CEGS
Global Centre of Excellence on Gender Statistics

WOMEN'S ECONOMIC EMPOWERMENT AND CARE SYSTEMS:

A GEOSPATIAL KNOWLEDGE FRAMEWORK

UN WOMEN | WOMEN COUNT

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A GEOSPATIAL KNOWLEDGE FRAMEWORK

Women's economic empowerment and care systems:
A geospatial knowledge framework

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GLOSSARY

Agency	The ability to define one's own goals and act upon them. It involves the action, but also the meaning, motivation, and purpose which individuals bring to their activity – their sense of agency. It is commonly operationalized as "decision-making," but it can also involve a set of cognitive processes of reflection and analysis. It is also related to the "control" of resources (Kabeer, 1999).
Autonomy	People's ability to make free and informed decisions about their lives, which allows them to act according to their own aspirations and desires in a favourable historical context. See also: control over your own body (physical autonomy), the generation of income and one's own resources (economic autonomy) and full participation in decision-making that affects one's life and community (autonomy in decision-making), (ECLAC, 2010).
Women's Economic Autonomy	Women's ability to generate income and their own resources, by accessing paid work under equal conditions as men. It refers to the time-use and the contribution of women to the economy. Economic autonomy includes women's right to work and earn their own income, and the distribution of paid and unpaid work between women and men (ECLAC 2011). The main objective of women's economic autonomy is to promote women's access and control over productive resources, as well as to ensure that they are recognized as fully participating economic actors (OXFAM, 2017).
Empowerment of Women and Girls	To have power and control over one's life. It refers to increasing awareness, developing self-esteem and expanding options for women and girls, as well as giving them more access and control over resources and actions to transform structures and institutions that reinforce and perpetuate gender discrimination and inequality (UNICEF, UNFPA, UNDP and UN Women, 2011).

Women's Economic Empowerment	A woman is economically empowered when she has the ability to succeed and progress economically, and the power to make and act on economic decisions. To succeed and advance economically, women need the skills and resources to compete in the markets, as well as equitable and equal access to economic institutions. To have the power and the agency to benefit from economic activities, women need to have the ability to make decisions and control resources as well as their benefits (ICRW, 2011). Economic empowerment takes place when both women and men have the capacity to participate, contribute and benefit from economic growth processes in ways that not only recognize but also value their contributions, respect their dignity and make it possible to negotiate a fairer and more equitable distribution of growth benefits. A comprehensive measure of economic empowerment is related to the level of income that women obtain compared to men, mainly through their participation in the labour market (OECD, 2011). Women's economic empowerment occurs in a real and effective way when they can practice the right to control and benefit from resources, goods and income, as well as to have their own time, and when they have the ability to manage risks and improve their economic situation and well-being. Women must also have the necessary autonomy and self-confidence to make changes in their own lives. This, through the capacity and power required to participate and influence decision-making, while enjoying equal rights to men and a life without violence. However, women's empowerment goes beyond their economic autonomy; it encompasses the more complex process towards realizing a wider set of women's political, economic and social rights (OXFAM 2017).
Care System	A set of public and private actions that provide direct attention to the activities and basic needs of the daily life of people who are in a situation of dependency. It includes an articulated set of new benefits, coordination, consolidation and expansion of existing services, as well as the regulation of people who provide a care services (November 2015, Law No. 19353, art. 3-B, Uruguay). A system so that all care activities are coordinated and focused in the same direction. It is intended to be a system that considers the distribution of households' chores and the co-responsibility of the State and companies in care chores that are their responsibility (Rico and Segovia, 2017: 182). A system that provides universal, accessible, relevant, sufficient and quality public services and develops public policies. The system will give priority attention to people in situations of dependency due to illness, disability, late-life. In particular, the system caters to children and people of old age and to those who, in an unpaid way, are in charge of their care (Head of Government of Mexico City, 2017, article 9, section B (Right to care), of the Political Constitution of Mexico City, approved by the Constituent Assembly on January 30th, 2017).

ABBREVIATIONS AND ACRONYMS

WB	World Bank
ECLAC	Economic Commission for Latin America and the Caribbean
CONEVAL	National Council for the Evaluation of Social Development Policy (spanish abbreviation)
UNSD	United Nations Statistics Division
EDGE	Evidence and Data for Gender Equality
IAEG-GS	Inter-agency and Expert Group on Gender Statistics
IAEG-SDGs	Inter-agency and Expert Group on SDG Indicators
ICRW	International Center for Research on Women
INEGI	Mexican National Institute of Statistics and Geography (spanish abbreviation)
OECD	Organization of Economic Cooperation and Development
ILO	International Labour Organization
UN	United Nations
UN Women	The United Nations Entity for Gender Equality and the Empowerment of Women
UNDP	United Nations Development Programme
UNFPA	United Nations Populations Fund
UNICEF	United Nations International Children's Emergency Fund
OXFAM	Oxford Committee for Famine Relief

