**6**	**40**	**6.7**	**872**	**0.012**

Source: Ramírez Magaña, 2001b.

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Notes

1. A Lorenz curve is constructed by graphing the ranked cumulative share of income represented on the y-axis against the corresponding cumulative share of population represented on the x-axis. Thus, a Lorenz curve representing perfect equality would be a 45-degree line from the origin. In comparing two Lorenz curves across periods, the most important consideration is whether or not these curves cross. Atkinson (1970) demonstrates that two income distributions can be unambiguously ranked with respect to (in)equality if the Lorenz curve of one lies everywhere above (below) that of the other. If the Lorenz curves cross at some point than one is always able to find valid inequality measures – *e.g.*, the coefficient of variation, Gini coefficient, Theil index, Atkinson index, etc. – that will rank the two distributions differently. In this latter case the ranking is dependent on the implicit value orientation embodied in different statistical measures.

2. Analyses identifying a very slight decrease in inequality in the 1990s in Mexico using the Gini coefficient (Morley, 2001) can be understood by the greater weight that measure attaches to changes in the middle of the distribution. The relative share of income of the 3 poorest deciles declined between 1994 and 2000. A measure attaching more weight to changes in the lower end of the distribution would identify an increase in inequality.

3. Ironically, the relative position of the poorest decile seemingly improves during times of economic crisis. Even at those times when absolute poverty increases the relative losses of the wealthiest group are greater in economic terms. It is important to highlight that the losses of the poor and near poor carry a greater weight in human terms as the poor are driven closer to the threshold of survival.

4. By relying on only the headcount of the poor this conclusion abstracts from what happened to the distribution of income among the poor. Given that the poverty line is an upper threshold, the headcount indicator is invariant to a decline in the welfare of those already classified as poor. Work on a consensus measure of poverty currently underway should provide a better statistical basis for making inferences regarding changes in the welfare of the poor.

5. Lorenz curves of the distribution of educational attainment confirms that the 2000 is unambiguously less unequal relative to the 1992 distribution.

6. Early evidence following economic liberalisation in the 1980s identifies the growing importance of education in explaining income inequality between 1984 and 1992. Székely (1998) finds that educational differences explain the largest share of income inequality in 1984, making a gross contribution of 20.5%. The gross contribution to inequality was 31.9% in 1992.

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7. The concept of a rate of return in education is used to measure the net financial benefits which accrue to individuals as a result of their education (*i.e.*, the cost of education minus the increased income they expect after completion). This is described as the private rate of return. The social rate of return takes into account what society has to pay in order to educate an individual.

8. An OECD study of returns to education in several rural Mexican communities corroborates these results: the marginal returns to upper-primary education (4-6 years) are insignificant in both farm and non-farm activities. In contrast, large returns for upper-secondary education (more than 9 years of schooling) are identified (OECD, 1999a).

9. The implication is that the most poverty would be eliminated by targeting multiplicative transfers between educational subgroups. That is, transfers from subgroups defined by average income above the poverty threshold to those subgroups for which average income is below the poverty threshold to the point at which all the poverty incomes were equalised relative to any other population characteristic. The other characteristics include demographic characteristics (age, gender, household size), occupational characteristics (education level, occupation, sector of activity, labour market status) and geographic characteristics (rural-urban location, regional location). See Székely (1998).

10. See de Janvry and Sadoulet (2001), from survey data collected in 1997.

11. The Mexican Ministry of Rural Development considers a "rural locality" any human settlement with at least three houses and a maximum of 2 500 inhabitants.

12. It was not until 1996 that the policy of homogeneous prices was eliminated. It was replaced by a tariff scheme that divides the country in eight major regions and sets prices accordingly. Nevertheless, such division still is far from reflecting the real cost of distribution in most states. The policy of homogeneous prices for petrochemicals produced by PEMEX was in place until 1983. However, it had long lasting effects on the location of the production of secondary petrochemicals. Specifically, it promoted the spatial dispersion of the industry mainly toward the main markets. If prices would have reflected costs of distribution a large part of secondary petrochemicals would have located near the production of their inputs (crude oil and primary petrochemicals), in the Southeast.

13. The paper of Rodriguez-Pose and Sánchez-Reaza (n.d.) corroborates these results.

14. Analysis by Hanson (1995) of regional trends prior to NAFTA finds that the move to trade liberalisation that had begun in the mid-1980s was conferring locational advantages to those regions near the US border. The benefits from agglomeration economies were more mixed dependent on the industrial mix of a region. In a case study analysis by Tamayo-Flores (2001), the inability of the Southern state of Oaxaca to exploit FDI and export-growth opportunities relative to the North is documented.

15. The analysis is limited to a comparison of per capita labour income. Although this measure abstracts from income owing to transfers and other sources of non-labour income, this choice is determined by data that are available in both the 1990 and 2000 Censuses. From a theoretical perspective examining processes of regional convergence through capital deepening (Barro and Sala-I-Martin, 1992), labour income is arguably the most appropriate measure. However, income disparities identified are likely to be smaller than true income disparities given the low rate of transfers in Mexico and the high share of non-labour income for the wealthiest decile.

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16. Analysis of Lorenz curves of the respective regional distributions of labour income confirms that the 1990 curve is everywhere above the 2000 curve.

17. The "Factors of Growth" research program within the Territorial Development Service was motivated by empirical evidence of the large variation in economic performance within urban, intermediate and rural areas. While average growth rates tended to be higher in more urban regions, the performance of some rural regions exceeded that of many urban and intermediate regions. However, even with this caveat, it is generally agreed that some population threshold exists below which settlements will be unable to generate positive growth dynamics.

18. The one exception is Yucatán. The other nine states are Oaxaca, Chiapas, Guerrero, Veracruz, San Luis Potosí, Zacatecas, Puebla, Michoacán and Tlaxcala.

19. Using size classes of municipalities creates unique problems given the large land area of some municipalities. A municipality with a seemingly large population may in fact have few or no localities of 5 000 inhabitants. To control for this all municipalities with at least 1 locality of 5 000 or more are included within their municipal size class. All municipalities with less than 5 000 people and those with more than 5 000 people but no localities of this size are included in the final size class "No Localities with at least 5 000".

20. The CONAPO is the institution in charge of designing population policies and reporting socio-demographic characteristics of the population.

21. The clustering algorithm identified one outlier that began with a relatively low share of households with less than two minimum wages (27%) but ended with a very high share (greater than 90%). This observation (San Juan Comeltepec in the state of Oaxaca) is not included in the analysis.

22. High levels of low-wage workers refer to greater than 70% and very high levels refer to greater than 80%. This result might be expected given that the share of the working population with less than 2 minimum wages is used as one of the components in determining level of marginalisation. In this respect, the group with performance identified as High Level Large Improvement is particularly significant as no very high marginalisation municipalities appeared in this group. Thus, the combination of the other variables appears to be effective in identifying disadvantaged municipalities that are unlikely to demonstrate marked improvement without intervention.

23. More precisely, this indicator shows the expected number of schooling years of the five-year-old population that starts studying, if the conditions of the education system remain unaltered, and considers both public and private institutions.

24. Mexico ranks 8 in the world in terms of indigenous peoples. It is not, however, a homogenous population: 62 indigenous groups have been recognised, each with its own language. The indigenous people do not represent a homogenous "racial" entity. Mexico is a country in which populations of different European and non-European origin have intermingled for centuries, and it is impossible to distinguish two genetically or biologically separate populations. While there will be individuals with virtually no indigenous or no European ancestry, the vast majority of the population is situated somewhere in between. This means that being "indigenous" is cultural and social, rather than a biological fact.

25. For this entire section, the indigenous population is calculated by adding the number of indigenous language speakers over 5 years old to the number of those under 5 years old living in a household whose head is an indigenous language speaker (INEGI, 2000).

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26. The two exceptions are Yucatán and Quintana Roo, which are much closer to national average and in some cases above.
27. Exports from the Southeast to the United States has to go from sea level to an altitude of 2 500 meters and back to the sea level.
28. According to the Ministry of the Environment and Natural Resources of Mexico, as a result of this disorderly industrialisation process and the lack of adequate environmental regulation almost 64% of the national territory currently experience some kind of environmental degradation.
29. Additionally, deforestation resulted in diminished watersheds, given that it eroded land and impeded water filtration.
30. With a total of 33 archaeological sites, the Centre has the second largest amount of these resources, followed by the Centre-West, which has 16 sites. The two northern Meso-regions fall behind these numbers, having as few as 6 (Northeast) and 5 (Northwest). Regarding museums, in 1999 there were 444 facilities in the country, mainly concentrated in the Central region. With respect to visitors to archaeological zones, in 1999 the total number at the national level stood at 9 506 420, of which 6 438 520 were nationals and 3 067 900 foreigners. A high 95.2% of the total was concentrated in two regions: the South-Southeast with 4 568 065 visitors (48%) and the Centre with 4 483 197 (47%). For the remaining regions, the numbers of visitors were as follows: the Centre-West had 225 833 (domestic tourism accounting for 88%), the Northeast had 78 060 (89.1% of which were Mexicans), and the Northwest with 16 155 (74.7% of which were domestic tourists). More than half of the domestic tourists (52%) visiting archaeological sites in 1999 (3 370 203) visited sites located in the Centre. During the same period, the Centre also received 36% of total foreign tourists (1 112 994).
31. Survey of 70 000 visitors to Mexico carried out by the GAOS consulting firm (Martiarena, 2002).
32. The issues considered include regional economic performance, government, institutions, infrastructure, human resources, technology, finance, openness, local competition, environmental policy and company operations and strategy. This study was done for nine Mexican sub-regions, grouped as follows: Northeast – Chihuahua, Coahuila, Nuevo León, Tamaulipas and Durango; Northwest – Baja California, Baja California Sur, Sonora and Sinaloa; Center – San Luis Potosí and Zacatecas; West – Jalisco, Aguascalientes, Colima and Nayarit; Bajío – Guanajuato, Querétaro and Michoacán; Mexico City Metropolitan Area – Federal District, State of Mexico, Morelos, Tlaxcala, Hidalgo and Puebla; Gulf of Mexico – Veracruz and Tabasco; Yucatán Peninsula – Yucatán, Quintana Roo and Campeche; and South – Chiapas, Oaxaca and Guerrero (Ramírez Magaña, 2001).
33. An industrial park is defined as a geographical area specially planned and designed for the installation of industrial plants. An industrial city includes residential areas, commerce and services, while a corridor is defined as a system of industrial parks located along common transportation routes such as federal or state highways or railroad tracks, and they are generally established between two or more municipalities, or between two or more states (INEGI, 1999).

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Chapter 2

Territorial Governance in an Emerging Federation

Despite formally having a federal legal framework, Mexico has for a long time been a strongly centralised country, mostly as a result of the authoritarian nature of the political system that has prevailed until recent years. Notwithstanding certain reforms, sub-national governments have had little scope for autonomous development and local empowerment in various areas of public policy is still lacking. Mexico is giving clear signs of transiting from a centralised system of government – in which the federal executive maintained an almost unparalleled ascendancy over the other branches and levels of government – towards a much more decentralised and authentically federalist arrangement. An increasing number of political actors who have a greater say in public affairs, can be observed, both at the national and sub-national levels. Moreover, many competencies allocated to the local sphere by the Constitution have for the first time acquired real validity.

Accordingly, this chapter presents some significant elements of the current situation of Mexican federalism and puts forward an agenda for reform. Overall, the transformation of Mexico towards an authentically federalist country is a welcome one, but also one which still requires substantial actions regarding accountability, institution building and intergovernmental co-ordination.

2.1. Institutional background

Mexico is a federal republic with a representative and democratic system of government. Power is divided across the national territory in three levels: the central (federal) government; 32 federal entities (31 States and one Federal District), and close to 2 500 municipalities. During most of its modern history and particularly since the creation of the *Partido Nacional Revolucionario* (PNR) in 1929 – which would later become the *Partido Revolucionario Institucional* (PRI), the political grouping that monopolised virtually all levels of government for 71 years – Mexico was characterised by having an authoritarian and centralised political system. Notwithstanding formal legal stipulations, most of the political authorities at the federal, state and local levels were subservient to the commands and control originating in the federal Presidency. This had very definitive consequences on the capacity of lower orders of

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government to perform their functions in an autonomous manner, and to respond more directly to the population's wishes. It was especially during the government of President Lázaro Cárdenas (1934-1940) that Mexican *presidencialismo* acquired the broad outlines that were to subsist virtually unchanged until the very recent past. This largely explains why the democratic transition and the breakdown of the one-party system put to work the federal system and now has fostered the establishment of co-ordination mechanisms to replace the previous structure.

Thus, in recent years, as a result of the democratic transition that is taking place and the ensuing enhanced political competition, there has been a substantial redistribution of decision-making across the three levels of government (federal, state and municipal). It is possible to affirm that a real system of co-governance amongst the different levels and branches of government is starting to appear in several areas of policy making, and thus signalling the birth of a real separation of powers in Mexico, which will give sub-national levels greater responsibility in directing Mexico's development.

Federal level

Although the Constitution divides public power between the three territorial levels of government (federal, state and municipal) and provides for the functional separation of the executive, legislative and judicial branches, until recently the political reality had been marked by a high concentration of power on the federal executive, more precisely in the power of the President, who constitutionally is both the head of State and chief of Government and is elected by popular vote for six-year terms. In contrast to this "presidentialism", the Mexican bicameral Congress (*Congreso de la Unión*), as well as the judicial branch traditionally exerted far smaller powers than the Executive.[1] Nevertheless, with the recent emergence of a multiparty democracy Congress is playing an increasingly active role. This legislative body is divided between the Senate (*Cámara de Senadores*), which aims to provide states with a sense of representation (each state is equally represented by three senators, in addition to 32 proportional seats divided in five circumscriptions), and the Chamber of Deputies (*Cámara de Diputados*).

As was mentioned, the Presidency also had considerable influence over the judicial branch. With the Senate's consent, the President appoints the 11 judges that form the Supreme Court of Justice (*Corte Suprema de Justicia*). In addition, there are 23 federal judicial circuits with a total of 346 courts and 560 judges. The federal judiciary and especially the Supreme Court enjoyed very little autonomy *vis-à-vis* the Executive, as a result of the President's nomination of the justices, as well as the aforementioned lack of autonomy of the legislative branch. Nevertheless, evidence of significant advances in independence can be observed, as a result of recent actions to insulate judges from political pressure. Consequently, the

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Supreme Court has played a more active role in such areas such as intergovernmental disputes (*i.e.* constitutional controversies), even taking decisions contrary to the position of the Executive. Nevertheless, significant steps still need to be taken – such as enhancing safeguards against corruption – in order to allow this branch of government to fulfil its mandate in a clearer and more efficient way.

State level

Centralism found at the federal level was also widely paralleled at the state and municipal levels. State governors were highly dependent upon the wishes of the presidency, and for the most part lacked the formal autonomy granted to them by the Constitution. Governors were subjects of the President due to political and partisan loyalty, with conflicts among governors also arbitrated by the President or party mechanism. Likewise, comparable to the President, the Governor clearly dominated state administration. Until very recently, state governors belonged to the PRI and it was only in 1989 that for the first time an opposition party candidate was elected as Governor (which occurred in Baja California). Mexican state governors are the only executive officers to be elected state-wide and therefore do not have to contend with other potentially powerful elected officials such as a Deputy Governor or Treasurer, as in the United States (Ward and Rodríguez, 1999). According to the Constitution, states are free and sovereign (Article 40) and have the general competence to perform those functions not reserved to the federal or municipal levels (Article 124).

The main functions executed by the state Congresses are to examine and approve the state's public accounts of the previous year, as well as the state budget; to determine taxes; to approve the municipal councils' income law and control their public accounts; to legislate in areas relating to state government; to introduce regulatory decrees and by-laws; to approve or reject the nomination of magistrates of the local Superior Court; to resolve conflicts between municipalities; if necessary, to suspend the municipal council or remove members; to declare the validity of state governor elections; to reform the state Constitution when approved by at least half of the municipalities of the state; and to create new municipalities. As happened at the federal level, state Congresses had long been confined to a role of simply responding to the executive's initiatives. Nevertheless, there is evidence of a greater willingness to play a more proactive role. For example, some state Congresses are increasingly taking the initiative to supervise the state executive's actions.

Municipal level

The autonomy of municipal government has been and is still severely limited, rendering it the weakest tier of the Mexican government (notwithstanding

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constitutional articles that have provided for a "free municipality"). However, some modifications made in 1983 of Article 115 of the Constitution, as well as greater political competition, have served somewhat to strengthen municipal governments. In this respect, some recent steps to consolidate their functions include the redistribution of decision-making in social, economic and cultural areas (OECD, 1997a). Legally municipalities have no legislative function and can only make regulations within the framework of state and federal laws. They are responsible for the provision of many public services such as drinking water and sewerage, retail and wholesale markets, and public security. Tax rates have to be approved by the state legislature. Municipal accounts are audited by the state comptroller, who then reports to the state legislature. Moreover, municipalities are heavily dependent on federal and state transfers. Nevertheless, as a result of the 1983 reform, the legal authority of municipalities was reinforced, conferring them some regulatory powers without requiring prior agreement from the state Congress.

2.2. Strengthening institutional capacity and intergovernmental governance

Attempts to diminish the centralisation of the Mexican policymaking structure were undertaken over the years. In the context of increased political demands and economic difficulties, the presidencies of Miguel de la Madrid (1982-1988) and Carlos Salinas (1988-1994) started a politically costly process of structural economic reform, which included some initial steps regarding decentralisation. Thus, for example the aforementioned 1983 reform of Article 115 clarified the functions and revenue-raising capacity of the municipal council *vis-à-vis* the state government. Another noteworthy action was the implementation of the National Solidarity Programme (PRONASOL), a community participation programme aimed at improving the living conditions of marginalised groups and strengthening the participation of social organisations and local authorities. Nonetheless, these gradual approaches did not actually generate a fundamental change in Mexican territorial governance, because rather than bring about proper decentralisation or devolution, they constituted initiatives of deconcentration, shifting power to regional representatives of the centre.[2] To some extent, the political control of the Presidency remained untouched, indeed even strengthened as seen in the case of PRONASOL where the President was able to bypass state governors and municipal presidents to distribute funds in a highly discretionary and clientelistic fashion. Thus, different governmental procedures at the state and municipal levels continued to lack the capacity to exercise autonomously some of the responsibilities granted to them by law. This would continue to be the case until the rise of new power centres and the correlative demise of *presidencialismo*.

In effect, it is only in this framework of democratic transition that new actors at the sub-national level have acquired central importance in the development process. Additionally, greater participation on governmental issues can be

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perceived on the part of civil society. These new realities have increased the need to strengthen both horizontal and vertical co-operation mechanisms, so as to define public policy actions and improve its implementation. It is in this context that the discussion undertaken in the following chapter on strategies for territorial development needs to be inscribed. In particular, this situation makes it necessary to design mechanisms to link the federal government with states and states with municipalities as well as among themselves in order to arrive at more consensual and effective public policies.

This is not to say that vertical and horizontal co-operation mechanisms did not exist in the past, but it is possible to perceive a general trend towards the increased implementation of these types of instruments. For several years, the states and the Federation regularly signed co-ordination/collaboration agreements on a wide array of subjects, ranging from fiscal affairs to education. Metropolitan commissions were also created to co-ordinate different levels of government commonly involved in the provision of specific public services, especially those regarding water, transport, electricity and public safety. The Planning Committees for State Development (COPLADE) have traditionally been the primary mechanisms for intergovernmental planning, programming and evaluation[3] of decisions concerning public investment and the delivery of public services. Another body is the Planning Committees for Municipal Development (COPLADEMUN) through which the planning of activities is co-ordinated between the states and their respective municipalities.[4] Regarding new measures for horizontal co-operation, an interesting case is seen in Guanajuato, where the State Centre for Municipal Development (CEDEMUN) established agreements with different municipalities in order to provide them with assistance on safety, traffic and legal matters. Additionally, it organised monthly encounters between the Governor, state officials, municipal presidents and members of civil society during which mutual consultation on specific problems could take place and the participation of local citizens in community projects could be promoted. Such mechanisms however could be strengthened by endowing them with proper instruments of evaluation and monitoring, as has been experienced in other OECD countries such as Italy (Box 2.1). Public-private partnerships to ensure the design and implementation of complex public investment projects have become common practice in many OECD countries, as in Italy through the process of Negotiated Planning,[5] as well as in the case of Guanajuato.

At the federal level, in large measure as a result of the high concentration of power in the Presidency, and the required discipline, a feature which is not unique to Mexico but is particularly notable is the strong position of sectoral ministries and the comparatively weak mechanisms that co-ordinate them. This situation constitutes a drawback, particularly in the field of territorial development where sectoral policies strongly interact/intersect. In effect, cross-ministerial

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Box 2.1. Evaluation and monitoring technical units in Italy

Along with the process of decentralisation in Italy, the general objectives of evaluation and monitoring for the planning and implementation of public investment policies were defined by law, which left to each regional administration the responsibility of designing its own structures according to its specific needs. In some regions, the functions of the unit are limited to the screening and evaluation of projects, sometimes with a veto role; in others, the evaluation unit operates as project promoter or with a role of assistance to regional planning. As a common feature, evaluation units have high technical responsibilities and highly skilled staff. All the evaluation units are linked together in a network that constitutes a platform of communication and sharing of experiences, *savoir-faire* and good practices. The services provided by the network range from those based on common interests – newsletters, alert services, etc. – to more specific evaluation and monitoring products – a normative database, a system of automatic updating of relevant bibliography and literature, and a roster of specialised professional resources. Currently, the network of activities benefit from an annual co-financing allocation of the central budget, which will be replaced in 2002 with a transfer of national resources to regions according to the actual implementation of units, the quality of activities as well as their capacity to meet the normative requirements in terms of technical and operational capacity.

co-ordination is of key importance for the implementation of programmes at the territorial level. Federal countries have chosen different approaches in this respect. Austria has long since developed an informal approach that places greater emphasis on consensus building among different ministries. Switzerland has chosen a more formal approach where ministries dealing with territorial development issues have to convene regularly in an inter-ministerial body whereas in the United States, the President's Cabinet carries out policy co-ordination. Nevertheless, as will be further explored in Chapter 3.1 on Strategies, in lieu of the traditional weakness of these arrangements, a greater institutionalisation of co-ordination mechanisms for public policy seems to be desirable in Mexico.

In order for the benefits of federalism to materialise, the on-going transition towards a decentralised and more authentically federalist arrangement needs to be accompanied and supported by institutional capacity-building measures. In effect, Mexico's close to 2 500 municipalities exhibit wide disparities regarding their possibilities to implement adequate accountability measures and to increase their overall public policy effectiveness. The municipalities range from small towns with little formal education and weak accounting practices to big cities with several million inhabitants, highly educated policymakers and computerised

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systems of fiscal accounts. Less than half of the municipalities actually measure up to standard capacity indicators, which include a budget planning unit, an evaluation unit, computerised accounts, a fully utilised internal administrative code, and the capacity to raise more than half of their own resources (World Bank, 2001a). These disparities need to be taken into consideration and call for the implementation of differentiated rules in addition to institutional capacity-building measures. Thus, the weakest municipalities should be supported by programmes that will help them build their fiscal and administrative capacities in order to take on more responsibilities and fulfil them to the satisfaction of their citizenry. Mexican authorities seem to be conscious of the need to undertake a gradual process that takes into account these differences in the context of decentralisation. In effect, among the main objectives of the Programme for Authentic Federalism (co-ordinated from the CEDEMUN) is to foster the strengthening of state and municipal governments, taking into consideration the need for institutional development and training of public servants. Likewise, the Ministry of the Interior has established periodic meetings of "Roundtables for State Federalism", which seek to enhance political dialogue among national and sub-national authorities in order to promote an effective an orderly decentralisation process. On the fiscal side, an interesting development is the establishment of the National Institute for the Technical Development of Public Financial Administrations (INDETEC).

2.3. Fighting corruption:[6] Rule of law and accountability

Insufficient accountability mechanisms, complex bureaucratic procedures and regulations, absence of incentives for agencies and line ministries to be efficient, and lack of professionalism among public officials contribute to the existence of widespread corruption in Mexico (OECD, 2000a). Although difficult to achieve an exact measurement of corruption, Transparency International (TI) affirms the notable levels found in Mexico. Recently, it placed Mexico as a country with very high indices of corruption, ranking it 51 out of 90 in 2001.[7] Additionally, according to World Bank aggregate indicators of governance, Mexico suffers from poor control of corruption in terms of the aggregate graft indicator, which measures this illicit practice (Figure 2.1). Although only one governance indicator directly measures the perception of corruption, the others measure factors that maintain the institutional structures which contribute to its continued proliferation. In this respect, not only is the control of corruption in Mexico among the lowest when compared with other OECD member countries, but according to these indicators, the overall quality of governance in Mexico lies below other OECD countries.[8]

Significant questions arise as to whether decentralisation and responsibility devolution in the context of federalism can achieve its goals towards greater efficiency or if to the contrary they will be undermined thorough the continued

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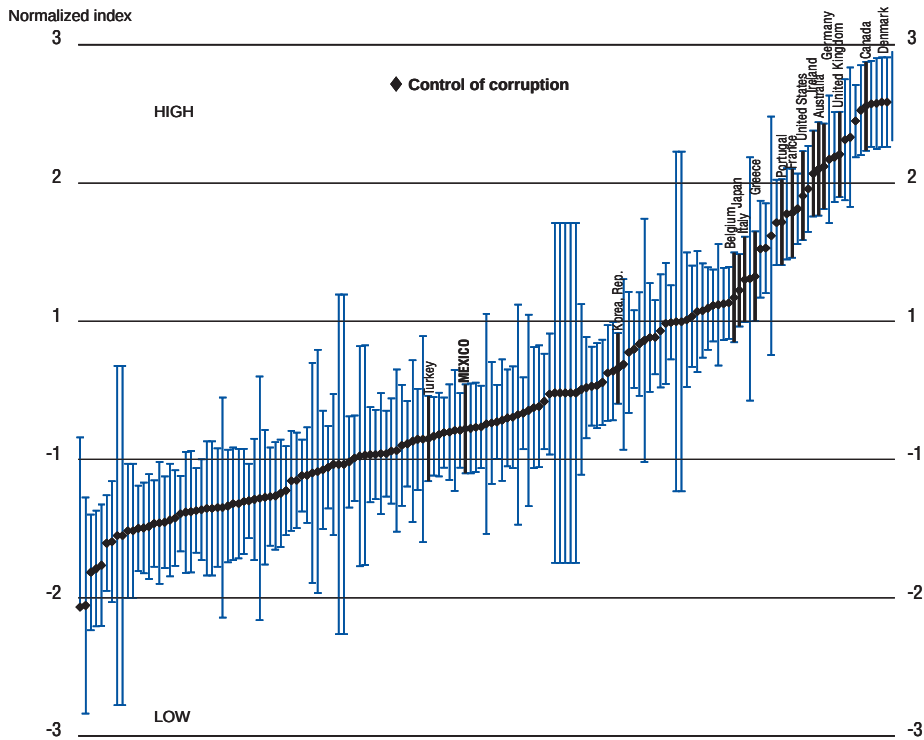
Figure 2.1. **Control of corruption, 1999**
OECD member countries



Note: Dots represent mean estimates for the governance indicator. The thin vertical lines represent standard errors around these estimates. The indicators are based on data from 1997 to 1998.
Source: Kaufmann, *et al.*, 1999.

prevalence of corruption opportunities and incentives at the local level. In effect, as Mexico strives to achieve greater political and fiscal decentralisation, the issue of corruption and lack of accountability should accordingly be seen in light of this process and the need for institution and capacity building. In decentralising states, agents who have differing interests from principals can manipulate existing information asymmetry and thus benefit from significant discretionary power (OECD, 2000b). The delegation of power can open venues for illegality if adequate institutional conditions do not exist beforehand. An important element lies in the fact that most of the advanced legislation and oversight procedures to date seem to have been achieved at the federal level. Although some exceptions may exist, this implies significant consequences for decentralisation in Mexico.

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Overall, fiscal decentralisation seems to be associated with lower levels of corruption across countries. Recent studies have revealed a clear negative association between decentralisation and corruption across a sample of countries (Fishman and Gatti, 2002). Decentralisation can have an impact on the perceived cost of public services and accountability. For instance, government tends to become more transparent through increased decentralisation because the funding sources become clearer. The true cost of transfers from the federal government is by its nature hidden to a certain extent from local citizens since the citizen pays only a share of the costs. This gives public officials opportunities for wrongdoing, placing the blame on the central government for not providing sufficient funds. To the extent that decentralisation increases the transparency of the cost of public services, fosters comparisons of public services and costs with other governments, and increases the accountability of public officials to the electorate, it should help reduce corruption. Additionally, to the extent that decentralisation reduces the size of the total number of "victims" by making the problem one of local corruption, the more incentive each individual has to fight this illicit practice.

