Regional Development Scan: Mexico

Gianfranco Viesti

Colection **Studies n 13**

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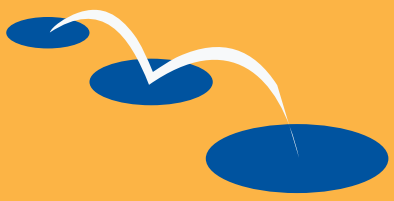

EUROsociAL
PROGRAMME FOR SOCIAL COHESION IN LATIN AMERICA

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Chapter 1. Regional Development in Mexico

1.1. The country, the population

Mexico has a surface area of 1 964 375 square kilometres (INEGI 2012) and shares international boundaries with three nations: to the north, the United States of America, whose border extends for a length of 3 152 kilometres; to the south-east, Guatemala and Belize. The Guatemala–Mexico border measures 956 kilometres and the Belize–Mexico border 193 kilometres (INEGI 2012). Mexico is split in half by the Tropic of Cancer, whichhttp://en.wikipedia.org/wiki/Tropic_of_Cancer divides the country into temperate and tropical zones, respectively north and south of the twenty-fourth parallel.

Mexico's territory is extremely diverse. Mountains cover 37% of the total surface area and plains another 37%, almost half of the latter being at an altitude of more than 1 000 meters above sea level. Southern states include the most varied orography, with their Sierras. There are 5 different climatic areas, and 61 sub-climatic areas. Most of the North is arid, while the South-Southeast is rich in water and forests. In its vast and diversified surface, Mexico demonstrates a range of ecological risks and natural hazards.

In 2013, Mexico's total population reached 118 million people. This places Mexico as the third most populated country in the Americas, only outnumbered by Brazil and the United States. The Mexican population is geographically concentrated and vast areas of the country are under-populated. Density of population is very high around the capital city and other urban areas, while it is very low in large parts of the country. The average number of inhabitants per square kilometre is 57. At the State level, the figure jumps to 679 for Estado de México, but remains well below 20 in several states in the North (Baja California Sur, Sonora, Chihuahua, Coahuila and Durango) as well in Zacatecas (North-Centre) and Campeche (South). Density in the remaining states of the South is close to the national average.

Mexico is a federal republic composed of 31 states and one Federal District. The Federal District embeds the core of Mexico City, the historical and political capital of the country. According to recent documents of the National Policy of Regional Development

(SEDATU 2014 a,b,c,d), Mexican states can be grouped into three macro-regions: North (Baja California, Baja California Sur, Coahuila, Chihuahua, Durango, Nuevo León, Sinaloa, Sonora, Tamaulipas, Zacatecas), Centre (Aguascalientes, Colima, Distrito Federal, Guanajuato, Hidalgo, Jalisco, Estado de México, Michoacán, Morelos, Nayarit, Querétaro, San Luis Potosí, Tlaxcala) and South/South-east (Campeche, Chiapas, Guerrero, Oaxaca, Quintana Roo, Tabasco, Yucatán). The states of Puebla and Veracruz are considered hinge states between Centre and South and are included in both groups. The same happens for Zacatecas (North-Centre).

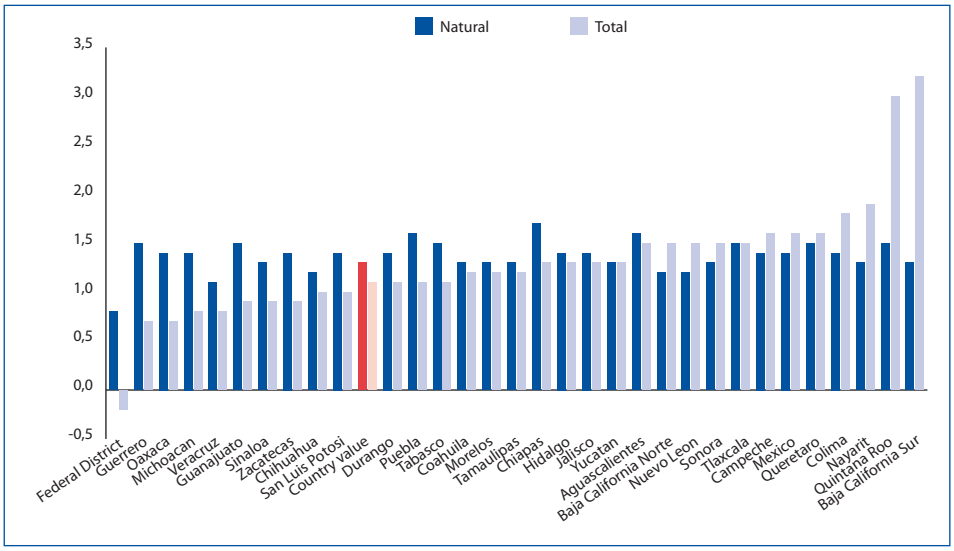
The second-level administrative division in Mexico is that of municipalities. Overall, there are 2 457 municipalities, with an average population of around 45 000 inhabitants. The number and size of municipalities differs largely among states, going from the case of the two Baja Californias, where there are only five municipalities, to Oaxaca, where there are 570 municipalities. The number of municipalities per state is very low in the North, being much higher in several central and southern states (see Appendix Table A1).

The growth rate of Mexico's population remains high, similar to other Latin American countries. The Mexican population increased by 14 million during the last ten years (2003-13) (Gobierno de los Estados Unidos Mexicanos, 2013). The natural rate of increase of the population is steadily decreasing, going from 2.77% per year in 1980 to 2.65% in 2000 and to 1.13% in 2013 (this rate remains high in comparison to OECD countries). This rate is also similar among Mexican states. Apart from the only notable exception represented by Federal District (DF), where it is 0.8% (2013), in all the other states the natural rate of increase ranges from1.2% (Baja California Norte, Chihuahua, Nuevo León) to 1.7% (Chiapas) (see Figure 1).

Migration, both internal (interstate) and international, provides additional insights on population dynamics. Migration patterns are complex and do not seem to be exclusively related to geography or income. Mexico has a considerable international outmigration of around 200 000 people per year (that is a rate of 0.25% per year). Between 2005 and 2010, 1.1 million Mexicans emigrated abroad. However, annual outflows felt significantly after 2008, due to the international recession and increased border controls. The Mexican states with the highest proportion of international migrants are all Central ones: Guanajuato (10.8%), Jalisco (7.7%), Michoacán (7.7%), Estado de Mexico (6.8%) and Puebla (6.6%).

As for internal migration, 3.3 million people aged five or over experienced geographical mobility between 2005 and 2010. In 2010, the states of Baja California Sur and Quintana Roo showed the highest population attraction, with net migration rates of +10% and +8.1% respectively. This is mostly due to high employment rates linked to a growing tourism sector. In general, on the one hand Northern states received relevant migratory flows from other areas, as well as returned migrants from the United

Figure 1. Natural and total rate of increase of population, 2013 (%)



Source: Gobierno de los Estados Unidos Mexicanos (2013), page 139.

States (SEDATU 2014b). On the other hand most Southern states record outmigration (SEDATU 2014d). Distrito Federal has the lowest negative net interstate migration (-6.3%) with its population mostly moving to Estado de Mexico and other neighbouring states (INEGI, 2005, 2010).The interaction of natural dynamics and migrations determines total population growth rates. Population growth rate (2013) goes from 3.2 in Baja California Sur to -0.2 in Distrito Federal. However, except for a small number of cases, in 2013 most states had a total yearly population growth rate of between 1.0 and 1.6, with DF being the only one to have a net decrease in population.

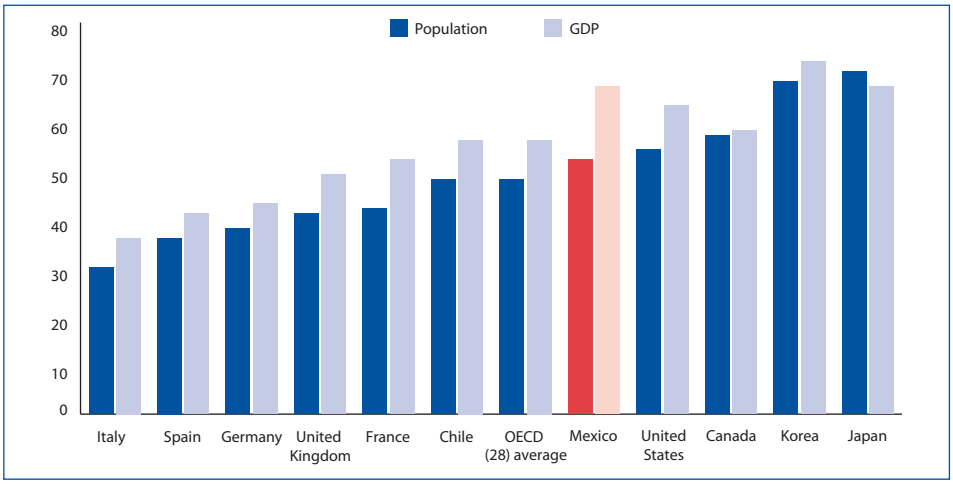
From the perspective of the age structure, Mexico is a very young country. Elderly people (65 and over) account only for 6% of the total population, compared to the OECD average of 15%. The share of elderly population is very low all over the country. The entity with the highest rate of elderly population is the Distrito Federal (7.8%) while the one with the lowest rate is Quintana Roo (3%). Nevertheless, even the highest regional value in Mexico remains very low in comparison to the OECD average.

Both rural and urban areas coexist in the country. However, more than 80% of the Mexican surface area (accommodating almost 40% of the total population) can be labelled as predominantly "rural", following OECD definitions (OECD 2013a). "Intermediate" areas, areas that can be defined as neither predominantly rural nor urban, are less common in Mexico than in other OECD countries.

Using the OECD definition of metro areas[1] for international comparison, two-thirds of the Mexican population live in the 77 metro areas. In absolute terms, the urban population has doubled in the past 30 years (OECD 2013b). The share of population living in metro areas in Mexico is similar to the OECD average, and to other countries in Latin America (e.g. Chile). This is particularly relevant considering that in Mexico the total number of metro areas is relatively small, compared to its population. There is one of them for every 1.5 million people, against an OECD average of one in 600 000; only in Japan is the proportion similar. This implies that Mexican metro areas are larger, on average, than in other countries.

More than half of the Mexican population lives in the largest 33 metro (OECD 2013a) urban areas, each with a population of more than 500 000; this proportion is higher than most comparable countries, being similar only to the United States and lower than Japan and Korea (countries with a much smaller surface) (see Figure 2). Conversely, the share of population living in small and medium size cities (between 100 000 and 500 000 people) is low, especially for urban centres having between 100 000 and 200 000 inhabitants, contrary to most OECD countries.

Figure 2. Weight of metropolitan areas, 2010



Source: OECD Regions at a Glance 2013, graph 1.6.

The biggest metro area is Mexico City. With a population of 19.8 million it accounts for 17% of the national total. It is followed by Guadalajara and Monterrey, both with a population close to 4.5 million inhabitants. In other words, one quarter of the total Mexican population lives in one of the three largest metro areas. Moreover, metro areas like Puebla and Toluca have a population bigger than 2 million, while another eight

1. Functional urban areas (FUA) with a population above 500 000 (OECD 2013a).

metro areas have a population bigger than 1 million. To summarise, almost 44 million Mexicans (slightly less than 40% of the total) live in urban areas with more than 1 million inhabitants (see Table 1).

Table 1. Mexican Metropolitan areas, 2010, ranking by GDP

	Population	% of Mexican population	GDP**	% of Mexican GDP	GDP p.c.
Country value	112336538	100.00	1349201	100.00	1.00
Mexico City	19255925	17.14	309266	22.92	1.34
Monterrey	4152115	3.70	99186	7.35	1.99
Guadalajara	4398145	3.92	66433	4.92	1.26
Toluca	1936126	1.72	34666	2.57	1.49
Puebla	2135375	1.90	31500	2.33	1.23
Centro	875172	0.78	30756	2.28	2.93
León	1609504	1.43	21744	1.61	1.12
Querétaro	1119642	1.00	21175	1.57	1.57
Tijuana	1559683	1.39	19272	1.43	1.03
San Luis Potosí	1185716	1.06	18914	1.40	1.33
Chihuahua	830231	0.74	18184	1.35	1.82
Torreón	1247765	1.11	17236	1.28	1.15
Hermosillo	784342	0.70	17203	1.28	1.83
Mérida	1316633	1.17	16809	1.25	1.06
Saltillo	725123	0.65	14574	1.08	1.67
Juárez	1332131	1.19	14254	1.06	0.89
Aguascalientes	951197	0.85	13552	1.00	1.19
Benito Juárez	661176	0.59	12329	0.91	1.55
Mexicali	936826	0.83	11913	0.88	1.06
Veracruz	782301	0.70	11713	0.87	1.25
Acapulco de Juárez	789971	0.70	11546	0.86	1.22
Cuernavaca	876083	0.78	11405	0.85	1.08
Culiacán	858638	0.76	11060	0.82	1.07
Tampico	762129	0.68	10049	0.74	1.10
Pachuca de Soto	546513	0.49	9574	0.71	1.46
Morelia	846052	0.75	8250	0.61	0.81
Reynosa	727150	0.65	8075	0.60	0.92
Oaxaca de Juárez	729315	0.65	7243	0.54	0.83
Durango	582267	0.52	6428	0.48	0.92
Tuxtla Gutiérrez	738261	0.66	6107	0.45	0.69

Table 1. Mexican Metropolitan areas, 2010, ranking by GDP (cont.)

	Population	% of Mexican population	GDP**	% of Mexican GDP	GDP p.c.
Celaya	602045	0.54	4807	0.36	0.66
Xalapa	729661	0.65	4313	0.32	0.49
Irapuato	529440	0.47	2696	0.20	0.42
TOTAL 33	57112653	50.84	902232	66.87	1.58

Source: Based on OECD (2013a)

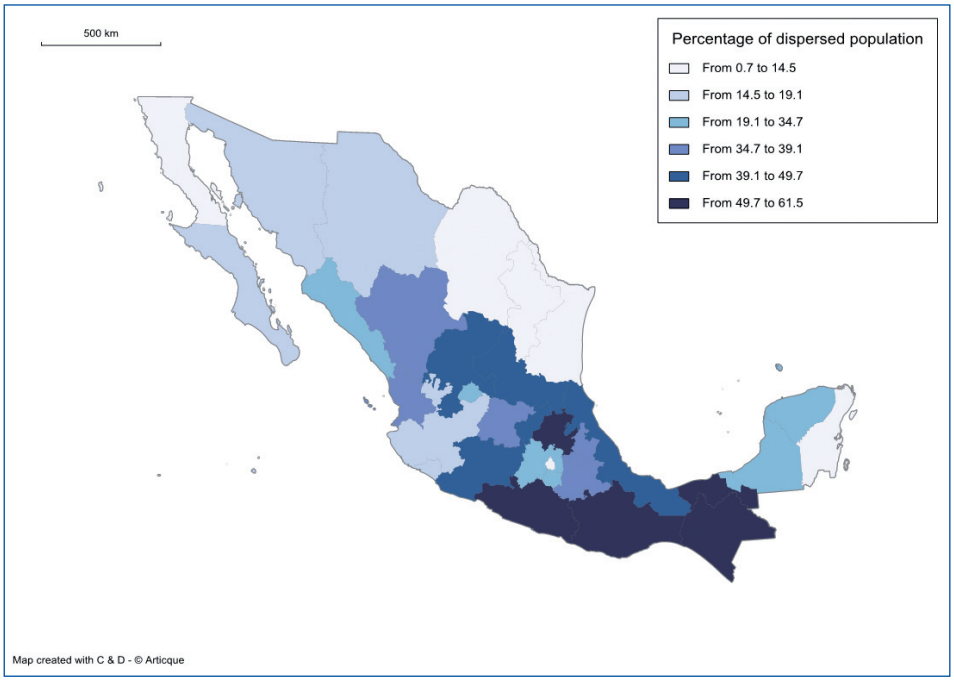
From the 1950s to the 1980s Mexico experienced a huge migration of population from the countryside to the cities: the percentage of urban population increased from 42.6% in 1950 to 71.3% in 1990. As a result, due to migration and natural growth rates, the urban population doubled in number in the last 30 years (SEDATU-CNV 2013).

Cities were not at all ready for such an increase, which created problems of sprawl, congestion, lack of services and infrastructures, and pollution. In the last 30 years, while urban population doubled, the surface of Mexican cities grew 8-fold and more than 1.3 million hectares of soil were converted to urban uses. The average Mexican urban density is now of 23 houses per hectare, against a "desired" level of 80, and European standards ranging from 100 to 500 houses per hectare. The average speed of cars in the Distrito Federal went from 38.5 km/h in 1990 to 13 km/h in 2010 and average commuting times are now as high as 81 minutes with increased costs, substantial problems for urban mobility and access to services, and high levels of emissions and pollution (SEDATU-CNV 2013).

In Mexico there are around 188 000 localities with fewer than 2500 inhabitants, in which more than 26 million people live. They suffer from dispersion and isolation, especially regarding access to public services and connections to markets (SEDESOL 2013). According to CONAPO (2011) the share of population living in localities with fewer than 5 000 inhabitants is very different among states, being more important in the Centre and South of the country, on both Pacific and Caribbean coasts. Dispersed population settlements account for up to 60% of the total population in Hidalgo (Centre), Oaxaca and Chiapas (South), and up to 50% in Zacatecas (North-Centre), Guerrero, Veracruz and Tabasco (South). Northern states are characterised by a smaller share of dispersed population, ranging between 7% in Nuevo León to less than 20% in Sonora (see Figure 3).

The overall picture is one of very large and congested cities, a high number of small and very small settlements (some of them isolated) and a limited presence of medium-sized urban centres. This framework is conducive to structural problems for the urban population and economy but also for rural Mexico. Particularly concerning this last issue: the weakness of the network of small and medium-sized cities hampers the development of more diversified rural economies, lacking access to infrastructures, services and markets.

Figure 3. Percentage of dispersed population in 2010 (people living in localities with fewer than 5000 inhabitants)



Source: CONAPO.

1.2. The geography of the Mexican economy

The geography of the Mexican economy is highly diverse: within its borders the country shows differences as large as those that may be found in a continent. Economic activity, although less spatially concentrated than in other large Latin American countries such as Brazil or Argentina, is not at all evenly distributed. There are large differences between Northern and Southern regions, between cities and rural areas and within different parts of most States.

The geography of regional GDP is linked to the history of Mexican economic development. The Mexican economy grew around the capital city, as in other developing countries. As a centralised country adopting an import substitution strategy, Mexico saw its industry mainly developing around the capital city, which also coincides with the geographical centre of the country. Most services were also concentrated in the capital, even if they were intended to serve the whole country.

The Mexican political economy changed substantially following the NAFTA Treaty of 1994. This caused a strong development of all the Northern states, close to the US

border, thanks to the improvement of commercial relationships with the United States and Canada. Oil exploitation and tourism, which started in the 1970s, complete the picture.

Nowadays Mexico appears different from countries in which one "central" region (including the capital city or not) accounts for a very large share of GDP. This is the case of countries such as Greece, Spain, Portugal and, to some extent, France and the United Kingdom, as well as large Latin American countries. Mexico appears more similar to countries like Korea or Germany. Regional concentration of GDP as measured by the weight of the top 10% economically larger regions over GDP, is not particularly high in Mexico compared to other large OECD and emerging countries. The share of top 10% regions is 35.4% in Mexico, compared to more than 50% in Chile, Colombia and Brazil, and around 40% for the US and Canada. Only China, South Africa and Australia have a lower percentage than Mexico (OECD 2013a).

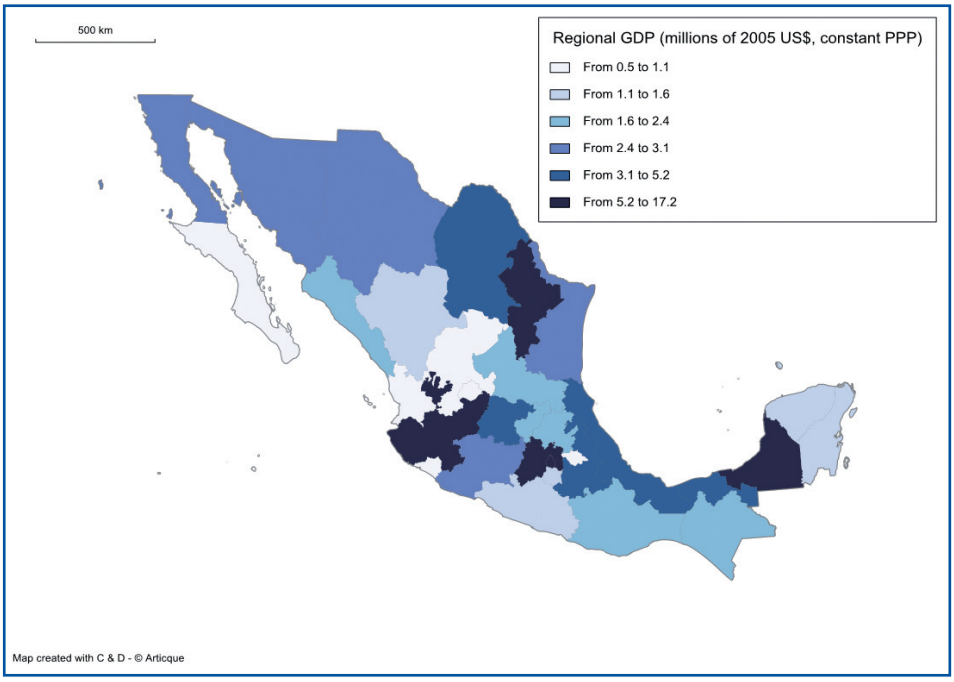
Four different development poles can be identified across the country. The first pole is in the central area, with an important economic weight. Distrito Federal alone accounts for 17.2% of national GDP (OECD 2013a), while the neighbouring state of Estado de Mexico accounts for 9.4%. It follows that these two entities generate more than a quarter of total production. The second pole is composed by other Central States with high production levels: Jalisco (6.3%), Guanajuato (3.9%), Puebla (3.4%) and Queretaro (1.8%), which together account for 15.4% of the total production of the country. The third pole is composed of Northern states, including Nuevo León contributing 7.6% to national production, and the other six states close to the US border (Baja California Norte, Sonora, Chihuahua, Coahuila, Nuevo León, and Tamaulipas) accounting together for 22% of national GDP. Finally, the fourth pole is composed of the two oil-producing states in the South: Campeche and Tabasco, representing together 8.9% of national GDP (see Figure 4).

A peculiar feature of Mexico is that the 33 largest metro areas account for 67% of national GDP, a percentage that is slightly lower than Japan and Korea, but higher than all other OECD countries (OECD 2013a). Mexico City metro area alone accounts for 22.9% of national GDP, Monterrey (Nuevo Leon) for 7.4% and Guadalajara (Jalisco) for 4.9%. Three other metros have a weight around 2.5% of national GDP: they are Toluca (Mexico), Puebla (Puebla) and Centro (Tabasco), followed by León (Guanajuato) and Queretaro (Queretaro) at around 1.5%. The remaining 25 metro areas have a global weight, in terms of national GDP, equal to that of Mexico City.

1.3. Regional disparities

The distribution of GDP per capita across Mexican states is highly uneven. In 2010, the Gini index of regional inequality for Mexico was 0.35, a value higher than all other large

Figure 4. Regional GDP in Mexico, 2010 (millions of US $ constant PPP, constant (real) prices year 2005)

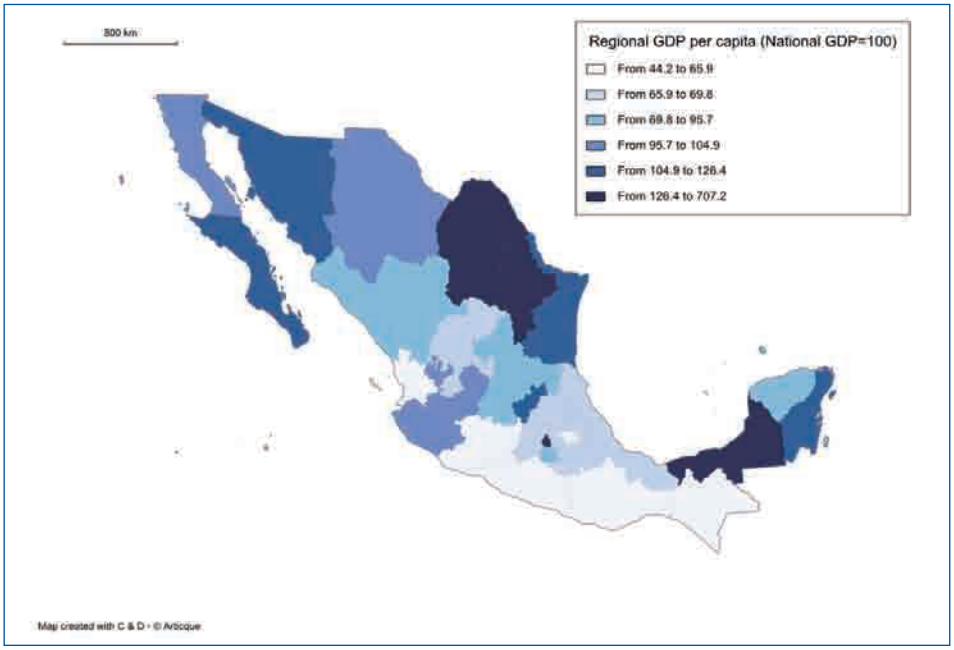


Source: OECD regional statistics.

emerging countries (except for Indonesia), and more than double with respect to larger OECD countries such as the United States and Canada (OECD 2013a). The GDP per capita of Distrito Federal was more than twice the national average, while that of Chiapas only half of it. Indeed, the GDP per capita of Distrito Federal represents almost five times that of Chiapas (see Table A2 in the appendix).

Regional GDP per capita does not show a simple geographical pattern. First of all, there is a clear difference between Northern and Southern states. The first ones, being close to the US border, have a GDP per capita higher or similar to the national average. This is the case of Nuevo León, with a GDP per capita at 183 (national average = 100) and Coahuila at 126, while Sonora and Baja California Norte are closer to the average. In contrast, Southern states like Chiapas, Guerrero and Oaxaca have a GDP per capita of around one-half of the national average. However, important regional differences also emerge in the South-Southeast: GDP per capita ranges from 69 in Veracruz to 123 in Quintana Roo. Central states also show important disparities. For instance, in Queretaro GDP per capita is at 114, while in Estado de México it is at 70 and in Tlaxcala goes down to 52. This means that, as well as differences among macro-regions in Mexico, there are substantial differences within them (see Figure 5).

Figure 5. Regional GDP per capita, 2010 (Mexico=100)



Source: Based on OECD Regional statistics

Historically, regional income disparities in Mexico have always been extremely large. The country experienced a long-term regional income convergence trend from World War II until the mid-1980s (Gomez Zaldivar and Ventosa Santaularia, 2012) with a pattern that was different to that of other large Latin American countries. The convergence was particularly marked in the 1970s (Esquivel and Messmacher, 2002). During the 1990s, convergence slowed down and eventually stopped (especially if one excludes oil-rich states from the analysis). Consensus among researchers links territorial dynamics in the last two decades to the shift in the economic regime from an "import substitution" strategy towards a free-trade approach, especially with the NAFTA. This policy change played in favour of the Northern States closed to the US border and against the states of the South (Mendoza Cota and Perez Cruz, 2007), while inducing a restructuring of manufacturing activities around Mexico City (Sanchez Reaza and Rodriguez Pose, 2002). Since 1985 the weight of the Northern states, as a percentage of national GDP, went up from 23% to 28%, while Southern states' share decreased from 20% to 16% (SEDATU 2014a).

More recently, regional inequalities in Mexico have not changed substantially, remaining large. According to OECD (2013a), the Gini index of regional GDP per capita in 2010 was slightly higher than that of 1995 (0.35 versus 0.34). During the same period, in emerging economies like Colombia, Brazil, South Africa and China, regional disparities in terms of GDP per capita decreased; they remained the same in India, while increasing dramatically only in Russia.

Average income per capita is much larger in metro areas than in the rest of Mexico. Mexican metro areas produce 67% (2010) of national GDP, while hosting 51% of population (OECD 2013a). This implies that GDP per capita in the 33 largest Mexican metro areas is, on average 131 (Mexico=100), while in the rest of the country it is 67. In all OECD countries, GDP per capita is higher in the metro areas than in the rest of the country.[2] However, the magnitude of the Mexican urban/rural divide in income per capita is the highest among medium and large OECD countries.

1.4. Behind GDP per capita: Employment and productivity

Disparities in GDP per capita among Mexican states are explained by differences in productivity. GDP per capita, by definition is equal to the employment rate (employees/total population)[3] multiplied by productivity (GDP per employee). Employment rates among Mexican states are very similar. In 2010, the employment rate, calculated over total population, was 40.8%. Regional employment rates slightly differ from this value; the range of variation among states is small. With the Mexican average equal to 100, the rate goes from 89 in Durango and 91 in Zacatecas to 119 in Quintana Roo, 111 in Yucatan and 110 in Baja California Sur (see Table A3 in the appendix).

However, it is worth noting the very high gender employment gap, the second highest across the OECD area. Mexico's female employment rates, though having increased modestly more recently, are quite low, below those of Chile, Brazil and other Latin American countries (OECD 2013 b). Youth unemployment recently soared, due to the international crisis, especially in some Northern states.

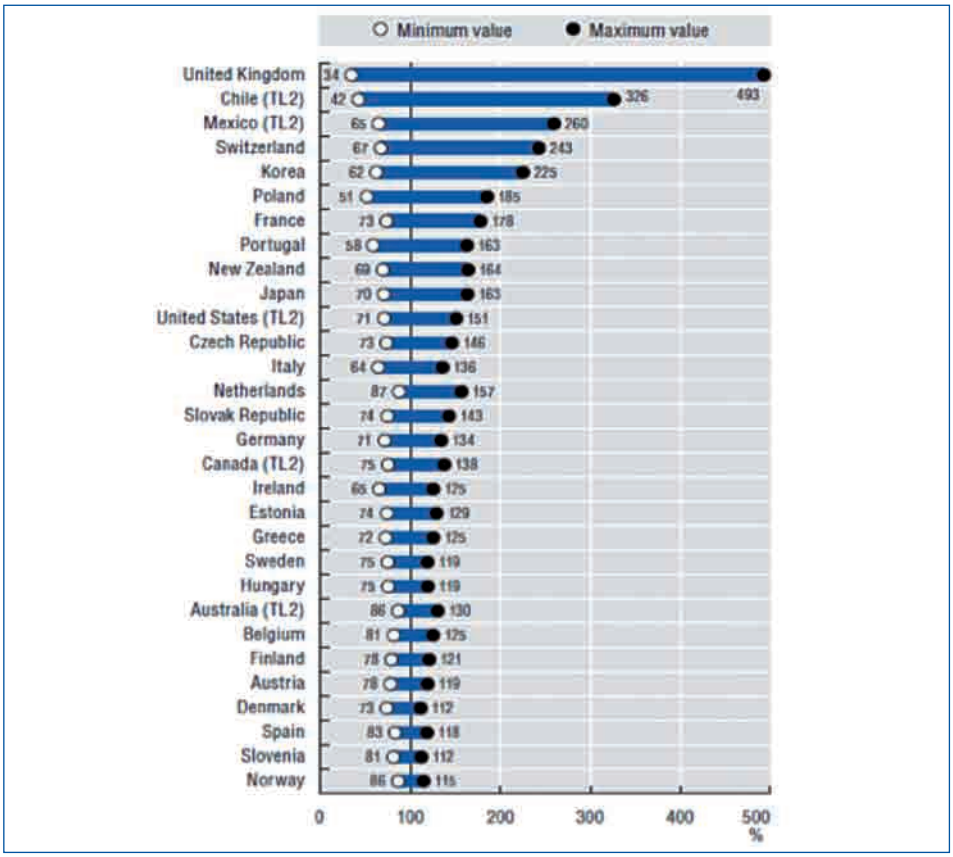
The extent of disparities across regional labour markets in Mexico is similar to other OECD countries. Mexican regional labour markets can be compared internationally through Gini indexes of regional participation and unemployment rates (OECD 2013a). Both indexes show that regional disparities in labour markets in Mexico are not far from the OECD average and substantially lower in terms of GDP per capita. The participation rate[4] has a Gini index of regional disparities close to the OECD average. Its value is lower than that of other important emerging economies, such as Poland, Turkey and Korea and also of some developed countries characterised by important regional imbalances, such as Italy, Spain and the United States. The same holds for the Gini index of regional unemployment rates. In 2012, all Mexican states had an unemployment rate lower than the OECD average (see Figure A1 in the appendix).