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PREFACE

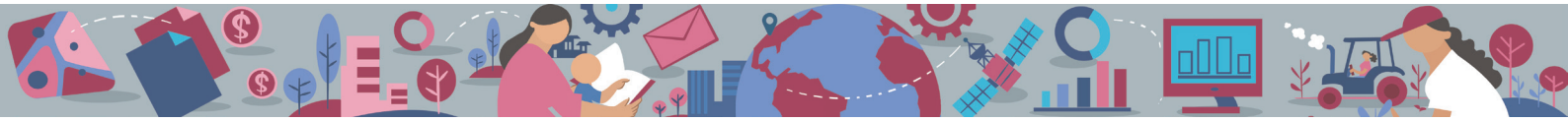
The empowerment of women implies a process that enables them to make strategic choices for their lives. It means a transformation in which the full participation of women is achieved in all areas of society. Specifically, the economic empowerment of women involves autonomy in their decisions, the management and control of their assets, income and time, which includes access to paid work and social protection, areas in which gaps persist with respect to men, related to the increased time women spend on unpaid and care work.

The objective of the paper "Economic empowerment of women and care systems: A geospatial knowledge framework", developed with the collaboration of Mónica Elizabeth Orozco Corona, is to analyze the importance of women's economic empowerment and the relevance of their links with care systems with a territorial approach. It is part of the project "Gender, research and geospatial analysis" under the coordination of the Global Centre of Excellence on Gender Statistics (CEGS), carried out as part of the Collaboration Agreement between UN Women Mexico and the National Institute of Statistics and Geography (INEGI) .

The study provides a conceptual framework on the issue of economic empowerment, with a focus on gender statistics and geospatial analysis, which in turn constitutes the theoretical basis of the methodological proposal that it develops in order to provide elements for integration, exploitation and use of statistical information related to the economic empowerment of women and care services. It is placed within the context of studies that address the differences in the labour participation of women and men, analyzing and measuring the impact of both personal and material resources and the inequality of opportunities depending on their environment, which is manifested through a set of physical and geographic variables.

The conceptual framework is based on the definitions of empowerment and economic empowerment of women. It specifies the elements that the former involves (resources, agency and achievements) and those that the latter comprises (access to own income, paid work and social protection, among others). In particular, it focuses on those that make them possible, within which care systems are placed as a key factor in reducing and redistributing unpaid and care work performed by women.

The availability, quality and access to care services have profound implications in the lives of women, affecting their possibilities of economic empowerment, whether they enable or limit the insertion and employment of women and, consequently, have repercussions on gender gaps in labour market participation.



Therefore, the conceptual framework raises the conceptual justification of the relationship between economic empowerment and care. Based on the analysis of the literature that addresses this relationship, four dimensions are developed that are interrelated from a geospatial approach to determine the possibilities of economic empowerment of women: 1) income, 2) work, 3) material and personal resources and 4) surroundings and environment.

The methodological proposal includes a minimum set of activities and products for the analysis of economic empowerment and its relationship with care systems based on three elements: i) the analytical framework of labour supply and income generation for women ii) the definition of key indicators and, iii) the procedure to generate statistics and geospatial correlation measures.

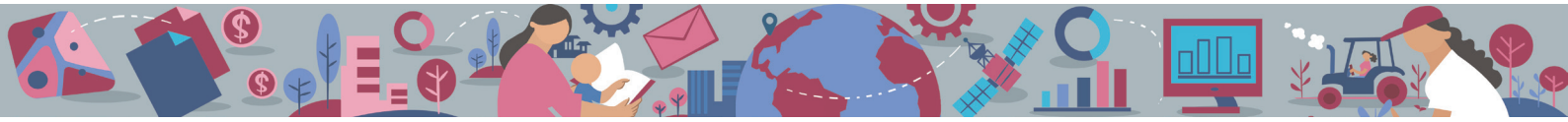
With the development of the conceptual framework, the dimensions identified and the official information available, the work proposes a list of indicators based on the United Nations Minimum Set of Gender Indicators (indicators from the sustainable development goals (SDGs) and the global framework of indicators, among others).

The proposed methodology has as its main focus the labour participation of women and the generation of income, as indicators of economic empowerment, based on the link between women's work (paid and unpaid) and care systems and because they are the most used indicators in the definition of empowerment and construction of women's autonomy. Three transversal approaches are used: gender approach, territorial approach and life cycle approach; and three dimensions: work, resources and intersectionality and environment.

The analysis of the indicators is divided into two sections. First, the results of the analysis of the indicators and their use to estimate correlations between the labour participation of women with material and personal resources and the environment are specified. Subsequently, the measurement of women's labour participation and its determinants is developed, bearing in mind the spatial dependence, which the author models from the use of geospatial analysis techniques.

Through the estimation of correlations and a mixed regression model to capture geospatial variation, the author explores the relationship between income and labor participation of women, with individual characteristics such as schooling, the characteristics of their households such as presence of infants and elderly persons, the diversification and magnitude of the economy in the service sector, the presence of care services and the availability of financial inclusion services.