Notwithstanding these arguments, as mentioned previously there exists the clear possibility that unless accompanied by certain measures decentralisation could reduce efficiency in the provision of public goods, being the continued prevalence of lack of transparency and accountability at the sub-national level one of the main reasons. Overall, it is possible that by incorporating additional actors without sufficient oversight or administrative capacity decentralisation could hamper better governance instead of promoting it.

Likewise, it is generally accepted that corruption has significant costs on economic growth in general; yet, due to its elusive nature, exact estimations of its economic impact for specific countries are difficult to produce. Nevertheless numerous studies seem to indicate that there exists a correlation between corruption and economic growth and that accordingly the former should be recognised as a realistic factor that could reduce Mexico's competitiveness at national and sub-national levels (World Bank, 2001a).

Corruption represents an obstacle to new economic activity by hampering the exogenous and endogenous development dynamics of a country's market.[9] In particular, it adds to greater economic uncertainty and increases transaction costs, affecting the attraction of FDI. Since businesses consider this "tax" as an added cost to their transactions, this consideration can play a role in disadvantaging certain states and/or Mexico as a whole, eventually resulting in lower incomes and less investment. Moreover, the infiltration of corruption in law enforcement and ensuing issues of security negatively affect endogenous development. In effect, the overall crime and violence in Mexico, which are particularly severe in large urban agglomerations and Northern border areas, also serve as obstacles to FDI inflows and the complete development of industries such as tourism.[10]

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Control of corruption

Although advances have been made, primarily as a result of the aforementioned changes in the political system, much remains to be done in order to establish a solid respect for the rule of law in Mexico. In an effort to redress systematic corruption, the new administration has presented proposals and begun to lay the foundations of an anti-corruption campaign, specifically targeting accountability, transparency and the involvement of civil society. In this respect, the Ministry of the Comptroller and Administrative Development (SECODAM), the federal agency in charge of supervision and oversight of the federal public administration, has begun to play a leading role in reversing this trend, especially by trying to implement preventive measures. Additionally, the Open and Participatory Government Programme publicises anti-corruption strategies and tools used at sub-national levels. It strives to promote best practices and utilises the corruption and good governance ranking elaborated by *Transparencia Mexicana* to foster positive competition among states. In effect, through the publicity of this ranking, it seeks to pressure states to implement anti-corruption measures to improve their public standing. This ranking (Table 2.1) reveals that the Federal District and state of Mexico are among the states with a higher prevalence of corrupt practices, with Baja California Sur and Colima at the opposite end. Furthermore, this study reveals that two of the most common corrupt acts involved bribery of law enforcement.[11] In addition, Compranet and other systems characterise the recent progress in raising government transparency through e-initiatives (Box 2.2).

As mentioned, SECODAM prioritises civil society in its anti-corruption campaign, the participation of which should result in the multiplication of checks and balances between state and non-state entities. The Inter-Ministerial Commission for Transparency and the Fight against Corruption (headed by SECODAM) accepts civil complaints and serves as recourse for citizens who desire to express discontent or criticism. After the government signed the National Pact on Transparency and Fighting Corruption in February 2001, SECODAM created the Social Comptrollership Programme (*Programa de Contraloría Social*) to target civil society and increase its participation in this national effort. In 2000, over 250 000 community representatives were trained under this programme (Transparency International, 2001). SECODAM also established a Co-operation Agreement on Transparency and the Fight against Corruption with Mexican universities, which aims to introduce ethics and corruption courses into their curriculum. Furthermore, the recent approval of the Federal Law for Transparency and Access to Government Information should increase the citizens' ability to solicit information concerning the performance of public officials and government programmes.

In addition to the actions of SECODAM and of notable importance, the new *Auditoría Superior de la Federación* is contributing to the creation of a more effective

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Table 2.1. **Corruption and Good Governance Index, 2001**

States	ICBGe
Colima	3.0
Baja California Sur	3.9
Aguascalientes	4.5
Coahuila	5.0
Chihuahua	5.5
Sonora	5.5
San Luis Potosí	5.7
Baja California	5.7
Guanajuato	6.0
Quintana Roo	6.1
Zacatecas	6.2
Tamaulipas	6.3
Nayarit	6.4
Tlaxcala	6.6
Hidalgo	6.7
Yucatán	6.8
Chiapas	6.8
Nuevo León	7.1
Campeche	7.3
Oaxaca	7.4
Morelos	7.7
Sinaloa	7.8
Veracruz	7.9
Querétaro	8.1
Tabasco	8.5
Durango	8.9
Michoacán	10.3
Jalisco	11.6
Puebla	12.1
Guerrero	13.4
Estado de México	17.0
Distrito Federal	22.6

Source: Transparencia Mexicana, 2001.

system of checks and balances. Created in 2000 to serve as a non-partisan agency under the legislative branch, it remains independent of the executive branch and has greater capacity than its predecessor (*Contaduría Mayor de Hacienda*) to oversee and prosecute offences. When it is fully operational, its role will be to audit public expenditures, which includes the possibility of auditing during the year to address irregularities as they are identified. It will then be able to promote indictments, and determine liabilities and penalties for public servants. Nevertheless, currently it still confronts important limitations, such as a lack of the necessary technical and professional capacity, and it does not complete audits on time to correct mismanagement as is shown by the fact that it is 2-3 years behind in its audits. In the meantime, at the state level, organs, equivalent to the formerly

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Box 2.2. Best practices: Greater transparency and accountability in Mexico

Compranet – In 1996, Compranet, Mexico's electronic system for government bidding, was launched as a major e-government initiative by SECODAM. Compranet automates the different stages of the federal government's procurement process by linking purchasing units, suppliers and other participants in the process through computers and databases. It does so by providing a public space where government purchasing units can publicise their needs of goods, services and public works. Therefore, suppliers and contractors have easy access to this information and can submit bids accordingly. Compranet strives to achieve three main objectives:

1. To make the process of government purchasing more efficient and transparent.
2. To simplify supplier's participation.
3. To provide public information on the procurement process.

Not only does this system reduce costs; it has greatly enhanced transparency and contributed to Mexico's anti-corruption efforts by permitting the verification of information in the various phases of the bidding process. The biddings available to the public are those related to federal public administration agencies as well as state and municipal governments that are currently in the process.

Tramitanet – This online network supplies citizens with the necessary information to go through any administrative procedure. It also serves as a means through which citizens can provide their input or file complaints and demands concerning the quality of government services.

Federal Procedures Register System – Through this system, citizens can access information regarding existing federal procedures (*i.e.* costs, legal frameworks) and contact information of the public servants responsible for services.

Automated Evaluation System – This system provides citizens with a listing of the curricula and grades (of the specialised courses) of public servants of every Internal Comptrollership Office at the federal level.

Disqualified Public Servants Register System – Human resources and/or comptrollerships use this system to verify whether a certain public servant has been disqualified to work for the federal government because of sanctions imposed by the Secretariat of the Comptroller.

existing *Contaduría Mayor de Hacienda*, are accountable to the legislative branch and exist to enforce checks and balances at the sub-national level. However, it remains to be seen as to whether or not these sub-national organs will also be further strengthened to increase accountability as was the case at the federal level. Other federal countries such as Germany, have oversight instruments that exist on a permanent basis in the *Länder* (states) and could be referred to as a working model of sub-national accountability-enhancing institutions (Box 2.3).

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Box 2.3. **Anti-corruption institutions in Germany**

Germany has implemented numerous anti-corruption measures at federal and local levels, which have succeeded in maintaining corruption at a minimum through high levels of accountability and transparency. At federal and state (*Länder*) level, permanent oversight instruments as audit offices exist to review the lawful use of budgets and address cases of corruption. The audit offices then report to the parliaments' audit committees who have the investigative powers to examine each case. These committees are independent of the executive and judiciary. In addition, the Federal Parliament has an ombudsman in the form of a committee to which citizens can address their requests and complaints. Ombudsmen also exist in *Länder* and municipalities. When corrupt activities are prosecuted, they are generally the responsibility of the *Länder*, which can establish special prosecutor's offices for the investigation of offences. The *Land* Ministry of Justice supervises the public prosecutors and police.

2.4. Main features of fiscal federalism

Mexican fiscal federalism is characterised by a significant fiscal gap that clearly sets the country apart from other OECD countries (Figure 2.2). Mexican sub-national finances reveal a sharp discrepancy between the level of local expenditure – close to the OECD average – and the level of locally raised resources – one of the lowest among OECD countries. With only 5% of total tax income accruing to the sub-national level in 1999, Mexico is one of the least fiscally decentralised OECD countries, particularly when compared to federal countries (OECD, 1999b). Whereas Mexican sub-national governments have an average degree of expenditure powers, their taxing autonomy is comparatively small. The current fiscal arrangements date back to 1980 when in the course of fiscal co-ordination, the states gave up a number of highly distorting consumption and production taxes in exchange for federal transfers.

Comparing state and municipal government revenue sources (as a percentage of total state and local revenue) in OECD federal countries for two years, 1980 and 1998, Mexico again stands out as an outlier (Table 2.2). Two points are of particular interest. First, OECD countries other than Mexico collect substantially more revenue from own taxes. Apart from Mexico, the percentage of own tax revenue for 1998 allocated to states ranges from a low of 33.5% in Australia to a high of 100% in Belgium. Own tax revenue accounts for only 10.5% of total state revenue in Mexico. Second, a comparison of the 1980 and 1998 figures reveals the

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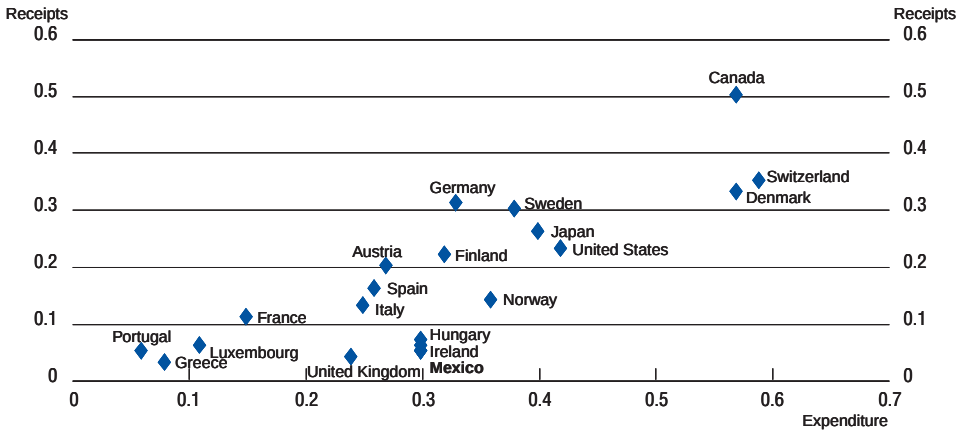
Figure 2.2. **Decentralisation ratios in OECD countries, 1999**
Share in general government receipts and expenditure



Note: Greece: data for 1995. Ireland: data for 1996. Canada, France, United States: data for 1997. Mexico, Portugal: data for 1998. Finland, Luxembourg, Norway, United Kingdom: 2000.
Source: OECD, *National Accounts of OECD Countries*, 2001.

significant centralisation of resources in Mexico over those two decades since in 1980 Mexican states received 30.6% of revenues from own-taxes. In view of these two points, not only does Mexico have the most centralised tax structure of OECD federal countries, the concentration of tax revenue at the federal level became even more accentuated. The following sections present the main features of fiscal federalism in Mexico.

Tax revenue centralisation at the federal level

Revenue sources in Mexico are highly centralised (Figure 2.3). Around 90% of tax revenue accrue to the federal government, leaving little scope for sub-national taxation. Correspondingly, taxes make up 7% of total state and municipal revenues only. Apart from user fees, a payroll tax and property taxes are the most important own revenue resources for Mexican sub-national governments. There is substantial variation across states, however. Most notably, the Federal District obtains 46% of its total from own-sources, primarily from a payroll tax, whereas at the other extreme, Veracruz or Hidalgo obtains only 2% of their resources through own revenue. There is some tendency for wealthier regions to have a greater share of revenue from own sources. Overall, states and municipalities depend mainly on transfers from the federal government, which comprise a large unconditional grant (branch or R*amo* 28) that accounts for 38% of sub-national revenues and a set of

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Table 2.2. **Revenues received by state and local governments, 1980 and 1998**

Federal countries	% of GDP						% of total revenue					
	Tax revenue		Non-tax revenue		Grants		Tax revenue		Non-tax revenue		Grants	
	1980	1998	1980	1998	1980	1998	1980	1998	1980	1998	1980	1998
Australia												
State	4.0	5.4	1.9	4.6	7.3	6.1	29.9	33.5	14.5	28.7	55.6	37.8
Local	1.0	1.0	0.4	0.8	0.4	0.3	54.2	45.2	22.8	38.5	23.0	16.3
Austria												
State	4.0	4.1	1.1	1.4	3.4	4.8	47.3	39.9	13.1	13.6	39.6	46.5
Local	4.4	4.5	2.6	2.3	1.3	1.6	53.2	53.7	30.6	27.1	16.1	19.2
Belgium												
State		10.6						100.0		0.0		0.0
Local	1.6	2.2	0.6	0.5	4.2	3.0	26.0	38.0	8.7	9.1	65.3	52.9
Canada[1]												
State	11.8	14.0	2.7	4.1	4.2	3.1	63.2	66.1	14.5	19.3	22.4	14.6
Local	3.2	3.4	1.3	1.4	4.2	3.2	36.5	42.4	15.1	17.5	48.4	40.0
Germany												
State	7.5	8.1	1.2	1.2	1.9	2.3	70.2	69.8	11.7	10.6	18.1	19.6
Local	3.0	2.9	2.8	1.9	2.5	2.5	36.0	39.9	33.9	25.5	30.1	34.6
Mexico[1]												
State	**0.3**	**0.4**	**0.5**	**0.7**	**0.3**	**2.3**	**30.6**	**10.5**	**44.9**	**20.9**	**24.5**	**68.6**
Local	**0.1**	**0.1**	**0.2**	**0.2**	**0.0**	**0.0**	**30.8**	**42.3**	**61.5**	**57.7**	**7.7**	**0.0**
Switzerland												
State	6.6	6.8	2.2	2.9	3.3	4.7	54.8	47.4	18.1	20.3	27.1	32.3
Local	5.2	4.8	3.1	3.6	1.5	1.7	52.9	47.7	31.6	35.3	15.6	17.0
United States												
State	5.1	5.5	1.8	3.8	2.3	2.6	55.2	46.2	19.4	32.0	25.4	21.8
Local	3.2	3.5	1.5	2.1	3.7	3.3	37.9	39.1	18.0	23.8	44.1	37.2
Unweighted average												
State	5.6	5.8	1.6	2.7	3.2	3.7	53.5	47.7	15.6	22.0	30.9	30.3
Local	2.7	2.8	1.6	1.6	2.2	2.0	41.7	44.0	23.9	25.1	34.4	31.0

1. Year 1995 for non-tax revenues and grants.
Source: *Revenue Statistics* 1965-1999, OECD, 2000.

conditional grants (*Ramo* 33), comprising 47% of sub-national revenues. Other federal transfers account for the remaining 7% of revenues. The *Ramo* 28 and 33 grants together made up 29.5% of total federal net expenditures in 2001.

Congress approved at the beginning of 2002 a new tax reform package aiming to increase taxing power of the states. On the business side, incentives for investment through immediate tax deduction for investments outside of Mexico

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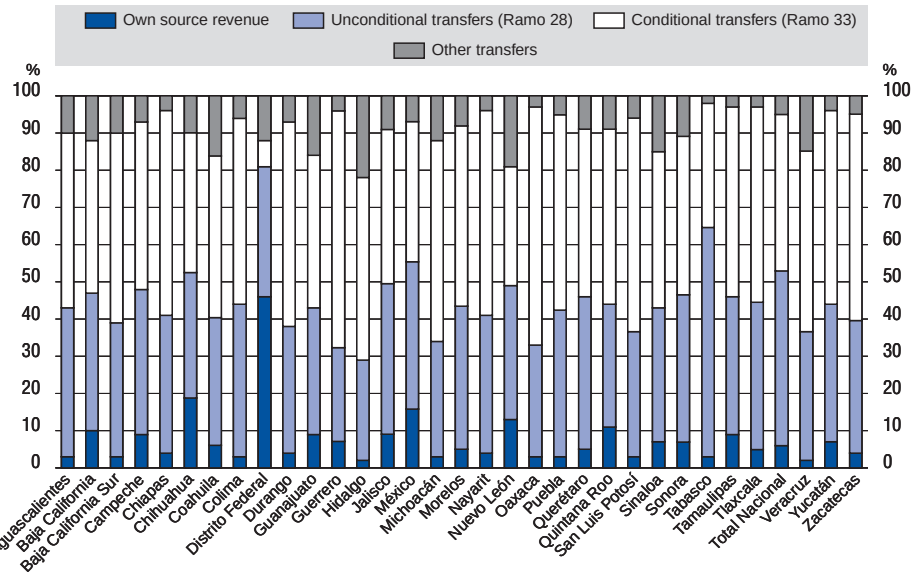
Figure 2.3. **Revenue sources, by state**



Source: INEGI, *Sistema de Cuentas Nacionales de México*.

City, Guadalajara or Monterrey were re-introduced as well as immediate expensing of investments within these areas for labour-intensive firms that use eco-friendly technology. The value-added tax rate remains at 15% (10% on the border with the United States), but some new taxes on goods and services have been added. States also received new taxation options. In particular, they are now allowed to add an additional rate of up to 5% to the personal income tax and an additional rate of up to 2% on individuals with commercial activities (applying only to small taxpayers). States can also now charge a retail sales tax of up to 3% (except on goods that are exempt from the value-added tax). Combined, the new taxing powers appear modest, particularly if compared to the initial government reform proposal that, *inter alia*, provided a shift of 3 percentage points of the value added tax to the states. Moreover, states appear to be reluctant to make use of the new taxing prerogatives.

Decentralisation and deconcentration of responsibilities

Contrary to the centralisation of taxes at the federal level, a number of significant tasks and functions were handed over to sub-national governments. The

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Zedillo government (1994-2000), in its attempt to reinvigorate Mexican federalism, decentralised responsibilities for a number of public services. The aim of decentralisation was to strengthen the autonomy of the states as it was initially the intention of the Mexican constitution. Responsibility to administer resources for basic education, health care and social infrastructure, among others, was given to the states. Increased spending responsibilities were covered through the establishment of a system of conditional grants (Cabrero Mendoza and Martinez-Vazquez, 2000). Today, the central government remains responsible for defence, foreign affairs, monetary policy, mail and telecommunications, and labour legislation. Social housing is primarily the responsibility of the federal government, though some states have housing agencies. Federal and state governments share industrial policy and tourism. States sometimes have separate tourism programmes.

Factual responsibility decentralisation however has remained limited in scope. For basic education (the most important item for which spending was decentralised), the central government still sets the curriculum, provides funding, and trains teachers and sets wages. Some states have developed a complimentary system of state financed schools at the high school and university level and are responsible for administering the federal schools. Municipal governments have a limited role but are responsible for school maintenance and some construction concurrent with the state. In health care, another decentralised item, the federal government sets general guidelines, sets up national health campaigns (*e.g.* vaccination), determines wages of the medical personal, and invests in infrastructure. States administer programmes and are responsible for primary care for both the rural and urban poor populations. Additional transfers whose use is tightly prescribed accompanied the transfer of both basic education and health services. In view of the significant influence of the *delegaciones* of federal ministries in each state, and despite an important decentralisation of financial spending power, sub-national governments often play more the position of a federal agency than an independent decision-maker.

A *significant intergovernmental transfer system*

Owing to the increasing fiscal gap in the last two decades a large intergovernmental transfer system has evolved, which today covers 93% of total state expenditure (Table 2.3). Beginning in 1980 the federal level introduced a formalised system of revenue sharing in exchange of, in some cases, highly distorting state taxes and relieved the states from the burden of tax administration. The current system of unconditional transfers, today known as R*amo* 28, comprises primarily the F*ondo General de Participaciones* (General Participation Fund), of which states are required to transfer at least 20% to municipalities; consequently, municipalities obtain a large amount of their revenue from this fund. Conditional transfers (R*amo* 33) were introduced in 1997 primarily for the purpose of funding

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Table 2.3. **Transfer income for subnational governments, 2000**

Federal budget branches	In % of total revenue
Ramo 28	
Fondo General de Participaciones	43.2
Others	8.2
Ramo 33	
FAEB (education)	31.1
FASSA (health)	5.8
FAIS (social infrastructure)	4.4
FORTAMUN (municipal strengthening)	4.4
Others	2.9
Total	**100.0**

Source: INEGI, *Sistema de Cuentas Nacionales de México*, 2001.

devolved responsibilities such as education, health and social infrastructure. *Ramo* 33 consist of seven funds, of which the funds for basic education (FAEB) and for health (FASSA) are the most important (Table 2.4).

Municipalities receive at least 20% of the *Fondo General de Participaciones* from states. Municipalities also receive some support through a special fund for infrastructure contained in *Ramo* 33. Some changes made by Congress in 1999 in the aforementioned Article 115 of the Constitution allows municipalities to administer revenue, such as property taxes but assigns to State Congresses the contributions that municipalities will receive. Consequently, municipalities can suggest property tax rates to the State Congress that establishes the rate and base. Typically, states will determine a schedule for different types of municipalities and different types of residences. Collection of the tax is left in the hands of the municipalities, although many municipalities lack staff with the necessary administrative skills. Moreover, the restrictions pertaining to real estate ownership make property taxation and administration a difficult issue (see also the section on Land Regularisation in Chapter 1), thus municipal property tax revenue has remained modest. Some states, such as Nuevo León and Guanajuato, have incorporated special grants to municipalities that are distributed partly on the basis of tax effort in collection of property taxes.

"Soft budget constraint" and incentives to overspending

The ratio of the unconditional *Ramo* 28 funds relative to the total federal budget has almost monotonically increased over the last decade, except for the period 1994-1995 (Figure 2.4). This tends to support the view that the strong reliance on transfers has created a soft budget constraint for state governments

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Table 2.4. **Conditional transfers to states and municipalities**

Fund	Focus	Type of expenditure	Criteria
Basic Education (FAEB)	Basic education	Teacher payroll; maintenance and operation	Funds assigned according to payroll and number of schools
Health Services (FASS)	Health services	Doctors and nurses payroll; investment and equipment	Funds assigned according to payroll and current medical infrastructure
Social Infrastructure (FAIS)	Poverty alleviation	Capital investment (*e.g.*, water, electricity, roads)	Funds equal to 2.5% of the federal participatory collection; distribution among states and municipalities determined by formula considering extreme poverty indicators
Municipalities Strengthening (FAFM)	Municipal development	Public debt and safety	Funds equal to 2.35% of the federal participatory collection; federal government distributes funds in direct proportion to each state's total population; states assign funds to municipalities using same criterion
Multiple Contributions (FAM)	Public assistance	School breakfast programs, school construction	Funds equal to 0.814% of federal participatory collection; distributed according to rules established in each year's Federal Budget
Basic and Technological Education for Adults (FAETAA)	Basic and technological education for adults	Adult literacy programs, technical training	Funds distributed according to payroll and institutions inventories
Public Security (FASP)	Public security	Human resources, equipment, capital investment	National Security Council determines allocation criteria, based on total population and crime indicators

Source: Fiscal Coordination Law 1997.

and has lowered their political cost of spending and borrowing. This could increase pressure on the federal budget. If revenues are not raised locally, the explicit link between the benefits and real costs of the programmes is broken.[12] Centralised taxes are often viewed as a common resource by individual states. A state government (or its citizens) that views transfers as being paid mainly by others will have an incentive to ask for more from the federal government than if it incurred the full political cost of the transfer. State governments hence engage in excessive spending, the federal government partially complies and increases grants in response to state government claims.

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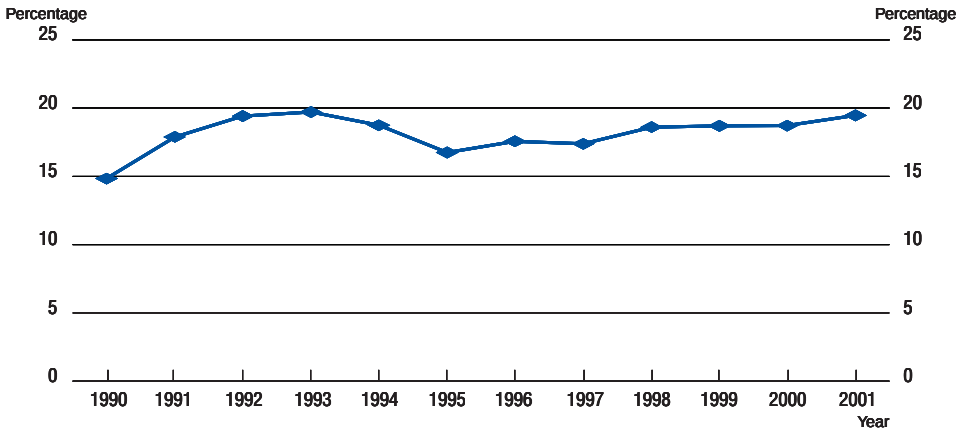
Figure 2.4. **Unconditional transfers to subnational governments, 1990-2001**
In percentage of total federal expenditures



Source: Ministry of Finance.

Strong reliance on intergovernmental transfers might thus have given rise to a dynamic behavioural problem. State governments that expect an increase in grants will have all the more incentive to spend excessively. The federal government could deter excessive spending behaviour by imposing a hard budget constraint. However, it appears that it did not entirely resist state governments' desire for more funds. While the increase in R*amo* 33 conditional grants (not shown in Figure 2.4) is largely due to a deliberate decentralisation of spending responsibilities in health and education, the growth of R*amo* 28 funds could indeed reveal that the federal government has partially given in to state claims. A transfer system whose growth tends to be self-enhancing could thus jeopardise long-term financial stability of Mexico.

Inappropriate design of transfers

A striking feature of current Mexican transfers is that in many instances, they are not designed with sufficient efficiency or equity considerations in mind and allow for some manipulation by the states (Box 2.4). The FAEB (basic education), being the most significant conditional transfer of R*amo* 33, is not designed with a formula, but the allocation criterion is essentially the amount spent in previous years or current payroll expenditures by the states. The allocation of the FASSA (health care) is based on health infrastructure, the number of medical staff, and a

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Box 2.4. An overview of the design of transfers

The theory of fiscal federalism lays out several reasons for transfers; see Oates (1972) and Inman (1999), for instance. The usual reasoning begins with the presumption that each level of government should collect its own taxes and examine in what situations this might not be efficient or equitable. Own-tax collection may result in inefficiency when externalities exist in the provision of public goods. Given the constraints on the levels of government, some governments are bound to provide some goods that have external benefits or use some taxes that have external costs. Transfers can be used to try to correct for these externalities. A second reason for transfers is to equalise tax bases between jurisdictions. This can be justified on efficiency grounds (since equal tax bases remove any pecuniary incentives for migration) and might also be justified on the grounds that certain merit goods such as education should be provided to all. A third reason for transfers is administrative efficiency. This arises if local officials are poorly educated and do not have the requisite knowledge in collection of taxes, but this reason may be temporary if training and further education can address areas of potential incompetence. In spite of these reasons, the way in which such transfers are designed is important to their success.

It is important for transfers to be designed in a reasonable way. For instance, grants that try to correct for externalities are usually matching grants since matching grants alter the prices facing regional governments and thereby can be used to encourage expenditures on goods with external benefits. Similarly, since tax competition is often said to result in the under provision of public goods; thus, matching grants can also be used to offset this tendency. However, the use of grants to correct for externalities presumes that state governments have access to their own revenue sources and are therefore able to change spending decisions in response to a change in relative prices. Since Mexican states have limited ability in this regard, the current Mexican transfer system cannot correct for externalities very effectively and hence cannot be rationalised by appeal to this argument.

A second important design feature of a good transfer system is to try to ensure that grant formulas use sensible variables that are relatively exogenous and somewhat isolated from short term political considerations. For instance, a formula to distribute funds for health might take into account the number of elderly people in a state. This makes economic sense since the elderly normally consume a greater than average amount of health services, and the state government is likely to view the number of elderly as something that is outside of its control.

factor reflecting equity considerations. The much smaller funds such as FAIS (social infrastructure), FAETA (Basic and Technological Education for Adults) or FORTAMUN (Municipal strengthening) are distributed in a more rational way,

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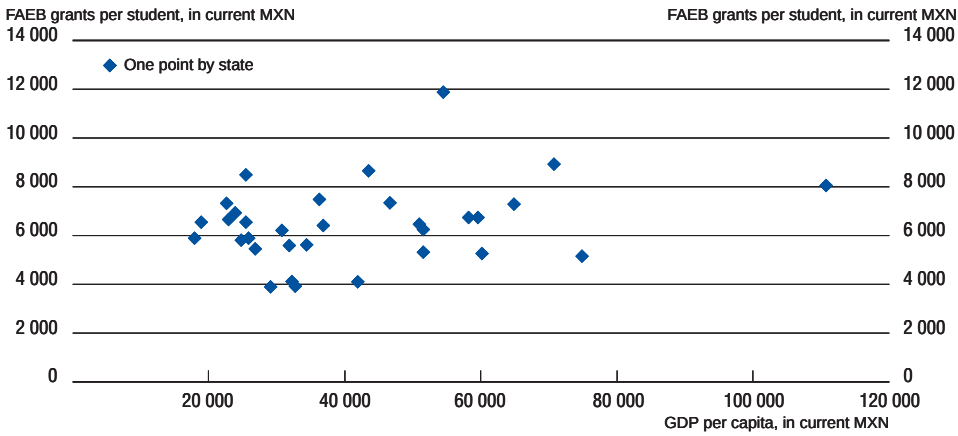
using indicators such as population or poverty. The unconditional *Ramo* 28 transfers have a formula, but the formula could be better designed in order to further its objectives.