2. Except for Korea, Japan and Canada, where income levels are very similar.
3. In looking at employment rates, one should only consider working age population. However, due to limited regional differences in the age structure of population, as shown before, for the goal of a simple territorial comparison one can calculate directly the employment rate with respect to total population.
4. The labour force participation rate is defined as the ratio of the labour force to the working-age population.

Regional differences in productivity (GDP/total employment) are crucial. The geography of productivity closely resembles that of income per capita. All Northern states have high productivity levels. Some of them are close to the national average, but in some cases the difference is huge, as in the case of Nuevo Léon, where it is as high as 170 (national average=100), Coahuila at 131, Sonora at 110 and Tamaulipas at 107. In the Centre, productivity is very high in the Distrito Federal (200); high levels are also recorded in Queretaro (121), close to Mexico City. Productivity is lower in other states of the area, such as Estado de México (69). In some southern states like Guerrero, Oaxaca and Chiapas productivity is around half of the national level, while in some southeastern states it is considerably higher, as in the case of the oil-producing states of Campeche (679) and Tabasco (199) as well as the coastal state of Quintana Roo (101).

The regional disparity of productivity in Mexico is the third highest among OECD countries. As of 2010, only the United Kingdom (due to the peculiar situation of London) and Chile have larger internal differences (OECD 2013a) (see Figure 6).

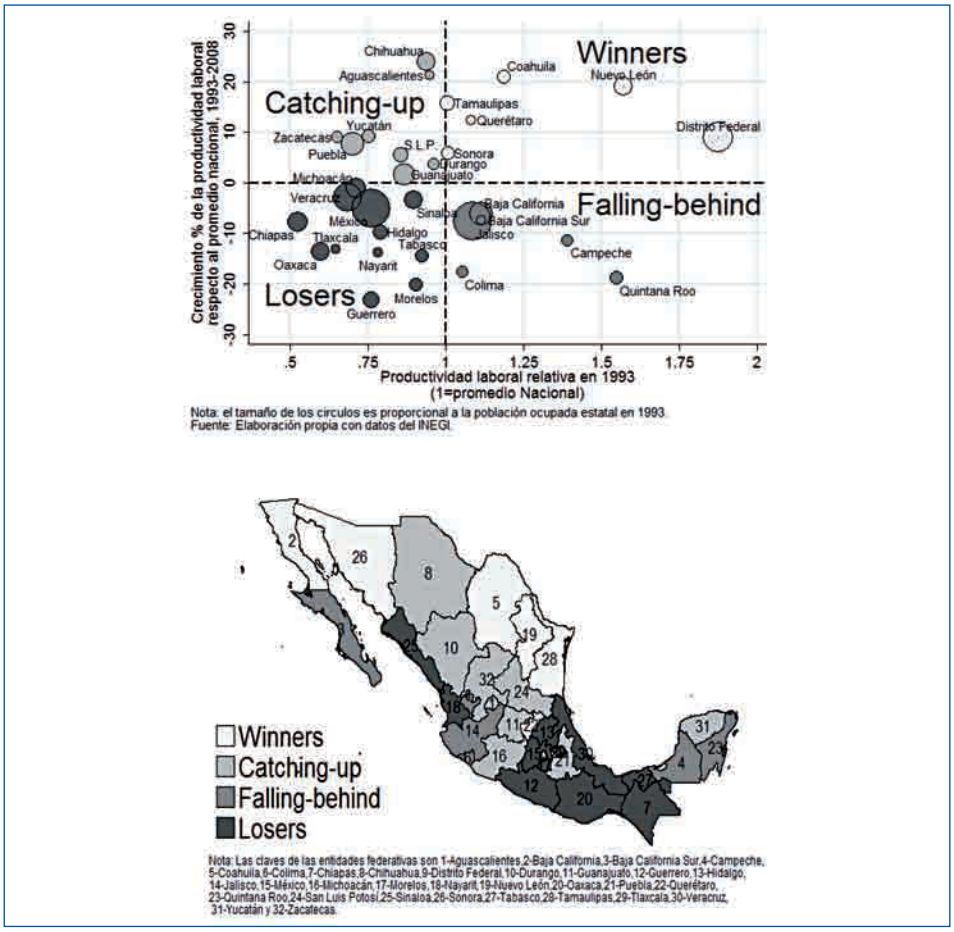
Figure 6. Range in TL3 regional GDP per worker (as a % of national average), 2010



Source. OECD (2013a).

The different regional trends of productivity were the main driver of GDP per capita divergence among Mexican states. A recent analysis carried out by the Inter-American Development Bank (IADB 2013a) for the period 1993-2008, shows that high-income states are those with the higher productivity growth in the period. In a longer-term perspective, an analysis covering the period 1960-2000 shows that 82% of the difference in GDP per capita is attributable to the differences in the level of labour productivity (OECD 2009) (see Figure 7).

Figure 7. Productivity and productivity growth 1993-2008



Source: IADB (2013a).

Regional disparities are therefore linked to differences in economic specialisation across the country. The possibility of getting a job (captured by employment rate) plays a minor role: what really matters is the type of job. What are the sources of these differences? The first and most important is the structure of the economy in

the states. Productivity is very different among different activities, so that states' productivity levels (and income per capita) crucially depend on the sectorial composition of employment.

This is a common feature in international economic history. What determined the past growth in advanced countries and is determining growth in the last decades in emerging countries is structural change. Workers move from low-productivity activities (typically agriculture) to high-productivity ones (typically manufacturing) (Rodrik 2008), driving a substantial increase in GDP per capita.

In this respect, it is not surprising that the composition of employment among agriculture, manufacturing and services among Mexican states is very different (INEGI 2012). Moreover, these differences have been increasing during the last 20 years following the reorganisation of the Mexican economy after the NAFTA (OECD 2009). In 2012, agriculture accounted for 13.6% of total employment in Mexico and its role in providing employment opportunities significantly differs across Mexican states. For instance, employment in agriculture is as high as 41% of total in Chiapas, 31% in Guerrero and 30% in Oaxaca, while being below 10% in all Northern States[5], and negligible in Distrito Federal and Estado de Mexico (see Table A4 in the appendix).

The weight of employment in manufacturing is also widely different among Mexican states: on average, 15 out of 100 workers are employed in manufacturing in Mexico. This percentage goes well below 10% in Southern states like Chiapas, Quintana Roo, Campeche and Tabasco. In contrast, the share of manufacturing with respect to total employment is above 20% in Northern states like Coahuila, Chihuahua, Nuevo León, and in some important central states such as Guanajuato and Queretaro.

The share of tertiary employment is large in all states, with the national average confirmed at 62.3%. Due to the relatively homogenous diffusion of public services, and the presence of a number of private services that are non-tradable at a distance, the share of employment in services may seem similar across Mexican states. However, some services – such as financial, professional, information and other advanced tertiary activities – are becoming more and more tradable. This means that firms in one region can serve a demand that is well beyond regional borders, something that is possible mainly because of the new opportunities offered by ICT. In other cases (specialised trade, touristic services), firms may "export" services because customers physically cross the state borders to buy them. This explains why the role of services is much higher in some specific cases: on the one side, in the DF (82.9%), due to finance, professional services and information/communication; on the other side, in Baja California Sur and Quintana Roo, due to tourism.

5. With the exception of Sonora, 11.6%.

1.5. Other determinants of productivity

The structure of the economy crucially influences productivity, together with a set of other factors such as firm size and the role of the informal economy, urban economies, skilled labour, R&D and innovation, foreign direct investment, geography, and infrastructures. All of these also interact with sectorial specialisation. This work does not aim to verify causal relationships among those factors and productivity. This would indeed, be a difficult task, since causal relationships are often circular: skilled labour increases productivity, and, in turn, higher productivity and income, together with labour demand in more advanced production, foster the supply of skilled labour.

A main source of spatial difference in productivity in Mexico is the average firm size. A recent report (McKinsey Global Institute, 2014) shows that productivity in Mexico is much higher in large firms. In 2009, value added per occupied person was 44 000 dollars in large firms (more than 500 employees) as compared to 4 000 in small firms (fewer than 10 employees). Moreover, while large firms registered a substantial increase in productivity (1999-2009), it actually declined in small firms.

The composition of employment (manufacturing, trade and services, excluding agriculture) by firm size in Mexican entities shows large differences. Micro firms (up to 10 employees) represent 46% of employment nationwide. Their weight is higher than 60% in nine entities: the top values are in Oaxaca (76%) and Guerrero (74%), but in some Northern (Coahuila, Chihuahua) and central states the role of micro firms is also predominant. However, they account for only 27% of employment in Nuevo Leon and 29% in the DF (see Table A5 in the appendix).

The relative size of the informal economy plays a role in influencing productivity. The rate of informality in Mexico, as of late 2013, was as high as 58.8% (Gobierno de los Estados Unidos Mexicanos, 2013b). OECD (2009) finds a correlation between the share of the informal economy and productivity in the different entities.[6] All states with higher GDP per capita show much lower shares of the informal economy than the national average. Very high shares are recorded in low-income states such as Oaxaca, Guerrero, as well as in Estado de Mexico and Puebla. However, the correlation is not straightforward: it is interesting to note that Chiapas, on the contrary, has a quite low diffusion of informal economy.

In Mexico there are 5.3 million small rural firms (*Unidades Económicas Rurales*). One-quarter of them (22.4%, 1.2 million) have no market activity, being totally managed for self-consumption; 2.6 million more have very limited market activity. In all cases productivity levels are very low (SEDESOL 2013).

6. Though weaker than between productivity and human capital, R&D and innovation and foreign investments (see below).

Productivity is much higher in the cities than in the rest of the country; this is due to sectorial specialisation, thanks to which all highly-productive and modern tertiary activities are more and more concentrated in urban areas. According to the OECD (2013a) definitions, Mexican metro areas account for 52% of total national employment, and for 51% of population: employment rates are similar for metro areas and the rest of the country. The difference in GDP per capita is 1:1 explained by the difference in productivity (see Table A6 in the appendix).

Accordingly, the rate of labour informality is higher in very small localities (less than 2 500 inhabitants: 81.9%) and small localities (2 500-14 999 inhabitants: 70.2%) than in the cities with more than 100 000 inhabitants, where it is 46.5% (Gobierno de los Estados Unidos Mexicanos, 2013b).

Productivity is positively correlated with the intensity of relatively skilled workers over total work force. One measure of skilled labour is the percentage of employees with tertiary education over total labour force. In the case of Mexico, this value is close to 20%, quite low if compared to most OECD countries.[7] Even in this respect, internal disparities are very important. The percentage of labour force with tertiary education in Distrito Federal is 29%, a value that is close to the US average. For a number of Northern states, together with Jalisco and Queretaro, the share is above 20%; in some Southern and Central states such as Oaxaca, Chiapas, Hidalgo, Puebla and Guanajuato it is 15% or lower (see Figure 8).

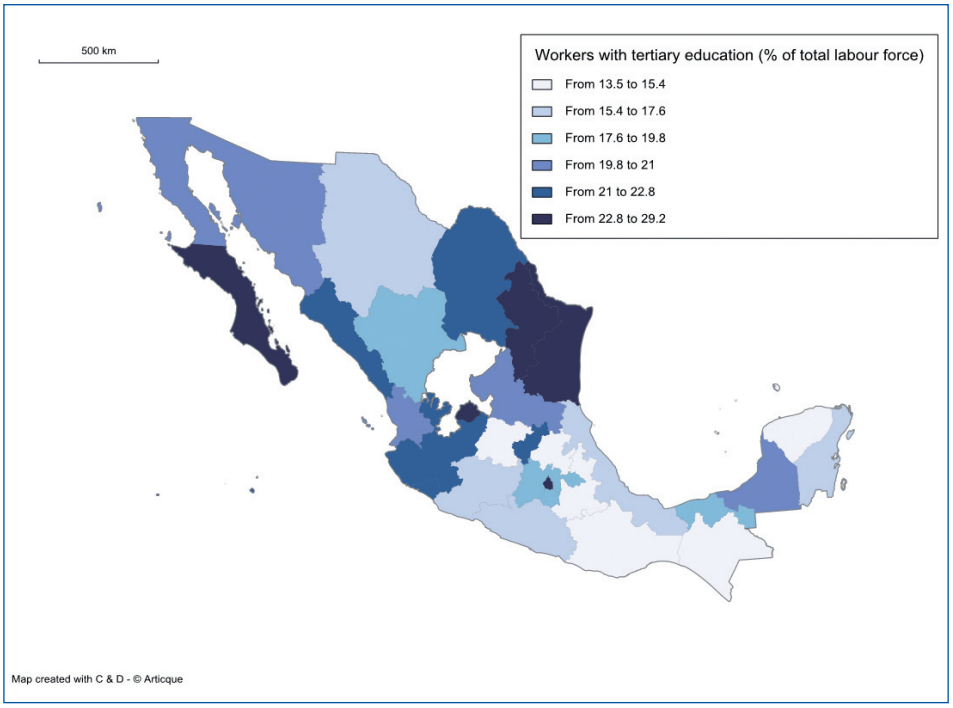
As reported by OECD (2009) several studies (Diaz-Bautista and Dominguez, 2004; Barceinas and Raymond, 2005; Carton, 2008) show the relevant effect of human capital, and investment in human capital, on Mexican disparities and convergence in the past. OECD (2009) found a positive correlation, even stronger than for the OECD average, between educational attainment and labour productivity among Mexican states.

Mexican research and development activity is quite low. One of the different possible measures of research intensity is the total number of patents per million inhabitants. In 2010 there were 1.5 patents per million inhabitants in Mexico, as compared with 7 for Turkey and Poland and as many as 172 for Korea. Patenting is territorially very concentrated, with DF again leading the ranking. It is interesting to note that Queretaro and Jalisco perform relatively well, together with some of the industrialised Northern states (see Table A7 in the appendix).

Foreign firms are another important driver of change in regional production and specialisation, and then productivity. The overall role of foreign direct investment

7. The percentage of labour force with tertiary education in Mexico is similar to Austria, Italy, Czech Republic, Slovak Republic and Turkey.

Figure 8. Workers with tertiary education, 2008 (as percentage of the labour force)



Source: OECD regional statistics.

in the Mexican economy became quite important in the last two decades. In 1990 the stock of FDI in Mexico was only 7.8% of GDP, while in 2012 inward FDI represented 26.8% of GDP (UNCTAD, 2013), a percentage that is similar to the average of Central and Southern American countries (30.8%)[8], with the exception of Chile (77.7%).

Foreign direct investment in Mexico is strongly concentrated in richer and more developed areas. Out of the total flows during the period 2008-12 (an amount representing more than USD 100 billion), Distrito Federal accounted for 47.4% of the total (Gobierno de los Estados Unidos Mexicanos, 2013). This is mainly due to the large foreign investment in the service sector and particularly in banking activities. Distrito Federal, together with Estado de Mexico, Jalisco and Queretaro, attracted 60% of total FDI flows, while seven other states in the North only attracted 27% (of which Nuevo León had 10%). Foreign direct investments were on the contrary negligible in other states, including the touristic Quintana Roo (around 1% of the total). This pattern has been the same in the last 20 years.

8. And to Brazil (31.2%).

Geography and the availability of infrastructures influence the location of economic activities. Therefore, through the structure of the economy, they can influence productivity and income. In particular, the lack of transport infrastructures may hamper the development of "tradable" production directed toward non-local, national or international markets. This is particularly important in Mexico, where the Northern states are, with the South of the US, part of one of the trans-national macro-regions with the highest levels of international trade. Southern states bordering less developed nations, such as Guatemala and Belize, are characterised by relevant security problems. Historically, large parts of the South-Southeast region have remained isolated from the rest of the country (SEDATU 2014d).

A look at the structure of main Mexican transport infrastructure (SEDATU 2014 b,c,d) shows that its configuration is basically as a radial system around the capital city, together with the main trans-border corridors: Pacifico (going until Tijuana-San Diego), Canamex (Nogales), Camino Real (Juarez-El Paso) and NASCO (Nuevo Laredo-Laredo).[9] Its main problems regard internal North-South connections, due to the lack of coastal transportations systems and the problems linked to the height (on the sea level) of the central areas. Consequently, areas in the South and on the Pacific coast appear to be in a more difficult situation than the rest of the country. To this, their local difficult orography must be added, creating problems also for intra-regional connections. It is estimated that poor transport infrastructure and logistics imply the deterioration, and consequent loss, of 40 million tons of food every year, over a total national production of food for human consumption of millions tons, that is 31% (Gobierno de los Estados Unidos Mexicanos, 2013b).

1.6. A typology of regional economies

To investigate the role of different regional specialisations in explaining disparities in GDP per capita, it is possible to calculate the contribution of different industries to the GDP of every State. States are different in terms of the absolute size of their economy, in terms of the contribution of different industries to the total, and in terms of GDP per capita with respect to population. We computed a "GDP per capita index" State by State, looking together at size and composition of different regions and economies, to compare different contexts and realities. It is expressed setting national GDP per capita (2011) equal to 100.[10] For every sector and State, the index shows the contribution of the specific industry to the GDP per capita of the State, measured in percentage of the national GDP per capita.[11]

9. Canamex and NASCO account for 90% of US-Mexico trade (SEDATU 2014 b).
10. Data for this exercise are from (INEGI 2013).
11. The index puts together "composition" (the relative contribution of any sector within any State, regardless of overall level of GDP per capita), and "level" of GDP per capita of any State (regardless of the composition of its economy).

For simplicity, only some sectors are taken separately into account (agriculture, mining, manufacturing, and trade and advanced services, with the latter being the sum of finance, professional and information/communication services), because they show the most important territorial differences, while the others (i.e. construction, utilities, transport, real estate, education, health and other public services) are grouped together.

To compare the situation, it is useful to keep in mind that sectoral national GDP per capita indexes[12] are as follows: agriculture 3.5, mining 10.4, manufacturing 18.1, trade 16.5, advanced services 9.4, and "others" 42.1. Using this index, as well as the overall level of GDP per capita, all Mexican entities can be grouped as follows: the capital (1 entity), manufacturing (11 states), touristic (4), natural resource-based (3), non-specialised (9), poor (4) (see Table A8 in the appendix).

Distrito Federal is in a unique situation. Its GDP per capita, as seen before, is more than double of the national average (210). The contribution of manufacturing is important (the index is 22[13]), but the real difference arises from services: DF is a trading centre for the whole country, it is the location of most Mexican firms in advanced services and, of course, is also the capital city.[14] The polarisation of tradable and non-tradable services in the capital area is a peculiar feature of the Mexican economy. GDP per capita in the DF is much higher than the national average because of manufacturing (22 versus 18), but especially because of trade (41 vs. 16), advanced services (54 vs. 9) and all the other activities (92 vs. 42).

Eleven states can be grouped as "manufacturing", because the GDP per capita index for manufacturing is higher than 20.[15] Four of them are "high-income manufacturing states": Nuevo León, Coahuila, Sonora and Queretaro. In Nuevo León, the role of manufacturing is substantial, the GDP per capita index being 50, the largest in Mexico, due to a diversified industrial base.[16] However, for the income level in the State (180) the contribution of services is also important: trade 30, advanced services 21, as well as other activities 76. The latter is mainly du to the presence of the city of Monterrey. Coahuila, Sonora and Queretaro are basically "pure" manufacturing states[17] (see Table A9 in the appendix).

12. In the case of the entire nation, the GDP per capita index is by definition equal to the sectoral contribution to value added.
13. With a strong specialisation in pharmaceuticals (OECD 2009).
14. The significance of the index is as follows: in DF the index for "other" sectors is 92. This means that "other sectors" alone are able to generate a GDP per capita in DF equal to 92% of average national GDP per capita; while "other sectors", on a national basis, contribute only 42% to the level of GDP per capita.
15. Data regarding different industrial specialisations (food, petroleum derivate, metals, machinery and others) will be presented as well, always measuring their GDP per capita index.
16. The contribution of all manufacturing industries is substantial.
17. The high level of GDP per capita of Coahuila (126) is totally due to manufacturing, especially metals and machinery: the index is equal to 46. In Sonora (115), together with manufacturing (metals and machinery), it is mining that makes an important contribution to GDP per capita (the index is 14). Coahuila, together with Chihuahua, shows a particularly strong specialisation in the auto industry (OECD 2009). Sonora, together with Baja California, Tamaulipas and Chihuahua, shows a particularly strong specialisation in the electronic equipment industry (OECD

Four more states are "middle-income manufacturing": Aguascalientes, Baja California Norte, Chihuahua and Jalisco. Their GDP per capita is close to the national average, with a GDP per capita index for manufacturing of around 20: machinery in Baja California Norte (electronic equipment) and Chihuahua (auto and electronics), food (and informatics) in Jalisco.[18] Three more states are similar to the previous group (the index for manufacturing is around 20), but with a lower overall GDP per capita. It is the case of San Luis Potosí, Guanajuato and Hidalgo.[19]

Four states can be defined as touristic[20]: certainly Quintana Roo and Baja California Sur, but also the small states of Colima and Nayarit. Baja California Sur and Quintana Roo are both states with higher than average GDP per capita, while Colima is level with the national average, and Nayarit much lower. The importance of tourism can be assessed calculating the ratio of number of hotel rooms (INEGI 2013) per million people. The Mexican average is 5.7 (for 638 000 rooms), but it is 62.6 in Quintana Roo, due to the presence of several important touristic areas (such as Cancun, Riviera Maya, Playa del Carmen, Playacar). Tourism also appears to be very important for Baja California Sur (30.3 hotel rooms per million people, the main area being Los Cabos). The index is higher than the national average also for Colima (Manzanillo) and Nayarit.[21] Data on the stock of touristic infrastructures can be complemented by data on total tourist arrivals (2010) by municipality[22] (see Figure 9).

2009). The two appear as "pure manufacturing" states, without the emergence (as in the case of Nuevo León), of important tertiary activities. In Queretaro (116), manufacturing is particularly important (30), but trade also plays a role (23) larger than the average.

18. The manufacturing index is higher in Aguascalientes (32), due to the presence of food and machinery (electronic equipment and auto); total GDP per capita is also higher than the other three states. The GDP per capita index of all other activities is on a level with the national average, except for the role of trade (22) in Jalisco, because of the city of Guadalajara.

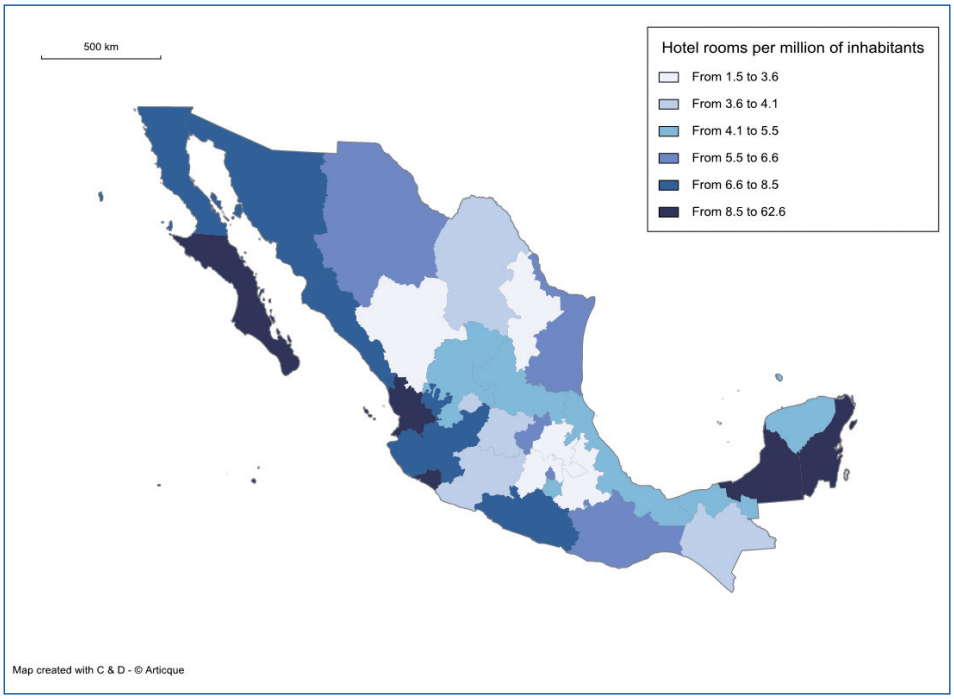
19. In these states, the index for trade and advanced services (as well as of all the other activities) is lower than the national average. In Hidalgo, moreover, one has to remember that almost half of manufacturing GDP is due to the petroleum derivate industry.

20. Tourism deserves a special attention, because its role cannot easily be measured using the GDP per capita index. Touristic activities, that is the sale of services to non-residents are in fact mixed together with non-touristic (the sale of services to residents) in both "trade" and other tertiary activities.

21. The same happens in Jalisco (Puerto Vallarta), Campeche and Guerrero (Acapulco) on the Pacific coast: but those states are classified in different groups, either because tourism is not the main activity (Jalisco, Campeche) or because, even with a relevant touristic sector the GDP per capita in the State remains low (Guerrero). In absolute terms the state with the largest number of hotel rooms is Quintana Roo (83 000), followed by Jalisco, DF, Veracruz, Guerrero, Nayarit, Oaxaca and the two Baja Californias. The national number of hotel rooms increased by 70% between 1995 and 2010. Much larger increases were recorded for Nayarit, Quintana Roo and Baja California Sur, where tourism developed substantially; even in Jalisco, Chiapas and Oaxaca the increase was larger than average, while it was very small in Baja California, DF and Guerrero. This is confirmed by the GDP per capita index for trade and other activities. The construction industry is also important, due to tourism development in those states.

22. Most important destinations include both large cities and beach resorts. Among the latter, DF leads the ranking with 9.9 million, followed by Guadalajara (2.5 million) and Monterrey (1.5 million): this confirms the importance of the service sector for DF, Jalisco and Nuevo León. The most important vacation resorts are Acapulco (Guerrero, 4.9 million arrivals), Cancun and Riviera Maya (both in Quintana Roo, with 4 million and 2.9 million respectively), Mazatlan (Sinaloa) and Puerto Vallarta (Jalisco). The share of foreign arrivals over the total is very different. The ranking by foreign arrivals sees Riviera Maya and Cancun in the first two places, followed by DF and Los Cabos. The airport of Cancun ranks second in the country (2011, after Mexico City) for the total number of passengers, more than 13 million; San Josè del Cabo and Puerto Vallatrta rank respectively 6th and 7th, with more than 2.5 million (SEDATU 2014 b). So, export of tourism services is very important for Baja California Sur and

Figure 9. Tourism intensity, 2010 (hotel rooms per million inhabitants)



Source: calculations based on data from INEGI (2013).

The economies of three states are based on the extractive industry. This is the already mentioned case of oil extraction in Campeche and Tabasco. The contribution of the mining industry for Campeche is an astonishing 699 GDP per capita (national average = 100), even if the contribution of "other activities" is also larger than average, owing to tourism. In Tabasco the contribution of mining is 151. Zacatecas is different: its GDP per capita is lower than average (74), notwithstanding an important contribution of mining (21).

A large group of states do not show any particular sectoral determinant of GDP, they normally have a lower than average GDP per capita, and lower GDP per capita indexes in all industries.[23] This group includes Estado de Mexico, Michoacán, Morelos, Nayarit, Puebla, Yucatan and Veracruz. In the large states of Mexico and Puebla, manufacturing production is important. The value of manufacturing production of Estado de Mexico is the largest in the country, but due to the size of the population

Quintana Roo, while domestic tourism is important for Colima. And as already mentioned this is also the case for Jalisco, Guerrero, and Nayarit.

23. However there are some differences among them. Tamaulipas is the only one with a GDP per capita at 100, due to "other activities". Durango and Sinaloa are around 85: in both cases a significant contribution of agriculture emerges (8); in the case of Durango mining is important as well (11).

(15 million) its GDP per capita index is in the average.[24] The same happens, on a lower scale, in Puebla.[25].

Finally, four states have a GDP per capita that is much lower than average: Chiapas, Guerrero, Oaxaca and Tlaxcala. It is interesting to remember the large share of agricultural employment in these states. But, due to the very low productivity, the GDP per capita index of agriculture is, in all cases, very small, between 3 and 4.[26]

1.8. Poverty and inequality

Poverty is a key issue in Mexico. In 2012, 53.3 million Mexicans lived in poverty, which is 45.5% of the total population (SEDESOL 2013). The poverty rate decreased slightly from the mid-1990s to the mid-2000s; however, it increased again with the international financial crisis (OECD 2013b), Mexico being the only Latin American country with this reversal of the trend towards a reduction of poverty (CEPAL 2013). According to SEDESOL (2013), during the last 20 years the levels of poverty have remained unchanged, due to the slow rate of growth of the economy and the uneven distribution of income.

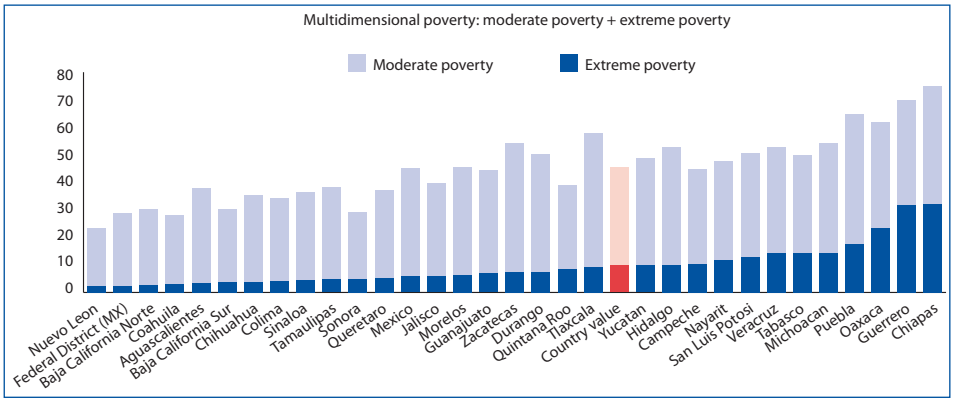
According to OECD (2013b), poverty stems largely from the vast informal sector of low-paid, low-productivity jobs, the lack of access to training and the limited social safety nets. It also reflects "the wide geographical dispersion of population in remote areas where it is difficult to provide services, together with a high concentration in urban areas, where there is huge pressure on infrastructure and public services" (see Figure 10).

The percentage of people living in poverty is very different in Mexican states. Poverty rates show a strong correlation with overall development, being larger in the South-South East and part of the Centre; it is as high as 74.7% in Chiapas, 69.7% in Guerrero, 64.5% in Puebla and 61.9% in Oaxaca, while it is 23.2% in Nuevo Leon, 27.9% in Coahuila and 28.9% in the Federal District. In 11 Mexican states more than half of the population is in poverty; children, women and the elderly are at high risk of falling into poverty (OECD 2013b).

To measure poverty, CONEVAL also defines "extreme poverty". The extreme poor are those with an income lower than the minimum well-being level (that is the cost of a basic basket of food, in rural or urban areas) together with suffering at least 3 out of 6

24. The index for tertiary activities is much lower: it is DF the service centre for Estado de Mexico.
25. The State is the seventh in the rank of manufacturing but its population (almost 6 millions) is large as well.
26. In Chiapas, 800 000 people are employed in agriculture, with a GDP per capita index of 4; in Michoacán, the employment stands at 390 000, but the GDP per capita index is 8 (that means productivity in agriculture is four times higher than in Chiapas). In Sonora, exactly the same GDP per capita index is reached with only 140 000 employees (that means productivity is more than 11 times higher than in Chiapas).

Figure 10. Poverty, 2012



Source: Gobierno de los Estados Unidos Mexicanos (2013), page 137.

social weaknesses, regarding food, education, houses, and access to social security, health services and social infrastructures. According to CONEVAL, in 2012 there were 11.5 million people in extreme poverty in Mexico, that is 9.8% of the total population. Extreme poverty is even more concentrated geographically than poverty. The extreme poor are 1.6 million in Oaxaca. Together with México and Puebla those States account for 60% of the national total. The extreme poor represent 32% of the population in Chiapas, and 2.2% in the DF.