The results indicate that the factors that determine the labour participation of women have a different effect with respect to the labour participation of men. The greater time that women dedicate to unpaid work and care considerably reduces their availability of time to participate in the labour market.



The study represents a valuable contribution in the efforts to analyze geographic and statistical information with a gender perspective and in the analysis of the economic empowerment of women and the factors that make it possible, among which the differentiated impact between men and women of the environment, with an emphasis on care systems.

At the same time, the study generates guidelines for the development of geospatial indicators, as well as to work in consensus, adjustments to the instruments for collecting information and developing indicators to incorporate factors such as ownership of women into the analysis of women's empowerment. assets and their financial returns and women's agency (and not just resource and achievement dimensions).

Global Centre of Excellence on Gender Statistics (CEGS)

1 PRESENTATION

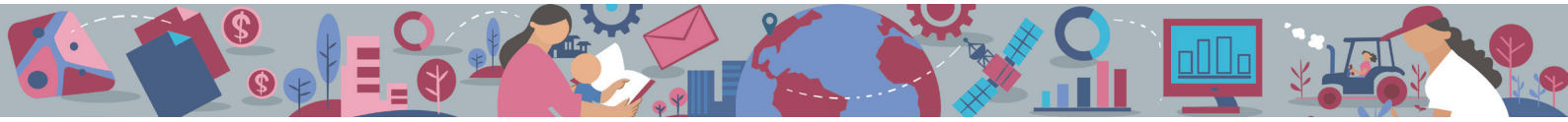
The document *Economic Empowerment of Women and Care Systems: a Geospatial Knowledge Framework*, is developed in order to constitute a methodological proposal elaborated as part of the strategic priorities of the Global Centre of Excellence on Gender Statistics (CEGS) with the objective of strengthening the production, dissemination and use of gender statistics in the construction of policies for the achievement of substantive equality in the area of economic empowerment of women.

This proposal constitutes a contribution to the construction of gender statistics, which starts from the internationally agreed definitions in the Sustainable Development Goals (SDGs), and integrates a conceptual framework of economic empowerment with multiple dimensions. The methodological proposal focuses on the labour dimension of economic empowerment which, from the perspective of feminist economics, incorporates the conception of the use of time and of total work - paid and unpaid -, with an emphasis on care work and its determinants, as well as the territorial perspective and the labour market.

To this end, the methodological proposal takes up the contributions that States Parties and United Nations agencies, as well as international literature, have developed in recent years to conceptualize the economic empowerment of women and the characteristics of care systems. In particular, the proposal takes up these concepts and reviews their relationship with the production and analysis of statistical information to generate empirical measures that contribute to the knowledge of the factors that enhance, or that may limit, the economic empowerment of women.

The main value of this document consists of synthesizing the state of the art in gender statistics and integrating a spatial-territorial vision of economic empowerment that allows going beyond the measurement of indicators for monitoring the SDGs at the national level, to incorporate territorial inequalities and the relevance of the production of data with sub-national disaggregation. At the same time, it reinforces the notion that in order to achieve economic empowerment of women, it is necessary to recognize the interrelation between SDG 1 on poverty, 5 on gender equality, 8 on decent work and economic development and 10 on reduction of inequalities (Orozco, 2018b).

The methodological proposal seeks to contribute to the generation of strategic information that, in accordance with the recommendations of the report *Making Promises a Reality: Gender Equality in the 2030 Agenda for Sustainable Development*, contributes so that governments have information and take measures that challenge the inequalities in gender power relations, which are at the root of violence against women and girls, especially through strengthening the economic independence of women. In this way, the general and specific objectives of the methodological proposal are summarized as follows.



GENERAL OBJECTIVE

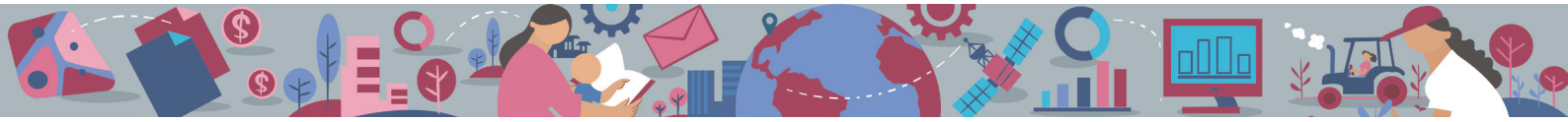
Provide a knowledge framework that provides guidance so that countries have the minimum criteria to strengthen the production, geospatial analysis and dissemination of gender statistics within the framework of the National Information Systems in charge of the National Statistical Offices (NSOs), as well as its use for decision-making aimed at the economic empowerment of women.