The FAEB basic education grant, the largest element of *Ramo* 33, can serve as an example for the current design of conditional transfers. The allocation shows large variations in the amount per student; moreover, it is not negatively linked to the wealth of the receiving state (Figure 2.5). The amount transferred to the states is calculated on the basis of wage costs that are negotiated at the central level. Currently, 95 to 99% of the transfers are used for salaries; therefore little resources remain for schooling material or for investments. The transfers are not based on a standard criterion such as the number of students in a state, so states basically have an interest in increasing the number of teachers instead of putting the weight on school enrolment or educational attainment. Moreover, although transfers are tightly earmarked, allocation and use of transfers for education services is hardly monitored, and state measures pertaining to the use of the grants currently undergo – apart from a formal control – no significant evaluation process.

The *Ramo* 28 unconditional grants show similar drawbacks. The largest component of this fund, the *Fondo de Participaciones Generales*, has no redistributive properties. Apart from some exceptions, a pattern emerges in which wealthier states receive more unconditional grants per-capita than poorer ones, counter-acting general wisdom that unconditional grants should equalise resources, as is

Figure 2.5. **Federal education transfers and state GDP per capita, 2000**



Source: INEGI, 2001.

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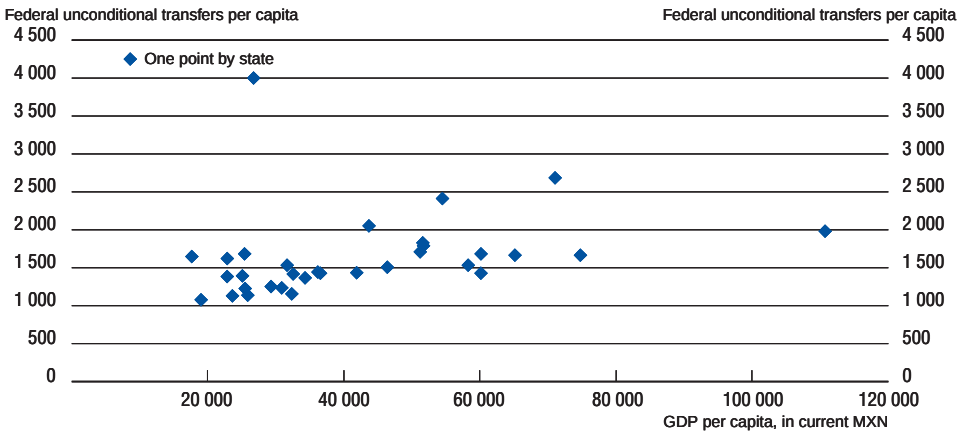
Figure 2.6. **Federal unconditional transfers and state GDP per capita, 2000**



Source: INEGI, 2001.

achieved by German and Canadian equalisation funds (Figure 2.6). Although currently a formula is used for the distribution of this fund to the states, it incorporates only few equity criteria. The formula involves a weight of about 45% on historic quantities of tax collections, a weight of about 45% on a state's population – which has an equalising effect – and a weight of about 10% on an equalising component. The historical evolution of unconditional grants, which were created for the states to voluntarily give up their own tax systems,[13] led to a system of unconditional grants that contradicts the idea of revenue equalisation.

Financial accountability and election periods

The restrictions pertaining to re-election decrease the accountability of public officials. Mexican election laws limit most terms to three years and ban immediate re-election, being allowed only after at least one term out of public office. The electorate has no way to punish or reward a politician that does not face re-election, and although party loyalty plays a part, the public official has little incentive to always act in the general interest or to use public funds efficiently. Even if taxes and other resources were raised locally, the Mexican election system prevents a long-term commitment towards accountable policy making and public spending. The citizenry sees constrained its capacity to punish bad decisions of local officials and reward good ones through the ballot box. The re-election laws thus affect efficacy and efficiency of the public sector.

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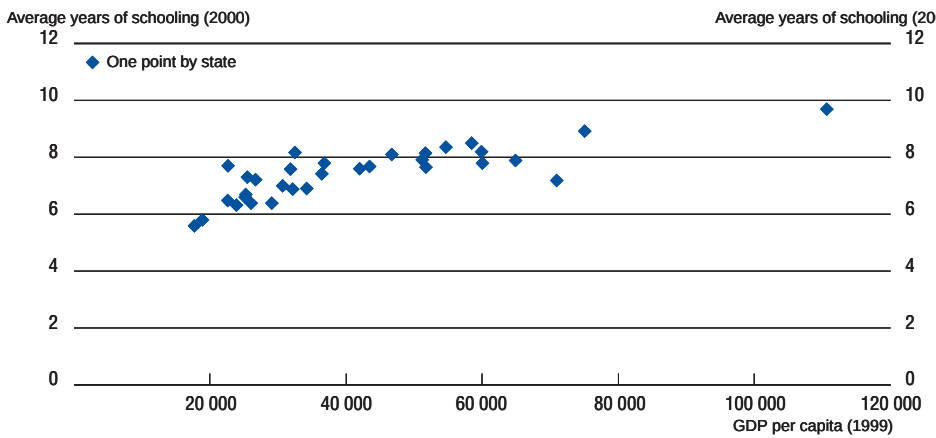
2.5. Reshaping education finance

Both microeconomic and macroeconomic evidence indicates that education is an important tool for improving individuals' and countries' future economic prospects.[14] Education improves productivity and thereby increases wages. Education is doubly important in a democratic society as it enables the population to understand and informatively decide on complex issues. In the case of Mexico, as was advanced in the first chapter, education is the most significant variable to overcome poverty and inequality, as shown by the strong correlation between school enrolment and state GDP per capita (Figure 2.7). Educational outcomes are decidedly unequal across states and are clearly correlated with GDP per capita. In 1999, the lowest average years of schooling are 5.6 in the poorest state, Chiapas; the highest was 9.7 in the wealthiest entity, the Federal District, followed by 8.9 in the wealthiest state, Nuevo León. Thus, the way in which an educational system is structured and financed is important enough to warrant this section.

Current education system

The current structure of education dates back to the National Agreement for the Modernisation of Basic Education in 1992, which transferred a number of responsibilities to the states. States were made responsible for providing basic education, to integrate their systems into the federal one, to design a state evaluation system, to propose a regional content for teaching programmes, and to increase funding. In exchange, the federal government increased intergovern-

Figure 2.7. **School enrolment and GDP per capita by state, 2000**



Source: INEGI, *National Population and Housing Census*, 2000.

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mental grants. Most items of the agreement were both broad and vague in terms of what states actually had to undertake. Moreover, the federal government still withholds considerable power. It defines educational curricula and bargains the wages of the teachers. Teachers' unions are quite strong and limit the mobility of teachers between different regions of the country. Federal grants are tightly earmarked, thus limiting states' discretion to spend where they think appropriate. Put together, despite the reforms of the 1990s, the Mexican basic education system largely lacks crucial features of decentralisation.

The R*amo* 33 FAEB fund reflects the still rather centralised educational system in Mexico. Grant allocation is based essentially on what the state spent on education in prior years. Since the major educational expense is teacher wages negotiated at the national level, the decentralisation of educational funds is essentially a change in accounting procedures. Rather than have the funds flow directly from the central government to teachers, the central government transfers the identical amount of funds to states, which in turn pay out the negotiated wage to the teachers. This is all complicated by the fact that some states have state as well as federal schools, while others do not. Those states that had developed their own schools were in fact penalised by the allocation of FAEB funds because the allocation was made essentially on the basis of the number of federal teachers. The current allocation results in a high variation in the per-student allocation across states, and there is no clear correlation between the wealth of states and federal contributions. This in fact indicates that currently neither the number of students in a state nor a fiscal capacity or poverty index is taken into consideration for the grant allocation.

Advantages and disadvantages of a decentralised education system

Advantages and disadvantages of a decentralised system of education finance have to be set against each other. F*irst*, the fundamental advantage of decentralisation is that it allows different preferences to be satisfied. If different states or municipalities place a different value on education or on the subjects to be studied, a decentralised system can enable each jurisdiction to satisfy its needs and desires. S*econd*, decentralisation may foster competition among jurisdictions. Competition is helpful in ensuring that the best education is provided at the lowest cost and in fostering innovation. Moreover, different states may adopt different methodologies that try to enhance learning. This provides a natural laboratory in which different educational methods are explored.[15] T*hird*, under certain conditions mentioned above decentralised governments are expected to improve accountability. Governments that serve smaller populations may be better able to discern particular problems and solutions. Decentralised schools may result in greater parental involvement due to the fact parents may feel more able to make an impact.

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The primary disadvantage of decentralised education finance is that it is likely to generate unequal outcomes. Poorer states are more constrained in resources and may therefore spend less than wealthier states. It may also be more difficult for students in poor states to attain a given level of education. Students may start out with less advantageous social capital and decreased learning opportunities in the home, because they have illiterate parents. Whereas the size of schools in primary and secondary schools appears to have no impact on teaching quality (smaller schools, particularly in rural areas, are neither better nor worse than large schools), average income and wealth indeed does. Decentralised education may trigger a vicious circle where poor states do not invest enough into education, resulting in low knowledge and human capital, which then decreases states' ability to innovate and attract new business, which ultimately causes such states to fall further behind the national average.

Evaluating the Mexican *educational finance system*

Taking into account the impact of different responsibility assignments for education, the current Mexican education system can neither partake in the advantages of a decentralised system nor does it use its still centralised nature to create a more equal distribution of education funds. Decentralisation gains such as satisfying diverse preferences, improvement in efficiency and educational outcomes from competition are unlikely to be realised since virtually all major decisions are made at the central level. There is no real competition between states or municipalities and no reward is offered to states for providing high quality schools. FAEB funds are allocated on the basis of inputs, which encourages expenditures on or the accumulation of teachers instead of on the basis of output or outcome such as the quality of education or the number of educated students. On the other hand, centralisation, which would actually allow for harmonising educational instruments and measures, did not succeed in providing all states with even roughly the same level of educational attainment. Although this can be largely due to the prevailing income differentials, and not only the degree of centralisation of the education system, it is true that the Mexican education system has not yet reached its avowed goals.

The situation may only be improved if the funding of education is thoroughly overhauled. Several elements will need to be put in place. *First*, the system of education transfers needs to be entirely reformed. This overhaul should include replacement of the current transfers with a formula that is largely equalising in nature. The goal should be to give more transfers per student to poorer states. *Second*, own-revenue sources should be used for the remainder of funding for education, and taking away federal grant money should not punish states that use more own resources. This will allow states to spend more on education if desired, while at the same time protecting and encouraging poorer states to catch up to

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wealthier states. T*hird*, a national test should be instituted so that schools can be evaluated based on how well they are educating a given population. This will both foster competition and allow schools to see whether they are improving over time.

2.6. Conclusions and recommendations

In the last decade Mexico has moved from a centralised government structure towards a more federal arrangement, having devolved a number of important tasks and functions to the states and municipalities. However, current institutions raise a number of concerns pertaining to intergovernmental governance, the financial relationships between levels of government, equity and efficiency of education governance and finance, and the control of corruption. Mexico is still in need of reforms to its federal system. Some of them are far-reaching and will probably require changing the constitution. At the same time, one must be cognisant of the political feasibility of radical changes as well as the need to maintain social and political stability. Proposals for reforms will thus be divided into a short-term and a long-term section. Long-term changes are more radical and will require political will and open discourse so that they can be understood and accepted by the general public.

S*hort-term recommendations*

S*ubstitute rules for discretion in education transfer.* The current method to distribute education grants under R*amo* 33 is somewhat arbitrary. Better formulas for distribution of these transfers should be developed and implemented. The formulas should consist of variables that will reasonably estimate the per-person cost of the service provided. Thus, they should be based on more neutral indicators. Furthermore, the variables should be immune to frequent manipulation by either the state or federal governments. Moreover, they should be based on output and outcome rather than input indicators or past expenditures. Federal transfers for education could be based on the number of students or the number of diplomas rather than the number of teachers or educational expenditure. Health transfers should be based on the number of people aged over 65 or other exogenous health indicators.

I*mprove monitoring of the uses of transfers particularly for capital projects*. The federal government should ensure that transfers to state and local governments are efficiently used, particularly for capital projects. The government should thus set up monitoring devices and evaluation units. These units – such as the COPLADE – should be strengthened by endowing them with proper instruments of evaluation and monitoring, and the units should regularly control for performance of sub-national governments. The federal government could also use additional devices that work as an incentive for sub-national entities to comply with the

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rules, *e.g.* by withholding a part of the transfer budget and using it for states whose project execution exceeds federal requirements. States should be awarded for conducting feasibility studies, implementing internal management control systems, and training officials and managers. Moreover, incentives from the federal or state level can promote a more efficient tax collection at lower levels of government, as shown by the state of Nuevo León. In this respect, the government is currently taking into consideration this proposal as an allocation criteria in the FORTAMUN (municipal strengthening) conditional transfer, particularly regarding the collection of real estate tax and water services.

Strengthen the institutional framework against corruption, and improve accountability by reforming election laws. The government should strive for an institutional framework that makes the public sector less vulnerable to corruption and increases accountability. Decentralisation itself may bring about less corruption since it is likely to increase political accountability. Nevertheless, decentralisation may also outpace the development of sub-national entities' capacities to handle increased responsibilities. The divergence between the laws and informal rules governing behaviour and federal and state institutions created to control corruption should be diminished. Particular emphasis should be put on election laws, which currently do not allow consecutive re-election. Federal and state laws should allow for re-election and more than one-term election periods to make public officials more accountable and increase citizen involvement in policy outcomes

Long-term recommendations

Decentralise taxing power and turn the "Fondo General de Participaciones" into an equalising transfer. Taxing power in Mexico should be decentralised, and states and municipal governments should be given more own-resource revenue. This would allow the country to capture gains from more diverse spending patterns that more closely match local demands and more efficient spending resulting from increased political accountability, the elimination of soft budget constraints, and more competition. Tax decentralisation should be accompanied by a commensurate fall in transfers and federal government taxes that had been used to fund the transfers. Since Mexico still has a certain leeway for tax increases, and taking into account political feasibility, it might be easier for the Fund to be only partially phased out. A part of the Fund should then be turned into an equalisation fund so as to cushion an eventual increase in regional disparities. Politically, the decentralisation of taxes should appeal to the wealthier states while the conversion to equalisation grants should be appealing to the poorer states.

Introduce incentives to raise own taxes. An incentive-based, gradual approach to the elimination of the *Fondo General de Participaciones* could raise state interest in enacting own-taxes. States are generally reluctant to impose additional taxes on their citizens

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because taxes are politically costly. In order to increase its political feasibility, a first year transitionary programme might envision an initial 20% cut in the *Fondo General de Participaciones* with a smaller cut for those states that enact taxes to replace the lost funds. This could be designed to encourage maximal tax collection by connecting the size of the subsidy to a measure of tax effort. There is no need for the central government to set maximum state tax rates, as this would defeat newly acquired taxing power. Furthermore, the federal government should partially cut its own taxes since it will no longer need revenues for the eliminated transfers, except for equalisation. The best candidate for state taxes is an income tax. States should thus be allowed to "piggy-back" (mark up) on the federal tax rate.

Reform and restructure education across levels of government. The current responsibility assignment for education is not sufficiently efficient or equitable. The long-term goal should be to achieve equal and high educational attainment across states. A reform should thus consist of two basic parts. *First*, convert the current *Ramo* 33 FAEB education transfer into an equalising grant transfer that helps to achieve equal educational attainment across the country, and reduce the current tight earmarking. *Second*, decentralise income taxes to allow states to fund own programmes. There is some political advantage in coupling the conversion to an equalising grant and decentralisation of taxes. The coupling of decentralisation and equalisation works on two fronts: wealthy states will have more independence on how to spend for education programmes, while poorer states will be helped to spend roughly as much as wealthier states through the equalising grant system. The equalising grant transfer will be smaller for richer than for poorer states. Such reforms might however face some resistance by the strong national teachers union.

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Notes

1. Congress was also dominated by the PRI for more than 70 years, as a result of its privileged position over opposition groups and on many occasions because of the existence of electoral fraud. In this sense, due to the peculiarities of the political system deputies and senators were subject to the President's authority, limiting Congress' independence to reject the Executive's decisions.

2. The federal government had a large presence and penetration in states through D*elegaciones* of every federal ministry. In some cases decentralisation implied nothing more than moving decision-making from the federal central offices in Mexico City to the federal government delegaciones in the states. D*elegados* sometimes became powerful figures that even contested the Governor's power.

3. The COPLADE is a decentralised body of each state government with legal personality and its own budget. It is made up of a president (the state Governor), co-ordinator (a civil servant nominated by the Governor and generally head of the unit in charge of the planning and finances of the state), technical secretariat, an assembly and a permanent commission. The commission is composed of civil servants at the head of state departments and the heads of the representations of the federal administration, municipal presidents, representatives of the social and private sectors, and regional and special sub-committees. The COPLADE's main functions are to co-ordinate planning measures between the federal, state and municipal governments, prepare and update the State Development Plan, propose to federal and state governments an annual investment programme for the concerned state and municipalities, and evaluate the programmes and actions agreed upon by the Federation and the states. It must be mentioned however that they vary largely in terms of their co-ordination powers towards the different state ministries and municipalities; their technical capacity for planning, accounting and evaluation processes. Likewise, the COPLADE do not have a counterpart at the Federal level since SPP was abolished (see below Chapter 3.1 on Strategies). They have restricted themselves to co-ordinate the social investment and federal programmes with SEDESOL, rather than the different areas of investment and co-ordination of infrastructure, economic development, etc.

4. The COPLADEMUN is also a decentralised body with legal personality and its own budget. It is created by decree by the state Governor or by the state Congress. Its task is to promote and co-ordinate the formulation, implementation and evaluation of the Municipal Development Plan with actions taken at the municipal level by state and federal governments.

5. See OECD (2001d), pp. 157-159 for further details on Territorial Pacts, Area Contracts and Programme Agreements.

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6. Corruption is an imprecise term and thus, for the purposes of this review, it will refer to *the abuse of public office for private gain*, which also includes bribery, extortion, embezzlement, nepotism and cronyism as well as corruption's different manifestations (*i.e.* gifts or other advantages, etc.).
7. The 2001 Corruption Perceptions Index ranks countries in terms of the degree to which corruption is perceived to exist among public officials and politicians.
8. These indicators, which are the result of an aggregation of over 300 governance indicators, correspond to six fundamental governance concepts: control of corruption, rule of law, voice and accountability, political instability, government effectiveness and regulatory framework. They are the result of a statistical compilation of the perception of the quality of governance from numerous survey respondents, representing industrial and developing countries, non-governmental organisations, commercial risk rating agencies, and think-tanks (Kaufmann *et al.*, 2001).
9. Studies, such as the *Global Competitiveness Report* 2001 by Professor Michael Porter and the World Economic Forum and the *World Competitiveness Yearbook* 2000 by the International Institute for Management Development, factor in bribing and corruption when determining their competitiveness rankings. These studies rank countries according to their ability to provide competitive environments for businesses.
10. Violent crime is particularly problematic in large urban areas, affecting cities such as Guadalajara, Mexico City and Puebla. From 1995 to 1997, in the Federal District alone, violent crimes rose from approximately 1 700 per 100 000 inhabitants to 2 835 per 100 000 inhabitants (World Bank, 2001a).
11. The study targeted numerous public services, ranging from building licenses to enrolment in public schools. The most common acts were: 1) bribing a traffic officer in order to prevent a car from being towed or to retrieve a car from a tow lot; 2) parking in a prohibited area; and 3) bribing a traffic officer to avoid being detained or a ticket.
12. This has been emphasised particularly by Buchanan (1967) and Oates (1972). Goodspeed (2002) formally models this problem; a discussion in Spanish is found in Goodspeed (2000).
13. This explains the high allocation for Tabasco resulting from its important position in the production of oil. Since oil production was taxed, Tabasco obtained large tax revenues, which it gave up only in exchange of correspondingly large federal transfers.
14. For microeconomic evidence see Card and Krueger (1992) and for macroeconomic evidence see Barro (1997).
15. Hoxby (2000) provides evidence of this advantage for schools in the United States.

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Chapter 3

Strategies and Policies for Territorial Development

3.1. Strategies

As was widely documented in Chapter 1, severe territorial inequalities prevail in Mexico – a situation that has been a constant throughout most of Mexico's modern history and has shown signs of worsening in recent years. Overall, the development of the North and some parts of the Centre register better performance with respect to the dynamics that can be perceived in the rest of the country, and primarily, but not exclusively, in the South-Southeast.

Mexican public policies and their role in development

One of the main reasons for Mexico's spatially differentiated growth pattern is based on the fact that a clear-cut strategy regarding territorial development and planning is only emerging in recent years. Successive Mexican governments have traditionally maintained ambiguous and inconsistent approaches toward this issue while emphasising mainly sectoral policies defined at the federal level, which only very rarely addressed considerations of their explicit or implicit territorial impacts.

Moreover, as outlined in Chapter 1, public policies executed at the central level have differentially affected regions of Mexico, without taking into account the long-term implications for growth and equity. For example, according to Dávila *et al.* (2000):

> *"Prices and rates were traditionally set in Mexico without consideration to the costs of production and distribution, therefore generating cross-subsidies between regions. Thus, the uniform sale-price policy all across the country did not translate into lower prices or adequate supply, particularly regarding electricity and natural gas, notwithstanding the abundance of energy resources in areas such as Southeastern Mexico."*

Hence, regulation of electric and gas prices resulted in an inefficient allocation of resources as well as higher prices in the Southeast and lower prices in northern regions that are not abundant in energy resources. Another example is that the federal government's investment decisions over the years regarding hydroagriculture primarily benefited the North of the country, although this region is composed primarily of arid and semiarid zones (Dávila *et al.*, 2000).

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In a closely related manner, the geographic pattern of demand has been highly influenced by foreign trade policy. The aforementioned ISI model, which was prevalent in Mexico until the mid-1980s, established a protectionist trade policy under which manufactured imports were limited in order to foster a domestic manufacturing sector. This policy not only resulted in the concentration of economic activity around cities but also helped foster the economic dualism that exists between north-central and southern regions in Mexico today. In effect, the accumulation of capital in the industrial sector became paramount to most Mexican governments, without taking into consideration for the most part such possible negative implications as territorial concentration. Particularly in the years following World War II, industrial growth was considered the answer to all of the country's socio-economic problems, by expanding the domestic market and opening up new investment opportunities in a virtuous cycle that would spread to all sectors of the economy. The rural areas close to the industrial centres contributed to this process of industrialisation, mainly by providing cheap foodstuffs (grains from the Centre and export vegetables and crops in the North), raw materials at competitive prices and low-wage workers. As was mentioned, industrial growth provoked the concentration of manufacturing activities in very few cities, where the existing infrastructure favoured the growth of industrial centres. This happened primarily in Mexico City, which comprised almost one-fifth of Mexico's population by 1980.[1] The consequent increase in the demand for foodstuffs and raw materials fostered the growth of nearby zones to the detriment and often at the expense of other more rural areas. As stated in Chapter 1, this process also had a severe impact on the environment.

Furthermore, although the ISI model fostered the country's industrialisation and resulted in high GDP growth rates for several years, this was achieved at the cost of great disparity in productivity levels and a weak correlation with the needs of the population, as well as highly regulated and concentrated markets. The model also hampered the competitiveness of Mexican industry and altered the relative prices of productive factors in favour of physical capital, to the detriment of human resources and technology development. In effect, the trade protectionism that was a corollary to the ISI strategy created a situation that guaranteed profits to big business without regard to considerations such as product quality, consumer preferences, international competitiveness and productivity levels. The limitations of this model had become apparent by the beginning of the 1980s – with the start of the 1982 debt crisis – and forced the authorities to implement a significant policy shift towards economic liberalisation, which continues to this day.

This policy led Mexico to join GATT in the mid-1980s and then enter into the NAFTA in 1994. Nevertheless, as has been mentioned this agreement has mostly favoured the growth of regions and ports connected with the Northern border and the Centre due to their geographic proximity to the United States. In the absence

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of adequate compensatory measures in southern regions, it is highly likely that regional imbalance will aggravate, as has been the case over the last seven years.

An historical overview of territorial policy in Mexico

Only a few explicitly territorial policies have been implemented in Mexico and these have been erratic and short-lived experiments. Initial actions consisted in the approval of the Agrarian Reform Law (1915), which represented the first effort to orient economic growth and population flows towards less developed regions, as well as the Law for Expropriations (1930), enacted with the intention to foster colonisation of the territory (Garza, 1999). Later on a further step was the creation in 1946 of the Ministry of Water Resources, an agency which sought to establish planning mechanisms on the basis of the various watersheds in the territory and that in turn allowed for the development of watershed commissions outside central Mexico. Another example is the National Border Programme (1961), which was to generate an alternative industrial pole to the central region. Nevertheless, these instances did not represent an institutionalisation of the public sector's participation in territorial affairs. Sector-oriented policies largely acting in isolation continued to be the preferred mode for focusing public policy for development.

In the beginning of the 1970s, the government began to rely increasingly upon planning mechanisms, with some states following its lead and elaborating their own state-level and urban development plans. Regional development began to receive unprecedented attention. This was particularly due to the mounting problems related to excessive concentration in cities. At this time, some initial steps were taken in order to try to institutionalise urban and regional development policies, with mixed results. For example, instead of pursuing consistently its stated purpose of decentralising activities from Mexico City, the framework for the Metropolitan Zone for Mexico City (ZMCM) was put forward in this period by the federal government. Of particular importance was the creation in 1976 of the Ministry of Programming and Budget (SPP), which was designed as the public agency responsible for establishing clear planning and evaluation procedures for public programmes. More specifically, this agency was mandated with the elaboration of national and regional plans for economic and social development, as well as with the programming of its financing. In its creation, it incorporated agencies from different ministries and, most notably, the Planning Unit of the then-called Secretariat of the Presidency. It represented the adoption of a new conception that oriented public expenditure towards the requirements of planning needs and not only to short-term budgetary constraints. It is nevertheless possible to affirm that the government's primary consideration during this period continued to be the acceleration of industrial growth, and not the spatial concentration which was reaching alarming proportions, nor the correlative and equally spectacular increase in regional inequalities. Although in the 1970-1976 period, the

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foundations for the institutionalisation of the urban and regional sectors were laid, the policies implemented were insufficient and not adequately oriented towards achieving the stated objective in a sustained and comprehensive manner.

With the creation of the Ministry of Human Settlements and Public Works in 1977 (SAHOP) urban and regional development policies were incipiently given an institutional base. In particular, the need to create an agency that specifically supported the decentralisation and de-concentration of the ZMCM was explicitly recognised. Nevertheless, this Ministry still fell short of providing a coherent national orientation for territorial development. Of paramount importance also was the publication for the first time of a National Development Plan for the 1978-1982 period, as well as of the sector-specific plans included in the National Urban Development Plan 1978-1982. These documents initiated an important trend in planning, which manifested itself immediately in the drafting of regional, state and municipal urban development plans in 1979; the Guiding Plan for Urban Development of the Federal District (1980); the Plan for the Ordering of the Central Zone; the Programme for the Development of the ZMCM and the Central Region (1982); and the approval of the Planning Law (1983). This last law established the planning and co-ordination between the three levels of government vital for the decision-making process. These actions represented significant efforts in the right direction. Nevertheless, they were unable to institutionalise a space-based approach oriented toward the spatial transformation of the Mexican economy. Thus, for example, urban concentration in the Federal District as well as regional unbalances continued to increase during the 1976-1982 period.

As was briefly mentioned above, starting in 1982, the country began to suffer from serious economic difficulties which forced the government to concentrate its actions on gaining control over inflation, reducing budget deficits, and implementing a strategy that diminished the role of the state in the economy while promoting the competitiveness of the private sector. As a consequence, the planning process lost its coherence and saliency. This trend persisted over the following years and resulted in the merger of the Ministry for Programming and Budget into the Ministry of Finance and Public Credit in 1992.[2] Although there were some achievements regarding decentralisation during this time, with more actors increasingly being incorporated into the development process, excessive concentration of decision-making at the federal level persisted, with economic deregulation weakening some of the steps regarding regional planning that had previously been achieved. Thus, in the National Development Plans for 1988-1994 and 1994-2000, the issue of regional development was rarely mentioned. Another factor that hampered progress was the lack of increase in the resources given to sub-national levels of government.