Half of the extreme poor live in urban areas (that is around 6% of the urban population) and the other half in rural areas: they represent 21.3% of the total rural population (SEDATU 2013). Rural and urban extreme poverties are different. The former is usually found in very small settlements, and is linked to the lack of services, and worse conditions in terms of education and social security; the latter can be found in the largest metropolitan areas, with problems of social isolation, access to health services and nutrition. 38% of the indigenous population (2.5 million) are among the extreme poor, as well as 12% of children (less than 18 years old: 4.7 million) and 9.8% of the elderly (more than 65: 800 000 people).

As it is used for the Cruzada Nacional Contra el Hambre (see chapter 2), another definition of poverty must be introduced: extreme nutritional poverty. By definition, it includes all those in extreme poverty that have difficulty accessing food. As of 2012 there were 7 million people in Mexico in extreme nutritional poverty; including 3.3 million young people (under 18) and 1.3 million indigenous people. Among those 7 million, 3.1 million live in localities with fewer than 2 500 inhabitants (rural), while 3.9 million live in urban areas (of which 1.5 million in cities with more than 100 000 people).

Six states have more than half a million people in extreme nutritional poverty: Chiapas and Oaxaca (predominantly rural), Estado de México (predominantly urban), Guerrero,

Puebla and Veracruz (both). However, there are a large number of people in extreme nutritional urban poverty also in the DF, Guanajuato, Jalisco and Michoacán, and in extreme nutritional rural poverty in San Luis Potosí, Tabasco and Michoacán (see Table A10 in the appendix).

Also because of extreme poverty, Mexico is the second most unequal country in the OECD area, after Chile. OECD (2011b) shows that the annual average income of the top 10% of Mexicans in 2010 was 27 times higher than that of the bottom 10% (OECD average 9:1).

While in the OECD area inequality increased in the first decade of the 21st century, the opposite happened in Mexico as well as in other Latin American countries (CEPAL 2013). In 2012 in Mexico the share of total income of the richest 20% of population was 49.1%, against a share of 5.9% of the poorest 20% that is, a ratio of 15.5:1; in 2012 the same ratio was 14:1, due to a slight decrease of the share of the richest and a slight increase of the share of the poorest.

It is interesting to note that in 2002 inequality in Mexico was smaller than in Brazil and Argentina (with the ratio of richer 20%/poorer 20% being respectively 34.4:1 and 20.6:1). This was due to the larger effort of Mexican policies to fight poverty. However in 2002-12 the reduction in inequality achieved in both Brazil and Argentina was larger than in Mexico (CEPAL 2013).

1.9. The geography of well-being

Income per capita is a powerful indicator of the regional situation within an economy. However GDP per capita at state level can be influenced by particular circumstances (such as the presence of oil extraction). And, generally speaking, average level of income does not necessarily explain the well-being of people – due in particular to income distribution and access to services. Well-being is a multi-dimensional phenomenon, and it is not only linked to the mere economic situation of regions and people (Stiglitz et al., 2010).

Before analysing different dimensions of well-being, it is worth recalling that in the case of Mexico, socio-economic differences among states can be analysed through the Human Development Index as well as via a "Marginalization Index", elaborated by the Mexican *Consejo Nacional de Población* (CONAPO 2011). This index is multi-dimensional, including several key indicators: education (% of illiterate population, % of population without elementary education); housing (houses without lavatories, electricity, piped water, with land floors or overcrowded); dispersed population (localities with less than 5 000 people); income (with respect to minimum wage).

The picture of marginalisation is clear and shows a definite geographical pattern: the three Southern states (Guerrero, Chiapas and Oaxaca) have a "very high" level of marginalisation. Eight states have a "high" level: four in the Centre (Puebla, Hidalgo, S.L. Potosí, and Michoacán), and four in the South-Southeast on the Caribbean coast (Veracruz, Tabasco, Campeche and Yucatan).[27] Several states in the Centre of Mexico have a "medium" index (together with Quintana Roo), while the level of marginalisation is "low" or "very low" in the area of the capital city, around Guadalajara and the Northern states.[28] In the last decade, however, marginalisation was reduced, with better results in the states with higher values (see Tab.A11 in the appendix). A quite similar picture appears if taking into account the Human Development Index (UNDP 2011).

As said, well-being is a multidimensional phenomenon, difficult to describe using synthetic indicators. The OECD has developed an analytical framework for analysing well-being, in its "How's life" (OECD 2013d), based on 11 dimensions.[29] It is focused on people, concentrates on outcomes, considers the distribution of well-being, and looks at both subjective and objective aspects. Data regarding some of these dimensions are presented as follows.

Income per working person is obviously correlated with GDP per capita. But the correlation is far from perfect, due to composition of GDP, employment rates and distribution of income. In particular some central (Hidalgo, Puebla, Estado de Mexico and Veracruz) as well as southern states (Yucatan and Colima) perform better when considering income per working person compared to GDP per capita, while for Sinaloa, Sonora, Coahuila and Quintana Roo the opposite happens. It is not surprising that for the two oil-producing states, income per worker is far below, compared to the national average, than GDP per person (see Table A12 in the appendix).

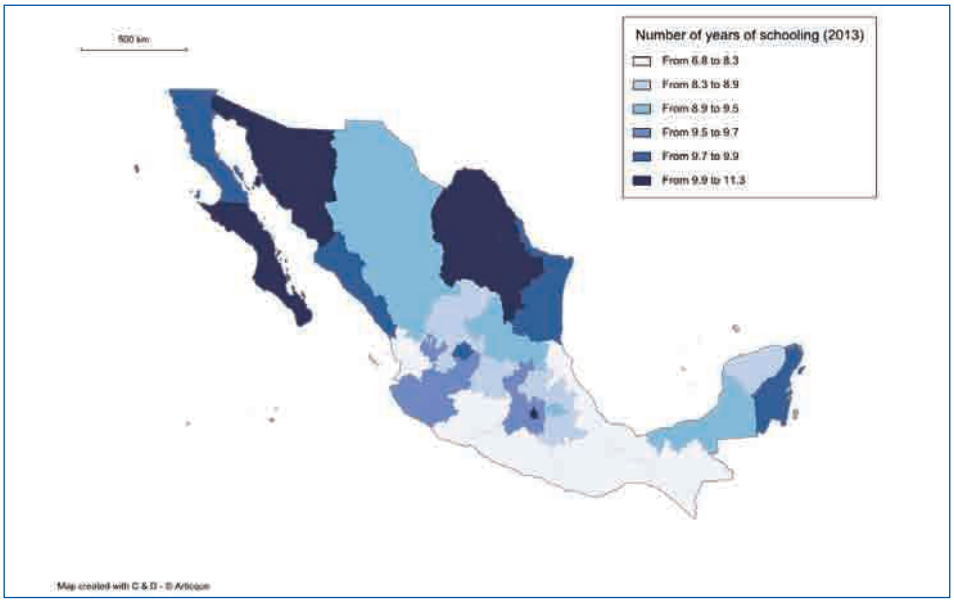
As far as housing conditions are taken into account, several states in the centre of the country and on the Pacific coast (together with the poorest states of the South) show quite negative data. People living in houses without lavatories represent 3.6% of the national average, but 12.6% in Yucatan. People living in houses without electricity (1.8% in average) represent 4.2% in Durango, 3.9% in S.L. Potosí and 3.8% in Nayarit. People living in houses without piped water (8.6% in the whole Mexico), are 19.5% in Veracruz, 18.5% in Tabasco, 14.2 in S.L. Potosí.

27. These data clearly indicate how the very high GDP per capita recorded in Campeche and Tabasco (due to oil extraction) is not reflected at all in a comparable well-being of people in those states.
28. Marginalisation is low in Chihuahua, Baja California Sur, Sonora, Tamaulipas and very low in the cases of Coahuila, Baja California, Nuevo León.
29. They include people's income and wealth, their jobs and housing conditions, their health and skills, the time they devote to their families and friends, their ties with other people in their community, how much they trust institutions and their capacity to act as informed citizens, the quality of the environment, their experience of violence and victimisation, their feelings and life evaluations.

Education plays a crucial role in determining both the overall well-being, and the possibilities of economic development. Education can be measured through different indicators, accounting for different attainments. This is the case for the illiteracy rate (among people aged 15 or older). In 2010, the illiteracy rate in Mexico was close to 7%. In the three poorest states of the country illiteracy rates range between 16% and 18%; this represents more than twice the national average (Gobierno de los Estados Unidos Mexicanos, 2013). In contrast, illiteracy rates are lower than 3% in Distrito Federal, Nuevo León and Baja California. Average schooling years of the population between 25 and 64 years old are comprised between 11.3 in the DF and 6.8 in Chiapas (Gobierno de los Estados Unidos Mexicanos, 2013).

However, both national educational effort and educational disparities among states show improvements. A long-term analysis of educational enrolment and attainment in the Mexican States using information starting in 1940 shows a clear pattern of reduction of territorial disparities (Fuentes and Montes, 2003). In the last 20 year, average years of schooling went from 9.2 to 11.3 in Distrito Federal, and from 4.1 to 6.8 in Chiapas. In absolute terms, it represents an increase of two years of schooling in both states; but in relative terms, it implies increasing by half the educational attainment in the poorest state of the country. However, if one tries to measure the quality of learning, the PISA test scores show an education performance below other OECD countries as well as very large differences among Mexican states (OECD 2013 c). PISA tests tend to correlate strongly with socioeconomic background and income per capita across (CONEVAL 2011d) (see Table A13 in the appendix and Figure 11).

Figure 11. Education, number of years of schooling (ranking on 2013 data)



Source: Based on data in Gobierno de los Estados Unidos Mexicanos (2013), pages 244 and 272-3.

In an international comparison of educational attainments, Mexico continues to perform badly, as regards both the overall level and internal differences. Almost all indicators converge in giving the same information.[30] For example, data on the percentage of labour force with at least upper secondary education show Mexico being in the lowest positions among OECD countries, together with Turkey and Portugal, around 40% on average. Chile, in comparison, stands at 75%. Internal disparities are also the largest among OECD countries.[31]

Health indicators have shown significant improvements over the past decades. Disparities in health outcomes across regions are wide, with poorer regions having worse data, even if disparities have decreased (OECD 2013c). Self-reported health status in Mexico, however, is close to the OECD average (OECD 2013d).

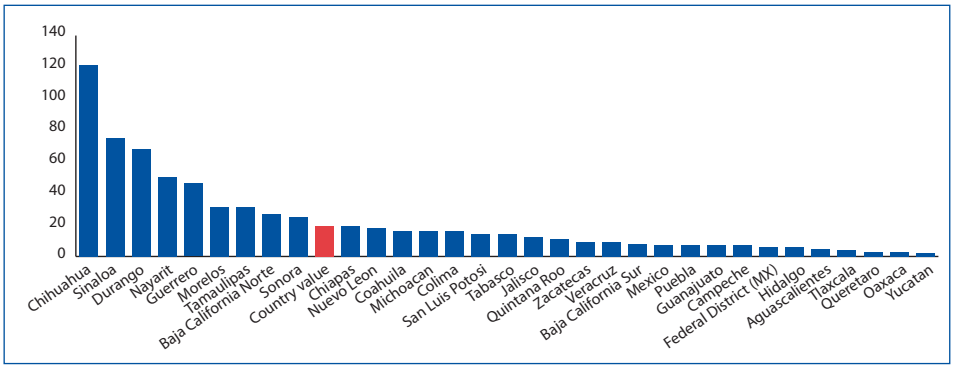
Life expectancy at birth in Mexico is 75.7 years (INEGI 2012). This value is comparable to other large Latin American countries such as Chile and Argentina, although higher than Brazil. Regional variation in life expectancy is only partly correlated to GDP per capita. As expected, life expectancy is the highest in Nuevo León (2.3% above the national average), and the lowest in Chihuahua (7.3% below national average).

Life expectancy is influenced by crime. Crime diffusion, mainly linked to drug-trafficking, is concentrated in Northern states of the country. In 2010, the national murder rate in Mexico was 19 murders per 100 000 inhabitants. The murder rate increased substantially between 1995 and 2010, being in that year by far the highest among OECD countries (OECD 2013d)[32]; the same holds true for self-reported victimisation.[33]

In 2010, the murder rate was as high as 121 per 100 000 inhabitants in Chihuahua, and well above the national average in some Central and Southern states such as Nayarit, Morelos and Guerrero. Murder rates are conversely very low in Distrito Federal and Estado de Mexico; the lowest murder rate is found in the low-income state of Oaxaca (3 murders per 100 000 inhabitants) (see Fig. 12). The feeling of insecurity is widespread among the Mexican population. Only Yucatan and Baja California Sur record a very low rate of insecurity, the rate remaining relatively high even in states with low murder rates, and peaking in most Northern States (see Tab. A14 in the appendix).

30. However, Mexico has achieved one of the highest rates of school enrolment among 4-year-olds in the OECD area (OECD 2013b).
31. Together with Turkey, Portugal, Chile and Spain.
32. And in 2010 (not in 1995) even higher than in Brazil and Russia.
33. That is the percentage of people declaring that they have been assaulted over the previous 12 months, in 2010.

Figure 12. Murder rate, per 100 000 inhabitants (2010)



Source: OECD regional statistics.

Appendix

Table A1. Population, density of population and number of municipalities, 2010

Region	Population	Population Density*	Municipalities
Country value	112 336 538	57	2454
Aguascalientes	1 184 996	211	11
Baja California Norte	3 155 070	44	5
Baja California Sur	637 026	9	5
Campeche	822 441	14	11
Chiapas	4 796 580	65	118
Chihuahua	3 406 465	14	67
Coahuila	2 748 391	18	38
Colima	650 555	116	10
Durango	1 632 934	13	39
Federal District	8 851 080	5964	16
Guanajuato	5 486 372	179	46
Guerrero	3 388 768	53	81
Hidalgo	2 665 018	128	84
Jalisco	7 350 682	93	124
Mexico	15 175 862	680	125

Table A1. Population, density of population and number of municipalities, 2010 (cont.)

Region	Population	Population Density*	Municipalities
Michoacan	4 351 037	74	113
Morelos	1 777 227	363	33
Nayarit	1 084 979	39	20
Nuevo Leon	4 653 458	72	51
Oaxaca	3 801 962	41	570
Puebla	5 779 829	169	217
Queretaro	1 827 937	157	18
Quintana Roo	1 325 578	31	8
San Luis Potosi	2 585 518	42	58
Sinaloa	2 767 761	48	18
Sonora	2 662 480	15	72
Tabasco	2 238 603	90	17
Tamaulipas	3 268 554	41	43
Tlaxcala	1 169 936	293	60
Veracruz	7 643 194	106	212
Yucatan	1 955 577	49	106
Zacatecas	1 490 668	20	58

Note: * Inhabitants per square kilometre.
Source: OECD.

Table A2. Gini index of regional inequality*, 2010. Selected large OECD and emerging countries

Indonesia	0.4
Mexico	0.35
Chile	0.35
Russian Federation	0.33
Colombia	0.31
Brazil	0.29
India	0.28
China	0.27
South Africa	0.19
United States	0.15

Table A2. Gini index of regional inequality*, 2010.
Selected large OECD and emerging countries (cont.)

Canada	0.15
Australia	0.12

Note: * Based on TL2 OECD regions.
Source: OECD (2013a), Table 2.33.

Table A3. Employment rate, productivity and GDP per capita, 2010
Mexico = 1

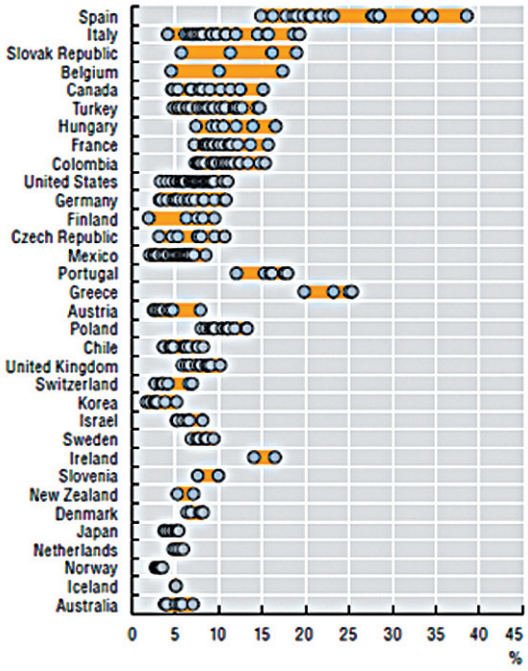
	Employment rate*	Productivity**	GDP per capita
Country value	1.00	1.00	1.00
Aguascalientes	0.96	1.06	1.02
Baja California Norte	1.01	0.95	0.96
Baja California Sur	1.10	0.95	1.05
Campeche	1.04	6.79	7.07
Coahuila	0.97	1.31	1.26
Colima	1.15	0.85	0.98
Chiapas	0.92	0.48	0.44
Chihuahua	0.93	1.05	0.98
Federal District	1.09	2.00	2.18
Durango	0.89	0.97	0.86
Guanajuato	0.93	0.86	0.80
Guerrero	1.01	0.49	0.49
Hidalgo	0.96	0.68	0.66
Jalisco	1.05	0.91	0.96
Mexico	1.00	0.69	0.70
Michoacan	0.94	0.66	0.62
Morelos	1.04	0.67	0.70
Nayarit	1.08	0.58	0.62
Nuevo Leon	1.08	1.70	1.83
Oaxaca	1.00	0.47	0.47
Puebla	0.98	0.67	0.66
Queretaro	0.94	1.21	1.14
Quintana Roo	1.19	1.01	1.20

Table A3. Employment rate, productivity and GDP per capita, 2010
Mexico = 1 (cont.)

	Employment rate*	Productivity**	GDP per capita
San Luis Potosi	0.96	0.84	0.81
Sinaloa	1.04	0.83	0.86
Sonora	0.98	1.10	1.08
Tabasco	0.95	1.99	1.88
Tamaulipas	0.99	1.07	1.06
Tlaxcala	0.95	0.54	0.52
Veracruz	0.98	0.71	0.69
Yucatan	1.11	0.72	0.81
Zacatecas	0.91	0.76	0.70

Notes: *Employment rate=Total employment/Population**Productivity=GDP/Total employment
Source: Data from OECD (2013a).

Figure A1. TL2 regional variation in the unemployment rate, 2012



Source: OECD (2013a).

Table A4. Sectoral composition of employment, 2012

	Agriculture	Manufacturing	Trade	Others*
Country value	13.6	15.0	19.8	51.5
Aguascalientes	6.1	19.4	20.2	54.2
Baja California Norte	7.5	18.0	19.9	54.7
Baja California Sur	8.9	7.6	19.0	64.6
Campeche	19.1	9.5	16.2	55.2
Coahuila	4.9	23.8	19.7	51.6
Colima	12.7	8.0	19.1	60.2
Chiapas	41.2	6.4	15.7	36.7
Chihuahua	9.4	22.9	20.0	47.7
Federal District	0.1	11.2	20.9	67.8
Durango	13.0	17.0	18.2	51.8
Guanajuato	11.0	21.4	23.9	43.6
Guerrero	31.0	10.1	16.2	42.7
Hidalgo	22.3	13.3	18.3	46.1
Jalisco	8.7	18.3	21.4	51.6
Mexico	4.9	17.3	22.3	55.5
Michoacan	21.2	12.0	20.0	46.8
Morelos	11.0	11.0	19.1	58.8
Nayarit	17.1	9.3	20.4	53.3
Nuevo Leon	2.5	22.3	18.4	56.8
Oaxaca	30.0	12.6	16.8	40.6
Puebla	23.4	15.8	20.0	40.7
Queretaro	7.9	21.9	16.7	53.5
Quintana Roo	7.0	4.7	20.1	68.2
San Luis Potosi	18.7	16.6	18.0	46.7
Sinaloa	17.3	9.7	22.7	50.3
Sonora	11.6	16.9	19.3	52.1
Tabasco	16.5	5.9	19.7	57.9
Tamaulipas	6.7	16.3	20.5	56.5
Tlaxcala	16.0	21.8	17.5	44.8
Veracruz	24.4	10.1	18.2	47.3
Yucatan	12.7	17.0	16.2	54.1
Zacatecas	24.5	10.7	18.7	46.1

Note: *Others=construction, mining and other public and private services.
Source: Calculations based on data from INEGI (2013).

Table A5. Employment by firm size*, 2008; percentage values; manufactures, trade and services

	Micro	Small	Medium	Large	Total	Total employment (number)
Country value	45.7	13.3	10.3	30.8	100.0	18 136 036
Aguascalientes	44.0	15.0	10.8	30.2	100.0	222 968
Baja California	30.5	13.2	12.8	43.5	100.0	654 778
Baja California Sur	45.1	17.7	10.3	26.9	100.0	120 606
Campeche	52.4	14.7	7.3	25.7	100.0	124 898
Coahuila de Zaragoza	72.4	12.1	6.5	9.0	100.0	363 236
Colima	28.4	11.3	9.7	50.6	100.0	721 852
Chiapas	34.0	13.1	9.9	42.9	100.0	541 881
Chihuahua	60.0	18.4	7.4	14.2	100.0	105 204
Distrito Federal	29.2	12.8	10.2	47.8	100.0	2 961 316
Durango	47.3	14.8	12.9	25.0	100.0	211 401
Guanajuato	49.3	15.1	11.3	24.3	100.0	839 984
Guerrero	73.8	10.6	5.4	10.2	100.0	374 687
Hidalgo	58.6	11.7	9.4	20.3	100.0	304 126
Jalisco	47.1	15.5	11.0	26.4	100.0	1 367 091
México	52.7	10.5	10.5	26.3	100.0	1 834 805
Michoacán	69.9	13.1	7.3	9.8	100.0	556 882
Morelos	61.9	13.0	8.9	16.2	100.0	283 049
Nayarit	63.2	14.6	6.9	15.3	100.0	138 811
Nuevo León	27.0	14.7	14.1	44.2	100.0	1 103 672
Oaxaca	76.4	10.5	4.7	8.3	100.0	371 487
Puebla	58.2	12.0	10.4	19.4	100.0	778 859
Querétaro	37.5	14.3	14.0	34.3	100.0	347 919
Quintana Roo	36.0	15.9	9.3	38.7	100.0	277 312
San Luis Potosí	49.1	13.6	10.7	26.6	100.0	352 817
Sinaloa	49.9	17.7	11.4	21.1	100.0	374 707
Sonora	39.4	15.1	12.6	32.9	100.0	494 414
Tabasco	56.2	15.0	10.4	18.5	100.0	209 927
Tamaulipas	37.4	12.3	10.3	40.0	100.0	600 356
Tlaxcala	63.9	10.0	8.6	17.6	100.0	162 008
Veracruz	59.5	13.8	8.1	18.6	100.0	829 212

Table A5. Employment by firm size*, 2008; percentage values; manufactures, trade and services (cont.)

	Micro	Small	Medium	Large	Total	Total employment (number)
Yucatán	53.8	14.7	10.2	21.3	100.0	350 149
Zacatecas	68.4	12.8	7.5	11.3	100.0	155 622

micro= 1-10 employees
small= 11-30 employees
medium= 31-100 employees
large= more than 101 employees
Source: INEGI 2009, Censos Economicos.

Table A6. The role of metro areas, 2010

	% of population	% of employment	% of GDP	GDP per capita	Employment rate	Productivity
33 Metropolitan areas	51	52	67	131	102	129
Rest of the country	49	48	33	67	98	69

Source: Based on data in OECD (2013a).

Table 17 . Innovation, 2010: Patent applications per million inhabitants

Country value	1.5
Federal District	5.2
Queretaro	4.4
Jalisco	3.2
Nuevo Leon	3.0
Chihuahua	2.0
Nayarit	1.8
Sonora	1.8
Coahuila	1.2
Sinaloa	1.1
Mexico	1.0
Baja California Norte	1.0
Quintana Roo	0.9
Tlaxcala	0.9
Aguascalientes	0.8
Tamaulipas	0.8
Durango	0.7

Table 17 . Innovation, 2010: Patent applications per million inhabitants (cont.)

Puebla	0.7
San Luis Potosi	0.7
Morelos	0.4
Guanajuato	0.4
Veracruz	0.1
Hidalgo	0.0
Baja California Sur	-
Campeche	-
Colima	-
Chiapas	-
Guerrero	-
Michoacan	-
Oaxaca	-
Tabasco	-
Yucatan	-
Zacatecas	-

Source: OECD regional statistics.

Table A8. GDP per capita index, 2011

GDP per capita, by sector and State, with GDP per capita Mexico=100

	Total GDPpc	Agric.	Mining	Manuf.	Trade	Info serv.	Fin. serv	Prof. serv.	Adv. serv*	Others
Country value	100.0	3.5	10.4	18.1	16.5	2.9	3.5	3.0	9.4	42.1
Aguascalientes	100.7	4.8	2.1	32.2	15.8	2.1	2.7	2.1	6.8	39.0
Baja California Norte	94.9	3.1	0.3	21.1	17.0	2.8	1.5	2.8	7.2	46.3
Baja California Sur	101.9	3.8	1.3	2.5	19.1	2.5	2.5	2.5	7.6	67.5
Campeche	805.3	4.9	698.7	3.9	13.8	2.0	1.0	7.9	10.9	73.0
Coahuila	126.1	3.5	4.4	46.4	16.8	1.5	2.4	3.5	7.4	47.5
Colima	99.8	6.2	1.2	8.7	15.0	1.2	1.2	1.2	3.7	64.9
Chiapas	44.2	4.1	4.6	3.4	7.3	1.0	0.3	0.5	1.9	23.0
Chihuahua	94.4	6.9	1.9	21.7	16.0	2.4	1.7	4.5	8.6	39.3
Federal District	210.1	0.1	0.0	22.0	41.5	13.8	24.2	16.3	54.4	92.1
Durango	89.0	8.0	10.9	16.9	12.4	1.5	2.0	1.0	4.5	36.3
Guanajuato	79.6	3.8	0.3	24.0	12.9	1.3	1.5	3.6	6.4	32.3
Guerrero	47.4	2.9	1.4	3.8	7.9	1.2	0.7	0.2	2.2	29.2
Hidalgo	66.7	3.0	0.6	21.3	7.9	0.9	0.9	0.3	2.1	31.7

Table A8. GDP per capita index, 2011

GDP per capita, by sector and State, with GDP per capita Mexico=100 (cont.)

	Total GDPpc	Agric.	Mining	Manuf.	Trade	Info serv.	Fin. serv	Prof. serv.	Adv. serv*	Others
Jalisco	94.4	5.6	0.3	20.1	22.2	2.5	2.2	2.0	6.7	39.4
Mexico	68.8	0.9	0.3	19.8	13.5	1.3	1.5	1.4	4.2	30.2
Michoacan	62.5	7.8	0.4	7.5	12.7	1.5	0.9	0.9	3.4	30.8
Morelos	68.1	2.3	0.0	17.8	10.5	1.8	0.9	0.9	3.7	33.8
Nayarit	60.6	6.0	0.0	3.7	10.5	1.5	0.7	0.7	3.0	37.4
Nuevo Leon	180.5	1.2	1.6	49.9	30.5	5.2	9.1	7.2	21.5	75.9
Oaxaca	46.3	3.0	0.0	10.2	7.7	0.9	0.4	0.4	1.7	23.7
Puebla	66.0	2.8	1.4	18.4	11.0	2.5	1.3	1.0	4.8	27.7
Queretaro	115.9	3.1	3.6	29.8	22.6	3.1	1.8	3.1	8.0	48.8
Quintana Roo	118.2	1.2	0.0	3.1	22.7	1.8	3.7	4.3	9.8	81.4
San Luis Potosi	81.3	3.5	2.2	22.6	11.9	1.3	1.3	1.3	3.8	37.4
Sinaloa	81.8	8.2	1.5	7.0	18.8	1.8	2.3	1.5	5.6	40.8
Sonora	114.9	7.9	14.0	24.4	17.7	3.0	2.1	1.8	7.0	43.9
Tabasco	219.0	2.5	150.8	6.2	14.9	1.5	1.1	1.1	3.6	41.0
Tamaulipas	100.1	4.0	6.7	15.1	16.9	2.2	1.5	1.7	5.5	51.9
Tlaxcala	50.0	1.4	0.0	13.2	6.9	1.4	0.7	0.7	2.8	25.7
Veracruz	68.4	4.0	6.8	10.0	9.7	1.3	0.8	0.7	2.9	35.0
Yucatan	77.6	3.3	0.4	10.8	15.4	6.2	1.7	1.7	9.5	38.2
Zacatecas	73.5	5.4	21.2	7.6	8.7	1.1	0.5	0.5	2.2	28.3

Source: Calculations based on data from INEGI (2013).

Table A9. GDP per capita index, manufacturing, 2011

GDP per capita, by manufacturing sector and State, with GDP per capita Mexico=100

	Total GDPpc	Total manuf.	Food	Petr. Der.	Metals	Machinery	Other manuf.
Country value	100	18	5	3	2	5	3
Aguascalientes	101	32	8	1	1	18	5
Baja California Norte	95	21	4	1	2	10	5
Baja California Sur	102	3	3	0	0	0	0
Campeche	805	4	2	0	0	0	2
Coahuila	126	46	4	3	14	21	5
Colima	100	9	5	0	0	0	4
Chiapas	44	3	2	1	0	0	0
Chihuahua	94	22	3	1	1	11	6
Federal District	210	22	5	7	4	2	4

Table A9. GDP per capita index, manufacturing, 2011

GDP per capita, by manufacturing sector and State, with GDP per capita Mexico=100 (cont.)

	Total GDPpc	Total manuf.	Food	Petr. Der.	Metals	Machinery	Other manuf.
Durango	89	17	9	0	1	2	4
Guanajuato	80	24	6	4	1	9	4
Guerrero	47	4	2	0	1	0	1
Hidalgo	67	21	5	9	0	1	6
Jalisco	94	20	8	3	2	4	4
Mexico	69	20	7	3	2	5	3
Michoacan	62	7	2	0	3	0	2
Morelos	68	18	4	6	0	5	3
Nayarit	61	4	3	0	0	0	1
Nuevo Leon	181	50	9	6	10	17	8
Oaxaca	46	10	2	7	0	0	1
Puebla	66	18	4	1	1	10	3
Queretaro	116	30	5	4	1	13	6
Quintana Roo	118	3	2	0	0	0	1
San Luis Potosi	81	23	6	1	5	7	4
Sinaloa	82	7	6	0	0	1	0
Sonora	115	24	6	0	9	8	2
Tabasco	219	6	3	3	0	0	1
Tamaulipas	100	15	2	5	1	6	1
Tlaxcala	50	13	3	2	1	1	5
Veracruz	68	10	5	3	1	0	1
Yucatan	78	11	7	1	0	0	2
Zacatecas	74	8	6	0	1	1	1

Source: calculations based on data from INEGI (2013).

Table A10. Rural and urban population in extreme nutritional poverty, 2012 (thousands)

	Rural	Urban	Total
Country value	3140	3872	7012
Chiapas	497	183	680
Guerrero	361	315	676
Mexico	66	556	622
Veracruz	292	315	607
Oaxaca	389	193	582

Table A10. Rural and urban population in extreme nutritional poverty, 2012 (thousands) (cont.)

	Rural	Urban	Total
Puebla	276	277	553
Michoacan	195	227	422
Jalisco	90	232	322
Guanajuato	159	152	311
Tabasco	128	95	223
San Luis Potosi	136	63	199
Federal District	0	192	192
Hidalgo	84	77	161
Tamaulipas	41	76	117
Chihuahua	30	85	115
Yucatan	21	94	115
Nayarit	83	28	111
Sonora	21	90	111
Sinaloa	47	48	95
Nuevo Leon	4	88	92
Morelos	20	68	88
Zacatecas	45	41	86
Durango	32	51	83
Tlaxcala	15	65	80
Coahuila	9	61	70
Queretaro	40	24	64
Baja California Norte	4	56	60
Quintana Roo	18	41	59
Campeche	18	22	40
Aguascalientes	8	26	34
Baja California Sur	8	13	21
Colima	3	18	21

Source: Gobierno de los Estadios Unidos Mexicanos (2013b).