SPECIFIC OBJECTIVES

- Provide a conceptual framework that relates the pathways to the economic empowerment of women with care systems.
- Have a guide for the detection and use of official data sources and gender statistics to contribute to the understanding and monitoring of the economic empowerment of women.
- Define a set of relevant indicators to empirically measure the conceptual dimensions of economic empowerment and its relationship with care.
- Describe the procedure for the generation of statistics and geospatial correlation measures of economic empowerment and its relationship with care.
- Have criteria to detect information gaps, with a view to strengthening the production of gender statistics.
- Promote the use of gender statistics for the design and monitoring of public policies aimed at the economic empowerment of women.

The document is organized as follows. Section II includes the conceptual framework of reference, which summarizes the antecedents of the analysis of economic empowerment and its relationship with care and, in particular, the geospatial approaches used in the international literature on the subject. Based on this review, the conceptual justification of the importance of economic empowerment and the relevance of its links with care and with the territory is established.

Section III describes the methodological proposal for the development of the geospatial analysis of economic empowerment and care, through: a) defining a minimum set of activities and products that the countries that develop geospatial analysis of economic empowerment and care, will have to take into consideration; b) establish the criteria and mechanisms for detecting relevant data sources in official information, based on the experience of Mexico; c) define the relevant indicators to empirically measure



each of the conceptual dimensions of empowerment; and d) describe the procedure for generating geospatial correlation statistics and measurements. Using the case of Mexico, the national levels of the indicators are described to measure economic empowerment and its relationship with care, its territorial variability and its geospatial correlation measures.

Finally, in section IV the scope and limitations of the proposed conceptual framework and methodology are synthesized, and future challenges for the production and use of statistical information are established.

2

CONCEPTUAL FRAMEWORK

CONCEPTUAL FRAMEWORK[1]

Empowerment implies a process of change that enables women to choose freely between different alternatives that are strategic for their lives, through negotiation, exchange and decision-making mechanisms. This process involves a transition from a situation in which women who have limited power, to another in which their power is improved. Empowerment involves: i) material, human and social resources; ii) agency, including decision making and aspects such as negotiation; and, iii) achievements, measured mainly through results on well-being. There are three levels at which changes can take place that facilitate women's empowerment: personal, relational and in environmental[2] (Kabeer, 1999; VeneKlasen and Miller, 2002; ICRW, 2011; OXFAM, 2017).

Personal changes mainly refer to self-perception and trust, while relational changes, as the name suggests, imply changes in relationships with the family and the community. Changes in the environment refer to changes in the structure of social organization and institutions.

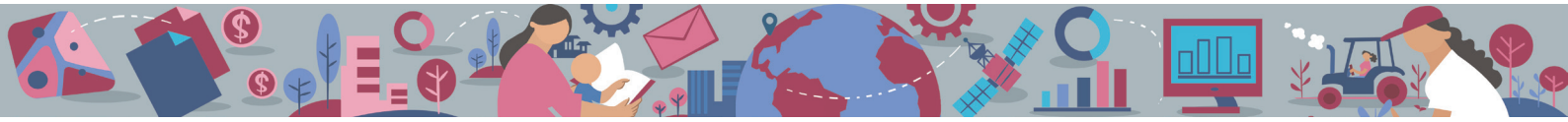
Economic empowerment, specifically, includes elements such as access to own income, paid work and social protection, which women access to a lesser extent than men. Women of all economic strata are disproportionately affected by the unequal distribution of unpaid work and care[3] responsibilities (UN Women, 2017). This distortion in the division of housework and care responsibilities also causes a substantial difference in time-use among men and women, which hinders women's social and economic empowerment (Folbre, 1994; Kleven et al., 2019; UN Women, 2018).

The organization of care systems in Uruguay, understood as the "set of public and private actions that provide direct attention to the activities and basic necessities of daily life of people in a situation of dependency" (Law No. 19353, art. 3-B, Uruguay), play a fundamental role in the distribution of people's time use, especially in the case of women. Care policies are part of social security and protection systems (Mateo

1 In addition to this conceptual framework with global guides, women's economic empowerment and the link between care systems are expressed in internationally agreed rules and regulations, such as the Beijing Declaration and Platform for Action (BPfA), the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), the International Covenant on Economic, Social and Cultural Rights and the International Labour Organization (ILO) Conventions, as well as the recommendations derived from These instruments, issued by the United Nations Treaty Bodies (UN Women 2017, 2018a).

2 From the English word "environmental", it refers to changes in social standards, attitudes and beliefs, as well as changes in the political or legislative context (OXFAM, 2017) also called standard and institutions (ICRW, 2011).

3 Including the care that women should cover in their homes to provide care for younger siblings, sick or disabled people, older adults.