Some of the reasons for the lack of development policies have already been illustrated. Special mention should also, however, be made to a salient characteristic of policy making in Mexico: the short timeframe of government programmes,

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with planning and regional development strategies being no exception. Reflecting the authoritarian nature of the Mexican political system that persisted for most of the 20th century, public policies and their implementation have been closely tied to the six-year duration of each presidential term. Likewise, most public policies were adopted at the federal level and in Mexico City, and as a result of excessive *presidencialismo*, contact was lost with the particularities and needs of the different states and regions. In this respect, one must remember that as outlined in Chapter 2 until very recently, with the beginning of the democratic transition, states had little effective power *vis-à-vis* the federal government, notwithstanding the formal attributions and responsibilities given to them at least nominally by the federalist Mexican legal framework.

Recent changes in territorial policy

The strategy of the Meso-regions and a new focus on regional development

The present administration of President Vicente Fox (2001-2006) has shown signs of having the commitment to bring regional development to the forefront of the public policy agenda for the first time in a comprehensive manner, and to give greater weight to space-based policies *vis-à-vis* the traditional sectoral approach. This is most clearly exemplified by the salient incorporation of regional development policies into the National Development Plan, by the appointment within the Executive Office of the President of the Office for Strategic Planning and Regional Development, and by the presentation of the National Programme for Urban Development and Territorial Planning (PNDU-OT).

The Office for Strategic Planning and Regional Development has among its main objectives the definition of a long-term strategy regarding public policy, through the implementation of a National Participatory Planning System (NPPS) and the elaboration of the aforementioned National Development Plan. Regarding the former, it promotes a process of definition, concerted agreement, follow-up and evaluation of the executive branch's policies and the activities of all the agencies and entities of the federal public administration. A stated objective is that the government should respond not only to immediate circumstances, but with a longer-term vision so as to prevent unforeseen circumstances or the cycles of the public administration from imposing their dynamics.

Likewise, the Office is trying to implement a model of regional development that takes into consideration the new political reality of increasing democratisation, federalism and the correlative decentralisation of functions and responsibilities to the sub-national level. Accordingly, it is primarily serving as the facilitator of a regional development planning process that in turn is largely based on a mechanism for interstate and intersectoral co-ordination. In particular, this model seeks to create a space for dialogue and horizontal and vertical

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co-operation between the federation and states, between states and municipalities, and within state governments and the federal administration, while also allowing for the participation of the private sector and civil society in the definition of common goals. The Office has emphasised that its role is mainly as a management mechanism and less so as an operational unit. Thus, it primarily seeks to promote regional-based processes for the planning, financing, implementation and evaluation of region-wide projects. In general, this approach would seem to be in line with OECD practice adopted in recent years. In particular, it is increasingly common to find in member countries the establishment of partnerships and co-ordination instruments among different levels of government and among administrations, as well as with the private sector and civil society in the design and implementation of highly complex public investment projects.[3]

In this sense, the model seeks to foster regional development by mobilising political will and resources in functional areas that have been denominated as "Meso-regions" (see Chapter 1). This approach bases itself in the recognition that "*political borders can never be 'optimal', insofar as they can only by coincidence encompass the optimal territorial extension of a certain public service [or] reach the optimal territorial extension for the supply of public goods*" (OECD, 2001b). The model provides for the creation of regional management mechanisms, in which the main actors devoted to regional development participate (federal and state governments, as well as representatives from civil society and the private sector). The forum for consensus building is the Regional Promotion Council, with the Technical Secretariat being in charge of co-ordination. The Technical Secretariat includes a permanent representative from each state, as well as a representative for each issue of the regional development agenda. The Secretariat thus seeks to incorporate both state and sectoral visions, while co-ordinating operatively the planning process as a whole.

The decentralisation of decision making that is inherent in this approach is a step forward and seems to be in line with "modern thinking about effective territorial policy" (OECD, 2001c). In the case of Korea, for instance, the importance of decentralisation was voiced emphasising the country's need to:

> "*introduce a more balanced partnership. Replace the strongly vertical relationship between the central government and local authorities with a more co-operative partnership. Set up a body composed of representatives of all government levels. This body should develop a process of vertical dialogue, for co-ordination and negotiation between central and local governments that would formulate substantive policy recommendations on the topics of decentralisation, development policies, public/private partnerships and related areas.*" (OECD, 2001b).

Likewise, the OECD has observed this bottom-up, decision-making approach progress in several countries. For example, Italy has undertaken reforms to increase the responsibility of regions, local authorities and private actors in the design, selection and implementation of territorial policies (OECD, 2001d).

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This new model also gives a greater say to states in the channelling of public funds, by allowing the agreed upon regional projects to be included in the federal budget.[4] In this respect, it should be mentioned that the projects identified by the different technical councils are intended for inclusion in federal and state budgets, so as to when possible encourage the different government ministries to follow the orientation outlined in the regional plans. Another important element of the model is the Regional Trust Funds. These funds, which allow for the reception of private contributions, seek to increase resources available for studies and evaluations of regional development projects. More importantly, these funds constitute a significant step towards diminishing dependence on federal resources for the evaluation and preparation of concrete initiatives and project proposals.

Similarly, regional planning within the current Mexican administration has the stated objective of harmonising national and state planning. Through this process the Office of Regional Development is trying to co-ordinate state and municipal development plans with the strategic goals outlined in the National Development Plan. An important fact that must be kept in mind is that this plan functions on the basis of a voluntary accord among the interested parties; that is to say, there is no legal mandate for implementing regional development programmes, as is the case with national, state and municipal planning. Likewise, the participation of states in this process is not compulsory, and has occurred until now mainly because of the perception that shared goals can be quickly advanced and economies of scale realised from co-operation with other governments. (Some concrete results have been delivered: up to now a portfolio of 168 regional projects has been approved in areas such as communications, agriculture, economic development, environment, public security, and spatial planning.) This process has also been greatly helped by the convening power that results from the fact that the Office for Regional Development is based within the Executive Office of the Presidency. The inclusion of the private sector and civil society is also intended to give the process permanence, and avoid its dismantlement with the end of each presidential administration.

New actions regarding spatial policy

Another action by the present administration that heralds the adoption of more space-based policies in Mexico is the presentation by Ministry of Social Development (SEDESOL) of the PNDU-OT, 2001-2006. In principle, this marks a reversal of the abandonment of territorial spatial planning in Mexico. In general terms, its stated goals are to foster the economic efficiency of the territory as well as social, cultural and political cohesion, while promoting the creation of synergies between cities and regions under sustainable conditions.

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Confronting spatial planning problems is crucial for Mexico. This is so not only because of the high concentration of the population in few states, but also due to the extremely complicated situation that exists regarding land tenure that was previously mentioned. The PNDU-OT sees spatial planning as the process "*through which to orient the spatial evolution of economy and society, and that promotes the establishment of new functional relationships between regions, towns and cities, as well as between the urban and rural spaces*" (Secretaría de Desarrollo Social, 2001). It also seeks to reinforce state intervention, optimising the process by which advantage is taken of the potential of each territory, trying to reduce disparities between them. Likewise, it aims to achieve complementarity between local and regional objectives and national ones. In this respect, one of its main objectives is the consolidation of a National Urban System. The incorporation of available urban land in the development process, as a means to permit urban expansion by allowing the satisfaction of land requirements for housing and urban development, is another of its principle objectives. This strategy is also envisaged to foster the implementation of strategic projects in regions, metropolitan areas and cities. Another stated goal is to establish a National Land and Territorial Reserve Policy. These three strategies are to materialise through the creation of three specific programmes: the Territorial Planning Programme, the Habitat Programme and the Territorial Land Reserve Programme.

The Programme will be financed through the creation of three separate funds. In the case of the National Policy for Territorial Planning and Urban-Regional Action, a Fund for Territorial Planning will be established that will assign resources to specific Regional Strategic Projects. In this way, the Fund will seek to strengthen the comparative advantages of regions and promote general development objectives. It will incorporate the participation of sub-national authorities, the private sector, civil society, and NGOs in the decision of project priorities in what seems to be a similar approach to the one adopted by the Presidency. These projects will initially be launched with federal funds, and later financed by state and municipal resources, as well as national and international credit lines. Other possible sources of financing will be the private sector and other federal ministries.

Plan Puebla-Panama

An innovation of primary importance regarding spaced-based policies and inter-regional co-operation mechanisms is the Plan Puebla-Panama (PPP).[5] Its primary objective is to correct the structural conditions that have obstructed the development of the southern region of Mexico (Puebla, Veracruz, Guerrero, Oaxaca, Chiapas, Tabasco, Campeche, Yucatán and Quintana Roo), while promoting development in the Central American region. The Plan's area of focus starts in the central state of Puebla and encompasses the Central American region until Panamá. It proposes a new scheme for regional development that incorporates

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the participation of actors from both the public sphere (both at the federal and sub-national levels) and civil society. Its main focus is on the following areas: human development (with special attention to indigenous communities); poverty alleviation; private investment promotion; strategic infrastructure investments; new public policies regarding prices and tariffs of public goods and services, and environmental sustainability.

In its Mexican chapter, the PPP works inside the Executive Office of the President (at the time of the publication of this report, the responsibilities for the PPP will have been transferred to the Ministry of Foreign Affairs). Most of its progress has thus far been achieved in the area of transport and communication infrastructure for Mexico's southern region. Although the performance of the Plan will be analysed more closely in Chapter 3.4 on transport and connectivity, an innovative and noteworthy element is its emphasis on constituting a long-term strategy based on a consensual public policy approach that privileges horizontal and vertical co-operation. Nevertheless, its institutional capacity to catalyse support from all levels of government towards such an ambitious strategy is still not equally shared by all the participants, both from Mexican institutions and the seven Central American countries' governments. Moreover, there is the need for more precise delimitation of the division of responsibilities of the PPP with other elements of the territorial development strategy, and of its overall place inside the Mexican public administration.

Conclusions and recommendations

The model being implemented by the Presidency is to be commended for allowing states and municipalities a greater say regarding territorial development than in the more centralised arrangement that prevailed in the past. The vertical and horizontal co-operation mechanisms that are at the core of the new model are a step in the right direction and are in line with previous OECD recommendations. This joint involvement has the potential of fostering a more consensual approach to common regional development challenges, and increasing the efficiency of regional development projects. In this respect, the development of partnerships among administrations and between public authorities and private agents can be interpreted as the solution to the increasing complexity of public intervention and the need to extract knowledge from local public and private actors and reach consensus on territorial objectives and policies.

A positive development can also be seen in the greater emphasis being put on achieving a longer-term vision for regional planning. This contrasts with the highly erratic and voluntaristic attitude that has traditionally prevailed in Mexican policy making. In order to be successful, however, the Mexican government must take the necessary steps to promote the adoption of fixed multi-annual budgets

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for regional projects. One possible way to bring this about would be to allow for the co-ordination of annual concurring investments between the Federation and state governments. This approach seems to be positive in light of what the OECD has called in previous studies the need to establish "*a clearly defined regional and national strategy in order to* [...] *co-ordinate* [*public investment projects*] *and preserve their medium term mandate form changing political interest due to short term views*" (OECD, 2001d).

Serious concerns exist however regarding the current model's ability to achieve its stated objective in the long-term. In particular, the process seems to be in need of greater institutionalisation within the Mexican public administration. This could be achieved by strengthening the legal framework on which its mandate is based, as well as by increasing the capacity for the planning objectives to be linked to the federal budget in a more compulsory manner. Likewise, the new model is not inserted in a framework that obliges participants, both at the state and federal levels, into a firm commitment to the process. That the model is based on a decentralised and voluntary vertical co-ordination mechanism is positive, but for it to be more effective the participation of the states must have a more solid consensual institutional basis. A policy can work only if the necessary institutional conditions exist to put it into operation. There must be minimum standards of efficiency and co-ordination on what has to be done, who does it and how it is done.

In a closely related sense, a possible shortcoming of the model is that horizontal co-operation within the federal government is not clearly structured and mandated. Improving this state of affairs is vital to ensure a stronger shared commitment on the part of the federal administration to the regional planning process, so that the process is not simply one among other considerations that sectoral ministries have to take into account on a more or less voluntary basis.[6] A clear allocation of responsibilities (for prioritising goals, devising policy strategies, selecting projects, implementing and monitoring) and resources across sectors and levels of government should also be accompanied by an assignment of co-ordination responsibilities and definition of commitments, as well as by the implementation of an appropriate system of incentives (monitoring and related sanction/reward mechanisms). It is in this way that a space-based strategy can be more clearly internalised by Mexican policy makers, thus reducing the inconsistencies in policy making that were shown at the beginning of this chapter. More importantly, this strategy would foster the different policies that are implemented to achieve better results.

The PNDU-OT states that its regional project scheme will be undertaken in the framework of the co-ordination mechanism being implemented by the Presidency – and that its territory of action will be the five Meso-regions. In this respect, SEDESOL's collaboration with the Presidency is indispensable for the planning of macro-meso spatial orientation plans and important care should be

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taken to avoid an overlapping between the two public agencies. Previous OECD studies alert us to the dangers of fragmented *"overlapping between planning instruments at different levels of government"* (OECD, 2001d). Given the significant problems that exist in Mexico regarding land use and tenure, the main impetus of the actions stemming from the PNDU-OT should focus on the resolution of this problem. In addition, Mexican authorities should consider the possibility of introducing legislative changes to simplify the complex process of land regularisation and give SEDESOL, together with states, greater leeway to establish a coherent strategy and simplify the current process. Likewise, adequate and clearly specified financial resources should be provided to pursue the objectives outlined in the PNDU-OT consistently and successfully.

Overall, if adequately and continuously implemented, the new relevance given to space-based policy design by the Mexican government is a step in the right direction. Nevertheless, to be successful in fostering balanced economic growth over the long-term throughout all Mexican regions, the vision that sustains this approach should be more comprehensive. In particular, the Micro-regional approach, which is currently utilised only in the context of poverty alleviation programmes, should be extended to all regions of the country, incorporating a larger number of developmental concerns. This approach could constitute an important mechanism to achieve more dynamic economic development at the local level, while fostering greater harmony and complementarity with sectoral public policy implementation.

3.2. Alleviating poverty

Poverty alleviation is one of Mexico's greatest challenges. In 2000, the poverty rate stood at 53.3%, which was the highest in the OECD member countries, and also above that of many non-member countries with a similar level of development. Disparities in income place the country somewhere between developing and industrialised countries: the poorest 10% earn an income comparable to the average income in Haiti while the richest 10% earn an income comparable to the average income in Belgium. Extreme poverty concerns 23 million Mexicans, *i.e.* 23.7% of households. The liberalisation of the Mexican economy and the new export orientation that started in the mid-1980s have had a positive effect on economic growth but indicators also show an increase in absolute poverty levels. The Mexican case clearly demonstrates that improved macroeconomic performance does not necessarily reduce poverty. Poverty alleviation programmes with a strong emphasis on the territorial dimension of poverty are required. Poverty and extreme poverty rates are high in the Southern states (*e.g.* Chiapas, Oaxaca, Veracruz, Guerrero), and found at a lesser extent in the Centre-West. At a more disaggregated level (*e.g.* the municipalities), important geographical pockets of poverty also appear in the Northwest. Moreover, extreme poverty mainly concerns

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rural areas and is strongly linked with settlement size and geographical dispersion and therefore, in urban areas, extreme poverty is less severe. However, an important migration into cities has led to the concentration of the poor population, generally in suburban areas, threatening social cohesion and leading to crime and delinquency.

General framework of poverty alleviation policy

Social policies such as education, healthcare, social security and job training represent a great share of total public expenditure: 61.9% in 2002, up from 38.2% in 1990 (Table 3.1). After some cutbacks following the 1994 financial crisis, public spending has been refocused on social programmes: over the period 1995-2000, social spending per head increased by nearly 13% while overall public spending per head declined by 5.2%. However, Mexico has one of the lowest levels of public spending among OECD member countries: about 20% of GDP compared with the OECD average of some 45% (OECD, 2001e). Moreover, social expenditures in Mexico are also low by OECD standards (Figure 3.1). Finally, broad-based social

Table 3.1. **Public expenditure by sector**

	1995	1996	1997	1998	1999	2000	2001[1]	2002[1]
Total,[2] billions MXN	290.4	403.4	528.1	600.6	711.2	864.7	937.4	1 026.8
(Percentage changes, in real terms)	(–15.6)	(6.3)	(11.2)	(–1.5)	(3.1)	(9.8)	(2.4)	(3.7)
	Per cent of total[3]							
Social development	53.4	51.9	51.5	57.9	60.9	60.1	61.8	62.5
Education	23.5	23.0	22.2	24.7	24.7	23.9	25.3	25.6
Health	14.0	12.9	13.4	14.7	15.5	14.1	14.4	13.4
Social security	8.6	8.3	8.9	10.5	13.4	14.3	13.4	14.6
Labour	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3
Social assistance and supply	2.2	2.6	1.7	1.6	1.4	1.3	1.4	1.6
Urban and regional development	4.7	4.7	4.9	6.0	5.7	6.2	7.0	7.0
Rural development	7.1	6.3	5.6	5.0	3.7	3.4	3.7	3.7
Environment and fishing	0.9	1.7	1.4	1.0	1.3	1.2	1.3	1.4
Communications and transport	4.8	5.5	8.3	4.0	3.4	2.7	2.4	2.7
Energy	22.1	23.1	21.0	21.5	19.4	19.9	18.9	18.1
Justice and security	7.6	8.0	7.9	5.6	5.8	6.1	5.2	5.1
Administration	4.2	3.4	4.3	5.0	5.4	6.6	6.8	6.7

1. Estimates for 2001 are preliminary; the projections for 2002 are based on the approved budget.
2. Public expenditure, excluding interest payments and revenue-sharing with state and local governments (*i.e.*, "programmable" expenditure).
3. Percentages may not add up because of rounding.

Source: Ministry of Finance.

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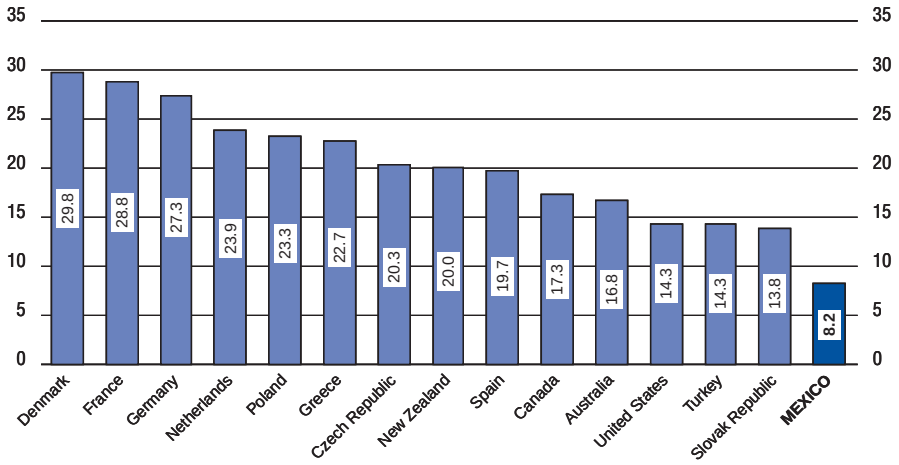
Figure 3.1. **Social expenditure in selected OECD countries, 1998-1999**
In per cent of GDP



Source: OECD SOCX database.

policies do not necessarily reach all categories of the population. In order to counteract these weaknesses, programmes specifically targeted at the poorest segments of the population have been put in place. In 2001, spending on these programmes amounted to about MXN 60.5 billion (10.5% of total social spending). It has increased since 1990 but at an inferior pace to total programmable spending and social spending as a whole (Figure 3.2). To the extent that some of the new poverty alleviation programmes are likely to be more efficient and better targeted, it does not necessarily mean that a reduction in benefits for the most in need has occurred. In fact, spending on targeted poverty programmes has remained at 1% of GDP during the 1992-2000 period, although as mentioned in Chapter 1 the number of extreme poor stood at around 23% of the total population (absolute levels increased from 19.7 million to 23 million).

The Mexican poverty alleviation strategy has constantly evolved since the 1950-1960s, and one can identify several generations of programmes. The "first generation" is mainly characterised by subsidies to goods and services. As the target is not clearly defined, the main beneficiaries may have been the expanding middle classes. Besides helping people to acquire basic alimentary goods, such programmes were on occasion also used to maintain political and social

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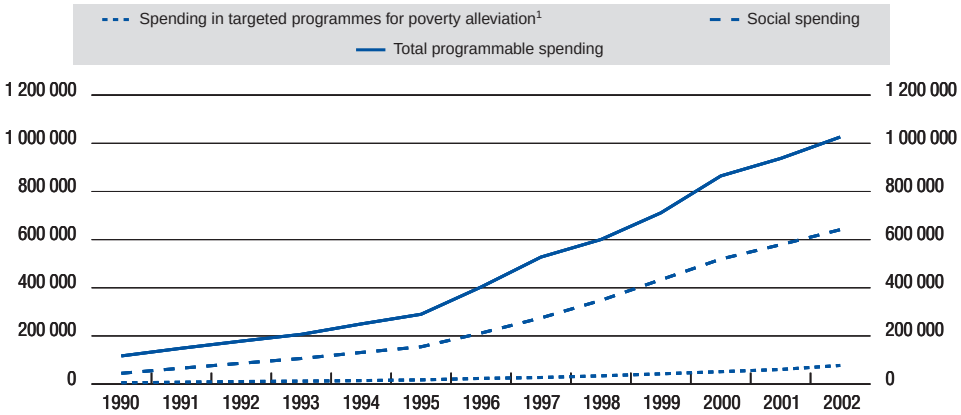
Figure 3.2. **Evolution of spending for poverty alleviation**
Millions of current MXN



1. Besides broad-based social policies which have important impact on poverty alleviation, there is a range of programmes for poverty alleviation which specifically target the poorest groups. A detailed list of these programmes appears in Table 3.2.

Source: OECD/TSI based on data provided by the SEDESOL.

control – and with it social peace. Today, there are still subsidy programmes in operation. A second generation of programmes was launched at the end of the 1980s and was designed to provide safety nets for the very poor, of which PRONASOL was a major component.[7] Most of these programmes were highly focused but were mainly composed of income compensation. A third generation of programmes with a much broader focus on the causes of poverty began in the mid-1990s with the introduction of the Programme of Education, Health and Food (PROGRESA) and *Contigo*, the present administration's five-year development strategy, under the auspices of which current poverty alleviation programmes will be carried out. *Contigo* seeks to stimulate economic growth while providing basic social needs for the poorest strata of Mexican society. It pursues social development through four main premises: the allocation of increased resources to human capital (including education, health and job training), the creation of jobs through the co-ordination of labour supply with demand, the provision of basic social services, and the improvement of basic living standards for families in order to break the cycle of poverty (including housing). This represents a significant policy shift. In addition to relevant changes in the objectives and the mechanisms of the programmes, important changes in the poverty alleviation strategy result also from the decentralisation process.

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The current Mexican strategy to combat poverty has three main pillars: *i*) human development; *ii*) productivity and employment and *iii*) infrastructure. The human capital component represents half of total spending for poverty alleviation (MXN 30.8 billion in 2001). The principle programme is PROGRESA, which represents about half of the expenditure in this category (Table 3.2). It is targeted mainly at families in poor rural areas and integrates actions in the three complementary fields of basic education, health care and nutrition. Food subsidy programmes taken overall still represent an important share (about one-third of total budget for human development component). They include the following main programmes: supply of milk (*Abasto Social de Leche-Liconsa*) and tortilla (*Abasto Social de la Tortilla-Liconsa*) to children under the age of 12 who come from families earning less than two minimum wages; distribution of basic products through a stores network in remote rural areas (*Diconsa*); and school breakfast programmes implemented by Family Integral Development (DIF). Most of these food subsidy programmes that are targeted as general subsidy programmes have been cut back gradually. Except for *Diconsa*, these programmes benefit mainly the urban poor.

Social infrastructure development constitutes the second pillar with one-third of total spending for poverty alleviation (MXN 20.3 billion in 2001). It includes programmes dealing with rural roads and potable water in rural areas and housing subsidies in urban areas. However, more than 88% of the funds for social infrastructure development are distributed to the municipalities through the FAIS, which is a part of the *Ramo* 33 conditional transfers to the states. More concretely, the funds are now provided by the federal government to the states, and then from the states to municipalities. They are based on need and are distributed according to a formula that takes into account poverty levels. The poorest states get the highest funding and the allocation to the municipalities is made along similar lines. However, the allocation of funds within municipalities is not clear and there is no monitoring process to ensure that funds actually reach the poorest and most marginalised communities. Moreover, local capacity building is sometimes weak. Finally, in 2001, the funds distributed under the FAIS represented only 9.2% of all *Ramo* 33 funds. In fact, the most important funds of *Ramo* 33 – the FAEB (Education) and the FASSA (Health), respectively 62% and 12.2% – are not part of the poverty alleviation strategy budget; yet, they continue to have an important impact on human capital and social infrastructure. Indeed, broad-ranging social policies also contribute to alleviate poverty (in particular basic health services and education).

The third pillar of poverty alleviation is the promotion of productivity and employment for the poor (MXN 9.4 billion in 2001, *i.e.* 15.4% of spending for poverty alleviation). The most important programme is the Temporary Employment Programme (PET). Through temporary jobs, PET seeks to provide income during the farming off-seasons in poor rural areas in sectors of productive assets (irrigation systems and rural roads). By offering below minimum wage pay, PET is

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Table 3.2. **Poverty alleviation programmes**
In millions MXN

	Total budget	Objective	Ministries[1]	Main beneficiaries
1. Human capital development	**30 800.0**			
Progresa	12 718.9	To increase school years in rural areas, to promote assistance of the families to the health services, and to improve feeding	SEDESOL-SEP-SSA	Rural
IMSS Solidaridad	3 890.9	To assist poor people with health programmes	IMSS	Rural
Compensate Programme of the CONAFE	2 595.6	To grant education services for children in poor areas	CONAFE	Rural
Scholastic Breakfasts Programme	1 796.6	To grant breakfasts for children in public schools	DIF	Rural and urban
Programme for Extension of Coverage (PAC)	1 237.0	To deliver a package of basic health services	SSA	Rural
Others	7 353.6			
Indigenous Education Programme		To grant education services for indigenous children in poor areas	SEP	Rural
Telesecundarias (High School by television)		To support the increase of high school enrolment in rural areas	SEP	Rural
Education Supported in Technology		To support the increase of technical education in rural areas	SEP	Rural and urban
Rural Supply (Diconsa)	6 415.8	To ensure that people in rural areas have access to basic products	SEDESOL	Rural
Social Supply of Milk (Liconsa)	1.8	To provide low-price milk for the poor families with children under 12 years old	SEDESOL	Rural and urban
Tortilla Programme (Liconsa)	1 247.9	To grant the families an earning transfer through a subsidy on the tortilla price	SEDESOL	Urban
Social Security to Agrarian Day-labourers		To benefit the families of the agrarian day-labourers	IMSS	Rural

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Table 3.2. **Poverty alleviation programmes** (*cont.*)
In millions MXN

	Total budget	Objective	Ministries[1]	Main beneficiaries
2. Social infrastructure	**20 335.1**			
Social Infrastructure Federal Grant (FAIS)	18 047.0	To provide basic infrastructure for the economic development of the regions with highest social shortcomings	Ramo 33	Rural
Potable Water and Sanitation	415.5	To extend the coverage of potable water, sewage and sanitation services in rural areas	CAN-SEMARNAT	Rural
Rural Roads	898.7	To increase the provision of infrastructure in the rural areas	SCT	Rural
Saving and Subsidies for Progressive Housing (Vivah)	437.9	To assist poor families in urban areas who do not have access to financial credits for housing	SEDESOL	Urban
Others	951.5			
3. Productivity and employment	**9 357.6**			
Temporal Employment Programme (PET)	3 754.1	To supply temporary employment in rural areas	SEDESOL-SCT-SAGARPA and SEMARNAT	Rural
Financial Access Programmes	2 473.3			
National Programme of Finance to Micro-entrepreneurs	96.6	To create access conditions to micro-financial services for people who live in poor areas	SE	Urban
Word's Credit (Crédito a la palabra)	572.0	To support with financial resources the low earning agrarian labourers	SEDESOL	Rural
Support to Micro, Small and Medium Enterprises	1 170.6	To support micro, small and medium enterprises through credits and the improvement of financial conditions	SE	Urban

Table 3.2. **Poverty alleviation programmes** (*cont.*)
In millions MXN

	Total budget	Objective	Ministries[1]	Main beneficiaries
Rural Development Programmes	3 331.1			
Agrarian Day-labourers		To improve life conditions of the agrarian population through enforcement projects in several social areas	SEDESOL	Rural
Indigenous Regional Funds	364.1	To support indigenous organisations and groups who live in poor conditions and work in some productive activity	INI	Rural
Woman Productive Development Programme		It's a programme directed to rural producers with low productive organisation capacity	SE	Rural
Women Farmer Programme		It's a programme directed to rural producers with low productive organisation capacity	SE	Rural
Rural Development		It's a programme directed to rural producers with low productive organisation capacity	SAGARPA	Rural
Hydroagrarian Infrastructure		To improve the hydro agrarian infrastructure in rural areas	CAN-SEMARNAT	Rural
Forest Development		To improve forestry development in rural areas	SEMARNAT	Rural
Total: poverty alleviation policy	**60 492.7**			

1. SSA (Ministry of Health); SEDESOL (Ministry of Social Development); SEP (Ministry of Public Education); CONAFE (National Council of Education Fostering; IMSS (Mexican Social Security Institute); DIF (Familiy Integral Development); RAMO 33 (Part of federal government's programmable spending); CNA (National Water Commission); SEMARNAT (Ministry of Environment and Natural Resources); INI (Indigenous National Institute); SCT (Ministry of Comunications and Transport); SE (Ministry of Economy); SAGARPA (Ministry of Agriculture, Livestock, Rural Development and Fishing).