Table A11. Marginalization Index, 2010

Entidad federativa	Población total	Indicadores de rezago social (porcentaje)											Índice de rezago social	Grado de rezago social	Lugar que ocupa en el contexto nacional
		Población de 15 años o más analfabeta	Población de 6 a 14 años que no asiste a la escuela	Población de 15 años y más con educación básica incompleta	Población sin derechohabiencia a servicios de salud	Viviendas con piso de tierra	Viviendas que no disponen de excusado o sanitario	Viviendas que no disponen de agua entubada de la red pública	Viviendas que no disponen de drenaje	Viviendas que no disponen de energía eléctrica	Viviendas que no disponen de lavadora	Viviendas que no disponen de refrigerador			
Nacional	112,336,538	6.88	4.77	41.11	33.85	6.15	4.66	11.28	8.96	1.82	33.62	18.00			
Aguascalientes	1,184,996	3.26	4.26	35.57	21.06	1.66	1.73	2.02	1.66	0.66	17.48	8.62	-1.11	Muy bajo	29.00
Baja California	3,155,070	2.57	4.04	35.02	28.81	3.29	2.08	4.67	5.77	1.10	20.54	7.97	-0.86	Muy bajo	28.00
Baja California Sur	637,026	3.21	3.64	34.32	22.79	5.74	2.57	11.77	5.60	3.09	31.96	11.72	-0.47	Bajo	21.00
Campeche	822,441	8.31	4.79	42.20	22.15	4.66	7.67	14.90	13.98	3.06	29.26	21.51	0.22	Alto	10.00
Coahuila	2,748,391	2.63	3.74	32.46	21.92	1.55	2.08	3.20	4.31	0.71	17.55	5.74	-1.16	Muy bajo	30.00
Colima	650,555	5.13	5.07	38.94	17.34	4.46	1.52	2.64	1.06	0.78	27.96	9.51	-0.80	Muy bajo	27.00
Chiapas	4,796,580	17.80	8.91	59.93	41.73	14.71	6.23	26.04	15.97	3.68	63.83	42.11	2.27	Muy alto	3.00
Chihuahua	3,406,465	3.66	5.41	40.16	23.45	3.16	3.52	5.07	6.46	3.28	18.87	8.67	-0.50	Bajo	23.00
Distrito Federal	8,851,080	2.09	3.05	25.16	33.57	1.02	1.09	2.44	0.30	0.09	22.35	9.32	-1.28	Muy bajo	31.00
Durango	1,632,934	3.82	4.87	41.66	29.85	6.30	7.11	7.06	10.67	3.57	29.71	13.53	-0.01	Medio	12.00

Table A11: Marginalization Index, 2010 (cont.)

Entidad federativa	Población total	Indicadores de rezago social (porcentaje)											Índice de rezago social	Grado de rezago social	Lugar que ocupa en el contexto nacional
		Población de 15 años o más analfabeta	Población de 6 a 14 años que no asiste a la escuela	Población de 15 años y más con educación básica incompleta	Población sin derechohabiencia a servicios de salud	Viviendas con piso de tierra	Viviendas que no disponen de excusado o sanitario	Viviendas que no disponen de agua entubada de la red pública	Viviendas que no disponen de drenaje	Viviendas que no disponen de energía eléctrica	Viviendas que no disponen de lavadora	Viviendas que no disponen de refrigerador			
Guanajuato	5,486,372	8.18	4.85	49.78	29.61	4.15	7.62	8.05	8.99	1.58	27.14	13.95	0.00	Medio	11.00
Guerrero	3,388,768	16.68	6.49	53.75	45.75	18.35	19.52	37.74	22.55	4.18	60.57	26.81	2.52	Muy alto	1.00
Hidalgo	2,665,018	10.23	3.29	43.19	33.79	7.12	7.70	12.72	14.09	2.87	51.71	28.34	0.61	Alto	7.00
Jalisco	7,350,682	4.36	5.27	41.19	34.51	3.02	2.37	5.34	2.06	0.83	19.20	7.35	-0.66	Muy bajo	25.00
México	15,175,862	4.38	3.84	34.76	40.39	3.76	4.02	7.81	5.26	0.81	34.29	20.60	-0.37	Bajo	19.00
Michoacán	4,351,037	10.18	7.13	53.71	44.36	10.25	4.96	11.82	10.76	1.75	34.76	18.16	0.75	Alto	6.00
Morelos	1,777,227	6.42	5.15	37.19	35.28	7.21	3.17	12.39	4.43	0.97	38.11	14.25	-0.13	Medio	16.00
Nayarit	1,084,979	6.31	4.20	40.52	22.77	3.96	5.41	11.68	5.62	3.04	29.12	13.61	-0.25	Bajo	17.00
Nuevo León	4,653,458	2.20	2.98	28.33	20.33	2.01	2.27	3.08	2.64	0.39	14.50	5.59	-1.37	Muy bajo	32.00
Oaxaca	3,801,962	16.27	5.64	57.80	43.08	18.74	5.41	30.10	28.35	5.23	62.70	40.04	2.42	Muy alto	2.00
Puebla	5,779,829	10.38	5.78	49.09	49.28	9.46	4.60	16.17	12.31	1.86	52.06	36.31	1.07	Alto	5.00
Querétaro	1,827,937	6.31	3.84	38.56	25.18	3.74	7.24	8.07	8.42	2.06	34.04	16.00	-0.25	Bajo	18.00
Quintana Roo	1,325,578	4.77	4.27	33.44	29.81	3.70	5.16	8.16	4.87	2.05	30.14	18.46	-0.40	Bajo	20.00

Table A11: Marginalization Index, 2010 (cont.)

Entidad federativa	Población total	Indicadores de rezago social (porcentaje)											Índice de rezago social	Grado de rezago social	Lugar que ocupa en el contexto nacional
		Población de 15 años o más analfabeta	Población de 6 a 14 años que no asiste a la escuela	Población de 15 años y más con educación básica incompleta	Población sin derechohabiencia a servicios de salud	Viviendas con piso de tierra	Viviendas que no disponen de excusado o sanitario	Viviendas que no disponen de agua entubada de la red pública	Viviendas que no disponen de drenaje	Viviendas que no disponen de energía eléctrica	Viviendas que no disponen de lavadora	Viviendas que no disponen de refrigerador			
San Luis Potosí	2,585,518	7.91	3.54	44.20	25.92	8.73	5.16	16.79	18.65	4.13	35.21	21.93	0.49	Alto	8.00
Sinaloa	2,767,761	4.97	3.79	39.67	24.47	6.14	5.12	9.61	7.82	1.22	26.73	7.01	-0.48	Bajo	22.00
Sonora	2,662,480	3.04	3.42	32.74	25.03	5.26	2.88	5.55	9.65	1.89	27.11	7.99	-0.69	Muy bajo	26.00
Tabasco	2,238,603	7.06	4.21	39.83	25.21	6.44	4.54	26.11	4.19	1.37	30.38	17.16	-0.07	Medio	14.00
Tamaulipas	3,268,554	3.61	3.97	35.93	22.46	3.33	2.57	4.84	11.52	1.77	25.32	10.44	-0.65	Muy bajo	24.00
Tlaxcala	1,169,936	5.19	3.28	38.97	37.77	3.85	4.57	4.36	5.36	1.20	51.47	33.68	-0.05	Medio	13.00
Veracruz	7,643,194	11.44	5.71	50.72	39.87	11.68	3.90	23.61	15.62	3.15	45.62	25.25	1.14	Alto	4.00
Yucatán	1,955,577	9.23	3.60	45.06	24.08	2.78	13.36	5.52	19.47	2.02	31.51	23.16	0.22	Alto	9.00
Zacatecas	1,490,668	5.55	4.40	48.78	30.46	3.41	8.50	8.30	10.09	1.53	23.75	14.26	-0.13	Medio	15.00

Source: CONAPO

Table A12. Income per working person, 2008 (thousand pesos)

Country value	99
Campeche	141
Federal District	136
Tabasco	123
Nuevo León	118
Tamaulipas	103
Baja California	101
Querétaro	99
México	98
Coahuila	97
Chihuahua	97
Veracruz	96
Aguascalientes	91
Sonora	86
Baja California Sur	84
San Luis Potosí	84
Hidalgo	84
Quintana Roo	83
Jalisco	83
Guanajuato	83
Puebla	82
Morelos	81
Durango	79
Oaxaca	75
Zacatecas	72
Colima	70
Tlaxcala	69
Sinaloa	69
Guerrero	66
Chiapas	65
Yucatán	65
Michoacán	64
Nayarit	62

Source: INEGI, Censos Economicos.

Table A13. Education, number of schooling years, ranking on 2013 data

Region	1994	2013	Abs. Increase	% Increase
Country value	6.6	9.2	2.6	39
Federal District	9.2	11.3	2.1	23
Nuevo Leon	8.2	10.4	2.2	27
Sonora	7.4	10.1	2.7	36
Coahuila	7.5	10	2.5	33
Baja California Sur	7.6	9.9	2.3	30
Sinaloa	6.7	9.9	3.2	48
Aguascalientes	7	9.8	2.8	40
Baja California Norte	7.7	9.7	2	26
Quintana Roo	6.6	9.7	3.1	47
Tamaulipas	7.2	9.7	2.5	35
Colima	6.9	9.6	2.7	39
Queretaro	6.3	9.6	3.3	52
Jalisco	6.8	9.5	2.7	40
Mexico	7.1	9.5	2.4	34
Morelos	6.9	9.5	2.6	38
Tlaxcala	6.5	9.4	2.9	45
Chihuahua	7	9.3	2.3	33
Tabasco	5.9	9.3	3.4	58
Campeche	5.9	9.2	3.3	56
Durango	6.4	9.1	2.7	42
San Luis Potosi	5.8	8.9	3.1	53
Hidalgo	5.4	8.7	3.3	61
Yucatan	5.9	8.7	2.8	47
Zacatecas	5.4	8.6	3.2	59
Puebla	5.7	8.4	2.7	47
Guanajuato	5.2	8.3	3.1	60
Veracruz	5.5	8.2	2.7	49
Michoacan	5.2	8	2.8	54
Nayarit	6.2	8	1.8	29
Guerrero	4.9	7.8	2.9	59
Oaxaca	4.4	7.5	3.1	70
Chiapas	4.1	6.8	2.7	66

Source: Based on data in Gobierno de los Estados Unidos Mexicanos (2013), pages 244 and 272-3.

Table A14. Life expectancy, murder rate, insecurity

	Life Expectancy (a) (2010)	Murder Rate (b) (2010)	Insecurity (c) (2012)
Chihuahua	68.7	121	83
Sinaloa	73.8	75	76
Durango	73.9	68	82
Nayarit	73.9	50	73
Guerrero	71.9	46	75
Morelos	74.7	31	81
Tamaulipas	74.7	31	83
Baja California Norte	73.1	27	51
Sonora	74.5	25	42
Country value	74.1	19	67
Chiapas	72	19	38
Nuevo Leon	75.8	18	87
Coahuila	74.7	16	75
Michoacan	73.8	16	76
Colima	75.3	16	70
San Luis Potosi	73.8	14	60
Tabasco	74	14	71
Jalisco	74.8	12	61
Quintana Roo	74.9	11	60
Zacatecas	74.3	9	80
Veracruz	73.3	9	70
Baja California Sur	75.5	8	24
Mexico	74.4	7	85
Puebla	74	7	58
Guanajuato	74.7	7	55
Campeche	74.6	7	44
Federal District	75.5	6	71
Hidalgo	73.6	6	49
Aguascalientes	75.2	5	46
Tlaxcala	74.3	4	40
Queretaro	74.7	3	29
Oaxaca	71.9	3	61
Yucatan	74.9	2	19

Notes: (a) Years
(b) Rate per 100 000 inhabitants
(c) Percentage of people (18 yrs and more) considering insecure their federal entity
Source: OECD regional statistics for (a) and (b), INEGI (2013b) for (c).

Chapter 2. Regional Policies in Mexico

2.1. Introduction

Regional policy is about promoting growth in all the regions of a country. It normally has both equity and efficiency goals. This makes economic sense: growth can be stimulated in all regions by mobilising all available - material and immaterial - resources, and by integrating and coordinating sectorial policies. Less developed regions can make a vital contribution to national development; stimulating growth in these regions may render national economies less vulnerable to shocks, may reduce the cost that under-performing regions can impose on national budgets, and may reduce the likelihood of individuals' opportunities being determined by where they happen to be born or live (OECD 2010 and 2012a).

Regional policies are different in OECD (and in emerging) countries. They generally involve the definition of a complex multi-level governance system, being a matter of action of both national and sub-national government. Several countries adopt explicit regional policies, with clear governance and explicit goals, specific responsibilities and policy tools, and a clear recognition within the national budget. In all the countries, implicit regional policies are determined by the allocation criteria of public resources, both for current and capital expenditures, among individuals and localities.

In Mexico regional policies are evolving. Traditionally there was neither a specific fund for regional development policy nor a unified presentation of regional development spending. Politico-administrative systems tended to be organised along sectorial lines, with at least seven Ministries having an important impact on regional development (OECD 2010).

First experiences of policies with explicit territorial effects were put in place in the 1940s (SEDATU 2013), with the goals of an ordered occupancy of coastal lands and the improvement of their connections with the central "*mesa*"; and with the development of the hydrogeological basins. In the 1950s and 1960s the goal was to decrease the concentration of economic activity in the centre of the country, to avoid diseconomies of congestion, with fiscal and tariff instruments promoting industrialisation in selected

areas; in 1965 the *Programa Nacional de Industrializacion de la Frontera Norte* was started, generating the first wave of "maquiladoras" close to the US border.

In the 1970s and 1980s there was a significant increase in the number of initiatives. The first *Politica Nacional de Desarrollo Regional* was launched during this period having specific projects implemented, such as the steel investments in Michoacan and the planned development of Cancun as a touristic centre. However, regional policies lost importance and were then subordinated to urban policy. The attempt at their revitalisation with the Planning Law (1983) failed with the economic crisis (SEDATU 2013). In the 1990s the Ministry of Social development (SEDESOL) was created; in absence of a national regional policy, some place-based programmes were started, such as SEDESOL's micro-regions, and Ministries of Environment and Agriculture's (SEMARNAT and SAGARPA) were in charge of rural development projects.

In the 2001-06 National Development Plan, the 32 Mexican Entities were grouped into five Meso-regions. Small Regional Trust Funds (*Fideicomisos para el Desarrollo Regional*) were created (in four out of five meso-regions) as an incentive for inter-state collaboration, with a rotating Trust Fund President from the constituent states. But the incentives from the Trust Fund remained limited in scale, serving more as a vehicle for inter-state dialogue, mainly focused on infrastructure planning. Thew main problems were: the lack of a legal basis; the inability for states to participate in different meso-regions; the large size of the meso-regions and the lack of continuity in the leadership (OECD 2009).

Only the South-Southeast meso-region went further in terms of acting regionally. The constituent states established a larger Trust Fund, and chose to work with the Ministry of Communications and Transport as a group of states, rather than individually; a special Commission within the Chamber of Deputies was created for this meso-region. The goal was to concentrate efforts and resources on large region-wide projects, using available funds on a smaller number of common goals, instead of dispersing them on a State-by-State basis.

Trans-national co-operation on the Southern border is yet to be developed, due to severe problems of underdevelopment, poverty and lack of infrastructures. However, the common cultural identity and the historical heritage dating back to the Maya could represent an important basis for common actions.

The Northern border states have been engaged in inter-state and cross-national collaboration with the US through the Border Governors Conference, that includes six Mexican and four US states (OECD 2009). The Indicative Plan for the Competitive and Sustainable Development of the Border Region Mexico–U.S. sets a co-operation agenda regarding competitiveness, sustainability, safety and fairness, with a 20-year time horizon (SEDATU 2014b). The Conference does not meet frequently. There are common

North-South initiatives of couples of American and Mexican states but an overall East-West approach, encompassing the whole border, still seems to be lacking.

The 2007-12 National Development Plan did not explicitly make any reference to meso-regions. It presented an "integral" strategy for regional development, together with the need for role sharing across levels of government, as well as vertical and horizontal co-ordination, and the need to consider the spatial dimension in the design of public policies. Other main goals were: institutional capacity building at the state and municipal levels; enhancing the competitiveness of all states; emphasising SMEs in lagging regions; and infrastructure development (OECD 2009).

Objective 13 of the Plan was "to overcome the regional disparities using each region's competitive advantages, in co-ordination and collaboration with political, economic and social actors within regions, among regions and at a national level" (OECD 2010). However, no clear national directives or policies were put in place, and in that period regional policy lost importance.

2.2. The National Development Plan 2013-18

The National Development Plan 2013-18 sets five goals: Mexico at peace; with quality education; with global responsibility; inclusive; and prosperous. It also includes cross-cutting strategies to democratise productivity, modernise and bring government closer to the people, and introduce a gender perspective. In this context, the new Administration stated in 2013 the goal of building a coherent regional strategy, interlinked with the territorial planning and urban development. The Secretary of Agricultural, Territorial and Urban Development (SEDATU) was created with the *Ley Organica de la Administracion Federal*, and was put in charge of design and promotion of regional development, as well as of specific regional development plans, within the National Policy of Regional Development (*Politica Nacional de Desarrollo Regional*).

According to the National Development Plan 2013-18, in order to increase national potential of growth and "democratise productivity", all regions have to benefit from opportunities and development. It explicitly states that two regional programs, for the North and the South-Southeast of the country, should be prepared. The development plan for the South-Southeast is also one of the goals (number 67) of the "Pact for Mexico" signed by major Mexican parties in December 2012.

The first document of the 2013-18 National Policy of Regional Development (SEDATU 2013) highlights several development challenges: social inclusion, environmental sustainability, urban and rural development, infrastructures, as well as six principles for the new policy: complementarity, solidarity, inclusion, sustainability, equity and innovation. Planned instruments of the policy are national strategies and subsequent

programmes for the main macro-areas of the country, and the revision of the Planning Law and the Federal Budget and Fiscal Responsibility Law.

According to the new National Policy of Regional Development (SEDATU 2014a), Mexico needs a national competitiveness policy explicitly associated with a policy of balanced regional economic development: that is, a national competitiveness policy with an explicit regional dimension.

The NPRD has the overall goal of "democratising productivity" to reduce the regional gaps in income and well-being. It aims at creating a guiding framework for national strategies and regional programmes, creating and reinforcing co-ordination tools, boosting schemes for short and long-term budgeting, promoting the regulatory framework. In this respect, the NPRD suggests to reform both the Planning (*Ley de Planeaciòn*) and the Federal Budget and Fiscal Responsibility (*Ley Federal de Presupuesto y Responsabilidad Hacendarìa*), as well as develop typologies of regions to facilitate decision-making.

The National Strategy for the Development of the North (SEDATU 2014b) particularly points to reducing social exclusion in the more developed part of the country, reinforcing connections, and fully developing the urban network with urban-rural interactions. Cross-border co-operation with the United States may enhance development possibilities via the "largest cross-border trading area in the world". The strategy identifies 47 main investment projects and suggests to create a Macro-regional Productivity Committee.

The National Strategy for the Development of the South-Southeast (SEDATU 2014d) appears particularly difficult due to both the large differences within its regions and to their fragility. In this case, it is suggested to adopt a spatial sub-regional approach, by specifically targeting the different sub-regions: Golfo de Mexico, Peninsula, Pacifico Sur. The strategy necessarily points to a wide range of goals going from industrial development, diversification of regional economies, and infrastructure development to the provision of basic services, especially for the rural population. Seven Mega-projects, labelled as "detonators" are mentioned: the first stage of the trans-Isthmus Corridor; four development plans for Riviera Maya, Litoral Pacifico Sur, Golfo de Mexico Sur and Cuenca del Rio Verde; R&D centres and actions for Central-American migrants.

The National Strategy for the Development of the Centre (SEDATU 2014c) calls particularly for reinforcing territorial planning and upgrading transport and logistics, in a very diversified and large part of the country. It presents a "project bank," with 249 options to be financed. The three documents are particularly focused on identifying and listing priority projects; they present possibilities to co-ordinate and finance policies without final choices.

2.3. Place-based programmes and urban policy

Some public policies in Mexico have a place-based approach. Their magnitude is small, if compared both to overall size of public spending and to the needs, in particular of more deprived areas and regions. However, it is worth recalling some of their main features.

The most interesting example is represented by the Micro-regions strategy. Mexico's micro-regions strategy (now the Program for the Development of Priority Areas [*Programa para el Desarrollo de Zonas Prioritarias*]) aims to provide basic infrastructures in the most marginalised rural regions. It involves different ministries and is led by the Ministry of Social Development (SEDESOL). Its objective is to co-ordinate public policy for the least developed rural areas and to promote bottom-up participation in targeted communities: rather than a programme, it is a multi-sectorial strategy that relies on a multi-tier co-ordination mechanism, based on a set of horizontal and vertical contracts to co-ordinate public service delivery.

Following the definition of the *Zonas de Atenciòn Prioritaria* in the federal Administration 1994-2000, the National Strategy for the Micro-regions started in 2001, with the goal of overcoming "sectoral" approaches and enhancing synergies among different ministries regarding public investments in lagging rural regions. The micro-regions were chosen on the basis of the marginalisation index developed by CONAPO: 263 areas spread across 1 334 municipalities in 31 different states, including more than 99 000 localities and a population close to 20 million. Particular emphasis was placed on the 125 poorest municipalities of the country. In 2006-12, the *Estrategia 100X100* was launched to foster socio-economic development in the municipalities with the highest levels of marginalisation and poverty in the country.

The strategy provides all basic infrastructure services in "micro-poles of development" called strategic community centres (CEC). Their function is to concentrate the necessary basic infrastructure for the local population and the surrounding settlements. The CECs are expected to foster a concentration of population around them, creating larger rural hubs. Criteria have been developed to validate progress in each CEC based on "flag" indicators, certifying that a certain level of infrastructure or service is reached: the stated objective is to reach 11 white flags (*banderas blancas*).

Mexico's rural development policy approach includes programmes that support local public goods and productive activities. The Ministry of Economy's credit programme (FONAES) and the Rural Development programme of the Ministry of Agriculture and Rural Development (SAGARPA) support productive activities in rural areas (OECD 2009). Mexico's social policies then include several programs that target specific areas of the country, the most important of which being *Oportunidades* (see below).

At the state level, the State Planning and Development Committees (*Comité de Planeaciòn para el Desarrollo del Estado*, COPLADE), chaired by the State Governor, has prepared the state level plan since 1981, which includes a proposal for investments at the state and municipal levels, and has supervised co-ordination across levels of government. At the municipal level, the Municipal Planning and Development Committees (COPLADEMUN) are responsible for formulating a development plan with specific proposals. States and municipalities conclude municipal development agreements (*Convenios de Desarrollo Municipal*) for project implementation and financing (OECD 2010).

Public policies in Mexico have recently started to acknowledge the problems of urban areas, such as urban sprawl and transportation, which require a good co-ordination between national and metropolitan levels. Metropolitan areas deserve special attention, due to the problems of designing effective financing funds and incentives for collaboration among neighbouring municipalities. The federal government has an impact on urban areas through a variety of sectorial programmes; an inter-ministerial programme focusing on community development called DUIS (*Desarrollo Urbanos Integrales Sustentables*) was launched. The programme co-ordinates efforts by the ministries of social development (SEDESOL), environment and natural resources (SEMARNAT), energy (SENER) and economy (SE), together with *Sociedad Hipotecaria Federal*. However, DUIS are only applied to 26 cities (OECD 2013b).

In the framework of the National Development Plan 2013-18, a new urban policy has been designed, with the new National Urban Development Program (SEDATU 2014e; Gobierno de los Estados Unidos Mexicanos, 2014). It affirms the need for a new model of urban development as one of the national priorities, to achieve a competitive, productive and sustainable urban network model.

The urban strategy is focused on four priorities: 1) control urban sprawl, contrasting the physical growth of cities, and increase density; 2) consolidate cities, optimising the use of available urban soil and targeting urban poverty, exclusion and unsafety; 3) invest in urban rehabilitation, diversifying the available supply of houses and developing the secondary housing market; 4) integrate urban and mobility policies, promoting public transport and reducing the use of private cars.

Main instruments for the new urban policy are as follows: tools to control urban physical growth, such as geographic information systems (GIS), zoning and urban plans; programmes to rehabilitate urban public spaces (with a mix of social actions and investments); *Hábitat*; a programme targeting small urban areas ("*Polígonos Hábitat*, less than 15 000 inhabitants) with deficits in social services and urban infrastructures; PROCURHA, a programme for housing and consolidation, the modernisation and upgrade of "cadastres" the public registries of property; credit and subsidy policy targeted to housing closer to city centres and workplaces.

The overall regulation of urban development (*Ley des Asientamentos Humanos*) is yet to be reformed to include incentives to be used to consolidate urban areas and avoid sprawl. The capacities of municipalities to use planning tools must be improved. Urban planning is also negatively influenced by changes in technical structures caused by electoral results.

2.4. Fiscal federalism

Given the relatively small size of specific place-based programmes, the overwhelming majority of territorial effects of public policies come from the structure of taxation and the territorial allocation of the federal budget. The redistributive effect, among citizens and among states, of taxation and spending, may favour or hinder the development of backward areas and states.

Current expenditures represent in all the countries the largest part of public budget, and support basic services for the well-being of people such as education, health and social assistance. Public investment expenditures, however, even if much smaller in size, represent a key component of regional policies: they can improve the possibility of delivering basic services (better schools and hospitals) as well as foster economic development through the provision of better infrastructures.

Mexican public finances are healthy, but tax revenues are only around 10% of GDP (the rest of public expenditures being financed by oil resources): a lower level than other Latin American and OECD countries. The tax base is narrow, and the structure of taxation has encouraged informality (OECD 2013c). The Government presented a social and fiscal reform with its 2014 economic package; main features of the reform, among others, are strengthening federal financial capacity, facilitating compliance with the tax obligations and promoting federalism (IADB 2013b).

The role of public expenditures in Mexico is relatively limited. Mexico's total public expenditure stands at 26.2% of GDP, which is slightly more than half the OECD average. It is the second lowest after Chile among OECD members (OECD 2013b). The share of public expenditure over GDP in Mexico appears to be lower than the average for developing and emerging countries (138 countries); lower than the average of Latin American and Caribbean Countries, that is 5% higher (UNDP 2011).

In Mexico, responsibilities for key public services are shared among the three levels of Government, creating a quite complex system of overlapping responsibilities. While the federal government manages national-level matters, such as macroeconomics and defence, responsibilities for implementation and funding of health, education and anti-poverty programmes are divided among states and the federal government; municipalities are responsible for local matters such as road maintenance, and co-responsible

for school-building and implementation of some social programmes. Infrastructure building involves all three levels (OECD 2013a) (see Table A1 in the appendix).

However, political decisions remain centralised, and policies are largely designed at the federal level, though implemented also by states and municipalities. Formal co-ordination mechanisms for most funds and policies are lacking, so that policy making is fragmented, making it difficult to design place-based strategies and policies. The States' Governors National Conference, for example, does not seem to play a co-ordinating role as is the case in several OECD countries. There is "widespread agreement that (...) given shared responsibilities there is great scope for duplication and avoidance of responsibility for outcomes" (OECD 2013b).

Since the 1980s, Mexico has experienced a trend of decentralisation of spending responsibilities to the states, and to a lesser extent, municipalities (OECD 2013b). Since the beginning of the 1990s, and particularly after the changes in the fiscal co-ordination law (1998), the share of sub-national spending over national total rose substantially, going from 10% to around 40%. Poverty alleviation, health and education are the areas in which sub-national expenditures increased more. States do most of sub-national spending: municipalities account for 9% of total public expenditures, mainly in the provision of local services, and in education. Moreover, sub-national governments account for more than 70% of total public employment, a percentage that is larger than several OECD countries (OECD 2013b) (see Figure A1 in the appendix).

However, the increase on spending was matched by a decrease of sub-national revenues: the share of sub-national own raised resources, over their total fiscal resources, went from 32% in the early 1990s, to a current level of around 10% (OECD 2013b). The same happened for municipalities: in this case, the share of own raised resources over the total went from 33% to 19%.

Only 3% of sub-national revenues derive from own taxes, a proportion that is considerably lower than the OECD average (23%), notwithstanding the efforts of the federal government, particularly in recent years, to increase local tax collection. Some entities are able to collect a larger share of their own revenues, as in the cases of DF and Chihuahua. Largely heterogeneous is also the share of own resources among different municipalities: almost 1 600 (over 2 438 for which the data is available) are able to collect less than 10%, while for around 400, the share is larger than 20%, as in the cases of richer and more populated municipalities such as Monterrey, Queretaro and Chihuahua (OECD 2013b).

Therefore, making a broad comparison with other OECD counterparts, Mexico is in a peculiar position. The ratio of sub-national over national government expenditure in the country is among the largest, approaching the same levels of realities as United States, Korea, Spain and Sweden. Sub-national spending, indeed, is higher only in

some smaller European nations. On the other side, however, Mexico is in the group of OECD countries having the lower share of sub-national revenues as percentage of general government expenditure (see Figure A2 in the appendix).

Most of the funding for sub-national government revenues is due to federal transfers. *Participaciones* (i.e. non-earmarked transfers) account for 40% of total revenues; *aportaciones* (i.e. earmarked transfers), for 38%, and other transfers (7%) (see Figure A3 in the appendix). The federal government collects the most important taxes and then shares a part of them with states and municipalities.

The Mexican transfer system does not have an explicit equalisation framework, even if some equalisation formulas are used for some of the ear-marked transfers. Among its features, there is also a relative volatility, with transfers set as a relative percentage of the revenue sharing pool, and thus related to federal government tax and oil revenues, which are highly cyclical.

Participaciones are itemised in the line-item Ramo 28 of the federal budget. They consist of a set of eight funds that vary considerably in size. The distribution of transfers was originally designed to compensate states for the decrease of taxing powers (see Table A2 in the appendix). As a result, "for a long time richer and oil-producing states received more than poorer ones, contributing to deepening rather than reducing regional disparities" (OECD 2013b).

The formula for the *Fondo General de Participaciones*, which accounts for 90% of all *participaciones*, in the past was allocating transfers on a per capita basis (45.17%), as well as on the growth of actual efforts to raise federally-co-ordinated excise tax (45.17%); the remaining (9.66%) on the basis of a redistributive coefficient in favour of states with fewer inhabitants and lower tax revenues. The formula was changed in 2007, and now transfers are allocated on the basis of state GDP growth (60%), local revenue growth (30%) and local revenue level (10%). A hold-harmless clause was included, implying a long transition period, so that present allocation still seems to follow pre-reform criteria (OECD 2013b).

Current criteria for *participaciones*, that channel more funds to richer states with a larger revenue level, as well as to fast-growing states (given the features of Mexican regional economic development that have been presented in Chapter 1) risk exacerbating, instead of reducing, internal disparities.

Aportaciones are itemised in line-item Ramo 33 of the federal budget. They also include eight different funds. The largest fund, accounting for 59% of the total of Ramo 33 in 2010 is FAEB (*Fondo de Aportaciones para la Educacion Basica*), that is earmarked to education. FASSA (*Fondo de Aportaciones para los servicios de salud*) is earmarked to health services, and accounts for 12% of Ramo 33. Two additional large funds are FAIS

(*Fondo de Aportaciones para la Infraestructura Social*), targeted to social and rural infrastructures, and FORTAMUN-DF, aiming at municipal strengthening: each of them covers 8% of Ramo 33. Another four smaller funds complete the picture (CONEVAL 2011c) (see Table A3 in the appendix).