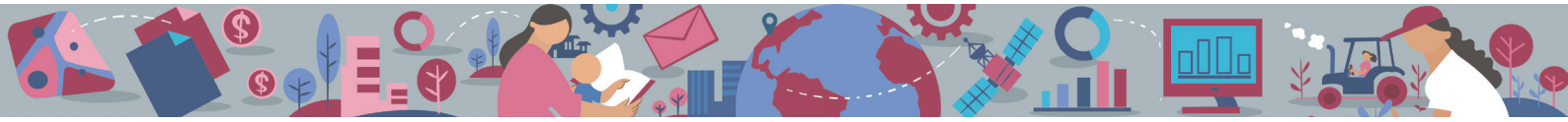
and Rodríguez- Chamussy, 2016: 138), but beyond the formal organization of care in contributory and non-contributory schemes, care systems are composed of subsystems (Durán, 2018), largely composed of non-formal schemes provided by households and their social support networks (Posadas and Vidal-Fernández, 2012; Arpino et al., 2010; Compton and Pollak, 2011; Dimova and Wolff, 2011; Zamarro, 2009 cited in Mateo and Rodríguez-Chamussy, 2016), paid domestic work home services (Durán, 2018; Mexico Care Network, 2018), private schemes (Durán, 2018; Mateo and Rodríguez-Chamussy, 2015), among others. Moreover, care permeate in the main lines of public health, education, social services, pensions, labour, transport, food, security, public order and urban planning policies (Durán, 2018) and compliance with different SDGs (UN Women, 2018a).

Societies with care systems that rely primarily on unpaid work of women within households and on informal care networks, rather than on social co-responsibility schemes and the provision of accessible and relevant public and private services, contribute to the reproduction of unequal division of housework, which mainly affect women (Elson, 2017; UN Women, 2018) and limit their possibilities of empowerment in multiple dimensions. Thus, public policies aimed at reducing the burden of care work for women may be the most efficient way to reduce gender gaps in the labour market participation (UNECE, 2014; UN Women, 2018a). The availability, quality and accessibility of care services determine the conditions of the environment. Like the provision of other basic social services, they are related to the possibilities of recognition, reduction, and redistribution of women's unpaid work.

Therefore, care issues are part of the main agenda of regional and international agreements, such as the Montevideo Consensus on Population and Development, the Copenhagen Consensus, the Declaration of Buenos Aires, and the SDGs, in which they are integrated as part of the transformation needs of public policies to achieve conditions of equality and development by 2030 (ECLAC, 2013; King, 2008; Care Network in Mexico, 2018).

Box 1. The distribution of work and public policies

Women perform 90% of unpaid care work in households, regardless of their age. This social distribution of chores produces unequal conditions of access to educational opportunities and, subsequently, to employment opportunities. Among the young population, women account for 75% of those who do not do paid work or study (Arceo and Campos, 2011; Tuirán and Ávila, 2012; Negrete and Leyva, 2014; OECD, 2016; Durán, 2018). Fertility plays an important role in this stage of the life for women in all social strata, although with different intensity.



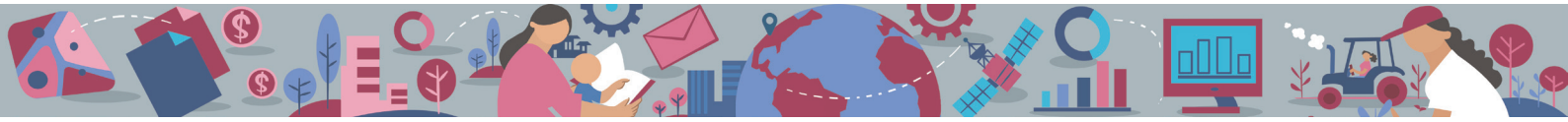
In the United Kingdom, half of the mothers who stay at home would prefer to return to work if they had access to affordable, high-quality childcare services. The first investments in such services would mitigate this limitation. In Argentina, a large-scale programme of preschool institutes in the 1990s positively affected maternal employment. In Spain, during the same period, maternal employment increased by 10 percent due to the availability of full-time public care for 3-year-old children (World Bank, 2019: 75).

Distance to training locations and lack of childcare were significant barriers for women trying to complete vocational training programs in India (World Bank, 2019: 84).

Although the scope to influence social attitudes is limited, the evidence suggests that public policies and programmes in other areas have an important role to play. It also suggests that a combination of investments and specific interventions in the social and physical infrastructure can modify women's labour force participation and increase their income. These investments can be classified in three groups. They can address the shortage in the availability of services (such as lack of electricity or childcare) that force women to allocate large amounts of time to home production. They can make it easier for women to accumulate productive assets, such as education, capital and land, facilitating their entry into high-productivity market activities. And they can eliminate standards or regulations that imply discriminatory practices, enhancing equal employment opportunities for women (World Bank, 2012b).

The correlation between economic empowerment and care systems has repercussions on various aspects of women's lives. They relate to the ability to face the conditions of poverty of themselves and their families (Coello, 2013; Mateo and Rodríguez-Chamussy, 2016; McKinsey Global Institute, 2015; UN Women, 2016a; UN Women-UNDP, 2017; UN Women, 2018a; World Bank 2012a), and it is also relevant to strengthen the strategies in order to eliminate violence against women under SDG 5.2 (UN Women, 2018). Violence against women cannot be understood in isolation, but linked to economic, social and cultural inequality factors that operate in power relations[4] between men and women that express themselves in the inequality of resources in the private and public sphere, and the unequal distribution of paid and unpaid works (ECLAC, 2014b). This means that economic empowerment can contribute to empowerment in other social and political dimensions (Kabeer, 2011).