Source: SEDESOL, *Annual Government Report*, 1999-2001.

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self-targeting and does not constitute a disincentive for work (the poverty line is about twice the minimum wage). This programme functions relatively well but does not reach small isolated communities. This category also includes a range of programmes providing financial credit for the poor and other rural development programmes, which aim to create opportunities for earning income through work.

Increasing the educational level of the poor

As mentioned before, education is one of the main priorities in the Mexican strategy to combat poverty. As unequal distribution of human capital is one of the main causes of poverty, this orientation is appropriate. Together with universal enrolment at the primary level, important advances regarding education have been achieved over the years.[8] Total enrolment rose from 11.5 million students in 1970 to more than 30 million in 2001; the average number of years at school, which was 3.7 for men and 3.1 for women, rose to 7.8 and 7.3 years, respectively, in 2000. Despite this progress, large disparities remain between socio-economic groups and regions. The general education system has been partly decentralised through the FAEB fund of the *Ramo* 33. The distribution of this fund is based essentially on what the state spent on education in prior years and is not equalising in nature. More equal educational attainment across states will require the reinforcement of the equalisation component of transfers to states. Disparities in education are also important at a more disaggregated level. As there are some population groups that do not always benefit from general education programmes, programmes specifically targeted at the poor have been put in place.

Several factors explain the low educational attainment among the most disadvantaged of the population. In many small, dispersed settlements, there is nearly no opportunity for education beyond the primary level. CONAFE, which is an agency structure of the Ministry of Public Education (SEP), has developed programmes for children who live in remote rural areas, in partnership with local communities that are involved in the daily management of the schools. Other educational initiatives include the creation of a satellite network of educational television (Edusat) that transmits, among other channels, the *Telesecundaria* programme, which delivers broadcast lessons for all three levels of lower secondary school. Showing both teachers and students on the screen and making extensive use of images as well as video clips, *Telesecundaria* currently reaches approximately one million students in about 14 000 schools and its completion rate is similar to the general lower education rate (about 79%). Such successful tools could be backed further by use of information and communication technologies (ICTs) for educational purposes as in some other OECD member countries (Box 3.1). These experiences might not to applicable to Mexico in the short-run, as a result of budget constraints and inadequate infrastructure. Nevertheless, it seems to be an area in which more efforts might be warranted.

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Box 3.1. ICTs for educational purposes in OECD countries

Within many OECD countries, access to education and training plays a major role in reducing the imbalance between urban and rural areas. Certain countries or regions are beginning to harness the potential of ICTs so as to ensure proper educational opportunities that can contribute to the economic regeneration of lagging areas.

At the *primary* level for instance, the town of Moussac (Vienne, France) – 500 inhabitants – has created a network with seven other rural schools in the area that have been equipped with multimedia computers and have created "extended classes" through the use of videoconferencing and NetMeeting software. In addition, this project has contributed to raising computer literacy and training in all towns concerned, since the computers have been made available to the adult population after class hours.

At the *secondary* level, projects such as the Computer-Mediated Class in the First Nation of Keewaytinook Okimakanak (northern Ontario, Canada) – 2 800 people spread over five communities with an average density of 0.1 per km^2 – combine both on-line teaching and real learning environment. The pooling of teaching resources from different locations has allowed high school students to attend classes without leaving their area, which prevented them in the past from choosing the costly option of attending the only high school, located several hundred kilometres away, and eventually increasing the risk of dropping out of the educational system.

At the *university* level, one of the most ambitious projects specifically designed for rural areas was the University of the Highlands and Islands of Scotland, which was equipped with interactive videoconferencing facilities in order to operate through a combination of real classes – delivered in one of the 13 partner institutions located throughout the area – and on-line courses through the Internet. The telecommunications infrastructure equipment was financed through a public-private partnership that succeeded in bringing in new jobs to the area and developing a highly skilled workforce. Moreover, the creation of the University enhanced the potential of the region by offering a selection of courses focusing on its principal industries and businesses.

Such success stories tend to show that educational ICTs have a most beneficial application in rural and remote areas where the sharing of teaching resources can lead to substantial cost-effectiveness gains.

Source: OECD (2001h).

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Another cause of low educational attainment is linked to the opportunity cost of completing the compulsory education cycle, which may be too high, especially in marginalised rural areas where children generally contribute to family income, and the costs of attending school are prohibitive for low-income families. In this context, incentive instruments targeted at the most disadvantaged households can stimulate parents' demand for sending their children to schooling.

Several targeted programmes for education exist to relax the liquidity constraints of the most disadvantaged households, such as school grants programmes. In addition, the large and comprehensive programme PROGRESA was launched in 1997. Now called *Oportunidades*, it represents a major change from previous anti-poverty programmes in Mexico in that it went beyond offering only temporary safety nets to include strong incentives to accumulate human capital. The principle of *Oportunidades* is that families in "eligible" poor communities can receive support as long as they meet certain obligations, *i.e.* send their children to school, and provide them with the "basic package" of illness prevention and health care.[9] *Oportunidades* has three main components: education, health and nutrition. In the education area, the programme provides student grants and school supplies to poor families to promote school attendance. The size of the grants increases as children pass to higher grades and are higher for girls, who have lower dropout rates at that stage of education, than boys. The second pillar is health: the programme provides basic health services for all members of the beneficiary families with particular emphasis on preventive care. These services are provided by the Ministry of Health and by IMSS-Solidaridad, a branch of the Mexican Social Security Institute that provides health care to the uninsured rural population. The third component, focusing on nutrition, includes a fixed monetary transfer to improve food consumption, as well as nutritional supplements to pregnant and breast-feeding mothers; to infants between the ages of 4 months and 2 years in order to prevent undernourishment after birth, and to children between 2 and 5 years of age that experience some degree of undernourishment.

Oportunidades's most significant innovative aspect lies in its management and targeting mechanisms. The main guiding principle of the programme is that of co-responsibility. School attendance and health care must be certified to obtain the monetary transfers which are provided directly to the women in beneficiary families, trusting they will manage resources in the best interest of their children. Around 1 000 "sentinel points" guarantee the appropriate implementation of the programme all over Mexico. *Oportunidades's* targeting mechanism is transparent and innovative. SEDESOL establishes the rules of the programme and is responsible for its co-ordination. Earmarked grants are transferred to the states based on uniform criteria, thus reducing discretionary power. Families are selected among eligible communities according to several socio-economic variables and an assembly of the local community validates the selection process. The targeting process remains centralised to avoid political interference in the choice of beneficiaries.

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A key positive aspect is that *Oportunidades* has an elaborate system of monitoring and evaluation based on a sample of communities. Indicators of results provided by SEDESOL conclude that *Oportunidades* has a positive impact on the welfare of the families covered by the programme, in terms of income, school attendance, nutritional status, and health services. The rate of children that complete primary school increased 14% during its time in operation. The enrolment in the first year of secondary education is up 40% for women and 24% for men. Furthermore, it has decreased infant mortality in rural areas. The number of benefits received by beneficiary families represents a significant increase in their income levels but remains limited so as not to discourage families from working. The targeting objective has also been achieved. In addition, a very low percentage of total costs are devoted to administrative costs (6% in 2001). During its first year, the programme benefited around 300 000 families. By 2001, the number had increased to more than 3 million families (Table 3.3). This can be estimated as being more than one-third of all Mexican poor families. Furthermore, the majority of those in extreme poverty live mostly in rural areas. Towards the future, the stated goal of the programme is to reach the 6 million families that currently live in a condition of extreme poverty.

Table 3.3. **Evolution of the number of families covered by Oportunidades (PROGRESA) since 1997**

	Number of families
1997	300 705
1998	1 930 032
1999	2 306 325
2000	2 455 783
2001 (final)	3 127 800

Source: SEDESOL.

In March 2002, PROGRESA was renewed under the name of *Oportunidades*. The budget for 2002 is MXN 18.4 billion, up from MXN 12.7 billion in 2001 (the initial budget in 1997 for PROGRESA was MXN 9.6 billion). The goal is to extend coverage to four million families and to cover not only rural areas where the majority of families in extreme poverty are found, but also the population of semi-urban and urban areas in extreme poverty.[10] In a first stage, *módulos de atención* (attention centres) will be created in the cities to select target families. As the programme was first developed to operate in rural marginalised communities, an adaptation effort is needed in designing mechanisms for controlling the process in urban areas, in checking the needs of urban poor and the most important goods and services that the programme may provide. As this aspect has not been taken into

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account *ex ante*, an evaluation process and adjustment mechanisms should be applied as soon as possible. In addition, O*portunidades* has been widening in scope. It intends to support not only primary and secondary school, but also higher secondary education. Moreover, more efforts of co-ordination will be made to allow the recipients to have access to other programmes, including job training (with preferential access to the PET programme), housing improvement in rural areas, support to productive projects, life insurance, savings and popular credit schemes (through Bansefi, the Bank for National Savings and Financial Services), as well as popular health insurance.

An important challenge is to establish indicators and mechanisms to decide when families can no longer benefit from the programme. Initially, a family's status within the programme after three years was decided according to the re-evaluation of their socio-economic conditions. A process of "re-certification" is currently being revised. One possible criterion could be a pre-defined poverty line: families with incomes above this line would have to leave the programme. The question remains whether the situation of the families is sustainable without O*portunidades*, the danger being that they fall again in a situation of poverty once they exit the programme. Rather than an all-or-nothing approach, a method that creates better incentives is to reduce benefits gradually once a family rises to meet certain criteria. This gradual approach is similar to what happens under a negative income tax welfare programme. Finally, as co-ordination efforts are being made between, on the one hand, O*portunidades*, which aims at raising the demand for education and on the other hand, the P*rograma de* E*scuelas con* C*alidad*, which provides educational services, there is no tension on the supply side as far as primary education is concerned. However, there are still likely to be many challenges for upper secondary education.

T*he* M*icro-region* P*rogramme*

Until recently, most of the Mexican governmental programmes to combat poverty were targeting the poor of rural areas. However, a major challenge is to address the structural weakness of the poorer Mexican rural regions: the small size and dispersion of settlements, which seriously hinders any development possibility. Despite there being mobile units in many of the smallest and isolated communities, they still do not benefit from the majority of the government programmes and generally lack access to basic public services (Table 3.4 and Table 3.5). The cost to reach these communities is often too high. Furthermore, some programmes *de facto* exclude small communities such as PROGRESA/ O*portunidades*, which requires the existence of a health centre and a school as a condition for participation, or Diconsa stores, which could not operate in very small communities due to the lack of a sufficient market. Also, small communities often lack the bargaining power to obtain funds at the sate level. On the other

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Table 3.4. **Access to public services according to settlement size**

	Up to 20	Community size (number of households)	61/more
Electricity	59	40	20
Sewerage	90	87	84
Public phone	97	90	52
Post office	98	98	95
Pre-school	68	28	6
Primary school	40	13	2
Telesecondary school	99	95	69
Secondary school	100	100	95
SSA clinic	98	93	76
IMSS-Solidaridad	100	98	90
Local Health Auxiliaries	72	47	41
Health mobile unit	32	25	25

Source: World Bank, 2001a.

Table 3.5. **Access to poverty alleviation programmes according to settlement size**

	Up to 20	Community size (number of households)	61/more
Diconsa store	97	86	52
DIF school breakfasts	46	42	38
DIF community kitchen	96	93	89
Liconsa distribution	95	92	84
Subsidised tortilla	99	99	98
Grants (depensas)	70	59	53
Ninos de Solidaridad	63	50	41
Probecat and CIMO	99	99	98
Empleo Temporal	94	90	84

Source: World Bank, 2001a.

hand, the existence of a myriad of programmes often managed by different entities raises issues of effectiveness and co-ordination. In this context, the Mexican authorities have revised their objectives and instruments, maintaining the principle of targeted programmes while implementing co-ordinated actions to assist the regions with the highest levels of marginalisation and poverty. In 1995, up to 94 regions were identified as priority regions, of which 39 required immediate attention.[11] A finer selection was introduced in 2000 through a new strategy focusing on 250 Micro-regions (identified within the category of the 39 regions) (Table 3.6).[12]

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Table 3.6. **Basic indicators on Micro-regions**

Population	1 334 municipalities:	*of which*: 539 more marginalised
In localities with < 50 inhabitants (%)	62.3	54.8
Without sewage (%)	27.5	30.9
Without electricity (%)	15.3	25.5
Without potable water (%)	30.2	40.7
Living in houses with soil floors (%)	41.4	62.7
Illiterate (more than 15 years) (%)	23.2	33.0
With incomplete primary education (more than 15 years) (%)	54.9	61.1
Speaking indigenous languages (%)	26.0	53.0
With income < 2 minimum wages (%)	76.3	85.4

Source: SEDESOL.

A key aspect of the Micro-region strategy is the concentration of actions in one locality of each Micro-region, through a "Strategic Community Centre" (*Centros Estratégicos Comunitarios*). This locality must be easily accessible from all other localities in the Micro-region. It must have more than 500 inhabitants, adequate infrastructure (usable roads and highways during most of the year, electricity and drinking water), and must also provide some education and health services. More than 60% of the participating localities of the Micro-regions have less than 50 inhabitants and only 15% have more than 1 500. The CEC approach is an improvement over past policies since projects can take advantage of economies of scale. It is also easier to build local consensus when the benefits of projects will be felt by more than one municipality.

In 2002, the number of Micro-regions increased to 263. They include 1 334 municipalities in 17 states, of which 539 are the most marginalised. The total number of municipalities is three times than that of the previous year and thus includes a larger population: 19.9 million (20% of the Mexican population) up from 5.5 million in 2001. A special effort has been made to involve the indigenous population in the programme (the goal was to involve at least 40% of the indigenous language speaking population), even if the marginality levels are not high or very high. Most of the Micro-regions are located in the poorest Southern states, namely Chiapas, Oaxaca Guerrero, Veracruz and Puebla (Table 3.7 and Figure 3.3).

The Micro-region Programme uses funds coming from different national programmes, which implies that several ministries are involved (Table 3.8). Co-ordination among different ministries is reinforced through the Inter-sectoral Committee for Micro-regions (*Comité Intersecretarial de Microrregiones*), which meets four times a year with the participation of the Ministers and is chaired by the

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Table 3.7. **Breakdown of Micro-region Programme 2001 expenditures by state of destination**
In millions MXN

	Total expenditures
Chiapas	3 316
Chihuahua	491
Durango	223
Guanajuato	78
Guerrero	1 991
Hidalgo	911
Jalisco	81
México	94
Michoacán	342
Nayarit	139
Nuevo León	25
Oaxaca	2 782
Puebla	1 391
Querétaro	163
S.L. Potosí	676
Veracruz	1 805
Yucatán	203
Total	**14 713**

Note: Data as of December 15, 2001.
Source: SEDESOL.

President of the Republic. In an initial step, total funding is channelled to the 539 more marginalised municipalities through actions developed in 144 Strategic Community Centres. In 2001, this totalled MXN 14.7 billion, coming from 40 federal programmes as well as state and municipal funds, and a similar amount of funding has been allocated for 2002 (Table 3.9). Allocation of resources is agreed upon by the different levels of government, which sign the social development agreements (CODESOL).

The Municipal Development Committees and the local COPLADEMUN normally choose the projects supported by the Micro-region programme. In cases in which COPLADEMUN does not function well or more social participation is warranted, then Communitarian Assemblies (*Talleres de Planeacion Participativa*) are used. The various participants discuss main local needs and agree on the "demand" of local development policies. Local representatives then meet with state and federal representatives, for the definitive choice of priorities, in the light of other state and federal policies (Box 3.2). COPLADES insure the articulation of actions and resources that come from federal agencies, states and municipalities. They also co-ordinate municipalities with common goals and make sure that projects are technically and financially viable.

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Figure 3.3. **Geography of Micro-regions**

Source: SEDESOL.

At this stage of the process, several remarks can be formulated regarding the Micro-region strategy based on similar experiences in other OECD member countries. First, Micro-regions are defined according to precise indicators, which are more sophisticated than the ones used in Europe. For instance, areas eligible for Structural Funds under Objective 1 of the European Union Regional Development Policy are selected only according to their GDP per capita in purchasing power parity. In this respect, the use of multidimensional indicators such as the "marginalisation index" appears very interesting. Nevertheless, the design of borders for Micro-regions in Mexico arises from a top-down process, as it is predefined at the national level. A Social Development Agreement is signed with each state on the basis of the number of Micro-regions and a ceiling for funds is negotiated which takes into consideration the conditions of each Micro-region. Such an approach is different to those undertaken in other countries. The geographical borders of the "pays" in France and the Italian Territorial Pacts are the result of a bottom-up process (agreement between the municipalities in France and *ex post* result of agreement between local authorities and firms in the case of Italy). Their geographical delimitations do not necessarily coincide with

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Table 3.8. **Expenditures by types of entities in the Micro-regions in 2001**
In millions MXN

	Total expenditures
SAGARPA	1 538
SE	264
SECTUR	2
SCT	1 024
SEDESOL	4 279
SEMARNAT	229
SEP	2 304
SRA	4
SSA	779
STPS	48
States	721
Municipalities	3 582
Total	**14 713**

Note: Data as of December 15, 2001. SSA (Ministry of Health); SEDESOL (Ministry of Social Development); SEP (Ministry of Public Education); SEMARNAT (Ministry of Environment and Natural Resources); SCT (Ministry of Comunications and Transport); SE (Ministry of Economy); SAGARPA (Ministry of Agriculture, Livestock, Rural Development and Fishing).
Source: SEDESOL.

their functional areas but can overlap several administrative units. One leader municipality and a common-history feeling between the different actors involved, as well as a common infrastructure project, are the bases for interaction with the central administration in order to define a development project. As far as Mexico is concerned, some flexibility should be introduced in the medium-term to allow for the reconsideration of the predefined perimeter of intervention. It is also important to take into consideration bordering Micro-regions, as policy implemented in one place may spill over onto other regions. Enhancing horizontal co-operation between Micro-regions could be a second step, not only to promote exchanges of best practices, but also in the perspective of enlarging co-operation to broaden investment.

A key issue is the choice of actions to be performed. Very centralised European countries used to rely heavily on highly centralised planning. Since the 1980s, major steps toward more decentralised approaches in the definition of policies have been taken in several European countries. Local self-definition of needed policies and actions – applying the principle of "subsidiarity" – appears nowadays to be the rule and a step toward development in itself. However, in countries like Mexico where capacity building is weak, priorities can be easily

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Table 3.9. **Main programmes included in the 2001 expenditures of the Micro-region Programme**

Programme	Ministry	Amount (millions MXN)
Alianza para el campo	SAGARPA	495
Procampo	SAGARPA	988
Empleo temporal	SAGARPA	55
Fonaes	SE	230
Marcia hacia el Sur	SE	34
Empleo temporal	SEDESOL	443
PROGRESA[1]	SEDESOL	2 309
INI	SEDESOL	1 042
Liconsa	SEDESOL	87
Diconsa	SEDESOL	125
CNA	SEMARNAT	202
PROGRESA[2]	SEP	1 313
Pr. Compensatorios	SEP	558
Educacion Comunitaria	SEP	424
PROGRESA[3]	SSA	364
Pac	SSA	416
Probecat	STPS	48
Carreteras y caminos	SCT	772

Note: CNA (National Water Commission); INI (Indigenous National Institute).
1. Food.
2. Education.
3. Health.
Source: SEDESOL.

distorted on a local basis to favour strong local interests. Local "Caciques" (political leaders) may insist that upper levels of governments adopt projects that are not necessarily the most important for local communities. Thus, strong technical assistance and a mechanism of vertical consultation, evaluation, monitoring and co-decision seem crucial ingredients for the success of the strategy.

A precise calendar is important and is not binding in the Micro-region strategy. With no multi-year programming of funds, certainty regarding the completion of proposed local actions is lacking. Local expectations can be frustrated and "rational expectations" may weaken the credibility of the projects. Although there are no multi-year budgets, all the parties involved sign agreements to adopt the projects, thereby giving the process some institutional character. But to what extent are these agreements binding? Moreover, it could be helpful to use the mechanism of selection of Micro-region projects to promote areas' competitiveness and the quality of projects (this mechanism should be designed on the basis of precise criteria and transparent procedures). Furthermore, in the future care should be taken so that choices do not become distorted

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Box 3.2. **A successful story of the Micro-region Programme in El Nayar**

In the Micro-region of El Nayar, located in the state of Nayarit, an agreement among the three levels of government was reached, with an agenda aimed at implementing regional development strategies in all sectors and a total budget of more than MXN 83 million.

Beforehand, an analysis of the area identified the main problems that affected the development of El Nayar: the lack of highways, rural roads, electricity, education system, health care and indigenous rights. The local perception of problems was identified thanks to five assemblies attended by about 500 representatives of 70 agricultural areas and 27 communities. A total of 153 "requirements" were identified. Action was started with respect to 35% of them. Three meetings for inter-institutional co-ordination were held to identify sources of funds to finance those actions.

As a result of people's requests, four Community Educational Centres were established in Huaynamota, Mesa del Nayar, Jesus Maria and in part of the Sierra Huajicorì. Actions to create three Strategic Community Centres were taken. SEDESOL, in co-ordination with the state government and the municipality supported the establishment of a Centre for Economic and Educational Development in Mesa del Nayar. A Centre for Scientific and Technologic Studies is currently under construction, under the responsibility of the Ministry for Public Education. A successful eye surgery programme, which has completed 130 operations, has been realised in the Hospital of Jesus Maria, with the participation of local non-governmental organisations. Electric works started in the area of Huichol.

– as has happened in several OECD countries – with the consequence that funds are channelled to the politically stronger regions and not to those the most in need. Rationing through queuing is not a solution: the principle of "first asking first financed" may be counterproductive, pushing local authorities to ask always for any available funds and preparing development projects that are not always the most suitable, but to be implemented in the shortest time. Time is needed to have the best perception of local needs and tasks to be accomplished, and to increase people's consciousness and approval of what is being done. Central evaluation and monitoring of different Micro-regions' proposals – even if difficult to set up – may help in introducing competition and allow for dialogue between central and local authorities. This interaction is a necessary condition for mutual learning among different levels of governments.

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Overall, the Micro-region programme is a positive step towards the integration of sparsely populated settlements in the national strategy to combat poverty and to improve co-ordination of policies in these areas. Nevertheless, further actions are required to create a real impetus for regional development. It will be important to complement targeted assistance policies in the Micro-regions with economic development initiatives based on local comparative advantage. Enhancing human capital, providing income opportunities and developing infrastructure are essential for this purpose and these components are already integrated in the current poverty alleviation strategy. It is also important to promote small and medium-sized enterprises, develop tourism, and give alternative solutions to agriculture in those rural areas. One solution would be to set up public incentives for small communities to co-operate in one productive area so that they could achieve the critical mass necessary to promote their businesses both economically and politically. Economic development plans for the Micro-regions will also have to be included in the broader regional development plans for the Meso-regions.

Rethinking urban poverty

Mexican society has experienced a significant transformation in the last decades, evolving from a predominantly rural to a predominantly urban society (75% of the Mexican population is considered urban). The analysis of poverty by municipal size (Box 1.3 in Chapter 1) shows that a large share of extreme poverty is found in large population municipalities, which include urban settlements. This suggests that the fight against extreme poverty should also be directed to urban areas, something that has been neglected during recent years.

There is a general consensus that the allocation of federal anti-poverty resources targeted to urban poverty up to now has been clearly insufficient. Past policies based on subsidy programmes have favoured urban areas, as statistics show that the urban poor ultimately benefited from a large amount of funds. However, the impact of these programmes was weak, targeting was low, and administrative costs were high.[13] A major policy switch occurred during the last decade when policy was focused more towards extreme poverty in rural areas. Meanwhile, expenditures on food subsidy programmes have diminished substantially. In 2001, the picture was as follows: in the Human Capital Development Branch, only the food subsidy programme of Liconsa (Social Supply of Milk and Tortilla) benefited the urban poor. While the total funding of this programme represented the bulk of the budget of the Human Capital Development Branch in the past, it amounted only to 4% in 2001 (Table 3.2). As for the productivity and employment branch, there is no programme specifically oriented to urban poverty. There is, however, a fund for micro, small and medium enterprises (MXN 1 170.6 million) which operates both in urban and rural areas. This fund

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represents only 12% of the budget of this branch, although *de facto*, most of the resources appeared to be channelled to rural areas. In the last branch of the poverty alleviation strategy, Basic Social Infrastructure, less than 2.2% are targeted to urban poverty, through the Vivah programme (Savings and Subsidies for Progressive Housing). Nonetheless, the 88% of the federal funds, which are disbursed by the municipalities – through the FAIS – are also spent both in urban and rural areas. However, here there is also a rural bias: grant criteria are best applicable to predominantly rural states, and the grant does not operate in the Federal District. In the end, very few resources are allocated to poverty reduction in urban areas and the impact of programmes aimed at both urban and rural areas appears extremely difficult to estimate.

Another question is the extent to which the policy measures have been effectively addressing the specific aspects of poverty in urban areas. Poverty in urban areas shows itself in particular dimensions. Most of the poor urban inhabitants live in inadequate housing in informal settlements, where infrastructure and services, whether concerning education, health or basic infrastructure, are not sufficiently developed to tackle the rising demand generated by the population influx. In addition, segregation is a source of growing crime and insecurity. Other dramatic expressions of urban deprivation are children living and working on the streets, as well as intra-family violence and drugs. The urban poor are particularly vulnerable to economic instability, as they have no access to subsistence production during periods of unemployment, and are also more vulnerable to the negative health effects of environmental pollution.

Housing provision, especially social housing, is one of the main challenges of urban poverty alleviation. The housing shortage is a general problem in Mexico, with a particular impact in urban areas, given the rapid increase in the urban population (the urban population in Mexico has risen from 7.5 million in 1950 to around 75 million today). The housing deficit was estimated to be 4.2 million in 2000. The housing problem also presents an obvious financial dimension. The current housing finance system for urban areas excludes in fact the poorer levels of the society. With few secure sources of income, and often in the informal sector, the urban poor have reduced opportunities to access institutional credit mechanisms. Consequently, urban poor have to resort to informal, often illegal, housing solutions. This links very closely to the land use and land title aspects of housing. Overall, given the limited land availability, urban expansion has been marked by rising prices, speculation and irregular access to land.[14] It has taken place in large part on *ejido* and communal land either by the poor inhabitants occupying the land and constituting informal settlements or by the irregular purchase of this same land. SEDESOL, through the decentralised organism CORETT (*Comisión para la Regulación de la Tenencia de la Tierra*), and the Ministry for Agrarian Reform are principally responsible for the resolution of land disputes as

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well as its distribution. SEDESOL has as one of its main mandates, to regularise land tenancy in irregular human settlements located in *ejidal* territories.[15] Another significant problem is that as these lands are designated as rural, local governments can refuse to provide public services.

Subsidies to housing financing should put more emphasis on providing solutions for the poor. The Vivah programme addresses the housing needs of urban families in extreme poverty by providing housing credit. Nonetheless, both its low budget (MXN 438 million) and its low coverage (32 400 beneficiary families in 2000) suggest that this programme is inadequate; the credits are not well-targeted to the poor, and the programme is insufficiently funded relative to the housing needs of the poor.

Most of the urban poor are unskilled migrants that came to the cities due to the economic crisis in rural areas. The access to training for the poor remains limited. PROBECAT is one of the few programmes that provides training and income support to the urban unemployed. Another challenge is to increase access of informal workers to the formal labour market. PROBECAT offers labour training services for unemployed and displaced workers, but this programme functions more as a self-targeted safety net (World Bank, 2001a). It is important to reinforce workforce programmes such as PET and PROBECAT.

As mentioned above, the Mexican government recently announced the launching of new programmes targeting urban poverty. The main instrument is *Oportunidades*, which now also covers urban areas. In order to select an urban area, *Oportunidades* first focuses on medium-sized towns not belonging to metropolitan areas. Since last year this programme started operations in towns with up to 50 000 inhabitants, and will expand this year to cities of less than 1 million (smaller than metropolitan areas). In turn the selection of localities inside urban areas takes into consideration the concentration of households in extreme poverty (giving priority to those in worst conditions), for which a Geo-Information System is used.