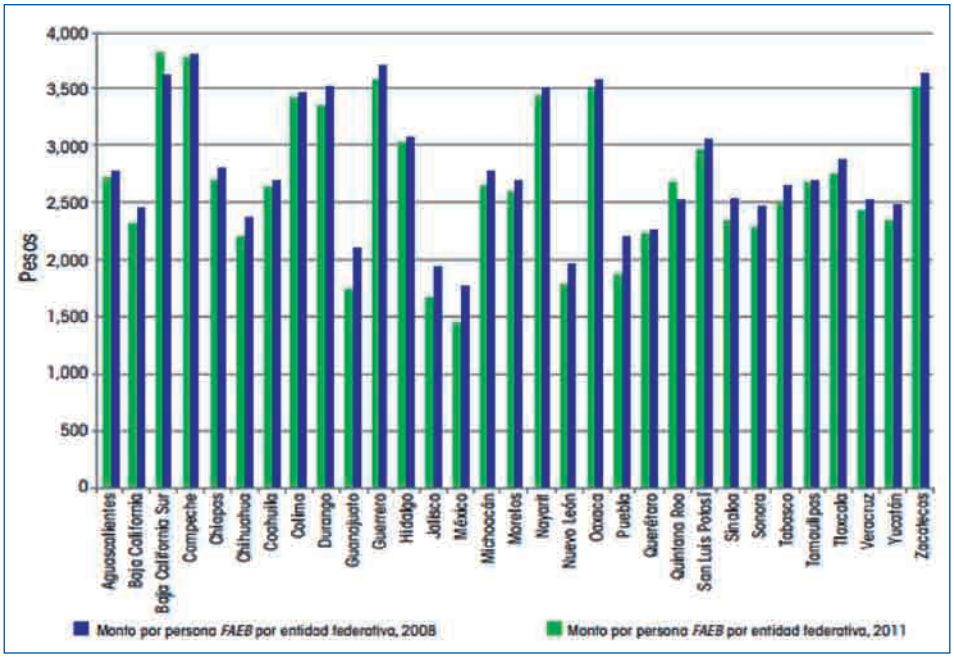
In Mexico, expenditure in education has continued to increase as a proportion of GDP, going from 5% in 2000 to 6.2% in 2009 (OECD 2013b), with a substantial part devoted to basic education (Scott 2013). The federal government is the main decision maker in the education system, but states are in charge of the operation of basic services and execute most of spending. The states have a primary responsibility over staffing and funding, but most of the money they dispose of is for payment of salaries (staff remuneration absorbs 90% of spending, much more than in other Latin American countries). All three levels of government are involved, and sometimes their actions may overlap.

The criteria of allocation of FAEB penalise poor against richer states, even if there have been some recent improvements. Until 2007 FAEB was based on number of schools and teachers, and cost shares recorded before the decentralisation of education (1998): these favoured richer states, which have developed their education system before decentralisation, are responsible for the still existing inequalities (Jounard 2005).

A fiscal reform in 2007 changed the system. Allocations are now made on the basis of: public student enrolment (50%), state's spending in education (20%), states with per student FAEB below the national average (20%) and a quality index (10%). The goal was to equalise spending per student among states, even if no clear rules have been set to define education quality. There are still problems in measurement of the number of teachers and students, quantity and quality of statistical information provided by the States are improving, but the overall picture is not yet settled. Expenditure on basic education is slightly larger in more disadvantaged states, while expenditure on secondary and tertiary education is much larger, per capita, in richer states.

Including state's spending in the formula may penalise poorer states, where the needs for additional resources may be larger due to the presence of indigenous population or to the dispersion of population (with higher cost of service provision). According to UNDP (2011), these new rules also produce a higher spending in richer states than in poorer ones. This could also be due to the reduction in CONAFE (*Consejo Nacional de Fomento Educativo*) programmes aimed at expanding education in marginalised areas. According to CONEVAL (2012) the allocative formula of FAEB still does not promote an equilibrated development of the education system, and a change of the formula is needed to reduce inter-state disparities (see Figure 1). Similar problems can be seen in the allocations of FAETA (*Fondo de Aportaciones para la Educaciòn Tecnològica y de Adultos*) (CONEVAL 2012).

Figure 1. Per capita expenditures of FAEB, 2008 and 2010



Source: CONEVAL 2012.

Moreover, funding to schools is provided by a large number of federal and state programmes and is therefore complex. Schools need to apply for funding, but many of the smallest and poorest do not have the administrative capacity to do so. Schools also rely on parent donations, representing a significant proportion of their budget: donations are obviously smaller in poorer communities.

While the core of the health system remains centralised, states are responsible for the organisation of healthcare services for the non-insured population and for providing care for the poor. However, the system is highly fragmented (social security institutes, federal and state health services, private insurers), with duplication of administrative and infrastructural costs, overlapping responsibilities and a lack of co-ordination between federal and state levels. States also have a modest autonomy because of the centralised labour contracts.

Total federal spending for health increased substantially in recent years. Health expenditures grew 30% between 2006 and 2012; notwithstanding this increase, Mexico remains one of the OECD countries with the lower percentage of health expenditures over GDP (CONEVAL 2012).

Despite reforms, public health financing granted by FASSA remains inversely correlated with GDP per capita and indicators of need. Until 2004 FASSA was largely

allocated on the basis of historical costs of each state, adjusted for installed facilities and number of professionals; this favoured richer states. The reform of the General Health changed the formula: the allocations are now based on the number of beneficiaries, with a small weight to health needs, state health spending and a measure of spending efficiency. This led to some equity improvements, even if FASSA allocations are still positively correlated to GDP per capita (OECD 2013b) (see Figure A4 in the appendix).

Seguro Popular, a programme created in 2004, provides basic medical health and preventive services and protection to people without health coverage. Its scope has widened, so as to provide universal coverage to the non-insured, in 2012 (OECD 2013b, Scott 2013), going from 15.7 million beneficiaries in 2006 to 51.8 in 2012[34] (CONEVAL 2012).

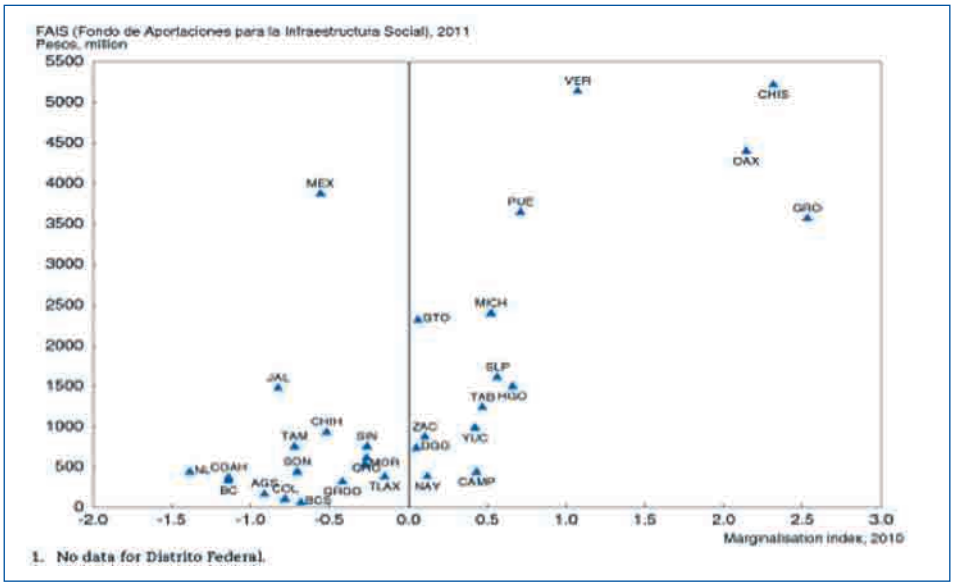
In contrast, the six smaller funds have mostly an equalisation purpose, in favour of poorer states and municipalities. FAIS, in particular, is addressed to basic infrastructure in municipalities, such as potable water, sewers, drainage and urbanisation; most of its resources (88% in 2014) are allocated directly to municipalities, while the remainder are allocated to states. An analysis on 2011 data of FAIS, shows a good correlation of investments with the marginalisation index; the expenditures are much larger in poorer states, such as Chiapas, Oaxaca and Guerrero (OECD 2013b). Also according to CONEVAL (2012), FAIS expenditures are well targeted towards states where the incidence of poverty is larger.

With the Ley de Coordinaciòn Fiscal 2013, FAIS was reformed (SEDESOL 2014). First the allocation mechanism was changed, to avoid relevant yearly variations (as happened in 2012): the new formula guarantees to each state the amount defined for 2013; 80% of the fund is allocated taking into account the population in extreme poverty, and the remaining 20% is allocated in relation to the goals achieved in poverty reduction.

Moreover, SEDESOL will have a larger role in the management of the FAIS. More precisely, it will be in charge of setting the fund's priorities, defining a catalogue of actions to be implemented (in coherence with the *Cruzada Nacional contra el Hambre*, see below), helping states and municipalities to better focus their actions towards extreme poverty (also thanks to a new annual report on the situation of states and municipalities), improving technical and institutional capacities at both levels, defining a precise timing for operations and outcome indicators to be achieved (and evaluated) (see Figure 2).

34. 57.5 million if also including beneficiaries of *Seguro Medico para una Nueva Generacion*.

Figure 2. FAIS allocation and marginalisation index



Source: OECD analysis using data from CONAPO and Sedesol.

Allocation criteria of other funds of Ramo 33 are different. FORTAMUN-DF targets municipal strengthening; its allocations are exclusively based on population. FAFEF (*Fondo de Aportaciones para el fortalecimento de las entidades federativas*) has a formula that was changed in 2007, and now works with the inverse of GDP per capita. FAM (*Fondo de Aportaciones multiplas*), targeted to social assistance and education infrastructures, is based on a social vulnerability index.

Two small funds included in Ramo 23 of the budget are also to be mentioned. The *Fondo regional* was created in 2007 for capital expenditures in the ten poorer States, while the *Fondo Metropolitano* was created in 2006 to finance 47 funds in metropolitan areas to address urban issues. Evaluations of the two funds (SHCP-BID 2010a, 2010b), however, are quite negative, both for the very small size of overall allocations and for the lack of programming and the dispersion of resources.

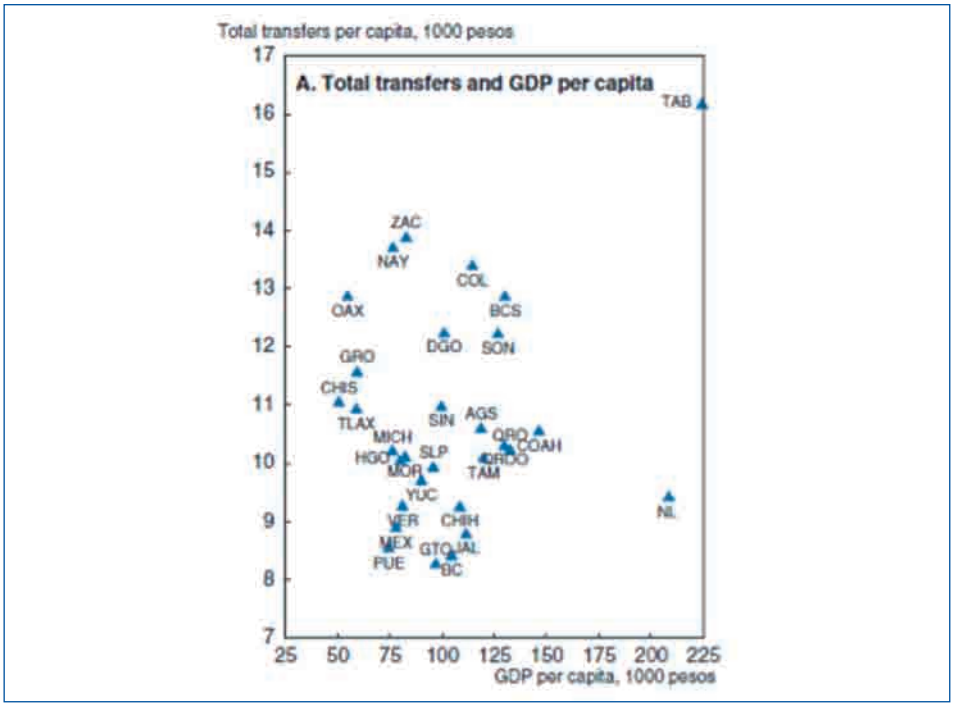
Sub-national entities also receive funds directly from federal ministries and agencies, via particular matching transfers known as *Convenios de decentralizacion*; they represent 6% of total sub-national revenues. The allocation of these funds does not follow any specific formula.

Generally speaking, accurate information on allocation and spending, especially at the sub-national level is lacking. This makes difficult the comparison of resources available for states and municipalities, also leading to an insufficient level of transparency. A recent Law on Government Accounting could improve the situation.

Taking total transfers (2010), including both *participaciones* and *aportaciones*, and relating them to the per capita income levels of the different states, leads to the conclusion that the whole system does not have a redistributive capacity. On the contrary, transfer per capita among states is positively correlated with GDP per capita: thus deepening regional disparities (OECD 2013b). According to UNDP (2011), the bias in favour of more developed states is stronger for *participaciones* (Ramo 28).

Data show that this has been happening at least from 1971 until 2006, although to a lesser extent from 2001-06 (Rodriguez-Oreggia 2008, UNDP 2011). In the last decade, however, the social and territorial equity of public expenditures has increased, basically thanks to basic education and health services for the non-insured population, and thanks to anti-poverty programmes (UNDP 2011) (see Figure 3).

Figure 3. Transfers to sub-national governments and GDP per capita, 2010

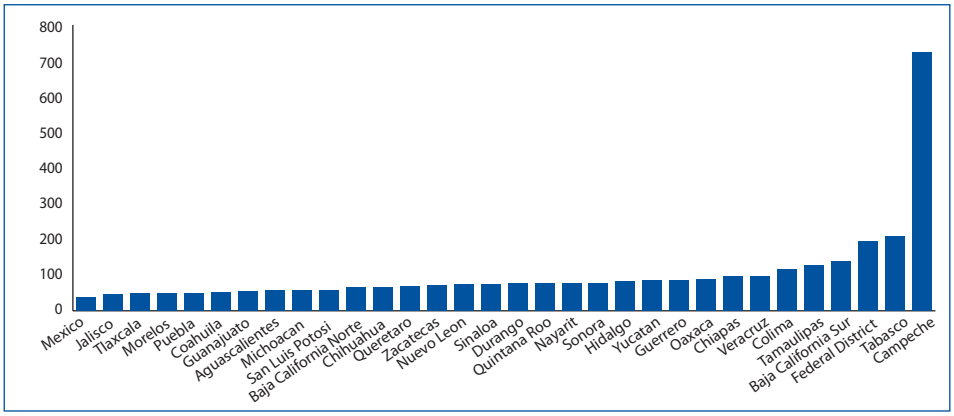


Source: OECD analysis using data from INEGI, Sistema Estatal y Municipal de Base de Datos.

The picture of the geographical allocation of funds for public investment is quite complex. Per capita public investments (2000-06) tended to be much higher than average in the two oil-producing states (Campeche and Tabasco), in DF, Baja California Sur, Tamaulipas and Colima (see Figure 4). In the past, also Quintana Roo, Chiapas, Veracruz, Coahuila and Baja California recorded higher per capita spending. In the whole period 1971-2006 per capita public investment was particularly lower than average in

several Central States, such as Estado de Mexico, Jalisco and Guanajuato (UNDP 2011) (see Table A4 in the appendix).

Figure 4. Public investment per capita, 2000-2006



Source: UNDP (2011), p. 56

States are required to allocate at least 20% of all the revenue-sharing transfers they receive from the federal government to municipalities. There are no permanent, uniform and clear distribution criteria across states. This may lead to rent-seeking and unpredictable levels of financing for municipalities. They derive the bulk of their own tax revenues from property taxes; although these revenues may be limited due to wealth effects, as well as to poor administrative capacities (the cadastres are not updated).

Financing of municipalities is important: they are responsible for the construction of most basic infrastructures, where there are important investment needs. They manage important local services, which can be difficult, in particular where municipalities are small and have dispersed population. Analysis of municipal expenditures shows that they tend to be higher in municipalities with relatively higher income per capita (UNDP 2011).

Municipal tax collection is very low (0.2% of GNP, 2009) as compared to the OECD average (4%) and most Latin American countries. In particular, the levying of property taxes is low (0.1% of GNP, 2009), ten times smaller than the OECD average (SEDATU-CNV 2013). This is due to both poor capabilities of municipal administration and the need to improve and update public registries of property.

About a quarter of municipalities have formalised agreements with neighbouring ones for the supply of public services: but the annual nature of programme funding limits the results of co-operation. The Metropolitan Commission of the Valle del Mexico was established in 1995 through agreements between the Federal Government, the

Government of the DF and of the Estado de Mexico: though the Commission is simply a discussion panel, it contributes to a more systematic approach in the metropolitan area of the capital city (OECD 2010).

2.5. Social policies

Considering the overall redistribution role played by the federal budget allocations, the main positive territorial effects of national public policies are due to social programmes that target marginalised areas and population. Given the very large regional imbalances in Mexico, the fight against poverty requires a particular effort in less developed states. Redistribution among individuals, therefore, is strictly intertwined with regional matters.

The redistributive role of Mexican fiscal policy provides benefits to the poorest income groups, especially through in-kind services such as education and healthcare. Nevertheless, in comparison with high-income countries, the effectiveness of fiscal policy in reducing inequality is still limited (Castelletti 2013).

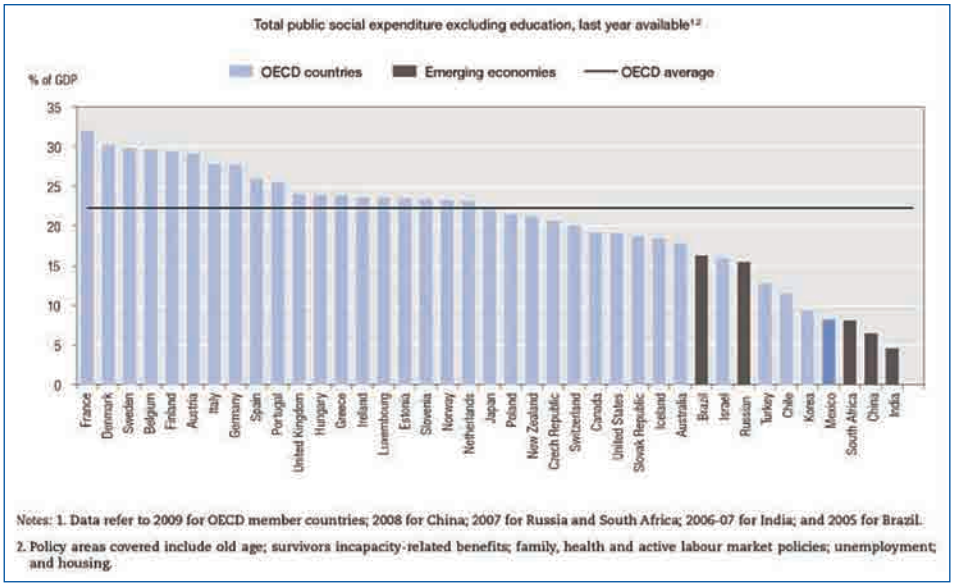
At the beginning of the 20th century, Mexico was one of the most unequal countries in the world. Throughout the century there has been an effort to reduce inequality, including introduction of social policies. This was particularly the case after the 1940s, with the foundation of the *Instituto Mexicano del Seguro Social* (in charge of pensions) in 1943. In the 1960s explicit social programmes started with the actions of CONASUPO (*Compania Nacional de Subsistencias Populares*) in food programmes for marginalised communities. At the end of the 1980s two relevant anti-poverty programmes (Pronasol and Procampo) started; they were followed in 1997 by Progresa (that became Oportunidades) (UNDP 2011).

Notwithstanding these programmes, as of the mid-1990s social spending was still only 4.3% of GDP, less than a quarter of the OECD average. The effort to increase social protection has been substantial in the last 20 years. Mexico has implemented a number of programmes with an increasing capacity to reduce poverty and inequality, especially over the period between the mid-1990s and the mid-2000s (OECD 2013b) (see Figure A5 in the appendix).

The role of social programmes has increased. CONEVAL (2012) reports an increase of 88% in real terms from 2000 to 2011. However, the extent and coverage of social protection in Mexico remains very low. In 2009, public social spending was 8.2% of GDP, much lower than in Chile (12%) and Brasil (17%); the lowest of the OECD area and one-third of the OECD average (OECD 2013b). According to figures from CEPAL (2012), in the same year social public spending as a percentage of GDP was in Mexico less than two-thirds of the average for Latin American and Caribbean countries, and less than

half the figures for Brazil and Argentina. The redistribution among people and regions that can be achieved in Mexico through spending on social programmes is limited.

Figure 5. Public social expenditures, 2010



Source: Preliminary data, OECD (2012c), Social Expenditure (SOCX), www.oecd.org/els/social/expenditure for OECD countries; OECD (2011a), OECD (2011c).

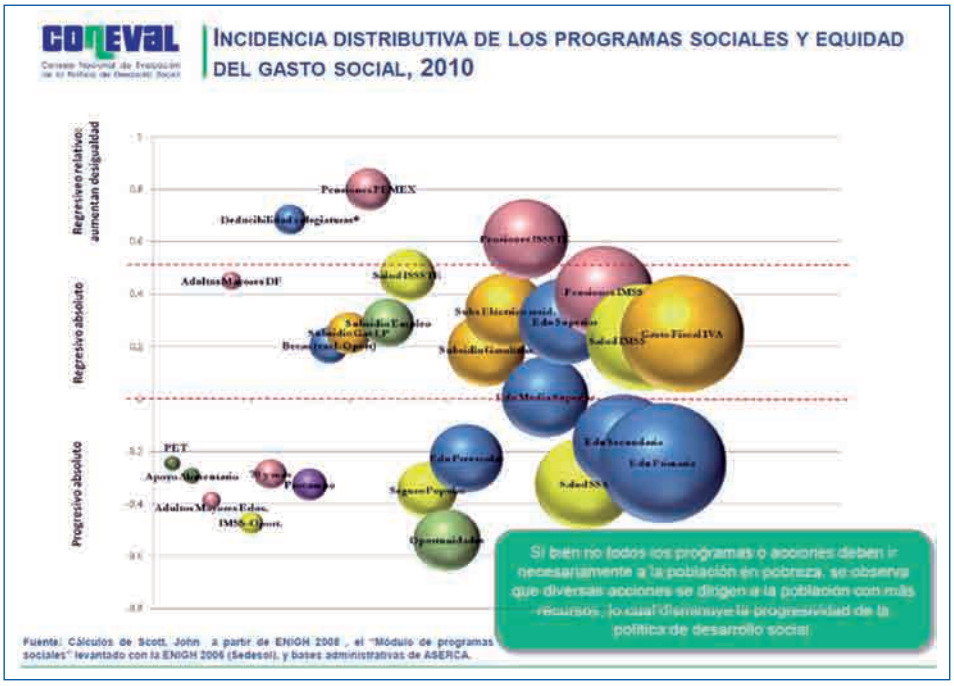
An analysis of spending "in favour of human development", performed by the United Nations Development Program (UNDP 2011), shows that as of 2008, the bulk of expenditures were related to social security, education and health, with a limited role, in terms of funds allocated, for direct anti-poverty measures. Education was 29% of total expenditures "for human development", with health at 20% and pensions at 23%. An important role was played by consumption subsidies (19%), while all direct payments linked to other, anti-poverty, programmes represented 4% (see Table A5 in the appendix).

Issues concerning education and health were discussed in the previous section. The coverage of contributory social insurance in Mexico is relatively low: only one-third of the workforce contributes to a pension plan and/or health insurance, much less than in Brazil. This reflects the high share of informality; therefore social insurance payments are larger in the states where informality is lower. Mexico has a severance payment system for workers who lose their job, but it is the only OECD member to have no unemployment insurance (OECD 2013b).

Consumption subsidies are important. They refer to electricity and gasoline, as well as to VAT reimbursement. Different analyses tend to show that they have a regressive

impact among individuals; that is, they tend to benefit proportionally more people with medium and higher incomes (CONEVAL 2012). Thus they may increase regional disparities in income (see Figure 6).

Figure 6. Distributive effects of social programmes



Source: CONEVAL 2012.

As already mentioned, the role played by non-contributory social assistance, aimed mainly at tackling poverty, has strengthened over the past decade, particularly after 2008 (Scott 2013). In Mexico, access to cash transfers does not depend on labour market status; they are provided to population in need, usually on the basis of geographic location, income and household characteristics. Targeting is usually carried out through selection of location and subsequently through means tests (OECD 2013b). Therefore they tend to have a much larger impact in less developed regions and areas.

The main programme is *Oportunidades*, introduced in 1997 under the name of *Progresa* to contrast poverty. It is a conditional cash transfer covering 5.8 million households in 2011, with 6 million scholarships[35]. Moreover, the *Programa de Apoyo Alimentario* (PAL) was introduced in 2006 to reach the extreme poor in remote localities not covered by Oportunidades[36]; the budget of this programme increased substantially

35. The average monthly transfer per family in 2011 amounted to 776 pesos. Chapter 3 of this report extensively covers the case of *Oportunidades* and its regional impact.
36. In 2011 it reached 674 000 families with an average monthly transfer of 524 pesos.

after 2008 (OECD 2013b).[37] There are other social programmes with reported relevant impact on poverty, and therefore with a regional role (Scott 2013). Procampo (*Programa de Apoyos Directos al Campo*), introduced in 1994 to compensate agricultural workers for the opening up of markets following NAFTA[38]; *70 y Mas*, a federal programme that offers 500 pesos monthly to all non-insured aged 70 or above in localities with fewer than 30 000 inhabitants[39]; *Programa de Empleo Temporal*[40]; PEIMT (*Programa de Estancias Infantiles para Apoyar a Madres Trabajadoras*) that subsidises community and home-based day care to encourage low-income mothers to work.[41] Finally, programmes for housing improvements must be cited, such as *Piso Firme*, intended to replace dirt floors with cement ones, improving sanitary services, reinforcing walls and ceilings (OECD 2013b).

However, CONEVAL reports that in 2012 there were as much as 278 federal social programmes and actions (with an average number 2007-12 of 241), targeting education (103), economic well-being (51), health (41), environment (24) and other issues, plus all the social initiatives run by local authorities. Many programmes overlap in terms of objectives and beneficiaries (CONEVAL 2012). There has been an effort of co-ordination (a special oversight Commission, a unified register of beneficiaries), but the danger of duplications and redundancies is still there (OECD 2013b). SEDESOL (2013) reports a number of 2 664 social programmes, including state level, highlighting that most of them are uncoordinated, with sometimes contradictory goals.

This complex framework implies that there are still relevant problems in terms of both horizontal (people in the same situation receiving different benefits) and vertical (people in worse situation receiving fewer benefits) equity in the whole of social programmes (CONEVAL 2012). Overall, social transfers are pro-rural, allocating 26.7% of spending to the 23.2% of the national population living in rural localities (2010); direct transfers, basic health services for the uninsured and in-kind food programmes are particularly pro-rural. This was an intended result of a series of social spending reforms implemented in the 1990s which reversed a previous pro-urban bias (Scott 2013).

In 2013 the Mexican Government, within the framework of the National development Plan, implemented a new approach to social policies by launching the National Crusade against Hunger (*Crusada National contre el Hambre*, CNCH). The *Programa Nacional México sin Hambre* (PNMH) 2014-2018 is its operational tool (SEDATU 2013).

37. **Taken together,** *Oportunidades* and *Programa para Adultos Mayores*, amount to 13% of household incomes for the lowest quintile in Mexico. This role of these programmes is similar to the case of Brazil, while they play a larger role in Chile (OECD 2013b).
38. **It covers 2.65 million producers in 2011, with an average monthly transfer per beneficiary of 437 pesos (1,300** pesos per annum per hectare to small-holders and 963 pesos to the rest) (Scott 2013)
39. **It covers 2.15 million beneficiaries (2011), and has been extended in 2012 to all similar localities (Scott 2013)**
40. **Since 1995 it provides a maximum of 88 days of work for 99% of the minimum wage: in 2011 it covered 1.1** million beneficiaries (average monthly transfer of 224 pesos) (Scott 2013).
41. **Substantial achievements are reported, with 9 500 registered day-care centers able to serve 282 000 children** in 2012 (one third of children between 1 and 4 years living in poverty) (Scott 2013).

The programme aims at the eradication of extreme nutritional poverty, using a mix of actions, to sustain incomes of the poorest and mobilise their capacity to work. The goal is to break the taboo that the poor can only live from subsidies and social programmes: the poor can be productive and may contribute with their work to national prosperity.

The Programme is organised through five main axes: i) social participation, trying to work more on families and communities than on isolated individuals; ii) inter-institutional co-operation, planning a common work of federal, state and municipal governments, thanks in part to an active and focused use of new technologies; iii) territoriality, especially to differentiate actions towards rural and urban poverty; iv) a productive approach, to create working possibilities for the poor; and v) methodological innovation in the targeting of the beneficiaries.

The goals of the PNMH are: drive extreme nutritional poverty progressively to zero; eliminate malnutrition of the youngest; increase production and income of the more marginalised agricultural producers; reduce the loss of food production due to logistical inefficiency; and promote community participation. The target of the programme is the 7 million Mexicans living in extreme nutritional poverty (see chapter 1 for definition) in 2 456 municipalities. However, in the first stage of implementation 400 priority municipalities have been selected and defined, using municipal data on extreme poverty; they include 51.7% of the target population. Though the South includes a large number of priority municipalities, they are diffused in all the Mexican entities (see Figure 7).

Figure 7. The 400 priority municipalities of the Cruzada Nacional contre el Hambre

Source: SEDESOL

A key feature of the PNHM is to differentiate the actions towards the rural and the urban poor. In the former case, the programme includes schemes of conditioned monetary transfers and in the other incentives to sustain the income; transfers in kind; improvement of housing and basic infrastructures, as well as support to production for self-consumption. In the urban environment more emphasis is put on the strengthening of social cohesion, public spaces and development of cultural and sporting facilities.

The national system of the CNCH is organised with a catalogue of 48 actions (linked to 70 existing programmes), covering 8 areas: access to food, income, educational lags, access to health services, access to social security, housing, basic infrastructures for housing, and social participation. They are activated and reinforced in the target municipalities, following the definition of "Comprehensive arrangements for inclusive social development" (*Acuerdos Integrales para el desarrollo Social Incluyente*), between federal and state governments. They include an analysis of the state's conditions, the identification of available national and state financial resources, the model for social participation and creation of social committees, the list of projects to be implemented and the proposal of monitoring indicators. However, no additional federal resources have been devoted to PNHM. The overall framework of the CNCH also includes a national CNCH council, an expert committee and the creation of local community committees, to increase participation and transparency (SEDESOL 2013).

2.6 Industrial and technological policies

Industrial and technological policies are one key component of regional development strategies. Policy efforts to create new business (also through the evolution of informal activities into firms), to strengthen existing ones, to improve their innovative performance, and to increase their international openness may induce a stronger regional development, thereby increasing labour demand, employment and productivity, and improving the well-being of citizens.

These developments may be induced either by general national industrial and technological policies that create territorial effects in all regions or by place-based policies, tailored on specific features of different regions; they can also be a combination of the two, as in the experience of most OECD and emerging countries. Moreover, policies can be implemented either by national ministries or agencies, or by regional governments.

Mexico has a remarkable policy to support small and medium-sized enterprises (SMEs), which was created more than a decade ago and has strengthened in the following years. This is important because SMEs account for 72% of total employment in the country (OECD 2013e). The Mexican SME policy is now organised into five

main programmes (that have re-organised 13 core programmes of the previous period)[42], defined according to target firms: New Entrepreneurs, Micro-Enterprises, SMEs, "Gazelles", and "Tractors". The policy offers five main services: financing, training and consultancy, management, marketing, innovation (OECD 2013e) (see Figure A6 in the appendix).

The extent of the services provided is quite large. Financing programmes include a seed capital programme and financing of SMEs in rural areas of the less developed regions ("SME Productive Project") and of franchise activities; a national credit guarantee system; for equity capital: an "angel investors" club, an entrepreneurial fund of funds, and a programme for bond markets. Training and consultancy and management services include the national system of business incubators, the "modernisation and integration" programme for SMEs, the Mexico Emprende centres, and a national network of SME consultants and financial advisors.

Marketing and export support is delivered through the PYMExporta centres and the Impulsora offices abroad, the activities of ProMexico, a national system of orientation for exporters and the work of the Joint Commission for Export Promotion (COMPEX). Innovation and technological development support is channelled through the technological innovation fund, administered together with the National Council for Science and Technology (CONACyT), two innovation programs, namely INNOVAPYME and PROINNOVA (see below), and the business acceleration, technology parks, business clusters and supplier development programmes. Finally it is worth mentioning two programmes to promote entrepreneurial culture: the Entrepreneur Caravan (Caravana de Emprendedores), and the national SME week.