4 The increase of women's power in empowerment strategies does not refer to a dominant power, or to forms of controlling power, but rather to alternative forms of power: power to, power with, and power from within. It is about using individual and collective strengths to achieve common goals without coercion or dominance (UN Women, glossary of gender equality).



In this regard, the report *Turning promises into action: Gender equality in the 2030 Agenda for Sustainable Development* (UN Women, 2018a), recommends governments to take measures that reduce gender inequalities in relations between women and men, which are at the root of violence against women and girls. Especially, it recommends efforts to strengthen women's economic independence by protecting and promoting their rights to decent work, to property (land, housing) and social protection, as well as to make visible the scourge of violence against women and girls, question the rules that justify and excuse it, and disseminate widely the information on women's rights and the support systems that they have.

In women's economic empowerment, individual, family, community and market factors are combined, as well as the set of norms and institutions that define the rules of social functioning (ICRW, 2011; UN Women, 2017). It implies that women should not only have the same capacities in dimensions such as education or health, but also equal access to resources and opportunities, and should be able to use those rights, capacities, resources and opportunities to choose and make strategic decisions (UN Women, gender equality glossary).

Table A groups four dimensions related to women's economic empowerment, identified from the analysis of the literature (ECLAC-OIG, 2010; ICRW, 2011; OECD, 2011; UN Women, 2017; OXFAM, 2017). These dimensions interact with each other to determine the possibilities of women's empowerment: income, work, resources and environment. Each dimension comprises a cluster of relevant attributes that are discussed below. The first three are related to individual characteristics, while the environment refers to the set of elements, tangible and non-tangible, that surround people and define social interaction. In the surroundings and environment dimension, care systems are located, both in terms of policies, institutions and legal frameworks that regulate the social co-responsibility of care and determine its accessibility, as well as in relation to access to home services and the availability of physical infrastructure of care services for people with care needs, including day-care and nurseries for child care, nursing homes, schools with extended hours, and so on. The association between the environment and the rest of the dimensions is analyzed from a geospatial approach, as will be explained in section III.

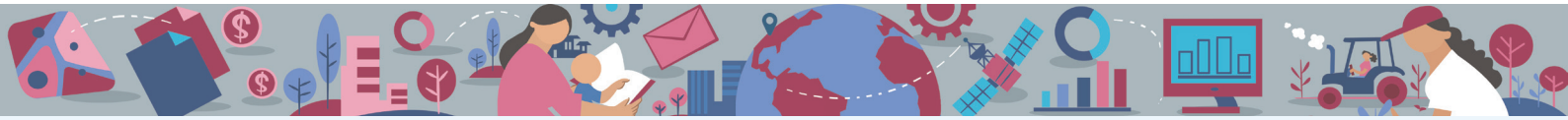
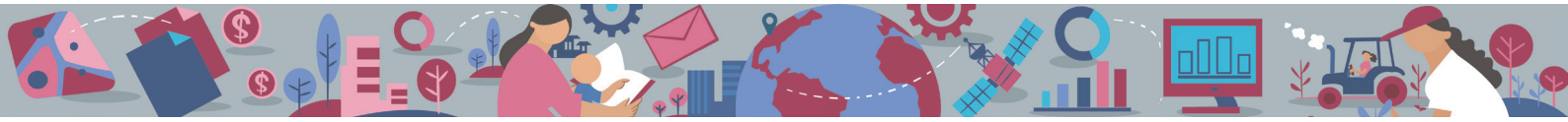


Table A. Dimensions associated with economic empowerment

Dimension	Characteristics
Income	Labour Capital Social protection
Work	Paid work (salaried and non-salaried, formal and informal) Unpaid care work (children, school children and adolescents, sick or disabled people, older adults) Other unpaid work activities
Material and Personal Resources	
Material Resources.	Current or expected goods and assets Ownership of land and housing Ownership of productive assets Access to other goods and assets
Personal Resources	Human capital (education, skills, experience, ...) Social capital (networks, mentoring, care assistance, ...) Time
Surroundings and Environment	
Regulatory -Institutional Environment	Multiple social relationships in various institutional domains Networks and exchanges between households Norms, culture and gender roles Institutions and legal structures (family, society, companies, etc.) Labour, goods and services markets (operation of home care services, and services in general)
Physical Surroundings	Geographic accessibility (relative location, mobility, etc.) Public and private infrastructure (basic social services and care services, etc.) Natural resources Marginalization and poverty Security

Source: elaboration based on Deshpande and Kabeer (2019), Sariego (2008), González de la Rocha (2008), Yeandle (2008), ECLAC (2009), ICRW (2011), Shirin (2011), Ulrichs and Roelen (2012), World Bank (2012b).