Reaching more social cohesion: Indigenous peoples

Depending on the calculation method, indigenous peoples represent between 8.5 and 12% of the national population. Estimates are that about 33% of the extreme poor are indigenous (and between one-quarter to one-third are poor) (World Bank, 2001a). Many poverty alleviation programmes and policies implicitly target the indigenous population. Moreover, the Micro-region strategy is aimed at co-ordinating tasks and extending the coverage of public programmes to include the poorest rural dispersed settlements, which are actually the areas where most of indigenous people live. It is, however, essential to assess whether poverty alleviation strategies are consistent with the indigenous context.

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Overall, indigenous customs and values should be increasingly taken into account when providing social services and programmes for poverty reduction. In the field of health, for instance, more effort should be made to integrate indigenous medical systems into models that reinforce local capacities. The impacts of educational policies throughout the 20th century have been varied. Bilingual education was introduced in 1963 and has significantly lowered the incidence of mono-lingualism among indigenous language speakers. It is based upon the principle that first, children are taught to read in their indigenous language, then they are taught Spanish. However, teaching methods, course content and timetables are not always well adapted to the local cultures. Many indigenous teachers are poorly trained and their knowledge of Spanish is limited. The Sectoral Education Programme 2001-2006 states as one of its main objectives to incorporate indigenous languages more extensively into the curricula. Likewise, an important step is the recent creation of the National Institute for Indigenous Languages and the introduction to Congress of a Bill for the approval of a Law for Language Rights. Bilingual education can be a way for indigenous people to both preserve culture and identity and be part of the modern and globalised world, but it is important that this education be well-structured. It is also crucial to consider the future economic survival of the children, which means that students must learn reading and writing in the dominant language of the country. This does not mean that children will be made to forget their native culture; in fact, classes in culture and language can and should be made a part of the curriculum. Many OECD member countries have to face the challenge of both providing education services that will offer as many opportunities as possible and preserving the identities and cultures of the different components of their societies (Box 3.3).

Governance mechanisms for poverty alleviation programmes remain somewhat inconsistent with indigenous reality (World Bank, 2001a). For instance, *Oportunidades* provides support to individual families while the indigenous community system is typically based on the extended family. Moreover, service delivery is often insured by new structures which function in parallel or compete with existing traditional organisations. This highly centralised process of service delivery hampers capacity building at the local level, a crucial element for the success of any policy. Mexican authorities should try to improve community participation in some existing programmes like *Oportunidades*. The municipality of Xico in the state of Veracruz provides a noteworthy example of such a programme. In Xico, the municipal president has established an innovative governance mechanism that is based on the recovery of autochthonous models of social organisation to support local projects through active community involvement. The traditional form of organisation that has been recovered is that of the "faena", which has roots in the community's pre-hispanic past and formed the basis of its periodic involvement in collective works. Likewise, this organisation has proved useful in matters

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Box 3.3. Bilingual education: experiences in other OECD countries

Bilingual education in the United States provides an interesting case study for comparison. Bilingual education (primarily Spanish) has been popular in many school districts in the United States. A typical programme places new immigrant children who do not speak English in a class separated from that of their English-speaking counterparts. The curriculum remains the same, but the new immigrant children are taught in Spanish. The idea is to keep them in a segregated class without interrupting the learning process. When the children pick up enough English, they are transferred to the regular class. Some bilingual programmes in the United States have been successful; these programmes have moved children quickly from Spanish-speaking classes to regular classes. There are also many bilingual programmes that have proved to be failures. The problem has been that the children tend to remain in the Spanish-speaking class and consequently are never properly educated in English. The ultimate result is that these monolingual children have lower paying jobs and less ability to move up the social ladder.

Diversity and multiculturalism are fundamental characteristics of the Canadian society. Responsibility for the education system rests with the individual provinces and territories. Policies have been developed for aboriginal peoples to be educated in their traditional languages. This is significant in Nunavut where approximately 85% of the population are Inuit. While education is offered in English and French, it is also offered in the two languages spoken by the Inuit people – Inuktitut and Inuinnaqtun. Similarly, in the Northwest Territories where the aboriginal population is approximately 51%, education is offered in English and French as well as in the six aboriginal languages which are Cree; Inuktitut (Inuvialuktun and Inuinnaqtun); Chipewyan; Gwich'in; North and South Slavey; and Dogrib. In the Yukon, education is offered in English and French.

Switzerland, another multilingual country, provides another possible approach to the integration of different languages. The Swiss territory is divided into homogenous German, French and Italian speaking areas. People of different native languages do not usually live in the same place, which means that bi- or multi-lingualism is hardly more frequent than in monolingual countries. Students are required to learn at least one of the national languages, plus English. Since skill requirements are symmetrical, *i.e.*, everybody has to learn one additional national language, no language group is disadvantaged with respect to another. Moreover, all national languages can also be used outside Switzerland; therefore, being multilingual is an individual comparative advantage. The Swiss case is thus different from countries where there is a majority language (*e.g.*, Spanish in the case of Mexico, English or French in the case of Canada) to be learnt by all and a minority language to be learnt and used by indigenous people within their community only.

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such as the administration of resources and planning, while laying the groundwork for permanent interaction with the municipal government. The fact that the community has been actively involved in the definition of public projects has provoked a greater commitment and collaboration on its part. Financial incentives could help to disseminate this practice to other municipalities. By including the principle of community participation, the strategy of the Micro-regions is a positive step in this direction.

Besides general poverty alleviation programmes, there are specific programmes for indigenous people. A central role in developing these policies is played by the aforementioned INI, a decentralised federal public agency. Presently, it serves five million indigenous people, in 9 848 indigenous enclaves and 1 315 municipalities by supporting economic development and social organisation, notably through 216 regional funds and productive agro-ecology. INI also operates in several other fields, including health, justice, research and communication. However, its institutional response capacity remains limited as well as its role in the policy making. Besides INI, a Representative Office for the Development of Indigenous Peoples has been created within the Executive Office of the Presidency. The objective of this office is to establish specific policies to foster the development of indigenous communities in co-ordination with the federal ministries in fields such as bilingual education, health, culture, and economic development. A Council for the Development of Indigenous Peoples has been created for the inter-institutional co-ordination of development programmes among the three levels of government. It will also ensure the transparency and focalisation of federal aid programmes such as PROGRESA or the INI regional funds.

The creation of this Representative Office within the Executive Branch is a positive step towards improving the co-ordination of tasks and speeding up reforms with the ultimate aim of making programmes better suited to the indigenous way of life. It is vital that that the Office maintain close contact and collaboration with minority representatives. Furthermore, exclusion of these people from the market economy represents a massive waste of human resources. One cause of exclusion is discrimination. The discrimination factor (real or perceived) is important to bear in mind when analysing earning differentials. Studies of the "cost" of discrimination for indigenous people in Latin America have attempted to isolate, within the overall earnings gap, the portion attributable to differences in productive characteristics.[16] One finding is that when indigenous populations are endowed with the same productive characteristics as non-indigenous populations (the same health, training and educational levels, and the same levels of qualification), the earnings gap decreased by only 52%. Each country is a specific case, but experiences generally show that it is crucial to sensitise the public to minorities' problems. In Hungary, the government has introduced major political, legal, and economic initiatives to improve the living conditions of the Roma minority,

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but important discriminatory practices remain at the local level which act as obstacles to any progress (OECD, 2001b). Faced with a similar situation, Canada has made a major effort to educate all Canadians about the issues and needs of the aboriginal population.

Empowerment can also reduce discrimination, so it is essential that indigenous people have a strong voice in the local and national political spheres. However, as empowerment can be distorted to the advantages of local *caciques*, it should be accompanied by increased capacity building at the local level. Juridical and constitutional reforms during the 1990s started to reverse a long-term trend of state paternalism by recognising some indigenous rights, but have still not been sufficient to change the difficult situation of the indigenous populations. In this respect, one of the aforementioned initiatives includes a law approved by the Congress that will grant new autonomy and rights to indigenous peoples. In particular, the new law allows for greater autonomy and self-governance arrangements compatible with indigenous "uses and customs". It gives the indigenous population, among other things, the preferential use of natural resources and permits regulation and conflict resolution schemes based on each community's normative arrangements. In Oaxaca, indigenous communities have for some years now operated a similar scheme regarding the control of their municipalities. It should nevertheless be mentioned that rigorous debates continue to be held among certain indigenous groups that still want additional legal concessions to be granted. To date at the local level there are successful examples of strengthening indigenous organisational structures. In this respect, the federal government could provide financial incentives to the states to promote initiatives aimed at empowering communities.

Conclusions and recommendations

The national strategy for poverty alleviation has undergone major changes during the last decade. Most of the programmes are now targeting the poor, so resources are allocated more rationally and efficiently. Design for poverty alleviation policy has also been improved. The three pillars of the strategy (human development, productivity and infrastructure) have been well-selected: funds are oriented to areas where potential social and economic returns are high.[17] Major efforts are now being made to improve the educational level of the poor. The greatest emphasis should be put on training, which still remains limited.

Within each pillar, funds should be channelled to the most successful programmes. For instance, within the category of human capital development, targeted food subsidy programmes have replaced most of the general subsidy programmes, which has been a step in the right direction. However, the food subsidy programmes fail in targeting the extreme poor and generate high administrative costs. It could be more cost-effective to reorient funds from subsidy

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programmes to targeted programmes that have an integrated approach such as PROGRESA/O*portunidades*. More generally, there remains a myriad of programmes of varied effectiveness and with overlapping target groups, whose funds could be redirected to most efficient programmes.

The evaluation of the impact of major programmes should be expanded and improved by systematically including measures of cost effectiveness. Although efforts are currently being undertaken to create a unified list of beneficiaries of social programmes, there is an important need to clarify the distribution of tasks among the different tiers of the government to avoid duplication and reduce costs. It is also important to increase the participation of communities and civil society in the elaboration and delivery of policies. This requires improving local capacity building in order to prevent local *caciques* from diverting the objectives of the programmes to match their own interests. This is particularly crucial for indigenous people who are among the main targets of governmental programmes.

The strategy to fight poverty has developed a territorial dimension. Today, most of the programmes combine means-test policies with territorial targeting. As extreme poverty is more severe in rural areas, there is a pro-rural bias of targeted programmes. However, the extent of urban poverty and the erosion of the social capital associated with it require a more encompassing strategy of urban poverty alleviation. Very few programmes are currently implemented in cities. The decision to expand PROGRESA/O*portunidades* in urban areas is sound but it remains unclear how its mechanisms will be adapted in order to address the specific aspects of poverty in urban areas. In rural areas, most of the programmes actually fail in reaching the poorest remote rural settlements, so the Micro-region strategy has been set up to target and improve the co-ordination of tasks in these areas. The Micro-region strategy seems appropriate to target such dimension of poverty. This strategy could become a more comprehensive territorial policy if more emphasis were put on local economic initiatives within regional development. Finally, it is important to bear in mind that besides federal poverty programmes, there are also anti-poverty policies developed at the state level. Thus, it is appropriate for the federal government to check whether state policies are in concert with its own poverty alleviation strategy in order to avoid conflicting or overlapping policies.

3.3. Competitiveness policy, foreign investment and support to SMEs

The economic liberalisation undertaken in recent years and the corresponding trade expansion has helped firms to adjust and to increasingly engage in the export business. However, the increasing gap between the domestic sector and the export sector is a salient characteristic of the Mexican economy. Productivity benefits are slowly diffusing to the *maquiladoras* and have not yet reached the

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non-exporting small firms. Likewise, *maquiladoras* and multinational investment continue to be concentrated in the northern and central regions. It is against this background that the policy initiated by the new government should be assessed. This chapter emphasises the segmentation of the Mexican economy and its geographical polarisation by underlining the compounded causes behind the persisting disparities between "*maquiladora* and FDI" intensive regions and the others. Finally, it analyses the strategy developed by the new administration and stresses the need to increase co-ordination with regional programmes and to emphasise human resource development

Mexico: A *fragmented economy*

With the unleashing of the 1982 economic crisis, a new emphasis on macro-economic stability and government deregulation began. The economy was gradually opened to trade[18] and foreign direct investment was liberalised step by step. The entry into NAFTA in 1994 has transformed the economy and modified its industrial and territorial fundamentals. Apart from leading to a strong trade expansion, it has resulted in a substantial alteration of the composition of exports. While oil exports accounted for 55.2% of exports in 1985, their share was reduced to 7.3% in 1999. During the same period, non-oil exports (mainly manufactures) grew more than eight-fold. Furthermore, although during the 1980-1990 period, the Mexican GDP per capita grew by only 0% – a rather modest figure if it is compared to the 1970-1980 performance (38%) –, structural adaptation profoundly affected the small and large firms alike.

Both *maquiladora* and non-*maquiladora* manufacturing plants have contributed to this spectacular growth in exports. Most of the *maquiladora* firms work for US firms or have parent companies in the United States. To reduce transportation costs and improve the efficiency of the supply chain, more than 90% of these plants are located in the North, close to the northern border. In the wake of the 1990s economic boom especially in the southern United States, the number of *maquiladoras* plants increased from 760 in 1985 to 3 308 in 1998. They now account for 52% of Mexico's manufacturing exports. While non-*maquiladoras* have been only marginally less important in their export participation, their engagement in foreign trade is less established. For example many of these firms did not sell their products on external markets in the wake of the peso crisis in 1995. Although such firms supply foreign markets, they are not part of international networks, linked with multinationals or US firms unlike the *maquiladoras*.

Foreign direct investment flows have substantially increased since 1994. In effect, Mexico was receiving an average inflow of USD 3.4 billion (for the 1986-1993 period). This figure has now increased to USD 12 billion (for the 1994-2001 period). Foreign investment in manufacturing remains prominent (50.9%), while the service

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sector accounts for 33.1%. As has been mentioned, FDI is concentrated in the North-Centre, where agglomeration effects are strengthening their leading edge position. Over the 1994-2001 period, statistics show that two central states (Federal District and the state of Mexico) and three northern border states (Nuevo León, Chihuahua and Baja California) attracted 85.1% of foreign investment inflows (Table 3.10). Manufacturing industries with the largest inflows of foreign investment exhibit growth rates well above the sector's average. Accordingly, it can be expected for small firms to favour locating in regions with high inflows of FDI,

Table 3.10. **Foreign direct investment by state**
In millions USD

States	1994	1995	1996	1997	1998	1999	2000	Total
Aguascalientes	28.5	27.1	28.8	17.7	62.9	76.2	57.0	298.2
Baja California	227.2	538.0	425.3	666.8	702.7	1 099.6	941.4	4 601.0
Baja California Sur	8.1	20.8	33.8	40.6	38.1	78.1	30.2	249.7
Campeche	2.1	0.5	0.0	1.8	0.0	3.0	11.3	18.7
Coahuila	102.3	98.0	144.4	113.6	122.0	157.0	184.2	921.5
Colima	102.9	3.0	4.0	3.4	4.0	4.0	5.5	126.8
Chiapas	0.4	0.4	1.0	0.4	0.4	3.3	1.2	7.1
Chihuahua	305.2	528.4	532.9	508.2	570.5	570.2	869.5	3 884.9
D. Federal	7 582.7	4 466.4	4 775.8	6 525.0	3 786.9	5 464.7	6 177.0	38 778.5
Durango	21.5	40.5	-5.6	10.3	15.8	7.0	5.2	94.7
Guanajuato	14.9	6.3	5.7	1.7	30.9	131.6	64.6	255.7
Guerrero	6.7	45.1	9.6	2.1	3.3	34.2	9.4	110.4
Hidalgo	0.1	1.4	60.2	2.4	0.7	0.7	0.4	65.9
Jalisco	64.0	113.6	182.4	194.3	351.1	501.2	862.6	2 269.2
México	325.8	590.4	399.0	277.1	720.4	1 390.0	419.9	4 122.6
Michoacán	8.5	48.8	1.2	3.5	4.1	5.2	28.0	99.3
Morelos	19.4	67.6	51.2	27.3	60.6	146.1	44.9	417.1
Nayarit	5.6	2.0	3.6	5.4	5.4	14.1	18.6	54.7
Nuevo León	930.7	678.4	330.2	2 350.3	405.9	1 190.0	1 567.3	7 452.8
Oaxaca	0.1	-2.1	0.3	6.1	0.3	-0.8	-1.8	2.1
Puebla	29.6	25.3	39.2	376.3	36.5	150.7	443.0	1 100.6
Querétaro	119.5	36.8	67.3	71.8	121.5	101.5	151.3	669.7
Quintana Roo	38.8	18.3	25.2	99.2	16.3	35.7	7.4	241.2
San. Luis Potosí	14.7	131.5	17.8	9.2	6.1	209.7	158.3	547.3
Sinaloa	46.2	94.1	28.5	32.5	6.3	40.0	11.3	258.9
Sonora	107.1	155.4	106.0	159.6	165.0	182.8	384.1	1 260.0
Tabasco	0.5	1.2	0.0	6.6	0.4	52.7	28.1	89.5
Tamaulipas	361.7	393.4	334.3	281.9	344.1	473.1	481.1	2 669.6
Tlaxcala	19.3	11.2	7.3	3.9	8.8	43.9	4.1	98.5
Veracruz	10.2	28.9	10.4	3.4	32.9	-75.1	20.7	31.4
Yucatán	48.1	19.5	46.2	14.0	29.3	27.7	45.8	230.6
Zacatecas	13.8	12.2	11.1	13.6	13.6	11.1	10.7	86.1
Total	**10 566.2**	**8 202.4**	**7 677.1**	**11 830.0**	**7 666.8**	**12 129.2**	**13 042.3**	**71 114.0**

Source: INEGI, SE.

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induced by a better economic environment. The level of subcontracting by large multinational corporations and clusters is much higher, on average, than in the maquiladoras as a whole.[19]

This North-South regional trend has become more evident in the last decade in the wake of trade liberalisation with the United States and Canada. Although the exports of *maquiladoras* in non-border states has grown more rapidly than in border states in the recent years, the Mexican economy is increasingly dual in nature with a more acute North-Centre and South divide. From 1985 to 1996, the share of GDP of the top five states (located in the Northeast and the Centre, except Veracruz), has slightly increased (from 50.4 to 50.8%) while the poorest 15 have declined from 19.5 to 16.4% of the national GDP.

The productivity and innovation gap

While Mexico has been on an average annual growth path of 5% since the 1994-1995 peso crisis, per capita GDP was 10% above the 1994 level in 2000 but barely above the 1981 level, due to the effects of population growth and the financial shocks during the period (OECD, 2002b). In this context, the modernisation of the economy has been relatively slow. The growth of labour productivity has risen only slightly. While productivity gain have been better than average in the manufacturing and service sectors, productivity levels still remain close to those of transition countries and far from those of their northern neighbours.

According to some analyses,[20] the vast majority of emergent firms in the country (more than 2.8 million) exhibit relatively low productivity levels (less than USD 5 000 per worker), are rigid and not sufficiently prone to innovation and focus on operational activities and survival while producing erratic levels of quality products and using imitating technologies. Less than 10 000 firms strictly comply with standards and benchmark their improvements. Approximately 2 500 enterprises work for the international markets, promote change and embark upon product differentiation. With a value added per worker ranging from USD 10 000 to USD 50 000, these 2 500 firms generate incremental innovation while an even smaller group (300 firms) are the real leaders and technology drivers and record higher productivity levels.

The environment that surrounds firms in Mexico can also explain the very weak performance of the country in the field of innovation and productivity. Among the main constraints on new and existing firms are the regulatory costs of business, low earnings, costs of transport, lack of access to technological and marketing support systems, and scarcity of skilled manpower. Non-*maquiladora* enterprises suffer mainly from higher costs of domestic inputs, scarcity and costs of credits, and lower demand for exported products. M*aquiladora* business is also concerned with shrinking external markets. The federal bureaucracy and the difficult search for a qualified workforce particularly hampers innovation, productivity, and sales abroad.

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Firms working for the domestic markets usually utilise domestic inputs and are less confronted with demanding customers than are *maquilas*. This often means flatter learning curves and fewer incentives for changes and innovation. In addition, as was seen in Chapter 1, in *maquilas* the linkages between the exporting and the domestic sector are weak. In these enterprises, the pattern related to Research and Development (R&D) efforts and transfer of technology has been replaced by a greater integration with imported inputs; R&D and technology transfer are consequently scarce and scattered, thus inhibiting local networking initiatives (Cimoli, 2000). Given the fragmented nature of the innovation system, local support is critical to encourage networks and closer interactions between firms and with institutions, as has happened in successful examples of clusters and enterprise agglomerations.

These results are consistent with Mexico's low investment in R&D (between 0.35 and 1.6% of total sales[21]). In this respect, the gap between Mexico and other emerging countries (Brazil, Korea) is significant, not only in the public sector, but even more importantly regarding private sector participation. The number of people engaged in R&D as a proportion of the labour force is nearly five times less than in Brazil and six times less than in Korea.

Mexico's R&D effort is heavily concentrated in the export sector (automobiles, glass, cement, office machinery, computers, etc.) and it originates mainly in foreign firms. Given the relatively low level of education of the workforce and the weak link that exists between research in specialised institutions and universities and applied knowledge, the high dependency on foreign technology does not come as a surprise, in particular for the domestic sector. It should nevertheless be noted that "*technological development mainly occurs in the home bases of multinational enterprises and only a small portion is transferred to countries like Mexico*" (Banamex, 1995). In addition, even for adapting technologies from outside there is a need for minimum R&D investment.

While Mexico seems to have begun a recovery from the recession it experienced last year with the resumption of growth in the United States, its competitive capacity and enterprises continue to be challenged. During the previous high phase of the cycle, the local content of manufacturing exports decreased significantly in 1999 with respect to previous years and remained low in 2000 (54%). Competition from other parts of the world is intense. Although the European markets account for less than 5% of Mexican exports, the new free trade agreement signed with the EU in 2000 provides new opportunities for growth and outlet diversification. These opportunities will materialise depending on the marketing ability, level of quality control and standardisation competencies of firms.

More generally, this raises the question of the degree to which the firms, and especially small firms, can hire the needed skilled human resources. Over the last decade, significant changes have taken place. The rate of participation in the

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Table 3.11. **Education distribution by economic sector, 1988 and 1997**

Educational group and year	Primary incomplete	Primary complete	Lower secondary complete	Upper secondary complete	University complete
1988					
Primary sector	41.1	21.0	13.3	14.3	10.3
Manufacturing industry	16.2	33.3	27.8	14.7	8.0
Non-manufacturing industry	36.6	28.5	14.7	9.0	11.2
Commerce	18.0	28.7	28.8	18.7	5.8
Financial services	4.8	6.1	19.5	47.1	22.5
Transportation – communication	14.4	35.7	26.0	18.9	5.0
Social services	11.3	17.6	21.7	28.2	21.2
Other services	32.8	36.6	20.2	8.1	2.3
Total	**18.5**	**27.7**	**24.1**	**18.9**	**10.7**
1997					
Primary sector	28.1	27.4	17.7	10.9	15.9
Manufacturing industry	11.0	29.5	32.7	18.2	8.7
Non-manufacturing industry	28.6	31.7	18.4	10.0	11.4
Commerce	12.4	23.4	30.6	24.1	9.5
Financial services	2.7	5.4	16.1	40.3	35.6
Transportation – communication	9.1	26.8	32.2	23.9	8.0
Social services	6.0	13.2	21.1	29.6	30.0
Other services	26.2	35.7	24.6	11.1	2.4
Total	**12.7**	**23.7**	**26.3**	**22.1**	**15.1**

Source: Lopez-Acevedo, 2001.

economy of university graduates grew from 10.7% in 1988 to 15.1% in 1997, while fewer people with primary level education or less were employed in relative terms in 1997 (36.4%) compared with 1988 (46.2%). This trend is particularly acute in the financial services sector. The manufacturing sector still employs a below average share of highly skilled people, which reflects the low tech standing of most of the firms (Table 3.11).

New competitiveness policies: a regional and entrepreneurial approach

After the peso crisis, the main concern for the federal government was to strengthen macroeconomic policies and to stick to strict budgetary discipline. No differentiated territorial approach was initiated. Another preoccupation was to develop trade and gain a broader access to foreign investment. The government provided increased legal certainty to foreign investors and broadened the fields of economic activity in which foreigners might participate. A significant administrative deregulation process was carried out mainly through the reform of the Foreign Investment Law. Likewise, various Agreements on the Reciprocal Promotion and

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Protection of Investments (ARPPIs) were signed with 19 countries and regions.[22] And many investment chapters were included in Mexico's free trade agreements.[23] These mechanisms seek to promote capital flows, diversify the origin of productive capital, grant legal certainty and security to investments and facilitate market access, particularly to SMEs.

At the same time, small business became the focus of a number of policies and programmes that were designed to reduce or eliminate SME deficiencies and handicaps and to enhance their competitiveness. All these programmes, and especially the most recent ones, are heavily biased towards intangibles, focussing on information services, counselling, consulting services and dissemination of best practices. Most notable are the Technology Transfer and Technology Service for SME, the services of the Regional Centre for Entrepreneurial Competitiveness, the Benchmarking Programme, the Business Start-up Guides or the Business Opportunities Network.

Mexico's new company policy aims at providing for an economic, legal and regulatory environment. This environment should make it easier for companies to access financing, promote entrepreneurial training on management, labour and production skills, foster innovation (particularly technological innovation), develop production regions and sectors of the country, and reconstruct and develop production chains that strengthen the domestic market.

While many of these programmes are useful for enhancing the integration of SMEs into industrial, commercial and services production chains, a general framework for their articulation is missing to a certain extent. In this context, the present administration is committed to refocusing the effort towards entrepreneurship, integrating the different initiatives in a more coherent approach (there are about 150 federal support programmes targeted at SMEs), and to co-ordinating them with regional programmes (there are about 440 such programmes).

Accordingly, the main components of the government's strategy are the following:

1. Foster productive programmes through schemes that facilitate greater integration and associations between enterprises. Most states have shown an interest in developing projects for stimulating the emergence of *enterprise clusters*. Authorities have identified 13 productive sectors with a potential to serve as catalysts for the creation of clusters or agglomerations. I*ntegrating small enterprises* is another target. The development of various enterprises allows the modernisation of small producers, as well as an increase in the competitiveness of SMEs.[24] I*ndustrial parks* are an efficient instrument to facilitate these enterprise arrangements. As discussed in the previous section, these are at present mainly concentrated in the north and centre of the country. Accordingly, and in order to

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diminish the regional inequalities that exist, prospective plans exist for the implementation of an industrial park programme that will promote the creation and consolidation of productive projects in medium-sized cities.

2. Establish schemes for the development of *suppliers and distributors*. The main part of this component is the implementation of a programme that allows SMEs to integrate with large enterprises. Additionally, business encounters will be organised between large enterprises and SMEs, while a methodology will be designed by the Ministry of Economy to foster the creation of supplier development departments inside their enterprises.

3. Identify and promote investment opportunities in specific sectors. This component will focus on organising the marketing of handicrafts – mainly produced by indigenous communities – so suppliers can interact more closely with distributors. Likewise, the Ministry of Economy will implement an aggressive campaign to inform SMEs of business opportunities that may be of interest to them.

It should be mentioned that based on the recognition that one of the main obstacles to achieve sustainable economic development in the South is a lack of vigorous entrepreneurial activity, the programme, M*archa hacia el* Sur ("March to the South") was recently introduced. As its name implies its main area of operation is the Southern states (Campeche, Chiapas, Guerrero, Oaxaca, Quintana Roo, Tabasco, Veracruz and Yucatán), although it can also provide support to poor municipalities of other states all across the country. Together with the various states and municipalities, the programme's mandate consists of promoting investment projects (to date 68 have received resources amounting to MXN 141 325 000). These projects must take into account the regions' natural vocations and foster the birth of new economic sectors and higher integration of productive linkages. Additionally, worth noting is the fact that the programme not only channels financial support to specific proposals, but also provides entrepreneurs with information on industrial costs, linkages with other government programmes, as well as technical assistance during the establishment process.

The Programme of Entrepreneurial Development (PED) 2001-2006 provides an umbrella for all these (sub)programmes. Within the PED, the Ministry of Economy has a budget of close to USD 162 million in 2002 to offer entrepreneurial training and financing to SMEs. These financial resources – which are slated to increase progressively over the coming years – have been provided by the federal government (USD 39 million), and by its state and municipal counterparts, as well as by the private sector. Thus, for every dollar invested by the federal government, local authorities have committed three.

It is of course too early to judge the PED. One can nevertheless make several observations.

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First, while the PED is attempting to set up targets[25] that have to be attained by 2006, it is still difficult to assess how the quantitative and qualitative objectives will be met and how the whole programme will be budgeted. The policy coherence of this set of programmes still can to be improved.