Table A6 in the appendix presents the SME Fund budget allocations (2009-11) by enterprise segment and support categories. The figures exclude loan guarantees that represent a substantial additional expenditure, being 70% of SME Fund resources (2011). The largest part of support by type of policy intervention has been allocated to training and consulting, in particular targeted at new entrepreneurs and micro-enterprises (OECD2013e).

It is important to note that the majority of SME Fund projects are delivered through intermediary organisations, such as state governments, chambers of commerce, business associations and universities. Organisations submit bids for projects and are selected for funding on a competitive basis. There are now approximately 600 intermediary organisations.[43]

42. The Economy Sectoral programme 2007-12 took over from the Entrepreneurial Development Plan of 2001-06 (OECD 2007) and expanded the former SME programmes into new areas; some previous programmes were discontinued.

43. The delivery structure, as operated by intermediaries, includes: 200 Mexico Emprende SME Service Centers, 500 incubators, 50 business accelerators, 8 international technology business accelerators, 31 technology parks, more than 35 non-bank financial institutions (that, together with commercial banks deliver the guarantees programme),

The allocations are matched by various partners, including state and municipal governments, the academic and the private sectors. In percentage of the overall budget (2009-11), federal funds account for two-thirds, state funds for 11%; the private sector's share is 16%, while the contribution of both municipal government and academia is much smaller (OECD 2013e).

In the more recent period the SME Fund served almost 80 000 existing business and 9 000 new businesses per year, the larger part of which were micro-enterprises and SMEs. Though impressive, these numbers represent around 2% of both the stock of existing business and of all the new business created.[44]

The increase of funding has been substantial. For instance, during 2007-12 the National SME Guarantees Program received funding of 8.9 billion pesos, as compared to 1.2 billion during 2001-06; this supported 320 000 SMEs (doubled in comparison to 2001-06). The network of Mexico Emprende Centers was expanded (200 in 2011 compared to 155 in 2006), as well as the network of business incubators (500 in 2011 compared to 254 in 2006). An amendment to the 2002 Law for Competitiveness of SMEs ensures that the budget allocation cannot be less than in the immediately preceding year (OECD 2013e).

SME policy in Mexico has an important local dimension. First of all, state governments have the opportunity to co-fund (1:1) the programmes and projects that they think are more relevant for their local problems, creating a differentiated policy mix that can better fit their needs. This is formalised through signing annual co-ordination agreements. However, normally, states' contribution is much lower than federal ones, as seen above. Moreover, there is the opportunity for states and municipalities to run intermediary organisations for policy delivery; states and federal governments jointly accredit SME Fund intermediaries in every state. Regional tailoring of the policy is afforded both in the selection of projects they run as intermediaries and in the delivery of the same programmes; the intermediaries play a role in determining the specific nature of interventions they are responsible for locally.[45]

There is a State Committee on SMEs and Competitiveness in each State, in charge of the administration of the SME Fund projects at the state level. Local committees have also been set up to propose projects to the SME Fund; through these committees a range of local stakeholders, including the private sector, review projects and give a

150 private training firms, 986 financial advisors, several thousands of private sector consultants, a system of Technological and Business Assistance, 13 Investment Clubs and one Entrepreneurial Capital Fund of Funds for SMEs (OECD 2013e).

44. The estimated number of new jobs created per year is around 35 000; while around 55 000 are "maintained".

45. OECD (2013e) presents evidence regarding the ways in which the States of Queretaro and Morelos have organised their policies. Queretaro has pushed particularly its Supplier Development Program, linked to the presence of international firms in the state; Morelos placed a large emphasis on business creation, via technology parks, and business incubators and accelerators.

view on those that should be accepted. On the contrary, there are few mechanisms of horizontal co-ordination among states, to share experiences and good practices.

State governments are also active in supporting access to finance for SMEs. They frequently develop industry-specific SME credit interventions that target local sector strengths, sometimes in collaboration with the local offices of NAFINSA, the national development bank. However, contrary to some interesting international experiences (as in the case of Brazil), development banks in Mexico do not seem to work with a well-defined territorial approach, nor to have introduced financial tools dedicated to sustaining local and regional development policies.

States are also active in processes of regulatory improvement, with 15 states setting their own dedicated commission (CEMER). However, even in this case there is a problem of capacity-building support for state and local government policy makers (OECD 2013e).

However, the geography of beneficiary firms of SME policy tends to correspond to the location of economic activity all over the country. According to OECD (2013e) SME Fund expenditure is overly concentrated in and around the Capital region. Over a national level of 184 000, beneficiary firms in DF and Estado de Mexico during 2011-12 represented 22% (CONEVAL, 2013).

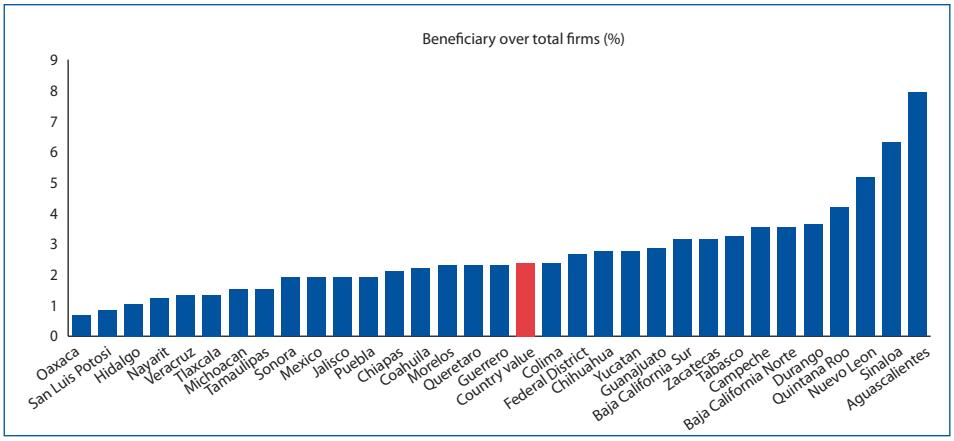
Moreover, if comparing the percentage of beneficiary firms over the total stock of existing firms, some additional information emerges. The percentage is much higher than the national average in the advanced state of Nuevo Leon, as well as in Aguascalientes and Sinaloa. On the contrary, the weight of beneficiary firms over the total is particularly low in the poor state of Oaxaca (where the number of existing small firms is relatively high, and average size is particularly small), as well as in Hidalgo and San Luis Potosí; the other poorer states of Chiapas and Guerrero have a percentage of beneficiary firms close to the national average (see Figure 8 below and Table A7 in the appendix).

Some effort has been devoted to strengthening of the micro and small firms of the social economy. The *Ley de Economia Social y Solidaria* was recently approved; INAES (*Istituto Nacional de la Economia Social*) manages a programme to sustain the social economy. The room for such policies might be much larger, taking into account the cultural diversities in the country, and the need to implement policy approaches more tailored to the very different local situations and needs.

The overall Mexican budget for science, technology and innovation is small. In 2009 public R&D expenditures were as low as 0.25% of GDP (OECD 2012b). As far as regional R&D and innovation policies are concerned the National Council on Science and Technology (CONACYT) since 2001 has implemented mixed funds to promote scientific and technological development at the state and municipal levels (OECD 2009, CONACYT 2014). The instrument channels resources coming from the federal

government; the programme operates through calls for proposals responding to state-specific demands.

Figure 8. Beneficiary of SME Fund over total firms, 2011-12



Source: Elaborations on CONEVAL (2013) and INEGI (2013) data.

As of end 2013 there were 35 mixed funds; with the 32 federal entities and the municipalities of Ciudad Juarez (Chihuahua), La Paz (Baja California Sur) and Puebla (Puebla). Annual total funding since 2001 has varied considerably; however it increased considerably from a yearly average of 375 million pesos (current prices) in 2001-07, to 1.15 billion in 2008-13. In the whole period, 55% of funding was provided by CONACYT and 45% by states and municipalities. Nuevo Leon, Guanajuato, Jalisco and Estado de Mexico received the larger shares of funds. However, Yucatan performed quite well, and even other less developed states, such as Chiapas, received relevant amounts; overall, total funds flowing to less developed states were not negligible with respect to the total (see Figure A7 in the appendix).

Mixed funds have been accompanied since 2009 by the Institutional Fund for the Promotion of Scientifical and Technological Development and for Innovation (CONACYT 2014b). Total funding for 2009-13 was 1.55 billion pesos, for six calls; beneficiaries were CONACYT local centres, public institutions and research centres. The state of Yucatan obtained the largest share of funds. In addition, there are 14 sectoral funds.

CONACYT also manages three support programmes for funding innovation: INNOVAPYME for small and medium enterprises, INNOVATEC for the larger ones and PROINNOVA for networks. Total funding over 2009-13 was 11.1 billion pesos, with a natural geographical concentration in more advanced states. Nuevo Leon, Estado de Mexico and Guanajuato were larger absorbers of funds. Nonetheless, even in this experience, states such as Chiapas and Puebla recorded a relevant number of projects and funding (see Table A8 in the appendix).

According to OECD (2009), Mexican states have made "competitiveness" a priority for their action. They have prioritised a series of sectors, often stated in their State Development Plans. However, they tend to be broad and similar across most states. Sectoral approaches are increasingly mixed with the concept of cluster, with foreign direct investment attraction on the top of policy agendas; some states have cluster mapping studies and several are promoting clusters. Some clusters have also been promoted by national funds, such as the ICT cluster in the state of Jalisco (through the PROSOFT programme) and the Queretaro's Aereospace Park (though CONACYT's mixed fund) (OECD 2012b). There have been some efforts to map clusters and cluster policies in Mexico (ITESM 2010, Lopez-Medina 2010, Hernandez-Rodriguez and Montalzo-Corzo 2012). According to these studies, there are interesting experiences of current or emerging clusters in most Mexican states, even in some of the less developed states (see Table A9 in the appendix).

According to OECD (2009) the concept of a regional innovation system is not yet integrated into the policy approach of most states; many have a science and technology (S&T) plan supported by an S&T council. However, the financial means associated with the strategies typically fall short of goals; most of the budgets are very low relative to the size of state economies and their needs.

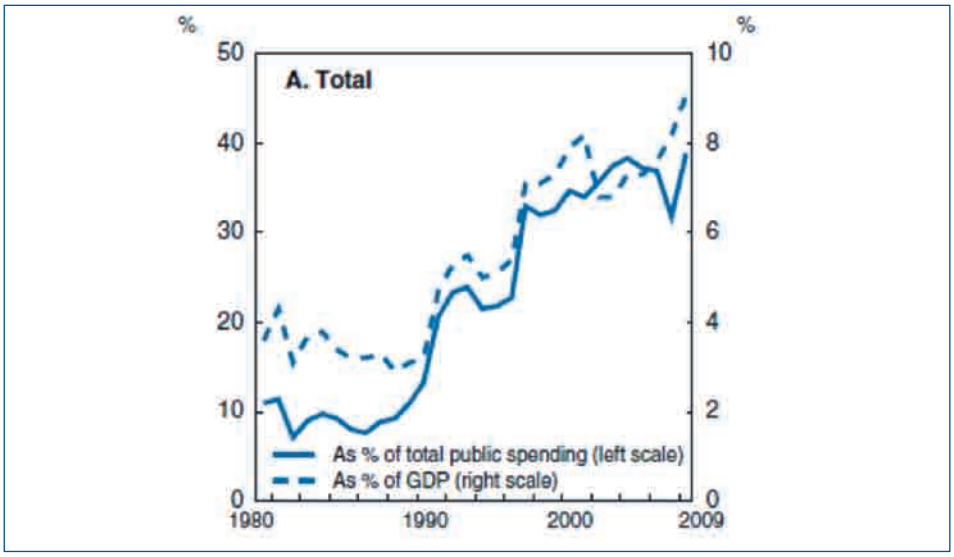
Appendix

Table A1. Allocation of government responsibilities for some public services

Public services	Central government	States	Municipalities
Health	Regulations, standards and quality controls. Negotiation of salaries and employment conditions.	Organisation and operation of health care services for non-insured population. Responsible for primary care for both rural and urban poor.	
	Financing of hospital infrastructure. Financing and operation of all hospitals belonging to the federal social security systems (IMSS, ISSSTE).	Administration and maintenance of hospitals for primary care that used to be operated by the federal Ministry of Health, as well as some state owned hospitals (for all care levels).	
Education	Controls plans, programmes of study, assessment of education outcomes; training of teachers; determines teachers' salaries; teachers' training and evaluation; financing of education through transfers.	Operation of basic education (pre-school, primary and secondary levels), teachers' training colleges and indigenous and special education. Building new infrastructure. Set-up supervision systems.	Co-financing with other government levels and maintenance of primary schools and some construction concurrent with the state.
	Financing of university infrastructure.	Maintenance of universities.	
Anti-poverty programmes	Funding of social programmes.	Implementation of social programmes in co-ordination with Sedesol.	Implementation of social programmes.
Infrastructures and transportation	Road construction and maintenance are split between the three levels, with the construction mainly executed by federal and state governments, and maintenance mainly being done by the state or municipalities. Parks and public transportation are split with all levels of government providing services that correspond to their geographic area, with public transportation only rarely being managed by municipalities.		

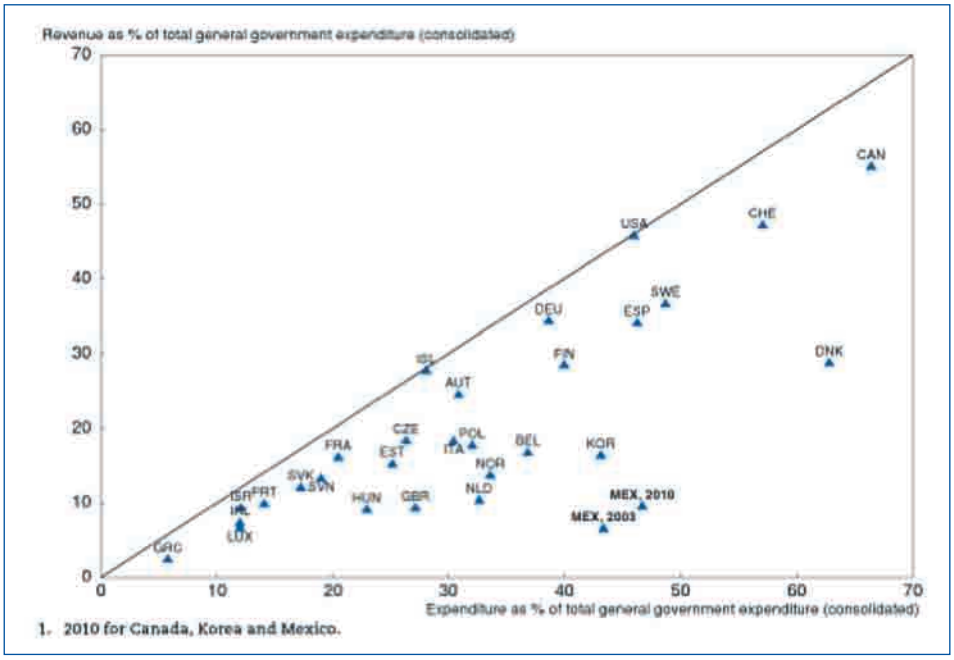
Source: OECD 2013b, page 93.

Figure A1. Mexico's sub-national spending



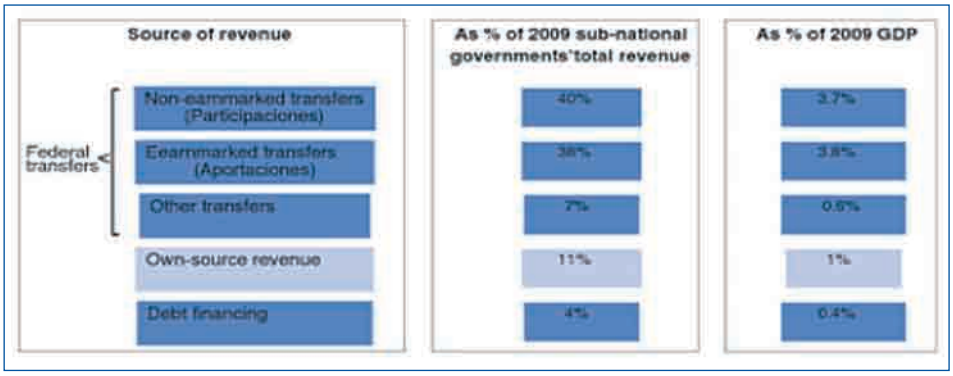
Source: OECD 2013b, page 92.

Figure A2. Sub-national government revenues and expenditures, 2011



Source: OECD (2013b).

Figure A3. Sub-national governments' revenue sources



Source: OECD (2013b).

Table A2. Ramo 28, Participaciones (non-earmarked transfers to states)

Fund	Purpose	Funding	Distribution criteria	Recipient	% Ramo 28 (2010)
Fondo General de Participaciones (FGP)*	Revenue sharing with states and municipalities	20% of RFP	(60%) State GDP growth; (30%) local revenue growth; (10%) local revenue level	State and municipalities	86
Fondo de Fomento Municipal (FFM)	Revenue sharing with municipalities	1% of RFP	Municipal revenue (property tax and water fees) weighted by state population	Municipalities	4
Fondo de Fiscalización (FOFIE)	Incentive for enforcement of tax laws	1.25% of RFP	Measures of local efforts of enforcement of tax laws	State and municipalities	5
3.17% of Derecho Adicional (Special Oil royalty)	Resources for oil producing municipalities	3.17% of a special oil royalty	Municipal revenue (property tax and water rights)	Municipalities	0.30
0.136% de Recaudación Federal Participable	Resources for municipalities on the border	1.136% of RFP	Municipal revenue (property tax and water rights)	Municipalities	0.70
Fondo de Extracción de Hidrocarburos (FEXHI)	Compensate for oil and gas extraction	0.6% of main oil royalty	Oil and gas production	State and municipalities	1
Impuesto Especial sobre la Producción y Servicios (IEPS)	"Sin tax" revenue sharing with states and municipalities	80% tobacco; 20% beer and alcohol	% sales of tobacco, beer and alcohol relative to the national average	State and municipalities	2
Fondo de compensación (FOCO)	Compensate the 10 poorest states	Two-elevenths of the local gasoline tax collection	Inverse of nonoil GDP per capital	State and municipalities	1

1. RFP stands for *Recaudación Federal Participable*, the pool of federal revenues that is shared with states and municipalities. It includes the income tax, VAT, all other federal taxes and oil revenues. It does not include revenue from public enterprises, federal government funding, and certain other sources of nontax revenue. States are required by law to share at least 20% of these resources with municipalities. Funds which allocation formulas were modified in the last 2007 reform are marked with an asterisk.

Source: OECD 2013.

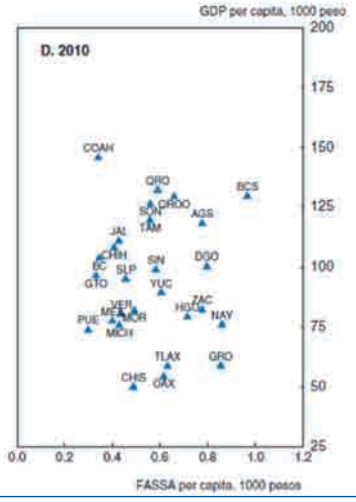
Table A3. Ramo 33, Aportaciones (earmarked transfer to states)

Fund	Purpose	Funding	Distribution criteria	Recipient	% Ramo 33 (2010)
Fondo de aportaciones para la educación basica (FAEB)*	Basic education	Theoretically enough money to cover payroll. Typically negotiated during the budget process	(50%) Public student enrollment in state; (20%) state's spending in education; (20%) states with per student FAEB below national average; (10%) education quality index	State	59
Fondo de aportaciones para los servicios de Salud (FASSA)	Health services	Theoretically enough money to cover payroll. Typically negotiated during the budget process	Mostly based on number of beneficiaries, with a small weight given to health needs, state health spending and efficiency in spending	State	12
Fondo de Aportaciones para la Infraestructura Social (FAIS)	Social and rural infrastructure	0.303% of RFP 2.197 of RFP	Relative state's needs compared to the national average measured by: extreme poverty, per capita income, schooling, housing size, water and drainage quality	State Municipalities	9
Fondo para el fortalecimiento Municipal y Demarcaciones Territoriales del DF (FORTAMUN-DF)	Municipal strengthening	2.56% of RFP	2.35% to states based on population. States distribute to municipalities based on population 0.2123% distributed to the Federal District (DF). The DF distributes funds to municipalities based on their resident and floating population	Municipalities	9
Fondo de Aportaciones Múltiples (FAM)	Social assistance and education infrastructure	0.814% of RFP	Social vulnerability index	State	3
Fondo de Aportaciones para la Educación Tecnológica y de Adultos (FAETA)	Promote adult education and alphabetization	Theoretically enough money to cover payroll. Typically negotiated during the budget process	Schooling facilities and workers	State	1
Fondo de aportaciones para la Seguridad Publica (FASP)	Public security	Negotiated during the budget process	Population, delinquency and criminality indices	State	2
Fondo de Aportaciones para el Fortalecimiento de las Entidades Federativas (FAFEF)*	Financial needs and pensions	1.4% of RFP	Inverse of GDP per capita	State	5

1. FP stands for *Recaudación Federal Participable*, the pool of federal revenues that is shared with states and municipalities. It includes the income tax, VAT, all other federal taxes and oil revenues. It does not include revenue from public enterprises, federal government funding, and certain other sources of nontax revenue. States are required by law to share at least 20% of these resources with municipalities. Funds which allocation formulas were modified in the last 2007 reform are marked with an asterisk.

Source: OECD 2013.

Figure A4. FASSA allocations and GDP per capita, 2010



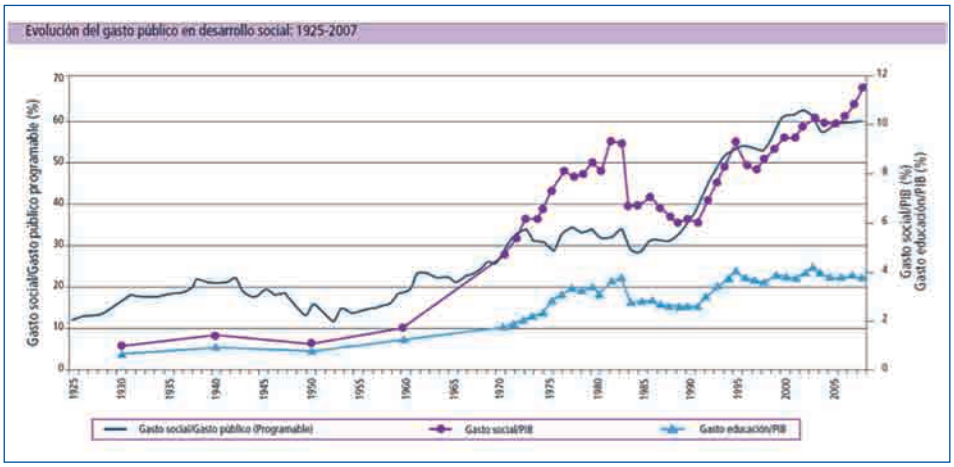
Source: OECD analysis using data from INEGI and Secretaría de Salud.

Table A4. Public investment per capita, 1971-2006
Mexico=100

	1971-85	1985-99	2000-06
Mexico	28	28	38
Jalisco	33	31	44
Tlaxcala	41	45	48
Morelos	39	48	49
Puebla	25	28	49
Coahuila	119	86	50
Guanajuato	36	30	53
Aguascalientes	47	67	56
Michoacan	78	78	56
San Luis Potosi	45	51	57
Baja California Norte	106	68	64
Chihuahua	56	49	65
Queretaro	67	53	66
Zacatecas	37	35	69
Nuevo Leon	65	47	72
Sinaloa	77	66	72
Durango	51	53	75
Quintana Roo	221	105	75
Nayarit	62	98	76
Sonora	84	72	76
Hidalgo	84	94	81
Yucatan	48	66	82
Guerrero	56	61	83
Oaxaca	64	70	86
Chiapas	112	64	94
Veracruz	130	92	94
Colima	174	132	112
Tamaulipas	146	84	124
Baja California Sur	253	179	135
Federal District	159	253	190
Tabasco	334	219	203
Campeche	326	751	705

Source: UNDP (2011), p. 56.

Figure A5. Evolution of the public expenditure (1925-2007)



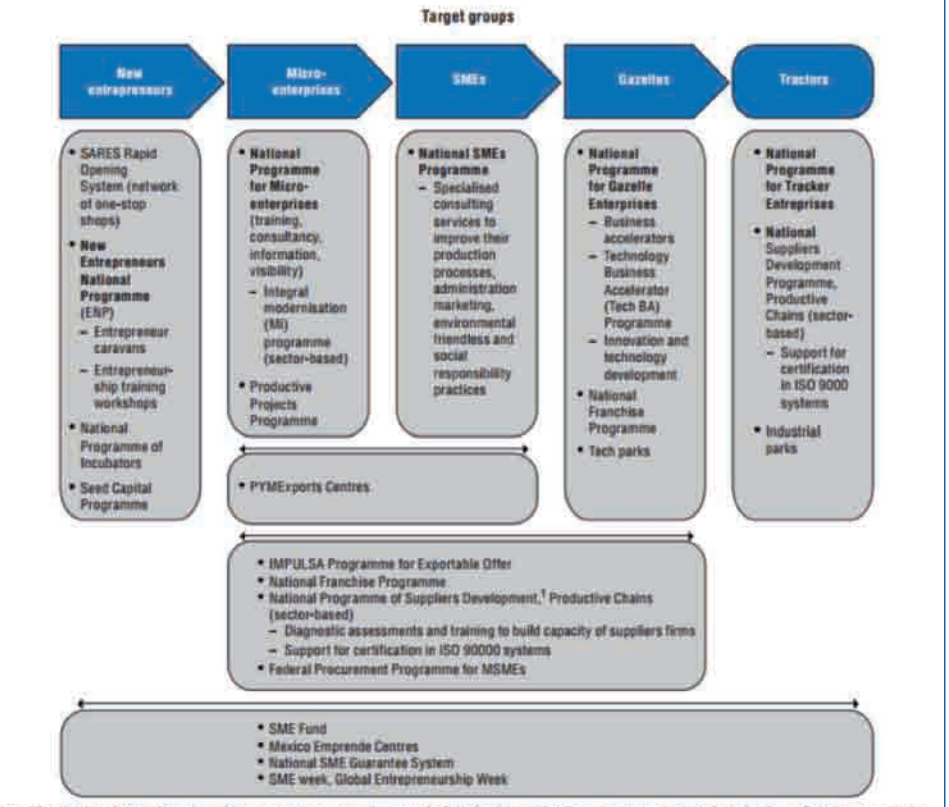
Source: UNDP (2011) p. 53.

Table A5. Public expenditures for human development, 2006 and 2008 (percentage composition)

	2006	2008
Education	40.8	29.3
Health	25.7	20.0
Pensions	11.4	23.3
Consumption subsidies	10.6	19.5
Agricultural subsidies	6.9	4.3
Poverty alleviation	4.7	3.5
Of which: Opportunidades	3.1	2.6
Of which: Micro-regions	0.1	0.1
Total	100	100

Source: UNDP (2011), page 52.

Figure A6. The framework of SME Fund actions



1. The National Suppliers Development Programme is intended to feed into the Tractors programme, but the beneficiaries are SMEs, which are being upgraded to act as suppliers to tractor enterprises.

Source: OECD 2013e.

Table A6: SME Fund federal budget allocations, 2009-11 (percentages of the total and pesos)

	Financing	Training and consulting	Marketing/ commercialisation	Business management	Innovation/ technological development	Proportion of SME Fund by enterprise segment	Total (pesos)
I. New entrepreneurs	-	10.2	-	-	-	10.2	990 127 478
II. Micro-enterprises/franchises	-	7.8	0.7	-	-	8.5	820 048 217
III. SMEs	30.3	7.9	0.1	8.0	0.1	46.3	4 480 772 955
IV. Gazelles	-	4.6	0.4	0.2	6.2	11.3	1 090 715 936
V. Tractor companies	-	6.3	3.0	1.0	0.3	10.6	1 028 477 749
VI. Organisation of SME events/ other activities/promotion tools	-	3.7	1.2	0.2	0.0	5.1	497 244 655
VII.Others	1.8	0.0	0.0	6.2	0.0	8.0	775 000 000
Proportion of SME Fund by support category	32.1	40.5	5.3	15.6	6.6	100.0	
Three-year total (pesos)	**3 103 562 765**	**3 922 689 120**	**511 485 083**	**1 508 989 430**	**635 660 592**		**9 682 386 990**

Notes: Figures are rounded to one decimal place. The figures exclude SME Fund spending on loan guarantees.

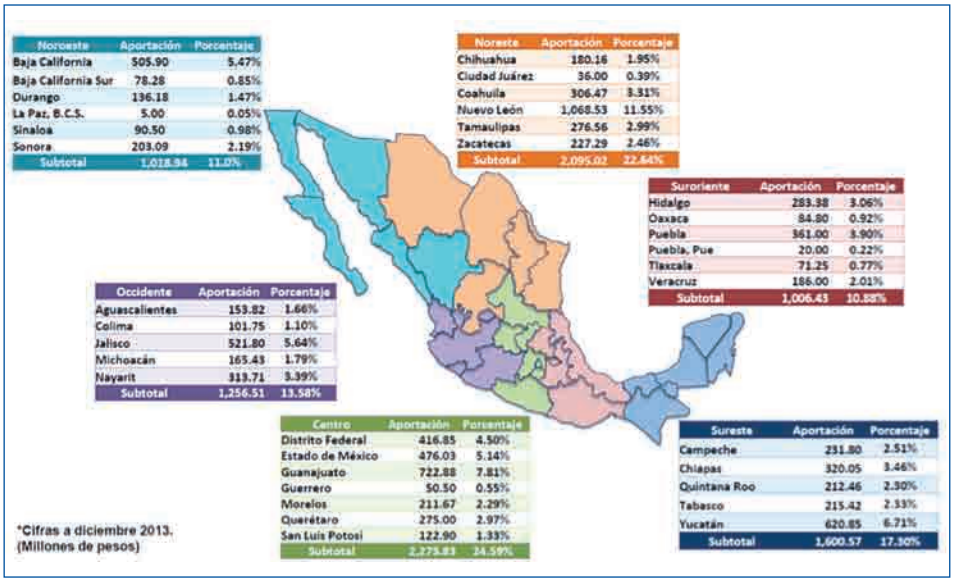
Source: OECD 2013e.

Table A7. Beneficiary firms of SME Fund, 2011-12 (thousands and percentage of total number)

	Beneficiary Firms (A)(1)	Total Firms (B)(2)	(A)/(B)
Oaxaca	1.1	144.4	0.7
San Luis Potosi	0.7	79.2	0.9
Hidalgo	0.9	81.6	1.1
Nayarit	0.5	39.3	1.3
Veracruz	3.1	225.8	1.4
Tlaxcala	0.7	49.4	1.4
Michoacan	2.8	176.2	1.6
Tamaulipas	1.7	102.2	1.6
Sonora	1.7	83.1	2.0
Mexico	9.2	456.6	2.0
Jalisco	5.4	264.4	2.0
Puebla	4.4	215.3	2.0
Chiapas	2.8	129.8	2.2
Coahuila	1.9	80.9	2.3
Morelos	1.9	79.4	2.4
Queretaro	1.4	56.4	2.4
Guerrero	3.1	128	2.4
Country value	92.3	3724	2.5
Colima	0.7	26.1	2.5
Federal District	10.8	382.1	2.8
Chihuahua	2.6	89.3	2.9
Yucatan	2.5	85.7	2.9
Guanajuato	5.5	179.9	3.0
Baja California Sur	0.8	22.8	3.3
Zacatecas	1.6	48.3	3.3
Tabasco	1.8	52.7	3.4
Campeche	1.1	30	3.7
Baja California Norte	3.0	80.4	3.7
Durango	1.7	45.2	3.8
Quintana Roo	1.7	38.8	4.4
Nuevo Leon	7.0	129.4	5.4
Sinaloa	5.4	80.6	6.6
Aguascalientes	3.4	41	8.3

(1) Yearly average numebr of beneficiaries, 2011 and 2012
(2) Unidades economicas, ano censal 2008 (INEGI 2008, quadro 9.1)
Source: Elaborations on Coneval (2013) and Inegi (2013) data.