INCOME

From a broad conception, income is only a means to achieve well-being (Nussbaum, 2003; Sen, 1985)[5]. However, in the economic empowerment approach, income is the main indicator that summarizes achievements in well-being. Income dimension as part of economic empowerment refers to the possibility of women to generate their own income. These incomes can come from paid work, from capital income or from social protection, whether in the form of contributory, non-contributory or mixed monetary transfers (UN Women, 2017).

In such a way that in addition to personal resources such as human capital and social capital that enable access to work and operating potentials, in the generation of their own income, access and enjoyment of property or material resources, such as ownership of land and housing, of productive goods and real estate or other financial assets (UN Women, 2019).

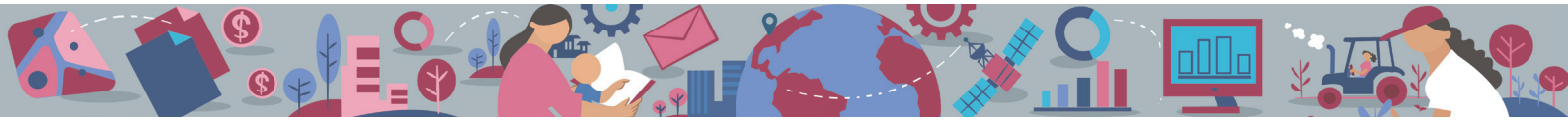
That is, the possibility of obtaining their own income is related both to material and personal resources of women, as well as to work, and these in turn to the conditions prevailing in the environment.

WORK

Work is defined as "any activity performed by persons of any sex and age to produce goods or provide services for the use by others or for own use", according to the resolution adopted by the International Conference of Labour Statisticians (ICLS, 2013), recognizing that this definition includes both paid and unpaid work as part of household production (UN Women, 2018).

Time devoted to paid work and unpaid work activities of the household and the provision of care are closely related to women's time use. Among the latter, the time dedicated to unpaid care work represents a considerable fraction, which conditions women's freedom of choice, to participate in the development of paid economic activities, as well as their involvement in the social and political spheres (UN Women, 2018). This is because women assume a disproportionate burden of domestic work and unpaid care, as a result of the sexual division of labour in the social and economic organization. Such forms of organization are, in practice, a structural obstacle to women's economic empowerment possibilities (Ferrant et. al. 2014; UN, 2017; Orozco et. al., 2016).

5 See Orozco et. to the. 2016 for a discussion on income and work from the approach of capabilities and operations proposed by Sen.

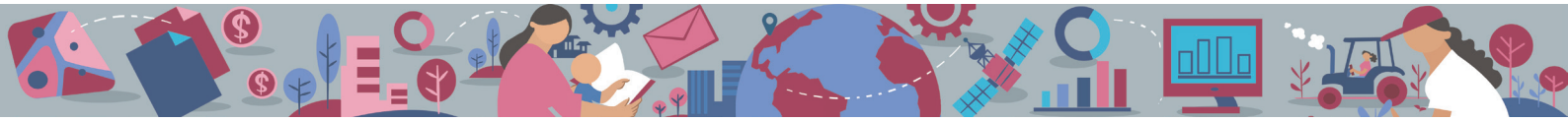


Given this organization and distribution of life support activities, recognition, reduction and redistribution of unpaid care work, the three Rs constitute one of the key pieces for women's economic empowerment (UN Women, 2018; UNSG-HLPWEE, 2017). Simultaneously, there are characteristics of the environment and the labour market that affect the possibilities of empowerment of women, particularly regarding labour participation.

In the paid field, in addition to access and participation within the labour market, studying the dimension of work as an element of the women's economic empowerment implies considering the characteristics of employment in terms of: formality, part-time or full-time involvement, flexibility, right to benefits, wage level, salaried or self-employed status, among others (UN Women, 2017). In particular, understanding the mechanisms to boost women's economic empowerment involves the study of the non-economically active population not available to work. This is precisely the set of the female population where those who are dedicated to care work in the household are concentrated.

The possibilities of women to access paid work are of strategic instrumental importance to overcome poverty and actively participate in the processes of economic growth. Furthermore, participation within the market is intrinsically important, due to its potential to transform the lives of women and girls into multiple dimensions (Kabeer, 2011). Compared to men, women are less likely to access working capital, social contacts (through networks) and the different types of skills and experiences necessary to improve their insertion in the labour market. Gender-based inequalities and limitations, operational barriers and labour market forces interact in defining the scope and patterns of women's participation in the workforce (Kabeer, 2008; Lim, 2018; UNRISD, 2012; Stuart et. al., 2018; Yeandle, 2008).

In this way, women's work is closely related to the reconciliation of the time required to carry out care tasks and the time they have available. They also influence individual characteristics, such as personal and material resources, or the fertility and distribution patterns of maternal-paternal responsibilities in the household; socio-economic level; home location; work centres' location, as well as the economic costs of travel and commute times; the characteristics of the surroundings and the environment; the characteristics of the labour market; as well as public policies for the provision of care, education, health, transportation, territorial and urban planning, and security services, among others.