Second, while collaboration between the federal government (through the Ministry of Economy), and the state governments and municipalities is to be generalised and extended to the private sector and educational institutions on a matching fund basis, it seems that such collaboration will be established on an *ad hoc* basis. As national experience shows, partnerships are more efficient when strict principles are respected with regard to objectives, accountability and evaluation. The federal government would facilitate the participation of partners by designing a precise framework for such an endeavour. In fostering that connection, the EU approach could serve as a useful model.

Third, the federal government aims to improve the domestic sector's competitive performance. Nevertheless, there are indications[26] that seem to show that *maquiladoras* rely largely on low-wage, low-productivity assembly operations for re-exporting. Agreements signed between the federal government and multinational firms with regard to subcontracting could help not only to increase local subcontracting but also to accelerate the diffusion of new techniques (Box 3.4).

Fourth, the PED aims to promote capital market lending by expanding the development bank's supply of credit to SMEs. Together with states and municipalities, the Ministry of Economy is intending to co-ordinate the creation of state guarantee funds (Fund for Support of the Micro, Small and Medium-sized Companies and Fund for the Integration of Productive Chains). It also plans to set up a fund whose objective is to induce (through incentives) commercial banks to increase their supply of loans to SMEs at lower operating costs. This fund will be operated within the framework of one of the main federal development banks: N*acional* F*inanciera* (NAFIN). It should be emphasised that such changes also require significant reallocation of banks' customer policies. For example, the NAFIN – which is sometimes presented as the SME development bank – channelled more than 80% of its financial resources to the public sector in 2001. In this context, financial non-banking intermediaries such as entrepreneurial associations or industry consortia (*e.g.* based on the Italian model) need to be established or made stronger. Public systems are often more efficient if they are mediated by "closer to the market" institutions.[27]

Fifth, one of PED's main objectives is to improve linkages, not only between small domestic suppliers of intermediate goods and large producers of final goods and services, but also horizontally between small firms within the framework of industrial districts. The purpose is to enhance the information system to disseminate best practices (under the supervision of the Council of Micro, Small and

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Box 3.4. Hungarian policy for FDI and small businesses

Comparing Mexico and European transition countries is interesting for several reasons. First although industrial foundations are most likely older in the Czech Republic, Poland and Hungary, they are to a certain extent similar in terms of their stages of development, notably as measured by their per capita GDP (around PPP 10 000). Second, after a period of protectionism and regulated trade (linked with nationalism or communism), Mexico and the European transition countries have started to open their markets to foreign direct investment and to deregulate trade. In addition, their trade is highly dependent on one big market (respectively US and EU). Third, despite differences in terms of size of the economy and of the primary sector, many structural characteristics are similar, including export performances, rate of entrepreneurship, average productivity levels, research system specifics or innovation activity fundamentals.

Hungary is probably a good benchmark as it is the most successful case in central Europe, in attracting FDI among other things. It also lies a bit ahead of Mexico in terms of average wealth. Moreover, the Hungarian economy is becoming increasingly competitive, with a number of interesting transformations taking place, including a shift from assembly line to more skill intensive foreign investment, a trend towards a more balanced distribution of those investments across the country, and the emergence of more efficient domestic subcontractors.

The Hungarian government, apart from gradually eliminating regulatory barriers to FDI, is maintaining a well-disposed fiscal climate, including low corporate tax and accompanying measures (investment grants, location specific tax incentives, tax exemption). Industrial parks, now almost evenly distributed between regions and counties, are providing a business-friendly environment. It should, moreover, be mentioned that several cities and counties have pursued very active promotion policies through provision of cheap land, infrastructures, assistance in finding and training employees and introduction to reliable local contractors. In sum, Hungary's principal advantage is the low costs of business associated with very low profit tax, low labour costs, a relatively flexible labour market and pro-FDI policy orientation.

SMEs in Hungary benefit from favourable regulatory conditions. Since they play a dominant role in less developed and often rural areas, they are targeted by the Regional Development Allocation (*i.e.* the Regional Development Fund). Various credit schemes, including a micro credit scheme, are made available to small business and is funded by a number of European programmes, the Hungarian Foundation for Enterprise Promotion, the Hungarian Development Bank or the Hungarian Export-Import Bank.

The government recently embarked on a number of policy initiatives aimed at linking the domestic and the foreign sectors. Among the most notable have been the setting up of a charter with a number of multinationals to increase local subcontracting, the launching of the Supplier Target Programme, the establishment of a national subcontractor information network, support to business related infrastructure and management culture and skills, catch-up programmes to enhance science and technology infrastructures and local demand-driven innovation programmes for SMEs.

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Box 3.4. **Hungarian policy for FDI and small businesses** (*cont.*)

Since several of these initiatives are partially funded by the EU Regional Programmes for Hungary, they must be coherent and carefully articulated within a National Development Plan that complies with EU principles (*e.g.*, the structural fund principles, including programming, concentration, additivity, partnership and subsidiarity) to be eligible for EU assistance. The Hungarian government has also shaped its economic vision into a strategy called the Szechenyi Plan, a USD 790 million effort that started to be implemented in 2001. SME promotion is only a sub-programme within the plan, which also targets housing, tourism, R&D, information society, highways, infrastructure and regional development. Within that framework, the government aims to reduce the relative backwardness of the SME sector through increased access to industrial parks, better bidding of supplier contracts with foreign controlled firms, and encouragement of SME investment through tax breaks and loan guarantees. The number of grants supplied to firms by the Szechenyi Plan totalled USD 190 million in 2001, the bulk of which was addressed to domestically owned SMEs.

Medium Enterprises) and to create centres of entrepreneurial linkages. It is also envisaged to use the banking system and especially the publicly owned banks to channel more funds to enterprises that demonstrate stronger links with other firms. While the former initiatives are clearly efforts to improve the investment environment, the latter are closer to direct assistance and might lead to market distortions. Such discriminating behaviour should be carefully reviewed.

Sixth, with the present proliferation of SME programmes, it is important that the accessibility of eligible small firms to support services should be made as simple and clear as possible. Creation of one-stop shops in states and regions would represent an important step towards better service delivery. A campaign of information and the organisation of regular workshops in order to disseminate and update information about federal and state initiatives would contribute to enhancing the often low absorption rate of many of these programmes.

Seventh, recourse to basic and specialised consulting services is crucial to improving management efficiency, marketing ability and productivity performance within small firms. Linking these firms with those services is often more difficult or more costly in rural areas. Special programme packages need to be designed at federal and state levels to tackle the issue and reduce isolation of small business in low density environments (*e.g.* through better access to ICT equipment, the strengthening of networks of public officers and customised public assistance). In a related manner, the E-Mexico system (see Chapter 3.4 on connectivity) could incorporate these considerations into its overall strategy.

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Enhancing human resources and knowledge dissemination

As was already mentioned in previous chapters, the level of education remains very low, notwithstanding that some progress has been achieved, with the participation rate of employed personnel having completed lower secondary and upper secondary education rising from 43% to 48.4% of total employment from 1988 to 1997 (OECD, 2002b).

In this context, a reform of the educational system has been announced by the Ministry of Public Education for the 2000-2006 period, in order to provide high quality education at all levels. It is also designed to improve the fairness of prior education by equalising spending per student and launching an affirmative action programme (positive discrimination) in favour of disadvantaged areas or groups. As an integral part of this strategy, the government will support educational federalism and strive for better co-ordination and institutional management. Greater public participation will also be fostered. In particular, a reorganisation of the National Education System will take place and new mechanisms of shared responsibility between federal and state authorities regarding the legal framework, evaluation and curricula concerns will be established.

This reform is particularly welcome. Not only does it seek to increase the level of knowledge of students, it also aims at transferring competencies to lower levels of government, and as a consequence, at responding better to the needs of the regional and local economies. In this respect, it is especially important that any reform be accompanied by a corresponding decentralisation of resources and tax capacity to sub-national levels. This would make the system more efficient by allowing the funding of own programmes. At this stage, it should nevertheless be underlined that increasing the efficiency of the education system does not mechanically turn students into entrepreneurs. This will require special types of curricula at different stages of the education process. An international study could help identify some inspiring cases and best practices (Box 3.5 provides one example).

The quality of training in the workplace is another critical issue. Labour authorities are implementing training programmes for workers who need to increase their competitiveness as a result of economic liberalisation. This is particularly important in Mexico's more depressed areas, which have not been able to link themselves sufficiently to the US economy and thereby reap the benefits of NAFTA. There are two main public training programmes. The first is *Programa Calidad Integral y Modernización* (CIMO), which is financed by the Inter-American Development Bank. It provided training support to 400 000 small firms in 2000. The aforementioned PROBECAT aims at retraining displaced workers. With the system of certification and standards that has begun being implemented, efforts should be focussed on evaluation procedures and the involvement of the demand side; for example, through the participation of enterprises in the definition of selection programmes and curricula.

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Box 3.5. Atlantic Canada's strategy for promoting entrepreneurship

In 1988, Canada adopted a national policy for entrepreneurship with the aim of promoting the interests of entrepreneurs, encouraging start-ups and favouring regional economic development through grassroots decision making. Whereas an entrepreneurial culture had previously been no more than a by-product of regional development policy, the intention was to turn it into a stated objective. Atlantic Canada Opportunities Agency (ACOA) started pursuing this goal in 1989. Given a brief to create the right conditions for entrepreneurs, it focused on three aspects: *i*) motivation, by studying behavioural models in order to identify favourable factors; *ii*) opportunity, through factors such as access to information, guidance and advice, access to capital, and support for small businesses; and *iii*) development of knowledge and skills according to candidates' training or background.

ACOA has sought to portray entrepreneurship as an attractive employment option and to increase the opportunities for learning how to start a business through a more or less formal training and guidance network. In doing so, the Agency has focused on promoting common activities and exchanges and on collecting and disseminating information about the keys to starting a successful business. The strategy owes its success partly to precise identification of target groups (young people, women, the unemployed, employees of large firms, etc.) and their specific needs, and partly to the contribution of a variety of partners, including the media, educational institutions, business support organisations and central government. The entrepreneurship unit created within ACOA as part of this programme has played a crucial role in co-ordinating initiatives, consulting partners, planning policy options and setting up networks.

At the core of the strategy is an effort to change attitudes and behaviours; in this case, from dependency to self-reliance and from an employee mentality to an entrepreneurial mentality. For this purpose, ACOA has made use of television, radio and print publication. It partners with French and English regional TV, resulting in the broadcast of several programmes and advertising campaigns. Another major contribution to its success was the development of an entrepreneurship education approach on a wide scope. It resulted in the setting up of curricula and materials for use from Kindergarten to Grade 12 and the preparation of a teacher-training programme. Entrepreneurship programmes were also introduced into post secondary education. Other initiatives included establishing partnerships with community-based organisations to sponsor student venture programmes, promoting entrepreneurship awards, building small business support infrastructure and providing aid for entrepreneurship training and counselling.

The programme has had a highly beneficial effect in Atlantic Canada. The number of potential entrepreneurs has doubled (before the programme began in 1989, 7% said they envisaged creating a business compared with 14% by the mid-1990s), and new businesses have created 49% of new jobs in the region over the first five years of implementation of the strategy. This also shows that a certain number of necessary (though insufficient) conditions must be met if a business opportunity development programme is to succeed, such as:

- creating a favourable regulatory and tax environment;

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Box 3.5. **Atlantic Canada's strategy for promoting entrepreneurship** (*cont.*)

- facilitating access to capital;
- creating an organisation authorised to collect and disseminate information about companies;
- establishing a network of organisations willing to help small businesses;
- framing government policies that encourage entrepreneurship;
- understanding the needs of different target groups of potential entrepreneurs; and
- allowing time for the practical benefits of the programme to emerge.

Training can also take place on the spot (acquisition of know how) and should increasingly be reconsidered within the framework of lifelong learning. In most OECD countries, increasing attention is now given to collective learning (know how), *i.e.* learning which takes place within and between organisations (firms, research institutes, economic development agencies). To improve the circulation of information (know how) within networks and to stimulate technological co-operation, the government has launched the Science and Technology Programme for the 2001-2006 period (PECYT). A fund for R&D financing will be set up and new tax incentives for R&D will be introduced.[28] Thanks to the PECYT, a substantial increase in private R&D as well as a surge in the number of post-graduates are anticipated for 2006. Moreover, the use of new technologies will be strongly supported in order to promote greater efficiency and competitiveness in the productive sector. To date, approximately 16 000 enterprises carry out their commercial transactions through electronic means. Nevertheless, in order to extend their reach, it is necessary to improve the telecommunications infrastructure and to continue to update the regulatory framework.

A prerequisite for the PED and the PECYT to fulfil their mandates will be the dissemination of an authentic entrepreneurial culture. In other words, new attitudes among SME managers and industrial leaders regarding technological innovation, information and enterprise association, modern business practices, and productivity in operation and administrative processes need to be encouraged. Better access to consulting services and technological innovation, increasing implementation of total quality systems, and customised training initiatives, including the organisation of regional training workshops about management and

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strategies for SME directors and other entrepreneurs, will probably help to reach this goal. The significant overhauling of the entrepreneurship and innovation infrastructure, notably with the launching of initiatives such as the Productivity and Technology Linkage Centres, the National Technology Forums,[29] the Industrial Extension Network[30] and the Specialised Technical Advisors Programme, will also facilitate a change of mindset among potential and actual entrepreneurs. Most of these initiatives are derived from programmes that have already demonstrated their efficiency in a number of OECD countries. Demand orientation of programmes, their application in the local context, and efforts to foster the appropriation of knowledge and technologies by SMEs will nevertheless be crucial to the success of the catching-up process initiated by the federal government.[31]

Conclusions and recommendations

Given the fragmentation of the Mexican economy, a major issue for federal policy is to continue the creation of a business environment to strengthen the present wave of foreign investment. In consonance with the previous discussion on clusters and agglomerations, this policy should upgrade the domestic sectors so that linkages, value chains and networks can be formed in order to achieve a better distribution of the benefits of FDI to the rest of the economy.

Competitiveness gaps can be reduced by appropriate public policies, as was seen in previous pages with the case of cluster promotion in the Centre-West. It should nevertheless be borne in mind that policy demands differ depending on the states or regions in which firms are located. There are several reasons for different policy mixes. First, the economic environments that are present are not the same in the North and the South. In states such as Baja California and Nuevo León, there are more large and medium firms (between 1.6 and 2.1 of these firms for 100 small and micro firms) than in the South (Chiapas, Guerrero, Oaxaca, Puebla, Tabasco and Veracruz) where their number is between 0.3 and 0.8 for 100 small and microfirms. Attracting *maquiladoras* and facilitating entrepreneurship and networking are crucial in the South. Second value-added strategies based on comparative advantages (which differ among states) should be pursued. Although having great potential for Mexico as a whole, in the Centre-North (Jalisco, Querétaro, Guanajuato, Aguascalientes) especially large opportunities exist for the creation of FDI-driven clusters (World Bank, 2002). In the meantime, in oil-producing states, emphasis needs to be put on subcontracting for primary industries, while in Yucatán and Quintana Roo tourist policy should be broaden to include improvements in amenities.

Given that SMEs are the backbone of the economies of the poorest states, there is a need to integrate regional programmes and enterprise policies within a strategy aimed at enhancing the innovative capacity of the small, microbusiness

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sector and its skill intensity. Overall, linking FDI with the domestic sector will require taking into account regional trajectories, decentralised initiatives and local conditions.

3.4. Enhancing connectivity: Transport and telecommunications infrastructure

Connectivity infrastructure: The main issues

In the analysis undertaken in the first section, the argument was advanced that the lack of an adequate transport and telecommunication infrastructure has had profound influences on Mexico's economic geography. This has resulted in part not only from a lack of financial resources, but also from inadequate public policies implemented in the past. Overall, it is a significant factor that helps explain the existence and continued deepening of the regional divide between the North and South and is crucial in the context of the significant dispersion of localities in Mexico.

In this respect, strategic investments in transport and telecommunications infrastructure seem to be especially important in order to allow the South to develop its comparative advantages and exploit the opportunities opened up by increasing international trade. This is necessary to allow Mexico (and particularly the South) to take better advantage of the trade agreements, not only with the United States and Canada in the context of NAFTA, but also with other Latin American countries and the European Union. In particular, transport infrastructure can be expected to improve productive capacity of regions and to generate spill-over effects over broader industries, mainly by lowering the transport cost of inputs and products. For example, it is estimated that the use of high quality free-way could save up to USD 175 on a 500 kilometre journey by generating savings in terms of time and deterioration of vehicles. Likewise, current shipping costs per km to transport one ton from the Southern state of Quintana Roo to another state is 4.9 times higher than the national average (Bancomer, 2001).

Furthermore, the lack of transport infrastructure has affected the location decisions of enterprises in Mexico. In particular, the cost of freight transport seems to have been an important determinant for Mexican manufacturing industries, as is shown by the fact that major industries tend to locate in areas with relatively good access to transport infrastructure. For example, the highest concentration of employment in automobile manufacturing is in large cities with populations of 250 000 to 1 000 000 located within a 100 km radius of a major metropolis, which is also true of the textile industry.

However, infrastructure policy in Mexico must also focus on the substantial shortcomings of urban and rural transport infrastructure. In this respect, it must be kept in mind that urban agglomerations continue to be the driving force of the

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country's growth, and therefore their capacity to compete in the global context is a fundamental consideration. Accordingly, sprawling as a result of *ad hoc* transport development has the potential to discourage business location. It also imposes high transport cost for the urban poor mostly living in peripheral areas. In effect, in the context of the irregular land situation in peri-urban areas, a large part of the urban poor in Mexico have to make several transfers and devote a substantial amount of time to reaching their destinations. These trips often cost more than 20% of their incomes and are made in unsafe modes of transportation (World Bank, 2001a).

Infrastructure policy must be considered in the context of high population growth rates, the continuous urbanisation and industrialisation of the country, as well as deforestation and unsustainable agricultural practices, which have provoked a continuous physical transformation of the territory. Likewise, the number of vehicles in use increased by around 500 000 every year in the late 1990s (International Road Federation, 2001), resulting in serious deterioration of the road surface. Thus, according to Ministry of Communications and Transport (SCT), in 2000, roads in good condition represented only 25% of the total; those in normal condition, 35%, while 40% of the road network was considered in poor condition. Despite some recent improvements,[32] this overall situation hinders considerably inter-regional communication, and in particular access to the large number of dispersed as well as small communities where most of the roads are unpaved (Bancomer, 2001).

In Mexico, highways are the most important medium of transport, having the largest share both in terms of passengers and cargo (99% and 88%, respectively). In 2000, 413 million tons of freight were transported by roads. In the 1990s, over 80 000 km were additionally constructed (International Road Federation, 2000). Currently about 15% of roads are under federal control, while half belongs to local governments and the rest to state governments (Table 3.12). Decentralisation of roads has, however, not advanced as expected due to insufficient funding. Accordingly, the federal government currently fully funds the construction and maintenance of federal roads, half of the costs for state roads and 30% for local

Table 3.12. **Division of responsibility of road network**
In kilometres

	Federal government	State government	Municipalities
Total roads	50 000	63 300	219 800
Toll roads (of total roads)	6 400	0	0

Source: SCT.

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roads. Total federal expenditure for sub-national roads is insufficiently increasing and thus the sub-national roads are also on occasions inappropriately maintained. Currently, the toll road network is operated by two entities: C*aminos y* P*uentes* F*ederales* (CAPUFE), which manages 6 276.3 km of roads, and FARAC, which is in charge of the roads (3 063.0 km) that were recovered form the private sector after the 1995 crisis.

I*nfrastructure development policies in* M*exico*

As was mentioned before, the ISI development strategy resulted in public investments favouring metropolitan and border states, while provoking dispersion in rural areas, mainly to the detriment of the southern region. In particular, this strategy fostered regional concentration of the railway and highway network (which constitutes the backbone of the Mexican transport network) around the country's main markets, Mexico City, Guadalajara and Monterrey (Bancomer, 2001).

Regarding public investment in infrastructure, Mexico saw a dramatic expansion during the 1970s, which peaked at the beginning of the 1980s, as a result of the discovery of large oil reserves and the high international prices of this commodity that prevailed at the time. During this period, infrastructure to facilitate irrigation, railroads and electricity was given a priority. Nevertheless, by the beginning of the 1980s, with the outbreak of the 1982 economic crisis, public expenditures were severely constrained (Lächler and Achauer, 1964; Nazmi and Ramirez, 1997). In effect not only did this shock put an end to ISI policy, it also led to a sharp decline in public investment, which would largely remain unchanged as a result of the economic turbulence that plagued the country during most of the 1980s and once again in the mid-1990s. As a consequence of the implementation of fiscal austerity programmes and the privatisation actions that were carried out within the framework of an overarching structural reform strategy, public investment in Mexico is the lowest among member countries. Thus, over the past decade, capital spending has been about 3% of GDP for Mexico *versus* the OECD average of 4% (OECD, 2001f).

Overall, various infrastructure sectors have suffered severe budget cuts and inadequate funding (especially agriculture and industry, tourism and commerce and transport and communication), while the social sector has been given primary consideration over the last years. The energy sector also had an important share amounting to around 18.1% (Branch 33, Social Infrastructure), while the share of public investment funds for the transport and communication sector has remained low (2.7% in 2001).

The strong budgetary restrictions of the federal government largely respond, on the one hand, to the insufficient tax base that maintains Mexican public finances and on the other, to the high dependency of the federal budget on oil

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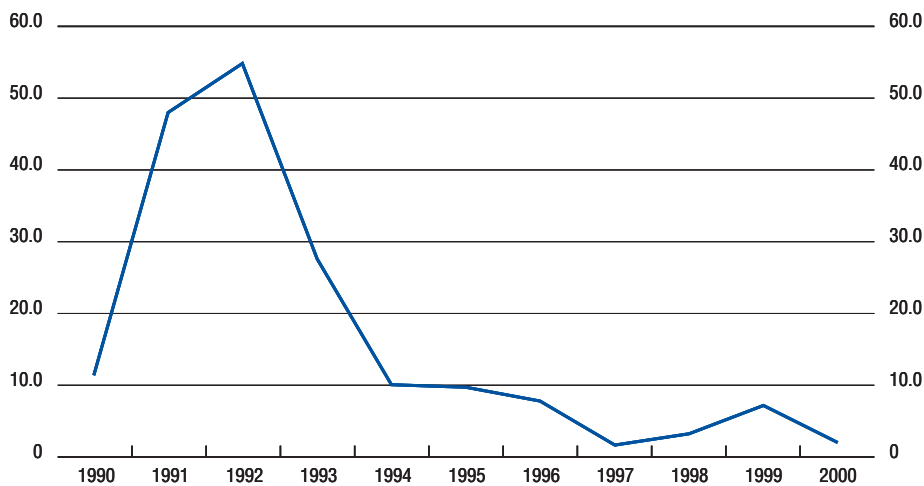
revenues, which accounts for around 35% of total public revenues and is subject to considerable price fluctuation. In a related sense, it should be mentioned that a strong correlation between oil prices and gross domestic fixed investment from the public sector has traditionally existed in Mexico (World Bank, 2001a). Likewise, in Mexico there is no special tax reserved for infrastructure development, such as fuel tax for road construction, which are widely used in some member countries. Overall, this uncertainty of revenue and the aforementioned lack of a long-term strategic investment strategy in major areas of public policy have been instrumental in delaying new infrastructure investment (OECD, 2001g).

Overseas Development Assistance (ODA) has occasionally contributed to support development of various strategic areas. Thus, for example, Mexico received close to USD 159.3 million of ODA during 1990. This sum however has decreased substantially, given that Mexico is now a net contributor in terms of ODA. Basic infrastructure investment in Mexico is no longer a priority of international aid agencies. Nevertheless, ODA is in a position to play a significant role in the context of the Plan Puebla-Panama (Figure 3.4).

The privatisation of state-owned enterprises and the de-regulation of certain infrastructure sectors that began in the 1990s have led to a radical structural transformation of infrastructure investment in Mexico. Although private investment

Figure 3.4. **ODA flows to Mexico**

Economic infrastructure and services as a percentage of bilateral ODA commitments



Source: OECD/DAC statistics, 2002.

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flows into infrastructure have grown considerably (Fay, 2001), its effects have varied by sector. Thus, private participation has greatly expanded in railways, ports, airports and telecommunications, while public participation still remains significant in energy and highways. In several instances, privatisation has brought about greater rationalisation and more effective management in areas such as ports and airports but has encountered severe problems in the case of highway privatisation. In effect, the negative private sector experience with the toll road programme in the 1990s[33] continues to be the major factor in shaping private perspectives on Mexican transport infrastructure investments. Regulatory risks (especially as a result of the aforementioned bankruptcy of highway concessionaires) and uncertain profitability are the major factors still hindering long-term and large-scale investment by private actors in areas such as highways. However, in 1996, a national bid was launched to contract out routine maintenance services for roads, with subsequent multiyear maintenance contracts, covering 88% of the primary road network.

A noteworthy example regarding the structural transformation of the transport network concerns the recent privatisation of the state-owned enterprise that managed the national railway service: *Ferrocarriles Nacionales de México* (FNM). This action was largely a response to the dire situation that prevailed in this sector, which became clearly evident when the country's financial problems made it very difficult to continue channelling subsidies to a highly inefficient and non-competitive industry. To a large extent, this situation resulted from the operators' lack of autonomy, the employees' low productivity and the federal government's excessive intervention, which provoked a gradual diminution of its presence on transport markets[34] and the substantial accumulation of financial losses.[35] Starting in the mid-1990s, the government began the privatisation process, which allowed for foreign investment of up to 49% of the company's total capital, and in higher percentages with a favourable resolution from the National Foreign Investment Commission. Most of the lines held by FNM were sold for close to USD 2 300 million (with USD 1.5 billion set aside to cover worker pensions of the no longer existing FNM). It has been divided into three distinct enterprises that follow geographical lines (*Ferrocarril de Noreste*, *Línea Pacífico Norte* and *Ferrocarril del Sureste*). Only the so-called "small lines" (23% of the total) are still state-owned, given that they are not as commercially viable. As a result of this transformation, currently 99.6% of all railway cargo is transported by privately owned enterprises. It is probably too early to give a definitive assessment on the consequences of this process. Some routes have been quickly modernised achieving international standards, while others remain more or less as before privatisation. Investments in the sector have been consistently higher than before. Likewise, the volume of total cargo transported on railway lines has progressively increased. Nevertheless, the number of kilometres of main railway lines continues to be practically the same as before privatisation (20 688 km in 2000 as opposed to 20 687 km in 1995).

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Recent policies

As one of its major objectives for the 2001-2006 period, the present administration has outlined the provision of public infrastructure and services that will help integrate local SMEs to the globalising economy and foster connectivity between the North and South (see Chapter 1). In particular, the Sectoral Programme of the SCT stresses the need for increased territorial coverage of infrastructure, which has in turn been elaborated on the basis of the five Meso-regions designed under the framework of the Presidency's Office for Strategic Planning and Regional Development. Overall, the main strategies outlined in the programme are the following: *a*) strengthen the capacity of SCT to plan, supervise, establish standards and raise new financial resources; *b*) develop the Internet-based E-Mexico system; *c*) modernise the 14 main highway corridors of the country; *d*) develop the capacity of the sea ports on both oceans; *e*) build the new Mexico City airport; *f*) develop multimodal transport; and *g*) build suburban railways in the metropolitan areas of Mexico City, Aguascalientes, Tijuana and Monterrey.

Likewise, the administration seeks to pursue this strategy in the context of reduced central control over transport infrastructure (by decentralising to the states the management of the roads that do not belong to the main corridors), deconcentrating its own operational units in the various states, and looking for innovative sources of funding from private actors. Overall, the federal government proposes to acquire a more normative than operational role, reducing uncertainty in regulation and fostering new mechanisms for public/private partnerships in infrastructure investment.

Of particular importance is the emphasis given to the development of intermodal transportation. Port, railway and highway infrastructures in Mexico have been traditionally conceived of in an isolated manner, resulting in a transport sub-sector that has developed in the framework of a fragmented and inarticulate structure. Currently, modal distribution logistics costs are about 30 to 40% of final sales prices, which is twice the level observed in most OECD countries (World Bank, 2001a). As was mentioned in Chapter 1, this fact is one of several that hampered the competitiveness of certain regions, especially that of the South, by increasing transport costs substantially. In effect, the lack of intermodal transport seems to be a significant shortcoming in the context of globalisation's demand for greater efficiency and competitiveness. In particular, the current government's strategy proposes the establishment of strategic alliances between port terminals, railways, and transport and shipping companies, in order to lay the foundations for the establishment of transport chains and integrated services.

Regarding road infrastructure, the government has announced plans to improve the quality of the 14 major highways of the highest traffic concentration and also identified 37 priority projects to be carried out in the short to medium

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terms. This strategy is however highly dependant on the need to attract private investment. Accordingly, further regulatory reform is necessary through the elaborating of a more systematic and viable framework for facilitating public private partnerships. Re-establishing a financing scheme and confidence between public and private sectors must thus be one of the government's first priorities.