Figure A7. Fondos Mixtos. Total funding 2001-13 (million pesos and percentage values)



Source: CONACYT 2014a.

Table A8. Innovation projects, 2009-2013. Number of projects and total funding of Proinnova, Innovapyme, Innovatec (descending order of amounts)

	N. of projects	Amount*
Country value	2907	11,158
Nuevo Leon	304	1,254
Mexico	189	1,169
Guanajuato	228	933
Federal District	301	870
Chiapas	163	636
Puebla	82	525
Hidalgo	168	483
Sonora	82	454
Baja California Norte	157	450
Queretaro	126	446
Coahuila	147	426
Jalisco	96	382
Sinaloa	102	360
Veracruz	57	276

Table A8. Innovation projects, 2009-2013. Number of projects and total funding of Proinnova, Innovapyme, Innovatec (descending order of amounts) (cont.)

	N. of projects	Amount*
Yucatan	88	270
Morelos	81	257
Tamaulipas	50	256
San Luis Potosi	54	248
Aguascalientes	51	216
Michoacan	64	155
Tabasco	43	134
Campeche	21	128
Tlaxcala	37	120
Oaxaca	33	107
Durango	48	99
Baja California Sur	12	82
Quintana Roo	36	78
Colima	17	75
Nayarit	22	74
Chihuahua	18	69
Zacatecas	21	66
Guerrero	9	59

* million pesos.
Source: Elaborations based on data from CONACYT, www.conacyt.mx

Table A9. Mexican clusters

Clusters*	CURRENT	EMERGENT	FUTURE
Medical, Optical and Measurement Equipment	Baja California	Baja California	Sonora
		Sonora	Nuevo León
			Tamaulipas
			Guanajuato
Electronic, Computer, Communication and Signaling Equipment	Aguascalientes	Baja California	Zacatecas
	Baja California	Puebla	Tabasco
	Jalisco		
Agricultural and greenhouse products	Michoacán	Zacatecas	Nuevo León
	Sinaloa	Michoacán	Durango
			Zacatecas
			Nayarit
			Guanajuato
			Hidalgo
			Colima
			Puebla
			Morelos
			Chiapas
Textiles and Clothing	Hidalgo	Yucatán	
	Tlaxcala		
Spatial Navigation Equipment		Sonora	Baja California
			Sonora
			Chihuahua
			Querétaro
Business' Support Services		Nuevo León	Aguascalientes
		Guanajuato	Distrito Federal
		Edo. de México	Guerrero
		Sinaloa	Quintana Roo
		Baja California Sur	
Medical and Hospital Services		Yucatán	San Luis Potosí
			Veracruz
			Jalisco
			Puebla
			Aguascalientes
Tourism Services	Baja California Sur	Veracruz	Durango
	Guerrero	Michoacán	Hidalgo
	Michoacán	Oaxaca	Puebla
	Morelos	Campeche	Chiapas
	Nayarit	Quintana Roo	Yucatán
	Oaxaca		
	Quintana Roo		
	Sinaloa		
	Sonora		
	Tabasco		
	Veracruz		
Obtaining and processing Non metallic ores and Fuel	Campeche		Campeche
	Chiapas		Chiapas
	Durango		Durango
	Zacatecas		Zacatecas
	San Luis Potosí		San Luis Potosí
	Tabasco		Tabasco
Lumber and Wood Products	Querétaro	Durango	Querétaro
		Querétaro	
		Oaxaca	
Educational Services	Jalisco	Aguascalientes	Jalisco
		Morelos	

Source: Hernandez-Rodriguez and Montalvo-Corzo 2012.

Chapter 3. Social Policies and Regional Development: The Case of Oportunidades

3.1. *Oportunidades*: history and basic facts

Poverty, and its inter-generational persistence, is one of the main dangers to the human and economic catch-up process undertaken by Mexico in the last decades. The 2009 economic crisis has sharpened the problem bringing the number of poor from 48.8 million to 52 million (46.2% of the population) between 2008 and 2010 (CONEVAL, 2012). Even if the poverty rate decreased between 2010 and 2012, the percentage of individuals living in poverty is still high (45.5% in 2012; IADB 2013).

This explains the effort put by governments into tackling poverty. As mentioned in the previous chapter, various policies have been implemented to this end but the most well-known, long-lasting and successful one is *Oportunidades* which "has been the corner stone of effort to tackle poverty and has made significant headways" by contributing "to building capacities and reducing poverty and inequality, and to the accumulation of human capital" (IADB, 2013).

Oportunidades was launched in 1997 under the name of Progresa, the Spanish acronym for *Programa de Educación, Salud y Alimentación*. It is a Conditional Cash Transfer (CCT) which aims at reducing extreme poverty and fostering human capital investments. In order to obtain it individuals must comply with some precise requirements and satisfy a number of selection criteria mainly related to poverty level. It follows that it cannot be defined a "place-based" measure; however, the results obtained through it are spatially heterogeneous. Following are two examples: the number of beneficiary families tends to be higher in states characterised by a higher marginality index and in states where the Human Development Index is lower the amount of resources obtained through Oportunidades is higher. As we will see throughout this chapter, this heterogeneity seems to reflect, in some ways, the differences observed between Mexican states in terms of socioeconomic development.

The first aim of *Oportunidades* can be seen as a "short-run goal": improving the living conditions of poor families. This is a common goal in several Latin American Countries:

ensuring poor and most vulnerable individuals with a basic level of consumption. The second goal of the CCT is based on theoretical and empirical evidences from the human capital economic literature, according to which poor nutrition, health and education levels are associated with low productivity, low income and a vicious poverty cycle. Hence, investment in human capital through education, nutrition and health, may favour social inclusion and labour productivity. This can be considered the "long-run counterpart" of the programme: investments in human capital are seen as the tool to stop the inter-generational transmission of poverty.

Policy co-ordination and payments are federal government's tasks; state governments are accountable for the provision of health and education services. Moreover, in each community, there is a selection of voluntary "mother leaders" who are trained to help and provide information to others beneficiary households. A federal agency co-ordinates payments, the monitoring systems and service delivery, and it also identifies and selects the beneficiaries of the programme.

The programme has developed a complex system of identification and selection that proceeds in three steps: i) poor areas are identified through a census-based marginality index which is constructed using socioeconomic variables associated with unsatisfied basic needs; ii) poor families are identified through socioeconomic surveys and census data and beneficiaries are selected through proxy means test; and finally iii) the list of beneficiaries is reviewed by the community in order to verify if it has correctly identified the most needy and excluded the others (Grosh et al., 2008).

As said, *Oportunidades* is a CCT providing households that meet predetermined characteristics with a food and an education grant.[46] The conditionality of the transfer scheme is due to the expectation that it can price up the underestimated value of service utilisation; poor and deprived families in particular heavily discount pupils' future consumption on education and healthcare (Niño-Zarazua, 2011).

Conditionality means that for the households to obtain the grant, they must comply with some precise requirements. The food grant, which also includes a fixed amount of money for energy consumption, is transferred every two months to the mother, conditional on

46. *Oportunidades* have different components - all related to nutrition, health and education - which can be listed as follows: a direct cash transfer paid every two months contributing to the quantity, diversity and quality of food; an education grant starting on the 3rd grade of education and continuing up to their senior year of high school (grants to first and second graders are provided in localities with less than 2 500 inhabitants); an economic incentive for student finishing high school before the age of 22; a cash transfer to purchase school supplies at the beginning of each cycle for elementary school students, and annually for middle and high school students; basic healthcare and communal educative workshops for the promotion of health; nutritional supplements for all infants between 6 and 23 months old, undernourished children between the age of 24 and 59 months and pregnant or breast-feeding women; special cash transfer for every adult 70 years or older who is a member of a beneficiary family; the Food Aid for Better Living, an additional transfer to protect families' economy from the effects of the increase in the food prices; the Child Benefit for a Better Living, a direct cash transfer for every child aged between 0 and 9 in order to support their proper nutrition and development (max 3 for each family). (SEDESOL, 2012).

health check-ups for all members of the family. Moreover, the mothers are required to attend education workshops on specific issues related to nutrition and health. The staff of the health centre is charged to track the respect of these conditions and failure to comply for a predefined length of time results on the expulsion of the family from the programme.

While the amount of the food grant is the same for all beneficiaries, the school grant depends on the number of children enrolled at school within the household. Also, besides increasing the grant with the level of education, it is higher for girls when they enter secondary school level. The school grant is retrieved if the children's monthly rate of attendance is lower than 85%, but the family is not excluded from the nutrition and health components of the programme.

In a first phase, *Oportunidades* was introduced only in rural areas and was financed by domestic resources, then increased thanks to international financial help (mainly from the World Bank and the InterAmerican Bank). In order to qualify for the programme, the communities initially involved had to reach a certain poverty level and to have access to basic structures within a certain distance, so that the households could comply with the conditions for not being expelled from the programme.

A very good intuition, which allowed to conduct a great number of evaluations of the programme, was to collect a large data set before the programme was started. 506 of the beneficiaries' localities were randomly chosen and included in the evaluation sample: 320 villages were randomly assigned to the communities where the programme started early and the remaining 186 to those where the programme started almost two years later (Attanasio et al., 2003).

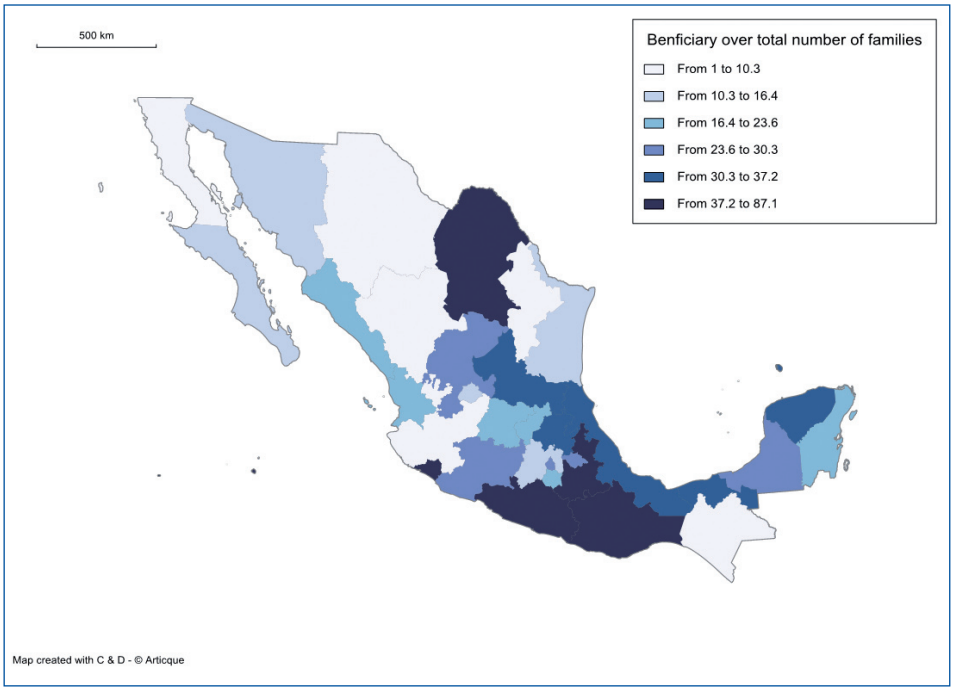
In 2000 the roll-out phase was concluded and this, together with the financial support of the international community, allowed to include urban areas and other previously excluded groups such as elderly people in the programme. While in 2000 there were only monetary incentives for nutrition, junior high school scholarships and the ones provided in species by the Health Departments, by 2006 incentives for the elderly were introduced in rural areas and scholarship also started to cover high school teens. In 2012 additional incentives, like "Food aid for better living" were introduced (SEDESOL, 2012). The programme expenditure, the coverage rate and the monthly average amount a family could receive increased over time. Concerning the expenditure, it passed from 9 500 million pesos in 2000 to 70 000 million pesos in 2012, while the monthly average amount increased from 259 pesos in 2000 to 777 pesos in 2012 (SEDESOL, 2012).

What regards the coverage rate, in 2012 the programme included a total of 6.5 million families[47] and 7 out of 10 *Oportunidades* beneficiaries live in communities with at most

47. **700 000 out of 6.5 million actually benefit from the Food Support Program (***Programa de Apoyo Alimentar*), which was created in 2009 by merging the Rural Food Support Program, and the Food Support Program in Priority Areas and it is operated by *Oportunidades* since 2010. The PAL is active in about 50 000 localities of the national

2 500 inhabitants (SEDESOL, 2010). Moreover, in states with the lowest human development index, more than one half of the population benefits from the programme. There were 7 000 "delivery points" in 2006; there are 22 000 in 2012, so that the 95% of beneficiaries households can now receive the grants in their own localities or within a distance of no more than 6 kilometres (SEDESOL, 2010) (see Figure 1 below and Table A1 and Figure A1 in the appendix).

Oportunidades: beneficiary over total number of families



Source: INEGI 2014.

The distribution of resources, across households and territories are in line with what can be expected: the data show that the number of beneficiary families is higher in states that show higher Marginality Index values and that the resources obtained by families are higher in states with lower HDI (see Figure A2 in the appendix).

3.2. The effects of the programme

Oportunidades is a successful programme and its success is linked to three distinguishing features. First, it puts great emphasis on the interruption of the inter-generational

territory which still don't have access to education and health services. It is a transitional incentive for those family located in extremely marginalised areas which are planned to be incorporated in *Oportunidades* at some point (SEDESOL, 2012).

transmission of poverty through investments in human capital. Also, by linking the income transfer to simultaneous interventions on nutrition, health and education, it adopts a multidimensional approach to fighting poverty. Second, in order to improve the effectiveness of the programme and to prevent the risk of discretionary manipulations linked with clientelism and opportunistic political behaviour, the identification and selection of beneficiary households is based on a statistically-designed process (Nino-Zarazua, 2011).

Finally, the programme design includes an independent evaluation protocol regulated by the CONEVAL and carried out by the institutional and academic research community, both at national and international levels. The aim of the evaluation process is twofold, it increases the effectiveness of the programme over time and, simultaneously, it strengthens its legitimacy across different political parties. This is probably one of the reasons that render *Oportunidades* the first programme of its nature that survived a change of administration (Attanasio et al., 2003).

There are a large number of national and international studies that evaluate the impact and effectiveness of *Oportunidades*.[48] The majority of them focused on the impacts of the programme in rural areas. This is mainly due to the design of the "Pilot phase" of *Oportunidades*. As mentioned, it was initially implemented in rural areas; the data set collected during this phase (whose random component is particularly useful in impact evaluation analysis) contains information only on rural areas.

The evaluations of the programme in rural areas, conducted 10 and 15 years after it started, show a positive impact on several outcomes. Reduction in social-emotional and behavioural problems, together with a greater language development for children aged 3 or under, are signals of its positive impact on child development (Neufeld et al., 2012; SEDESOL, 2012).

Oportunidades' beneficiaries also improved their educational achievements (as demonstrated by higher enrolment rates and re-entry among dropouts, less grade repetition, lower drop-out rates and better grade progression), longer stay in school and reduction of alcohol consumption, tobacco and junk food (Molyneux, 2007; Skoufias and di Maro, 2006; SEDESOL, 2012).

Moreover, the program encouraged beneficiaries to carry out basic sanitation practices in order to detect possible risk factors. It increased the households' health levels through regular preventive medical visits, prenatal check-ups and birth control, reduced the

48. A number of scholars focused their research on particular features of the programme, evaluating its impact on: children's health opportunities (Van de Gaer et al., 2013), nutrition (Farfan et al. 2013) and early development (Figueroa, 2013); skilled attendance at delivery in rural areas (Urquieta et al., 2009); beneficiaries households living in rural area (Rodriguez-Oreggia and Freije, 2012); inequality of opportunity in urban and rural areas (Krishnakumar, 2011); urban consumption (Agelucci and Attanasio, 2009), skills' enhancement (Behrman et al., 2005a); and educational outcomes, both in the short and the long run (Parker et al., 2006; Behrman et al., 2005b).

number of teen pregnancies and sexually transmitted diseases, and improved child nutrition (Skoufias, 2005; SEDESOL, 2012).

By looking at long-term outcomes, it has been estimated that individuals who completed elementary and junior high school receiving the cash transfer for at least six years, earn wages that are 12% to 14% higher than those received by non-beneficiaries (SEDESOL, 2012).

Finally, the results on the programme's impact on poverty are partly controversial. A number of scholars reported that *Oportunidades* had a greater impact in rural than in urban areas. Also, the evaluation of its impact on poverty is affected by the specific measures one relies on. In fact its positive impact is higher in terms of reduction of poverty gap and poverty severity than in terms of headcount ratio (Haddinott et al., 2000; Skoufias, 2005; Cortes et al., 2007).

These controversial results, particularly the apparently lower impact in terms of headcount ratio reduction, could bring to question whether *Oportunidades* is really effective in fighting poverty. However, as we said above, the results are partly affected by the specific index used and also by the time period considered. For example, a lower decrease (or even an increase) in poverty observed in the last few years may be due to the high vulnerability of countries like Mexico to exogenous economic shocks: the positive impact of *Oportunidades*, for example, might have been offset by the negative effects of the recent increase in international food prices and/or by those linked to the global spread of the financial crisis (Niño- Zarazua, 2011).

Findings of studies which focus on urban areas show that the programme had a positive impact even there. *Oportunidades* had a positive impact on all the educational outcomes: school enrolment rates, school attainments and the amount of time pupils spend doing homework, while it had a negative impact on the amount of time parents spend in helping their children with homework (Behzman et al, 2010).

3.3. *Oportunidades* and individuals' characteristics

Despite its normative justification, the structure of the grants designed by *Oportunidades* might risk undermining its effectiveness and hampering the fulfilment of its goals. As it emerges from the description, it is a "one-size-fits-all" programme (Ulrich & Roelen, 2012) as it adopts the same rules nationwide with only two exceptions: the school grants for girls at secondary level of education are higher; the procedures by which families become beneficiaries differ between urban and rural areas, even if the structure of the grant is identical.[49]

49. The first difference is due to the huge gap between boys and girls in enrolment rate at this level of education. The second is due to logistic costs and administrative reasons: in rural areas the families that fit the eligibility criteria were identified by a census and were then informed of their eligibility status; the census

The "one-size-fits-all" approach aims at respecting the Horizontal Equity principle which prescribes equal treatment of equals, where the definition of the latter, in this case, is basically founded on them being poor. Despite these defendable reasons this approach risks to be one of the most relevant drawbacks of the programme (Attanasio et al., 2003; Dominguez-Viera, 2011; Ulrichs and Roelen, 2012).

Some insights on the distributional impact of the programme, together with its degree of horizontal and vertical equity, are provided by the report on Human Development in Mexico carried out by the UNDP (2011). *Oportunidades* emerges as the only Mexican programme that assigns larger transfers to those who need them the most; with a negative index of vertical Equity - meaning that the resources go to the neediest individuals - and an index of horizontal equity equal to zero - meaning that individuals equally needy receive the same amount of resources (see Figures A3 and A4 in the appendix).

However, these results are partly affected by the way through which the impact is computed, that is by taking into account only the poverty level[50]: the picture changes as far as other dimensions, like the magnitude and severity of poverty and the level of inequality, are taken into account. When the poverty gap and the level of inequality are considered, *Oportunidades* shows some degree of both vertical and horizontal inequality and becomes more favourable to richer individuals. Particularly for the vulnerable and poor individuals, the identification strategy adopted by the programme could fail to take into account the full set of opportunity cost they face when enrolled in the programme (see Figure A5 in the appendix).

The gap between indigenous and non-indigenous populations in Mexico, in terms of socio-economic wellbeing, is quite large and well documented. Indigenous people tend to live in rural and more marginalised areas; they have, on average, lower levels of education, earn lower wages (for a given level of education), and are affected by disproportionally higher levels of poverty and discrimination, exacerbated by social, geographical and political exclusion (Ulrichs and Roelen, 2012; Lora-Gonzalez, 2011).

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could not be carried out in urban areas where families who think to meet eligibility criteria had to apply in sign-up offices.

50. **The distributional impact of public expenditure or, like in this case, of expenditure in a specific programme,** can be evaluated by looking at the cumulate share of resources received by the cumulate share of poor individuals. This is the approach embraced by *Oportunidades* that uses as poverty index the FGT (Foster - Greer - Thorbacke) based on the urban and rural poverty line defined by the CONEVAL.
The index is computed as:

$$FGT = \frac{1}{N}\sum_{i=1}^{q}\left(\frac{g_i}{z}\right)^{a}$$

Where **N** is the number of individuals in the whole population; **q** is the number of poor individuals; g is the poverty gap; **z** is the poverty line; and **a** is a "sensitivity parameter" which provides the weight given to poor individuals in the computation of the index. It can take the values of 0, 1 or 2: in the first case it takes into account only the number of poor individuals, and this is the value adopted by *Oportunidades* (UNDP, 2011); in the second, the FGT considers also the average poverty gap, that is the percentage of individuals below the poverty line; and finally, if a=2, it gives more weight to poorest people as it considers both the level of inequality and poverty.

According to the CONEVAL (2011a), about 80% of indigenous people are below the poverty line and 40% of them are extremely poor. There exist great differences between indigenous and non-indigenous individuals in terms of access to public services, marginalisation and severity of poverty (CONEVAL, 2011a; Garzia-Moreno and Patrinos, 2011) and a recent study conducted by the World Bank (2011) shows that these gaps are mostly due to differences in education and access to services.

Despite all these differences, *Oportunidades* makes explicit reference to indigenous people only in 12 of its rules, all focused on the issue of bilingual schools (Ulrichs and Roelen, 2012). The negative socio-economic conditions that characterise indigenous people may lessen the effectiveness of *Oportunidaes*. The remoteness of the areas where indigenous people mainly live and the greater distance to services delivery points increase the opportunity costs to comply with the conditions defined in the programme which, in turn, may reduce their participation (or increase their dropout from) the programme. A lower participation rate (or participating for a shorter length of time), in turn, may challenge the aim of *Oportunidades* of transforming short-term benefits into longer-term outcomes. It follows that, even if "*indigenous people may benefit from the Program in terms of the receipt of the transfer and increased access to health centre and schools, the structure of opportunity they face to translate these into long-term strategies and escape poverty is less conducive than that of non-indigenous people.*" (Ulrichs and Roelen 2012)

Overall 25% of *Oportunidades* beneficiaries are indigenous and, among indigenous people, about 94% are covered by *Oportunidades* (World Bank, 2012). The programme had a positive impact on the school attendance of indigenous pupils, it reduced the differences in school enrolment between indigenous and non-indigenous children and it had a higher impact on girls and students from secondary level upward (Ulrichs and Roelen, 2012; World Bank, 2012). Despite its positive impacts, a numbers of scholars highlight the inability of *Oportunidades* to take into account the structural characteristics that make indigenous people socially excluded makes them even more disadvantaged (De la Pena, Bastos and Calogne, 2012; World Bank, 2012).

The equality of the benefits among beneficiaries does not take into account that, due to the distances from schools and health centres, the net transfer for indigenous people is lower than that for non-indigenous because the former face higher opportunity costs. The demographic and geographic dispersion of indigenous people, which implies a limited access to services, also makes it more difficult for them to comply with the conditionality set by the programme, compromising their ability to receive the full transfer and lessening the quality and efficiency of the programme (Ulrichs and Roelen, 2012). A small group of indigenous people, those living in *localidades confidenciales*,[51] are persist-

51. *Localidades confidenciales* are areas of 1 or 2 houses classified in this category by the INEGI (the National Statistics and Geography Institute). Due to the confidentiality requirements established by the Mexican Statistics Law, information on these households cannot be obtained through census because, due to the small size of these locations, any data could be directly attributed to individual households.

ently excluded and marginalised because of the impossibility of collecting socio-economic household data necessary for the targeting process.

The structural constraint, on the other side, is basically due to the low quality and high fragmentation of services provided to the indigenous community which is identified even by the CONEVAL (2011b) as one of the major obstacles of the programme. Moreover, the majority of indigenous people live in states that show the higher marginality index (see Figure A6 in the appendix).

The national assessment of educational achievements provides evidence of the particularly low quality of schools in indigenous areas: public schools in rural areas with a higher proportion of indigenous students show a worse performance in terms of test scores than any other type of schools (CONEVAL, 2011). According to the World Bank (2012), deficits in quality are mainly due to: the high cost of traveling to schools; the high number of students; frequent teacher absenteeism; and barriers due to linguistic reasons.

3.4. *Oportunidades* and the regional divide

Differences between Mexican states in terms of GDP per capita, labour market structure and productivity, infrastructure and skills endowments, human development index, and health levels threaten the achievement of *Oportunidades* goals; they may have undermined the effectiveness of the programme in its scaling-up phase and generate differences in its impact throughout the country.

Let us provide some intuitions on why this could happen. There exists a clear link between infrastructure endowments and efficient institutions on one side, and social programme effectiveness on the other: the better the former, the higher the latter (Dominguez-Veira, 2011; OECD, 2013).

Consider, for example, the state's skill endowment, intended as the average level of education of its citizens, or the competitiveness of the state's economy: a competitive economy usually has higher productivity levels that in turn, depend on the skills of employed people. An environment where high(er) skills are necessary to get a job can act as an incentive for poor individuals to reach higher levels of education; if this is the case, the chances that they will decide to take advantage of school grants like that offered by *Oportunidades* will be higher and, consequently, school enrolment will also increase (Attanasio et al., 2003; Dominguez-Viera, 2011).

The possible relevance of observable and unobservable regional characteristics in the implementation of *Oportunidades* was addressed by some scholars wondering if, in the scaling-up of the programme, regional characteristics were taken into account

(Attanasio et al., 2003). There are, in fact, differences in the distribution of background characteristics[52] and in the ways they affect the school enrolment rates in "more dynamic" and poorest states,[53] it turned out that, in the latter, *Oportunidades* had a lower impact on school enrolment (Attanasio et al., 2003).

Oportunidades may be more effective in those states where a more competitive environment guarantees a developed and well-structured labour market, more efficient institutions, a higher human capital endowment and higher quality of schools and health services. This indeed seems to be the case, as *Oportunidades'* impact on school enrolment rates is higher in Mexican states with more competitive economic sectors, more efficient institutions and an inclusive, educated and healthy society (Dominguez-Viera, 2011).

Moreover, the competitiveness of the economy induces pupils to stay longer at school, by reducing the expected costs of applying for a job in the future, and to attend school regularly if they feel relatively less disadvantaged with respect to the rest of the population, as this makes the expected benefits associated with the programme participation higher than the expected cost of attending schools (Dominguez-Viera, 2011).[54]

The effectiveness of the programme is strongly affected by differences in the endowment and quality of health and education services between states and between urban and rural areas (OECD, 2013). In states like Chiapas, Veracruz and Oaxaca, the reduction of poverty between 2000 and 2010 was quite high. Yet about 40% of the population in these states still do not have access to health services (CONEVAL, 2012) and this prevented individuals from reaching a higher health level and also from being covered by *Oportunidades*.

The educational impact of the programme can be hampered by two distinct factors: a bias in the targeted population and differences in quality of education services. The first can be caused by the fact that the school grant focused more on pupils enrolled in primary education: this target is correct in rural areas but it could be less effective in urban areas where the most vulnerable individuals (that is, those with higher probabilities of dropping out) are those enrolled in secondary education (CONEVAL, 2012).

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52. The background variables considered by Attanasio and co-authors (2003) were: household income; mother's education; ethnicity; agricultural wage; completed years of school; presence of secondary school; and distance from the closest secondary school.

53. Attanasio et al. compared the impact of *Oportunidades* in seven states divided in two groups: a "more dynamic" one, formed by Michoacán, Queretaro and San Luis Potosi; and a "poorest one", composed by Guerrero, Puebla, Veracruz and Hidalgo.

54. Dominguez-Viera (2011) used an aggregate measure of competitiveness and selected competitiveness outcomes to verify if differences in competitiveness between states affect the effectiveness of the programme. As aggregate measure of competitiveness he used the State Competitiveness Index, computed by the IMCO in 2006 when Distrito Federal ranked first and Oaxaca ranked last. The competitiveness outcomes he used are: the IEHS (Inclusive, Educated and Healthy Society); the CES (Competitive Economic Sectors); and EEG (Efficient and Efficacious Government).

Also, there are differences in the quality of education between urban and rural areas; in the latter it is lower, both in terms of infrastructural endowment and teachers' skills (UNDP, 2011) and these, again, could be associated to differences in the impact of *Oportunidades*.

In order to obtain the same effect nationwide, it could be necessary to modify the benefit structure and to provide additional policy interventions. As is well known, the effectiveness of transfer schemes like *Oportunidades* depends on the transfer size, on its regularity and on the duration of the transfer. *Oportunidades* correctly assigns a higher amount of resources to the neediest states and the grants are regularly distributed to beneficiary households, as long as they meet the requirements and comply with the rules.

At the same time, if a programme aims to be fully transformational by interrupting the inter-generational transmission of poverty and to help people escape from poverty, the structural factors that hamper the most disadvantaged individuals the climb out of poverty – those living in rural areas or in less economically developed states and indigenous people – must be addressed. This can be achieved by correctly taking into account the socioeconomic and geographic conditions that influence the programme's access and coverage, and by internalising vulnerability factors which trap some individuals into poverty (Ulrichs and Roelen, 2012).

The same social programme can have different impact when applied to states that differ in terms of economic and human development. The programme has a lower impact in relatively poorer areas and in less competitive states. In order to obtain the same effect nationwide, it is necessary to provide additional policy intervention.

For example, it could be possible to improve parents' education through literacy or to increase the infrastructure endowment of the poorest states (Attanasio et al., 2003; Dominguez_Veira, 2011). The targeting problem previously mentioned can bring to question the scope of the programme in urban areas. The idea is to give a lower weight to enrolment rates in primary education, also in relatively more competitive and developed states, where the enrolment rate at this level of education is already quite high. This is why it could be worth considering a change in the benefit structure. For example, some authors suggest that if the main aim of the programme is to increase the average educational level, subsidies at the lower grade could be reduced or eliminated and the additional resources obtained this way could be used to increase the transfer for higher grade level (Dominguez-Veira, 2011).

Also, the effectiveness of the programme will benefit from investment in services offered to individuals, both in terms of quantity and quality. A number of scholars (Grosh et al. 2008; Ribe, Robolino and Walker, 2010; OECD, 2013) suggest to focus on the "supply side" by improving the quality and quantity of schools and health services in more

needy areas of the country. As noted in a recent OECD report (2013), additional actions are necessary "*to ensure that CCT Programs are backed by an appropriate supply of supporting health and education services of adequate quality, which is key to enduring the effectiveness of CCT*". (OECD 2013, p. 60)

Moreover, bringing people permanently out of poverty and enabling them to be more productive and generate higher income requires greater co-ordination between *Oportunidades* and other social policies, especially those focused on labour market and health (CONEVAL, 2012; IADB, 2013). Right now, a redesign of the programme is under way. It should favour: an increase in the coverage of health services, for example by offering economic incentives to medical staff to work in remote areas (CONEVAL, 2012); an increase in the link between young beneficiaries and active labour market policies; and, finally, a redesign of the social grant in order to take into account differences between urban and rural areas in terms of literacy, skill endowment and school attendance.

Oportunidades is a social programme aimed at fighting the inter-generational transmission of poverty but it cannot work alone. Its goals can be fully achieved only if supported by more co-ordinated and "deeper" policies are able to affect the main determinants of poverty which are unemployment, low wages, higher prices of food goods, low quality of public services and inequality of opportunity (CONEVAL, 2012).

The *Cruzada Nacional contre al Hambre* (Chapter 2) could represent this framework to integrate passive and active policy actions. The Brazilian experience of *Bolsa Familia* already shows that in order to promote better access to job opportunities, especially outside of informality, specific tools are required. In the Brazilian case, this tool was the Brazil *Sem Miseria* programme, a joint package of actions aiming to integrate the poor in the labour market and to create micro enterprises that can be included in regional, national or international value chains.

Especially in more marginalised municipalities and human settlements, a targeted effort could be devoted to local development actions and programmes to apply human capacities and knowledge – also acquired thanks to *Oportunidades* – to working opportunities. These actions could be applied first – as one of the goals of the PNMH – to increase agricultural production and productivity for self-consumption; and to facilitate marketing of agricultural products of the 3.8 million rural economic units (unidades economicas rurales) with no or very limited access to consumers. Community services and the social economy could represent another interesting framework to develop local working opportunities.

Local development requires the activation and co-operation of local families, firms, institutions and administration; and the cultural and social investment of local communities. However, local development is not at all a purely local issue. Federal and

state levels of government can play a crucial role. For instance, they can use national and state schemes to sustain local initiatives, provide technical and legal assistance, revise and improve local projects, compare different local experiences and diffuse good practices and successful experiences, facilitate co-operation among different local initiatives. International experiences show that a national policy for local development can substantially increase the rate of success of specific projects, especially in more marginalised and poor areas.

Appendix

Tab. A1. *Oportunidades*: beneficiary families (2010)

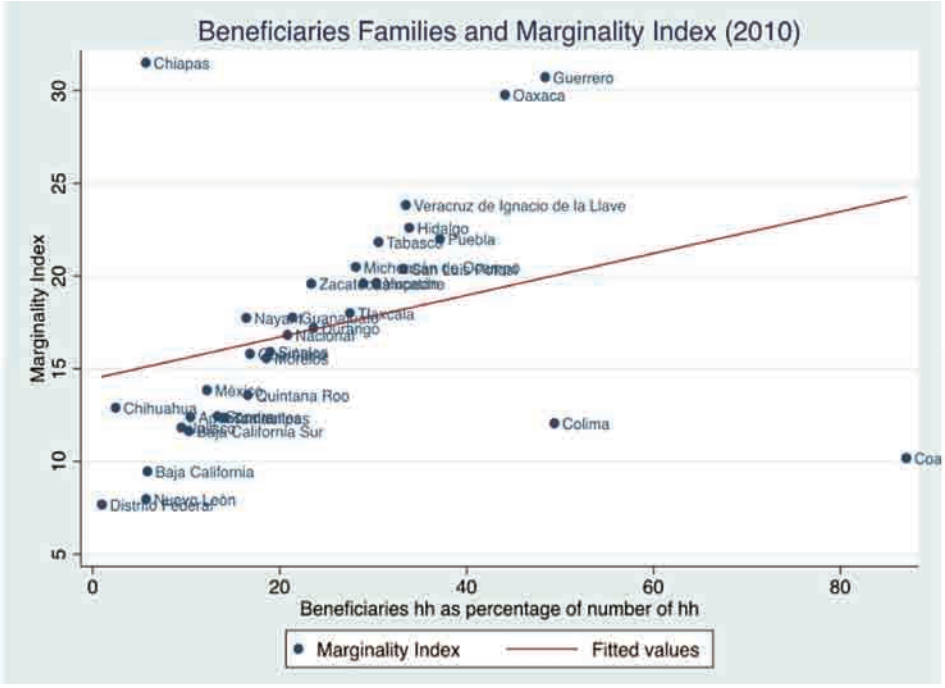
	Beneficiary Families (A)	Total number of families (B)	(A)/(B)	% of Indigenous families	Marginality Index
Country value	5868025	28159373	20.48	5.96	16.83
Aguascalientes	30288	289575	10.46	0.21	12.40
Baja California	50199	858676	5.85	1.30	9.47
Baja California Sur	17981	175046	10.27	1.67	11.65
Campeche	61267	211632	28.95	11.08	19.61
Coahuila	622709	715158	87.07	0.22	10.19
Colima	87858	177848	49.40	0.61	12.07
Chiapas	60901	1072560	5.68	23.80	31.51
Chihuahua	22198	910647	2.44	3.05	12.90
Distrito Federal	23512	2388534	0.98	1.38	7.68
Durango	94095	398471	23.61	1.89	17.20
Guanajuato	270691	1266772	21.37	0.27	17.77
Guerrero	389802	805230	48.41	13.48	30.73
Hidalgo	224465	662651	33.87	13.51	22.61
Jalisco	171219	1802424	9.50	0.70	11.83
México	450602	3689053	12.21	2.48	13.85
Michoacán	300216	1066630	28.15	3.14	20.49
Morelos	85570	460868	18.57	1.77	15.58
Nayarit	47430	288680	16.43	4.60	17.75
Nuevo León	67920	1191114	5.70	0.86	7.97
Oaxaca	412301	934471	44.12	30.65	29.78
Puebla	510303	1373772	37.15	10.41	22.01
Querétaro	75783	450104	16.84	1.62	15.81

Tab. A1. *Oportunidades*: beneficiary families (2010) (cont.)

	Beneficiary Families (A)	Total number of families (B)	(A)/(B)	% of Indigenous families	Marginality Index
Quintana Roo	60241	363066	16.59	14.79	13.59
San Luis Potosí	209906	631587	33.23	9.60	20.39
Sinaloa	134784	709960	18.98	0.85	15.91
Sonora	94175	705668	13.35	2.27	12.44
Tabasco	170998	559114	30.58	2.70	21.84
Tamaulipas	122597	868244	14.12	0.71	12.35
Tlaxcala	74978	272507	27.51	2.36	18.00
Veracruz	664673	1983543	33.51	8.43	23.84
Yucatán	152597	503106	30.33	27.49	19.62
Zacatecas	105766	372662	28.38	0.33	19.60

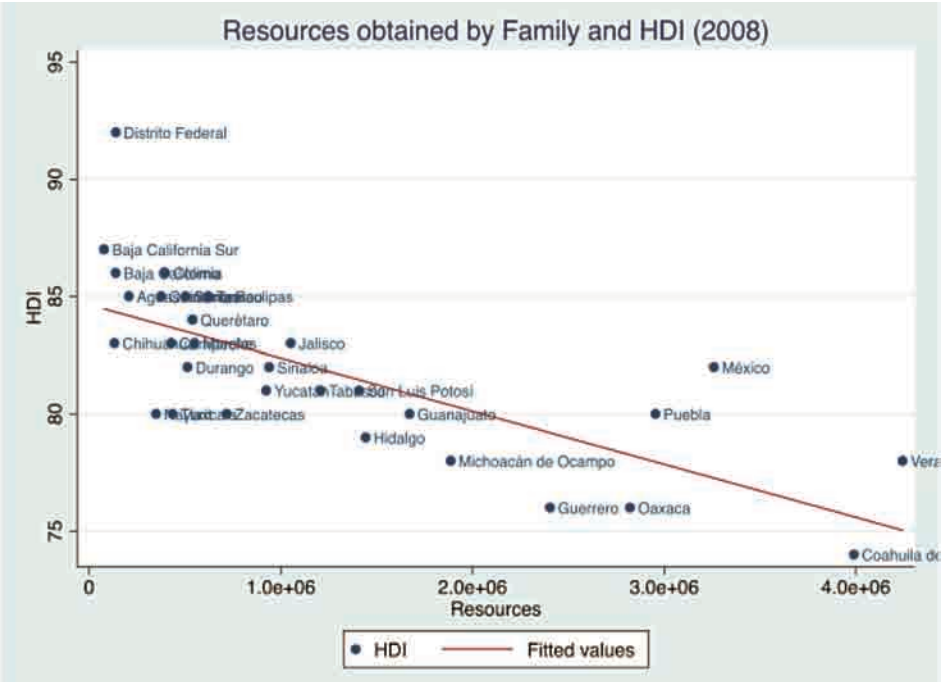
Source: INEGI 2014.
Familias beneficiarias por el Programa de Desarrollo Humano Oportunidades
Datos referidos al 31 de diciembre de cada año.

Figure A1. Beneficiary families and marginality index



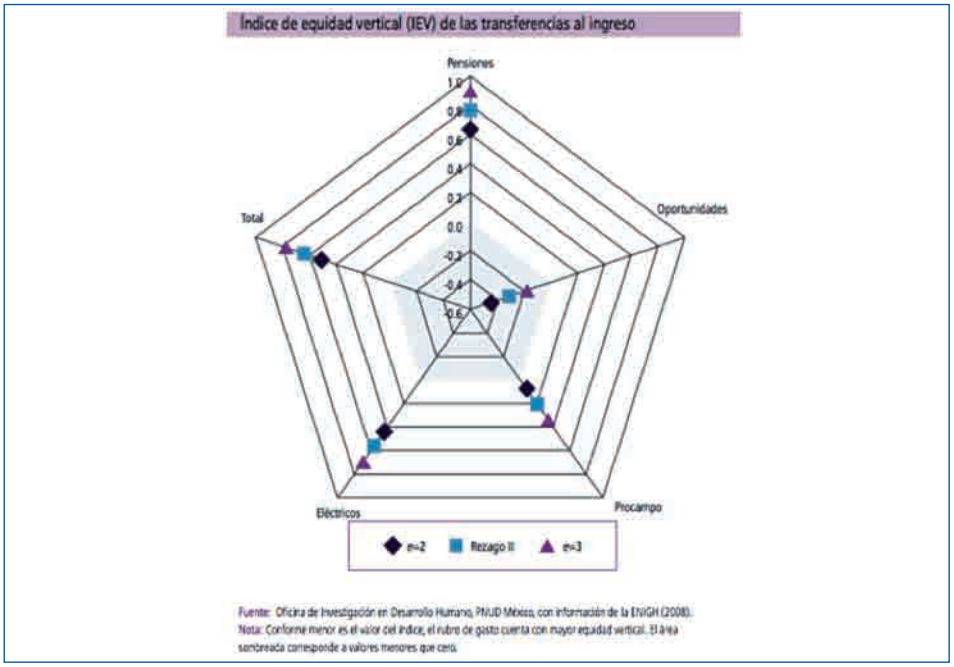
Source: Authors' elaboration on INEGI data.

Figure A2. Resources per family and HDI



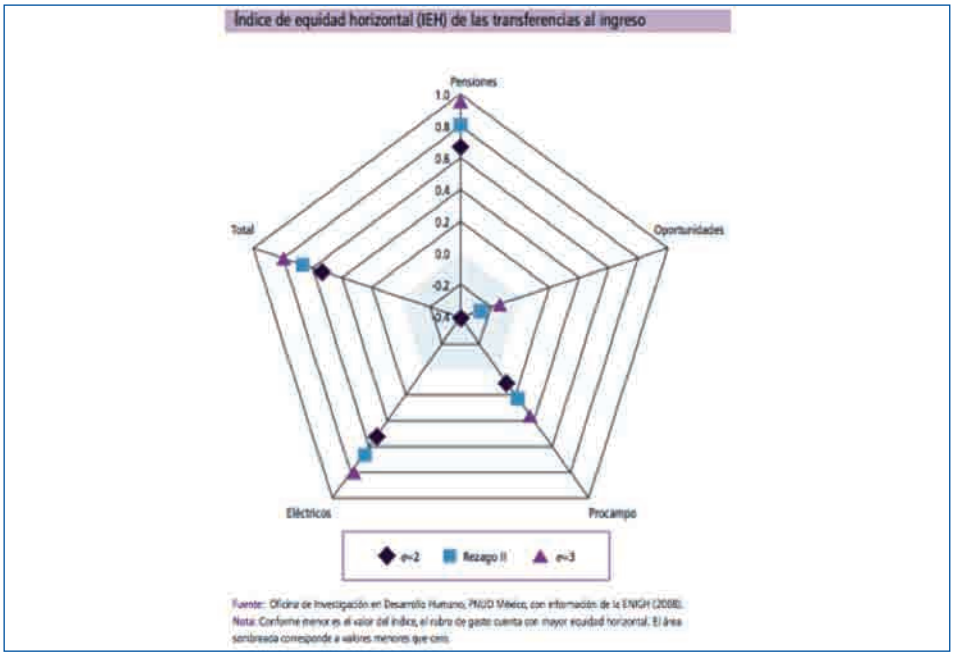
Source: Authors' elaboration based on INEGI data.

Figure A3: Vertical equity of income transfers in Mexico



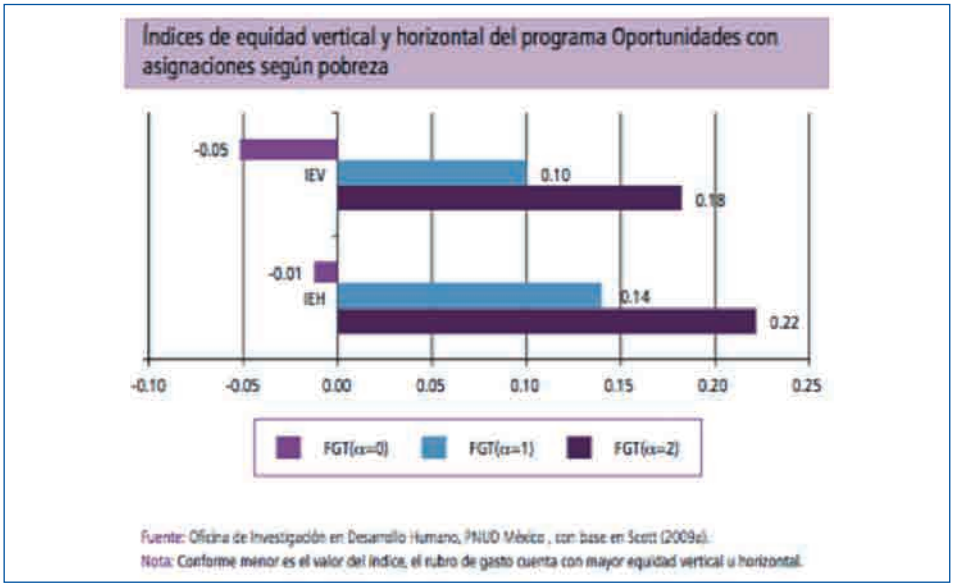
Source: OECD (2011).

Figure A4. Horizontal equity of income transfers in Mexico



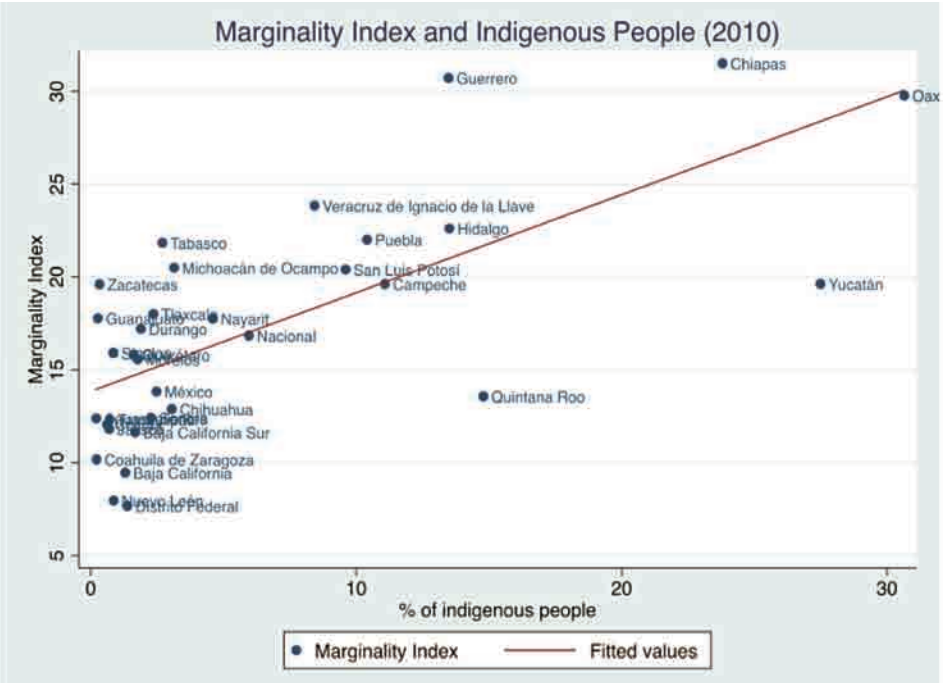
Source: OECD (2011).

Figure A5. Vertical & Horizontal Equity when severity and magnitude of poverty are taken into account



Source: OECD (2011).

Figure A6 Indigenous people and marginality



Source: Authors' elaboration based on INEGI data.

Chapter 4. Assessment and Recommendations

Regional disparities in Mexico remain a key issue for both equity and efficiency. Differences in well-being and per capita income among states are still substantial, showing no sign of reduction in more recent years. An important share of Mexican population, living in less developed states, or in less developed areas even within betters performing cities or states, remains partially excluded from the benefits of overall growth. National growth, in turn, is limited by the under exploitation of the development potential in all Mexican regions, and in particular by the lack of structural transformation and productivity take off.

Mexico is designing and implementing an ambitious development plan. The Mexican reform strategy now needs a regional dimension. A comprehensive regional development approach should further improve governance mechanisms, better target finance, go beyond social alleviation, face the challenge of productivity, and design and implement territorial and urban policies.

1. Governance mechanisms

Governance of policies related to regional development in Mexico can be improved. This has to do with actions and problems at different geographical levels, as well as with vertical and horizontal co-operation among different actors. In particular, spending responsibilities for each level of government can be better defined. This will contribute to reduce overlaps, especially between federal and states' responsibilities (OECD 2013b).

Horizontal coordination mechanisms are crucial. First, across ministries in charge of different sectorial policies, and second for all matters related to interactions between states' governments and territorial policies. The new National Policy for Regional Development (NPRD) explicitly states that that regional approach needs a stronger intersectorial coordination (SEDATU 2014a). Moreover, the new social policy scheme is based on such co-ordination (SEDESOL 2013).

Vertical co-operation between federal government and states is also key. Sectoral policies, for instance in education and health, are largely designed at the federal level,

but implemented at the state and local level. In absence of effective co-ordination mechanisms between different levels of government, policy making risks to be highly fragmented, making it hard to design strategies and policies tailored to local needs (OECD 2012a). In this regard, the experiences of OECD countries shows that formalized spaces for dialogue can be conductive to better policy implementation and monitoring. The use of *Convenios de coordinacion* should be extended.

Formalized agreements between federal and state authorities can help policy definition and implementation. These agreements should include detailed information about goals, targets, responsibilities, evaluation mechanisms and indicators of the designated policy. The experience of the *Acuerdos Integrales* of the CNCH should be closely monitored.

Multiyear budgeting, especially as far as capital expenditures are concerned, should be introduced. Multi-year budgeting allows a better policy planning. Continuity in policy implementation is a major challenge for regional, as well as for other structural, policies in Mexico. Most budget allocations are made on a year-by-year basis, creating uncertainty for larger projects and structural policies. A modification of legal prescriptions impeding multi-year planning should be considered.

Accountability mechanisms and spending monitoring can be improved. Premium-like devices may increase incentives for more efficient sub-national spending. An effort to establish homogeneous accounting criteria may help gathering information needed to assess subnational spending and use of funds.

Sharing and diffusion of good practices of regional/local policies all over the country is weak, **and should be substantially improved**. In several instances in Mexico, states and local authorities have had long and fruitful experiences in implementing policies at a local and regional level. These experiences could be shared with other authorities, including information on the way in which some of the obstacles and problems affecting policy delivery have been faced and solved. Moreover, technical solutions that have been already developed may be applied in other situation at a very low cost. Regional development policies experiences all over the OECD countries, and in particular in Europe, suggest that dissemination and replication of best experience may create very positive externalities across all the different actors involved.

There is a need for capacity-building at a state, and especially at municipal level in Mexico. Policies require skilled personnel devoted to their implementation and monitoring. Learning by doing, and the ability to use feedbacks and evaluation to increase effectiveness of policy is crucial. Improving the capacities of local and state technical personnel, therefore, represent a major issue for Mexico. In this sense, the reform of FAIS management goes in the right direction. A national institution could be

devoted both to deliver qualified technical assistance to local operators and to structurally reinforce capacities in all the country (e.g. training and organization).

2. Financing regional development

Mexico should invest larger resources on poverty alleviation, productivity growth, as well as on urban and territorial policies. Several Mexican policies go in the right direction in terms of reducing both regional imbalances and social exclusion, in reinforcing firms' capabilities, and improving quantity and quality of the public capital stock. However, the total effort appears to be limited in comparison to both needs and potentials.

To invest more, the tax base should be enlarged; certainty of public resources should be achieved, independently from oil revenues. Together with macroeconomics decisions, this relates to the large gap between spending responsibilities and tax collection at the level of states and municipalities. The collection of taxes at both levels should increase, also by reinforcing their institutional and technical capabilities and improving information systems (such as Cadestres).

The needs for financing public capital endowments and public services are different among states. This prompts to consider the revision of existing allocation criteria for *Aportaciones* and *Participaciones*. Formulas of the distribution of intergovernmental transfer can be improved. In particular, transfers should be based on indicators that incorporate, as much as possible, equity and efficiency criteria (OECD 2013b).

Part of the unconditional transfers (Ramo 28) might be transformed into an explicit equalisation fund, targeted at regional disparities, following simple and transparent criteria such as population or income per capita (as suggested by OECD 2013b). In particular, even if reforming the current revenue sharing system may be politically difficult.

FAEB formula should be revised, so that states with a large share of schools serving the most disadvantaged area, as well as indigenous population, receive more money per student (OECD 2013b, UNDP 2011). The distribution of education services and attainment remain highly unequal within the country. Policies aimed at improving human capital in disadvantaged regions not only make sense from an equity perspective, but also from an efficiency one: the key drivers of growth vary according to a region's level of development, but education and training above all, are critical for the growth of all regions.

Smaller funds (such as the Regional and Metropolitan Funds), together with the regional Fideicomisos could be used to increase quality of planning and spending.

They could in particular finance technical feasibility studies and evaluation reports for larger investment projects at a meso-regional level. In this respect, the recent experience of FIDESUR seems particularly interesting.

Development Banks can contribute more to regional development projects and policies. Following some interesting international experiences, they could for instance develop financial products especially dedicated to support those territorial projects that can achieve economic returns, and collect private (national and international) funds that can complement and reinforce public money.

3. Beyond social alleviation

Regional policy in Mexico, to be successful in the long run, has to go beyond social alleviation. The main problems of regional development may remain unchanged, even with well-functioning social programs. From and individual point of view, in most deprived states and communities personal returns for education remain very low; especially if there are no possibilities – except via migration – for exploiting acquired knowledge in a modern and well-paid work. From a collective point of view, the division between high and low productivity firms (that has a clear territorial dimension) implies that even a better educated workforce may not induce productivity gains if it ends employed in informal, small-scale, very traditional businesses.

The new Mexican approach to social policies goes in the right direction, integrating direct poverty alleviation with social infrastructure and promotion of work on a local basis. It should be rapidly implemented, monitored, extended and improved. The coverage of the *Cruzada National contra el Hambre* should be extended as soon as possible to all selected municipalities. Diversifying strategies and actions towards rural and urban poverty is crucial.

Investment programs and social alleviation policies may achieve a better coordination. The effects of social programs further depend on the availability of public services in the targeted areas: when schools or health centres are too far away, the costs for families in the programme increase substantially, and its positive effects decrease. The same policy, if applied in very different contexts, may produce differentiated results. A larger effort should therefore be devoted to providing communities, especially the more isolated and marginalized, with basic services. This means reinforcing dedicated investment close to transfers to families, so to increase the stock of public capital (especially schools and health facilities) in most deprived areas. In this regard, the coordination of capital and current expenditures envisaged in the *Cruzada Nacional contra el Hambre* and the new FAIS rules do seem useful.

In this framework, the size and coverage of Oportunidades should be extended. Oportunidades is recognized international good practice. The programme has been progressively implemented with transparent and clear rules; it has been repeatedly evaluated, and has proved particularly effective in increasing educational attainment and improving health outcomes. Notwithstanding the large number of families included in the program, as well as its current financial enlargement with respect to the first years of implementation, its weight remain relatively minor in the overall framework of social expenditures and transfers in Mexico.

Local development projects are crucial to provide poor households with income opportunities as well as access to basic services and markets. The opportunity to work and be productive is key for breaking the inter-generational transmission of poverty. Local development projects are not at all easy: poor families usually live in localities where public capital and infrastructure stocks are low and where capabilities to design and implement local development actions are correspondingly low. As elsewhere in the world, a typical vicious circle may be in action, in which local development policies are more needed where they are more difficult to be implemented.

Local development must be considered a national policy. Federal and state commitment is key for its success. Community participation and local action are crucial for local development. But they are not enough; local development is not at all a local problem. Local development implies a correct assessment of weaknesses and possibilities that is often beyond local knowledge; it implies the correct use of development tools and their precise adaptation to local specificities; it implies long term vision. As shown by international experiences, high-level, dedicated, technical assistance, together with an effort to disseminate good practices, is needed. One size does not, at all, fits all.

The social economy may be an important field for active labour policies. Especially in marginalized communities, the birth and action of social enterprises can both directly create work possibilities and improve overall community supply of public goods and services. In this regards, uppermost attention to different local conditions, cultural and social attitudes, and possibility must be paid.

4. The challenge of productivity: a productivity fund

Increasing productivity in small firms remains the key issue for the Mexican economy, **as it should be for regional policy.** In this respect Mexican SME and technology policy appears to be well designed and organized. Its goals are crucial: reducing informality and increasing organization and productivity within smaller firms is necessary for achieving a more sustained rate of growth of productivity and income all

over the country. However, its scope is still very limited, reaching around two small enterprises every hundred.

Reinforcing national SME policy may induce positive effects in all the states, also due to its territorial flexibility. In particular the actions of *Mexico Emprende* Centres, being the first entry point for SMEs, into the possibilities offered by the policies, should be largely extended. They enable public policies to reach new and old small entrepreneurs also in relatively peripheral areas and to tailor public programmes to their specific needs. SME policy may have notable local dimension. States can tailor, to a certain extent, its implementation on local situation and needs. This appears to be crucial for success.

However, the effects of the national SME policy risk being very small in less developed states, where they are more needed. **The possibility of public co-financing of actions is much smaller in more backward areas, so substantially reducing this opportunity.** Data clearly show that SME policy is more intense where there already exists a relevant demand for policies, i.e. in more developed regions. Moreover, tailoring and reinforcing enterprise policies is particularly difficult in more backward areas where density and specialization of firms are small, not inducing positive externalities**.**

Productivity growth in all the states is crucial for the development of the Mexican economy. Therefore, Mexico could reinforce enterprise and productivity development policies with a place-based approach, also drawing on the experience of the European Union. A suggestion could be designing and implementing a multi-annual productivity fund for regional economic development.

In this framework, funds could be allocated to a national policy organized in multi-annual regional programmes. Those programmes should complement national industrial and technological policies, increasing its adaptation to local characteristics and reinforcing them where more needed. This could help overcoming a project-based approach to local development: having several action planned and executed together may generate significant policy externalities, reinforcing the outcomes of all the projects. Having a multi-year programme may allow continuity in policies, with medium term goals.

Within such programmes, actions could either co-finance national measures or implement new ones. Actions may include strengthening service provisions to existing firms, particularly for innovation and internationalization; encouraging new firm formation; develop financial infrastructures (such as seed capital funds and business angel groups, local loan guarantee schemes, community-based banks), reinforce professional training and education in the fields related to regional specialization; and R&D and innovation promotion.

Moreover, ambitious actions could be considered, including place-based integrated policies for agro-industrial and industrial cluster formation/development, firm networking, technological R&D, industrial parks and incubators, foreign investment attraction, tourism promotion. Attention must be paid to environmental sustainability of all projects: productivity gains cannot come at the expense of the environment.

This fund could be allocated to all states, following simple criteria, being larger where productivity levels are smaller, so that funds are greater in less developed states. Typologies of regions could be defined, both for allocating funds and for diversifying programmes' priorities. Programmes can be different according to different typologies of regions, being smaller and more focused to innovation, technology, clusters in more advanced areas, and larger, more general, in less advanced regions.

Actions and targets should form the basis of a development contract, between financing federal entities and implementing state authorities. All actions should be linked to a pre-defined set of outcome and output indicators, with targets to be achieved: independent bodies should be put in charge of monitoring programmes' advances. This implies an effort in reinforcing states capabilities. Time and attention should be devoted to programmes' definition; public-private councils and civil society should be allowed to make proposals and produce opinions.

5. Urban and territorial policies

Cities are the key for sustainable long term growth. Urban policies are crucial for this to happen. Urban development in the last decade created important problems in Mexico, including the physical extension of larger metro areas (with problems of social exclusion, infrastructures and services provision, difficult and costly mobility, congestion and pollution); as well as weakening the network of small and medium cities, and urban-rural connections.

Mexico has to implement its new national urban policy. The NPRD 2013-18 assigns a relevant role to a spatial vision of development, based in particular on the role of cities. In a polycentric view of development of the country, the metropolitan zones may be hubs of urban-rural systems, to avoid massive migration towards urban areas and to foster the integration of urban and rural economies (SEDATU 2014a). Development in all Mexican cities, especially in small and medium size ones, may contribute to a better provision of public services, enhance connectivity, foster political-administrative decentralisation, and regulate the expansion of greater metropolitan areas.

The effectiveness of urban policies might be enhanced if they are coordinated through a spatial vision for urban development: a national urban policy agenda,

as that recently promoted in Mexico. An agenda that is flexible and tailored to the specific needs of different cities and urban areas, and uses different programmes and tools. National regulations can help those developments, in consolidating urban areas, and reinforcing connections and transport.

The macroregional approach put forward in the NPRD, can be fruitful in the Mexican context. In such a large country, a "meso" level of planning and action, in-between national and regional/local, seems appropriate to deal with a large number of crucial issues, especially those related to infrastructure development, environment, energy, and transport. A territorially integrated approach to projects may avoid duplication and exploit economies of scale. Co-ordination among states, together with national entities, at the "meso" level should be reinforced as envisaged in the NPRD.

Reinforcing the connections of all Mexican states with world markets is a prerequisite for development. National corridors leading North to the United States, and horizontally towards the ports on both the Pacific and the Caribbean coasts, are key for enabling factors promoting regional economic growth. However, the country's transport system still has relevant shortcomings. Highway structure remains radial, centred on Mexico City, and large parts of the country are disconnected from the railway network. Several Mexican States, particularly in the Centre and the South, suffer for a very limited interconnection with those corridors, which increases time and the overall costs for reaching international markets. Corridors of the Gulf, of the Pacific, of the Mexican Caribe, together with the Trans-Isthmus corridors are yet to be developed (SEDATU 2014d).

In particular the South-Southeast needs high quality infrastructures to become integrated with other regions, access national and foreign markets, and fully exploit its touristic potential. As underlined in the NPRD and the macroregional development strategies (SEDATU 2014 a,b,c,d), connecting all areas with main corridors should be a priority in infrastructure investments. Inter-modal complementarities also deserve uppermost attention. Priority should in particular be given to West-East corridors to connect the main ports of the country, exploiting the growing role of Mexico as "commercial bridge" between Asia e the Eastern part of the US (SEDATU 2014a).

A smarter regulation is also crucial to improve transports and logistics. Ecological sustainability of projects must be carefully assessed. Harmonization of rules and procedures among states, simpler and more market-friendly regulations may increase the economic effects of new capital expenditures. New investment must consider the weaknesses of the Mexican territory and habitat in order to be sustainable in the long run.

Small transport infrastructure can help development in marginalized communities and their insertion in the market economy. They can reduce the waste of food

in the logistic chain, so to increase returns for smaller producer, and help their products to reach regional, national and international markets.

The development of the South-Southeast remains the major challenge for Mexico: in this respect its natural potential can be better exploited, especially for what regards water and energy. As mentioned by SEDATU (2014d) the South-Southeast already enjoys the national leadership in hydroelectric and wind energies (much less in solar energy). Both of them may play a relevant role for the future of the region, and of the whole nation, considering the goal of reaching a share of 35% of renewable energies over total production by 2026 set by the National Energy Strategy 2012-2018.

Cross-border co-operation represents another relevant issue for territorial development, on both borders. On the Northern border there is a tradition of joint cross-border confrontation and joint action, as exemplified by the indicative Plan for the Border Region. However a comprehensive West-East co-operation approach, covering the whole of the U.S.-Mexico border still seems lacking.

Co-operation on the Southern border should be increased. It is now virtually absent, also because of a very difficult communication and transport situation and a very limited trade with Central America. Cross-border co-operation projects, notwithstanding these overall problems, may contribute to develop both sides of the border. The latter could be particularly appealing for activities regarding tourism and preservation of natural assets and culture. The experience of European initiatives (with the long and successful story of the *Interreg* action) and other Latin American countries can help defining the tools needed for such operations.

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