- The current strategy for public/private partnerships

In recognition of this necessity, the government recently announced a new strategy to foster private participation in highway construction that purportedly is designed to avoid the errors committed in the past. In particular, the federal government will try to provide the MXN 73 000 million (over a five year period) necessary to carry out highway maintenance and construction of the 14 troncal axes of the country, as well as 80 public works necessary to improve federal highways.[36]

An overview of the new proposal shows that it establishes different schemes to incite private participation, which include: 1) concessions over a 30 year period; 2) placement of bonds; 3) cession or securitisation of certain toll highways; and 4) public finance of infrastructure works. Some proceeds are to be channelled towards a Highway Fund for the Maintenance of Highways. In this respect, the government proposes the design of a series of profitable projects in which the investment could be recovered through toll collection. In the case that this is not viable, the government will financially support construction through entities such as *Fondo de Inversión en Infraestructura* (FINFRA) and CAPUFE. In turn the Ministry of Transport and Communications would be responsible for overseeing concessionaires to ensure the fulfilment of their obligations as a part of the title of concession.

Plan Puebla-Panama and connectivity for the South

Transport infrastructure and enhancing connectivity with the South seem to have acquired increased relevance in Mexican policy making in recent years (OECD, 2002b). For example in 1997, the aforementioned FINFRA was created with the proceeds from privatisation revenue, with the main objective to finance development of the South.

To date however, the most significant action by the Mexican government to foster regional development in southern Mexico and Central America is the Plan Puebla-Panama (which includes the Mexican, Southern states of Chiapas, Campeche, Tabasco, Yucatán, Quintana Roo, Oaxaca, Veracruz, Guerrero and Puebla). As mentioned earlier, it consists mainly of a series of governmental actions selected to strategically confront some of the structural causes for the region's underdevelopment, in areas such as human development, infrastructure, institutional and regulatory changes, and investment promotion policies. More specifically, it seeks to provide a framework to design, finance and implement

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regional development projects and create the conditions for the integral development of this region. Regarding infrastructure, it places importance on promoting actions that allow the region to achieve better connectivity with Central America and the rest of the country, and to take advantage of the new opportunities opened-up by the several free trade agreements signed by Mexico in recent times. In a closely related sense, it has emphasised the need to foster an intermodal transport network. This is based on the analysis that an adequate port structure connected to the highway network could be very useful to tie the region with foreign markets, while strengthening intra-regional trade. As was seen in previous sections, the current dependency on highways and the structure of the network mostly favours connection with the centre of the country.

Thus, the PPP is placing emphasis on the need to bridge the North-South divide through the construction of some 2 200 km of roads by extending highways and railroad lines from the Pacific Ocean to the Gulf of Mexico[37] (Figure 3.5). The various highways, railways, ports and airports that have been envisioned are expected to help modify the dispersion of markets, opening the possibility of increased economic activity and facilitating the movement of persons. Regarding telecommunications, it seeks to widen and modernise the systems in the region in order to improve basic and value added services and data transmission networks.

Notwithstanding its wide mandate, to date most of the PPP's concrete actions have mostly been achieved in the area of infrastructure. For 2002, investments of up to MXN 8 116 million will be channelled by the federal government to the PPP region (4 987.7 from the federal budget, 1 264.7 million from the FIDES and 866 from private sources) in areas such as highway infrastructure, modernisation of railway and airport infrastructure, ports, communications, as well as the E-Mexico system. In the 2002 federal budget, the SCT earmarked a significant proportion of its resources for PPP programmes in the South, in areas such as construction and modernisation of highways, road maintenance, rural roads, and PET. These allocations amount to 30.5, 27.6, 41 and 34% respectively, of its total budget; therefore signalling a significant public policy focus.

Overall, investments towards the South have been consistently rising in recent years, marking a welcome emphasis of public policy towards the region. Thus, in 1999, 40% of all public federal investments (Figure 3.6) was channelled to the region, a percentage higher than expected given its percentage of population (28%) and its land surface (25%). Nevertheless, it must be kept in mind that Mexico only channels an average of 0.2% of GDP towards highway infrastructure, a figure well below the 1% level recommended by the World Bank and the OECD for countries of a comparable level of development.

The other areas of interest of the PPP's development strategy have not received adequate financial backing (except for some exceptions like energy

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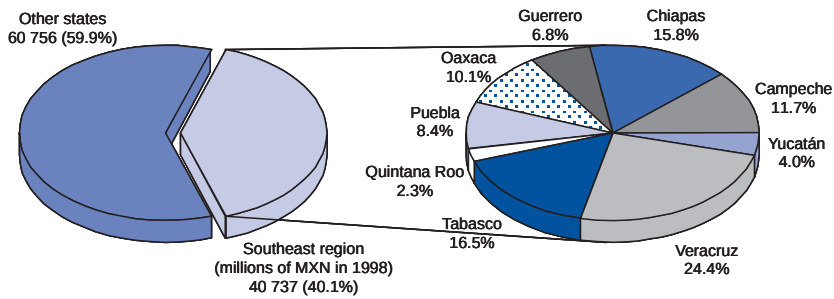
Figure 3.5. **Highway construction in the context of the PPP**

Source: Plan Puebla-Panamá.

Figure 3.6. **Public federal investment in the Southeastern states, 1999**
In percentage



Source: Sixth Government Report, Presidency of Mexico, 2000.

interconnection with Central America and indigenous schools and health services). It is still not clear how adequate funding will be achieved. It must be mentioned that in some instances the Inter-American Development Bank (IADB) – in which a Secretariat for the PPP has been established – has authorised certain loans that nevertheless have not been able to be assumed due to the opposition of the Ministry of Finance as a result of tight budgetary constraints and the foreign debt ceiling that has been established. The UNDP and UN-CEPAL have also given clear signs of their support to this strategy. So far, however, few ministries, foreign countries or international organisations have made firm financial commitments.

A successful case of transport development toward regional economic integration is that of the European Union (Box 3.6). Although the goals and the context in which the PPP has to work are quite different, some beneficial lessons could be derived. In particular, creating a credible regional integration management framework is a key to mobilising financial resources. Likewise, the European Union has been particularly successful in the development of efficient logistic chains based on intermodalism (World Bank, 2001a).

Telecommunications policies

With respect to telecommunications, the government's stated objective is to boost coverage and penetration, reducing the unequal geographical and social distribution of this service. This is an important necessity, given that overall sector performance remains deficient and Mexico still has fewer telephone lines per person than most comparable countries in Latin America. Overall, the technology necessary to permit greater connectivity and long-distance interactive communi-

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Box 3.6. Regional economic integration and transport in Europe

Current member countries of the EU agreed on the Trans-European Transport Network, a policy framework for transport development, the priority projects of which expect to be completed by 2010. Common transport policy has already achieved substantial progress during the 1990s. Interconnection of national networks has been improved, and removal of bureaucratic restrictions and technical harmonisation has reduced costs. The EU also identified the need to improve transport infrastructure between the Union and Central Europe since open borders and free movement of persons and goods cannot be achieved without the existence of a modernised transport network. In 1996 the Commission set up a process of Transport Infrastructure Needs Assessment (TINA) to oversee and co-ordinate the development of an integrated transport network in 11 applicant countries. The idea is to co-ordinate infrastructure projects in these countries with those implemented in the EU, with a view to extending the Trans-European Transport Network to the new member States in future.

In June 1998 the TINA group (26 countries including the 15 EU member States and the 11 applicant countries), agreed on an outline network, with the final report being approved in June 1999. This network comprised 18 030 kilometres of roads, 20 290 kilometres of railways, 38 airports, 13 seaports and 49 river ports. The cost is estimated to be about EUR 90 billion until 2015. The Commission has been providing assistance to Central and Eastern European countries and will provide funds to help them bring their systems up to EU standards before accession. The *European Investment Bank* (EIB) will also increase the loans. Possible negative aspects are also being taken into consideration such as increased congestion in urban areas and along principal routes.

cation is not well developed. The critical challenge facing ICT infrastructure in Mexico is the need to achieve universal coverage within a market in which some regions are more attractive for private investment than others.[38] In the majority of other OECD countries, universal service was established for telephone when state monopolies or highly regulated firms with monopoly power were the norm. Examination of telephone density[39] in Mexico demonstrates the magnitude of the regional challenge (Figure 3.7 and Figure 3.8). Although Mexico City has a telephone density of 29.6, the national average is only 13.3, the lowest of all OECD member countries. Telephone density follows the typical regional ordering of other productive endowments: the Centre (14.76), the Northeast (14.18) and the Northwest (13.1) are followed by the Centre-West (9.69). The South-Southeast is again the most underdeveloped region with a telephone density of only 5.44. With respect to Internet access, despite Mexico's significant increase in the number of

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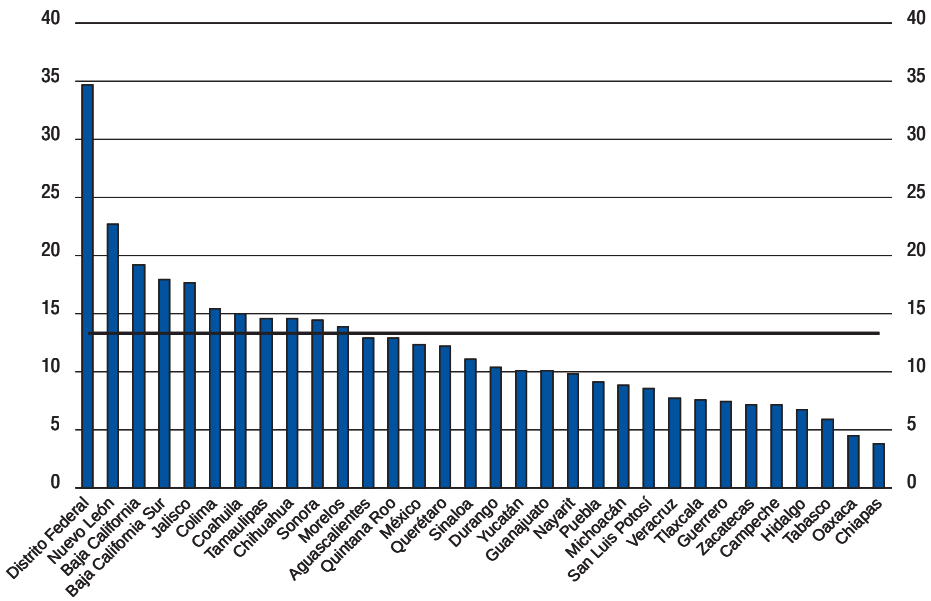
Figure 3.7. **Telephone density**



Source: Federal Telecommunications Commission of Mexico (COFETEL).

Internet users, in 2000 the International Telecommunications Union registered only slightly more than 3 million users (27.4 users for every 1 000 inhabitants). Additionally, it estimates the existence of 5 million computers (with only 2 million having Internet access), which signifies 51 computers for every 1 000 inhabitants. In contrast, in the United States the ratio of Internet users per 1 000 inhabitants is 346.6, with the number of computers being 161 million. In Canada, the ratio is 413 and 12 million computers, respectively. Whereas in Mexico, only 9.3% of all households have a computer, in the Federal District, this figure is 21.6%. This reveals a significant digital divide between a small minority that takes advantage of the new technologies and the large majority of the population that lacks such access.

This overall situation has multiple explanations, among them the dominant role of TELMEX, the inefficiency of the regulator and the lack of transparency of its procedures, as well as a lack of strategy in universal service obligations. Notwithstanding privatisation, TELMEX continues to be the dominant operator, maintaining high market participation rates in the long distance market, fixed line service, Internet provision and cellular telephone service. The benefits of liberalisation have not

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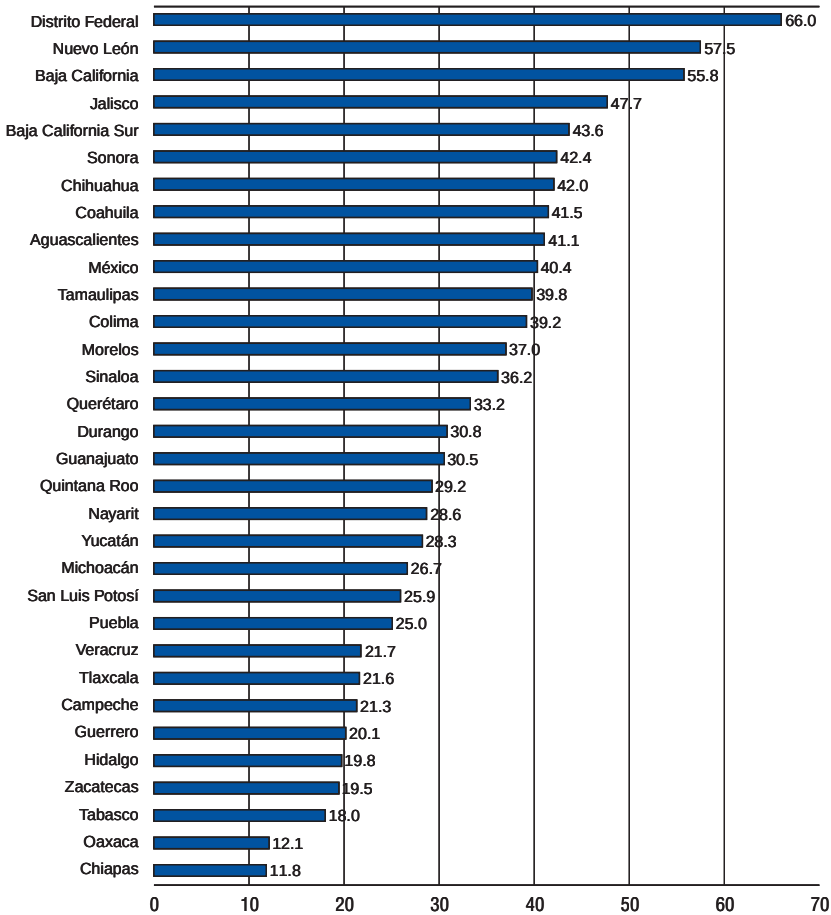
Figure 3.8. **Fixed telephone lines in households**
In percentage



Source: Federal Telecommunications Commission of Mexico (COFETEL).

been as expected. In effect, the bridging of the divide across states regarding telecommunications has not progressed as initially envisioned. This is particularly important regarding the context of the inclusion of rural areas into the new economy. It must be kept in mind that natural market patterns tend to focus investments in advanced telecommunications infrastructure and services in cities and metropolitan areas where most important customer bases are situated (OECD, 2001h).

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The most significant strategy currently implemented by the federal government in order to widen significantly Mexico's level of connectivity within and across regions is the E-Mexico system. One of its main objectives is to diminish territorial disparities, through increasing Internet access across the country. It seeks to confront the severe problem of dispersion and isolation, particularly in the South as has been mentioned in previous pages. This is expected to be accomplished by installing connectivity services in more than 10 000 localities and in turn through the establishment of Community Digital Centres (CDCs) via several stages. During 2001-2002, at least one CDC will be established in each of the almost 2 500 municipal heads that exist in Mexico. Between 2002 to 2006, the 10 000 communities, in which 75% of the population is located, will be incorporated. From 2006 onwards, a third phase is envisioned during which complete coverage of the greater part of the national territory would be achieved (this also signals the objective to maintain continuity notwithstanding the end of the current government's term in office). Furthermore, to bring about proper implementation, this programme proposes close co-ordination among the different ministries, as well as active participation by the private sector. Such participation is especially important given the budgetary constraints and significant investments required to make it operational. Internet service providers will have to play an active part. This seems to be in line with previous OECD studies, which underline that public subsidies alone should be excluded, and in turn new and innovative partnerships with the private sector should be devised and encouraged (OECD, 2001h). In Mexico however the incentive mechanisms through which this will be achieved are unclear, although some agreements with mayor international software companies have recently been signed.

Conclusions and recommendations

The main challenge facing Mexican authorities regarding infrastructure creation is how to further this objective within the context of budget constraints and structural reforms. Additional non-budgetary sources of funds, as well as the implementation of better policies for the identification of national priorities are called for. A particular challenge is to foster development in those areas that are not attractive to private investors. The private sector is less likely to fund an optimal amount, favouring areas such as telecommunication and selected transport projects (Fay, 2001). Likewise, it is possible to envision that infrastructure investments in urban areas will be considered as more profitable than the ones in sparsely populated regions. In turn, this would limit the primary objective of linking the South with the North, as well as confronting the significant dispersion of localities in Mexico. Overall, this situation emphasises the need for public policy action in several areas (in the context of liberalisation most OECD member countries have taken some measures to maintain adequate public

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services in remote zones). In this respect, fiscal incentives could be analysed, together with the strengthening of the infrastructure funds, which have already begun to be implemented.

The adoption of a specialised territorial development strategy for the southern region is a welcome development. Although the PPP is not purely a financing mechanism, its regional development focus is likely to help mobilise funding and should facilitate and strengthen trans-border co-operation with the Central American region, as well as to achieve better co-ordination among the different actors in Mexico. This is even more important given that the investment required to achieve the PPP's goals is extremely large and will require significant efforts among different actors, both nationally and internationally, in order to meet expectations. Nevertheless, it seems that the PPP's co-ordination with other federal agencies is still insufficient and not clearly defined. Its organisational arrangement seems to be too weak to support such an extensive long-term vision. Furthermore, as with other elements of the Mexican regional development strategy, the planning capacity of the PPP are constrained by serious difficulties in horizontal and vertical coordination (at the time of the publication of this report, the responsabilities for the PPP will have been transferred to the Ministry of Foreign Affairs).

Likewise, the infrastructure investments per se will be insufficient in generating economic growth in the southern region. There are international examples that demonstrate the way in which big infrastructure projects, in and of themselves, are insufficient. Overall, experience shows that development does not result from individual investments but rather from the right combination of complementary investments in various sectors. Additionally, "*investments in transport infrastructure are more efficient when they are channelled towards the regions with higher productive potential in the short run. In Mexico this implies channelling investments to the areas of influence of ports and to the roads connected to important border crossings*". (Dávila *et al.*, 2000).

As previously mentioned, of fundamental importance is the need to adopt multi-year budgets. This is particularly relevant in the case of infrastructure for transport and telecommunications. Currently most investment plans are annual, with the six-year sectoral plans serving more as policy documents than operational documents with financial commitments. The present situation gives all actors short-time horizons and increases uncertainty, conditions highly detrimental to the implementation of Mexico's territorial development strategy.

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Notes

1. The ISI model contributed to the exacerbation of the spatial concentration of production as trade protection stimulated industries that were already highly concentrated in Mexico City (consumer goods and to a lesser extent intermediate industrial inputs), the only sizeable market in the country and the hub of a poorly interconnected national transportation network. A highly concentrated pattern of production existed already at the onset of the ISI, but in a cumulative and circular causation fashion as the pace of industrialisation accelerated, the attraction of the primate city became stronger. The primate city consolidated as the safest and most profitable location for most of the nascent industry. Actually, trade protection was a territorially neutral policy but for most industries no location alternative was better than Mexico City.
2. In this respect see Bailey (1980) and Hernández (1993).
3. "*Co-operation is considered a key in order to select strategic priorities of each territory, identify interventions and the necessary financial resources and timetables to realise them, define responsibilities and commitments, and monitor project implementation. As an institutional system moves towards decentralising competencies, the feasibility and success of policy initiatives depend upon commitments taken by each subject, the co-ordination among public institutions and the involvement of the private sector*" (OECD, 2001d).
4. Some of these were included in the recently approved Federal Budget for 2002 (for an amount of close to MXN 3 000 million), and thus formally adopted by the different federal ministries.
5. The target region of PPP is inhabited by 64 million people, 43% of which belong to South-Southeast of Mexico and the rest to Central America. Total GDP of the PPP region amounted to USD 135.5 billion in 1999.
6. As cited in the OECD *Territorial Reviews: Italy*, "recent experience in Italy and other OECD countries has shown the need to define precise rules of implementation in order to enhance the effectiveness of instruments for institutional co-ordination and to ensure the participation and co-operation of the actors involved in the territory".
7. Activities were carried out under very localised schemes that aimed essentially to reach the most deprived populations, including those most affected by the withdrawal of assistance from the state concerned. Between 1989 and 1992, PRONASOL assisted 9 million people in 11 different states and 375 urban centres. See OECD (1997b) for further details on PRONASOL.
8. Education represents the largest category of general government spending but as a share of GDP, current spending on education remains low by OECD standards.
9. Poor communities are identified according to the marginalisation index.

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10. Localities are considered as semi-urban when they include 2 500 to 15 000 inhabitants, and urban when they include more than 15 000 inhabitants.
11. Priority regions and regions requiring immediate attention were identified according to CONAPO's marginalisation index, as well as the geo-economic and cultural identity of the regions (see Chapter 1).
12. The main features of their profile are the following: more than half of the population (55%) has no access to water supply; 85% of households have no drainage system or sanitary service; around one-third of households (37%) have no electricity; a similar proportion of the population over 15 years old is illiterate; almost four-fifths of households (79.3%) have soil floor; around 78.2% of them are overcrowded; and 87% of the economically active population earn less than two minimum wages.
13. For Liconsa, which is still in place, 64% of available funds are actually transferred to the beneficiaries.
14. SEDESOL estimates that 73% of the land incorporation to urban expansion are irregular. See also the section on Land Regularisation in Chapter 1.
15. Although the Ministry for Agrarian Reform also works to this aim, its activities are not restrained to *ejido* territories but cover a wide range of activities, which include the resolution of the shortcomings of the agrarian sector and the follow-up process of the agrarian reform implemented less than a decade ago.
16. A review of these studies, their methodology and their results has been published by Patrinos (1994).
17. To this end, SEDESOL has a Deputy Secretariat that is responsible for the New Impact Evaluation of Social Programmes and Programme's Assessments.
18. The international exposure of an economy is usually measured by comparing the sums of its exports and imports with its GDP. In Mexico this share of the GDP increased from 28% in 1985 to 42% in 1995.
19. The value of domestic inputs in *maquiladora* production accounted for only 2% of total value of intermediate inputs in 1996 (Tamayo-Flores, 2001).
20. Competitiveness indicators elaborated by CONACYT.
21. Figures in the United States are 0.18 and 20.19%.
22. Spain (1995), Switzerland (1995), Argentina (1996), Germany (1998), The Netherlands (1998), Austria (1998), Belgo-Luxembourg Union (1998), France (1998), Finland (1999), Uruguay (1999), Portugal (1999), Italy (1999), Denmark (2000), Sweden (2000), Greece (2000), Korea (2000), Cuba (2001), Czech Republic (2002) and Iceland (pending).
23. NAFTA (1994), Costa Rica (1995), G3 – Colombia and Venezuela (1995), Bolivia (1995), Nicaragua (1998), Chile (1999), European Union (2000), North Triangle – Honduras, Guatemala and El Salvador (2001) and EFTA (2001).
24. There are currently 504 enterprises of this kind that benefit 28 832 members in the different industrial sectors (manufacturing, 28%; commerce, 21%; agrarian, 19%; services, 17%; construction, 8%; transport, 6%, and mining, 1%). The Ministry of Economy has already identified 100 potential enterprise projects.
25. These objectives are the following: assist 1 300 000 SMEs, increase their production value by 5% annually, increase the ratio of domestic inputs to manufacturing exports, encourage the inclusion of the poorest in the economic fabric or consolidate the territorial network of intermediary organisations.

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26. For example between 1993 and 2000 labour utilisation rate in *maquiladoras* rose et nearly the same rate as working hours worked in these companies. This seems to indicate that *maquiladoras* did not adopt much innovative labour saving techniques during the period.

27. Within the framework of the National Programme for Microentrepreneurial Financing, 68 163 microcredits had been granted at the end of 2001 for a total amount of close to USD 14 million. This programme has not had the desired results, mainly because given its governmental origins it is considered by entrepreneurs as a type of assistance in spite of its relatively high cost in terms of interest.

28. Spending for fiscal incentives to stimulate R&D expenditures will be dramatically increased from MXN 500 million in 2001 to 3 billion in 2006 and direct financial support to R&D executed by SMEs will reach MXN 4 billion the same year (against MXN 30 million in 2001). The number of enterprises that engage permanently on R&D activities is expected to jump from 300 to 5 000 over the period while postgraduate technicians and scientists in the productive sector will be significantly increased from 5 000 to 32 000 in the five years to come.

29. Their mandate will be to serve as the framework for the exchange of expertise and "know how" between productive sectors and institutions of higher education, as well as to further the linkage between enterprises and academia, thus allowing SMEs access to new technologies. They will be organised at both regional and state levels.

30. This network will be made up of academic institutions, research centres and specialised organisations. It will be in charge of providing technological solutions to fit the specific needs of SMEs in each region and sector.

31. As J. Stiglitz clarifies, "*local adaptation often amounts to reinventing the best practice in the new context*". He also adds that "*local adaptation cannot be done by the passive recipients of development knowledge, it must be done by the doers of development in the course of their activities*". In other words the execution of the different programmes require the active participation of the states and regional authorities as well as the involvement of firms associations and representatives (Stiglitz, 2001).

32. The corresponding numbers for 1994 were 18, 25 and 57%, respectively.

33. Three of the 27 toll road concessions had to be taken over by the federal government at great expense to the federal budget (it is estimated that the cost of the bailout will be of close to USD 10 billion). This was the result of the 1995 crisis, but also of what is considered a hasty privatisation process.

34. According to the Ministry of Communications and Transport, between 1970 and 1995 the participation of railways on national ground transportation decreased from 23% to 12%.

35. FNM received approximately USD 4 billion in subsidies between 1975 and 1995 with only a very small fraction devoted to the modernisation of its infrastructure.

36. Fiscal resources for the sector over that period are expected to be of only MXN 23 000 million.

37. Triple projects include, Pacific Corridor, Atlantic Corridor and other corridors in the South-Southeast Region of Mexico.

38. However, in most instances of privatisation, the federal government included in the titles of concession specific requirements to the new owners regarding certain issues such as rural telephony.

39. Number of telephone lines per 100 inhabitants.

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Acronyms

ACOA	Atlantic Canada Opportunities Agency
AFF	Agriculture, Fishery and Forestry
APPRIs	Agreements on the Reciprocal Promotion and Protection of Investments
CAPUFE	Caminos y Puentes Federales
CCI	Current Competitiveness Index
CDC	Community Digital Centre
CEDEMUN	Centro de Desarrollo Municipal
CIMO	Programa Calidad Integral y Modernización
CNA	Comisión Nacional del Agua
COFETEL	Comisión Federal de Telecomunicaciones
COMPRANET	Sistema Electrónico de Contrataciones Gubernamentales
CONAFE	Consejo Nacional de Fomento Educativo
CONAPO	Consejo Nacional de Población
COPLADE	Comité de Planeacíon para el Desarrollo Estatal
COPLADEMUN	Consejo de Planeacion y Desarrollo Municipal
CORETT	Comisión para la Regulación de la Tenencia de la Tierra
DIF	Sistema para el Desarrollo Integral de la Familia
ECLAC	Economic Commission for Latin America and the Caribbean
EIB	European Investment Bank
FAEB	Fondo de Aportaciones para la Educacion Basica y Normal
FAIS	Fondo de Aportaciones para la Infraestructura Social
FASSA	Fondo de Aportaciones para los Servicios de Salud
FDI	Foreign Direct Investment
FINFRA	Fondo de Inversión en Infraestructura
FNM	Ferrocarriles Nacionales de México
GATT	General Agreement on Trade and Tariffs
IADB	Inter-American Development Bank
ICT	Information and Communication Technology
IMSS	Instituto Mexicano del Seguro Social
INDETEC	Instituto para el Desarrollo Técnico de las Haciendas Públicas
INEGI	Instituto Nacional de Estadística, Geografía e Informática
INI	Instituto Nacional Indigenista
ISI	Import Substitution Industrialisation
ITESM	Instituto Tecnológico y de Estudios Superiores de Monterrey
NAFIN	Nacional Financiera
NAFTA	North American Free Trade Agreement
NPPS	National Participatory Planning System
ODA	Overseas Development Assistance

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PECYT	Programa Empresarial de Cencia y Tecnologia
PEMEX	Petróleos Mexicanos
PET	Programa de Empleo Temporal
PNDU-OT	Programa Nacional de Desarrollo Urbano y Ordenación del Territorio
PPP	Plan Puebla Panamá
PROGRESA	Programa de Educación, Salud y Alimentación
PRONASOL	Programa Nacional de Solidaridad
RBE	Regional Business Environment
SAGARPA	Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación
SAHOP	Programa Nacional de Desarrollo Urbano y Ordenación del Territorio
SCT	Secretaría de Comunicaciones y Transporte
SE	Secretaría de Economía
SECODAM	Secretaría de Contraloría y Desarrollo Administrativo
SEDESOL	Secretaría de Desarrollo Social
SEMARNAT	Secretaría de Medio Ambiente y Recursos Naturales
SEP	Secretaría de Educación Pública
SPP	Secretaría de Programación y Presupuesto
SSA	Secretaría de Salubridad y Asistencia
TELMEX	Teléfonos de México
TI	Transparency International
TINA	Transport Infrastructure Needs Assessment
UNDP	United Nations Development Programme
ZMCM	Zona Metropolitana de la ciudad de México

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