RESOURCES

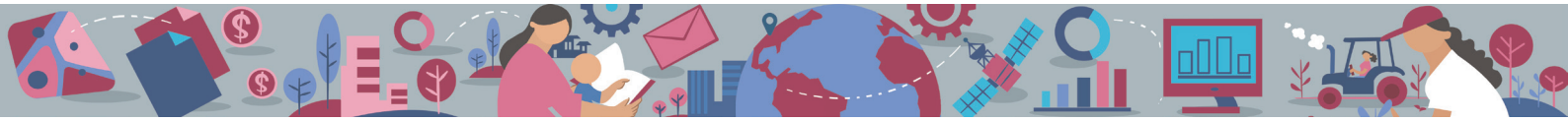
Access to resources reflects the norms that determine the exchange and distribution that takes place in the different institutional spheres (Kabeer, 1999), such as family, community, private or government institutions, etc. That is, they are the reflection of the exchanges that occur in the environment, in a given territorial space and as a result of a set of institutionalized rules and norms.

In general, the resources can be of material or personal origin. Among the first category there is ownership of land, housing or other capital goods and assets, while personal resources refer to individual characteristics, such as human capital or social capital (ICRW, 2011). Human capital is expressed through indicators such as the level of education, health, skills or work experience, while social capital is associated with the possibilities of having support networks, such as access to economic resources, mentoring for labour inclusion or assistance in care chores. This capital encompasses a relational process in which women and their families, neighbours or other members of their network, make mutual support exchanges (López-Rodríguez and Orozco, 2016; Orozco and Salgado, 2010).

A strategic personal resource from a gender perspective is time. In virtually all areas, women's time use is conditioned by the unequal distribution of unpaid domestic and care work (UN Women, 2018). The way in which women's time is distributed is largely related to their socio-economic and demographic characteristics and those of their homes, but also to the surroundings and the environment, as aspects such as lack of services or geospatial isolation can significantly increase the time spent on unpaid work. Women face mobility difficulties when it comes to commuting because the investment of time is incompatible with their child and elder care responsibilities (World Bank, 2012b).

Resources represent a process of accumulation over time and are a measure of the potential to deal with economic shocks, particularly when living in poverty (UN, 2017). So, in some contexts, just like income, resources can also be seen as indicators of achievement, although they are basically understood as means to achieve well-being. Between the possession of a resource - personal or material - and its use, mediates the concept of agency, defined as the ability to define one's goals and act to achieve them. Agency determines the difference between formal access and effective access to resources (Kabeer, 1999)[6]. In this sense, resources should be understood as the reflection of women's selection potentials, and not as the choice itself. The increase in available resources may or may not translate into changes in women's choice, depending on different contexts.

6 The agency and its role in taking advantage of the available resources constitute the capabilities defined by Sen (1985).



SURROUNDINGS AND ENVIRONMENT

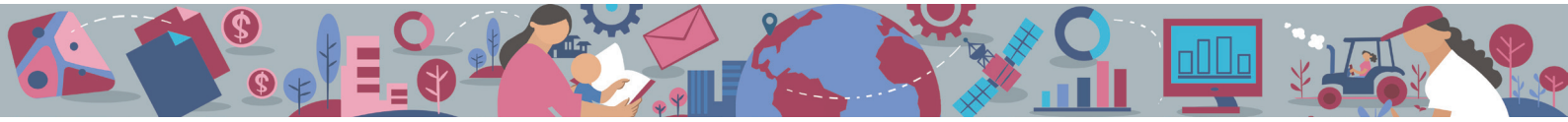
The environment interacts with the capabilities and resources that allow people to achieve well-being in multiple dimensions, particularly in the economic one. The environment is made up of a set of characteristics that are reflected in a given territory. These characteristics are grouped into two major components, the normative-institutional environment, and the physical environment.

The first component relates to the set of norms and institutions that govern social, economic and political exchanges. The norms include social gender roles and expectations about women's freedom to be present in public spaces, adopt certain occupations and manage their resources. While the institutional framework reflects the arrangements and the organizational system that derive from legal structures and policies, economic systems, markets, marriage, inheritance and education systems (ICRW, 2011). Norms and institutions have an influence on the relationship between labour supply and demand, determine the possibilities of women to appropriate the support of social programmes, develop or strengthen their *capabilities* and convert them into *operations*. Particularly, to translate their personal and material resources into labour insertion and income generation (GENDERS, 2016).

That is, social functioning, and the empowerment of women in particular, is governed by both formal and informal rules defined by norms and institutions (VeneKlasen and Miller, 2002). These rules include objective elements, in some written cases such as laws or development policies, and non-formal constructions, such as culture or traditions that delineate gender roles.

The second component refers to the physical characteristics of the environment, such as available infrastructure, geographic accessibility and natural resources present in the territory. The infrastructure, private or public, includes the spaces for the development of the markets for goods and services, as well as the basic social infrastructure such as water, electricity, transportation, and for the provision of care, health, education, financial services, among others. Among the basic social services, the provision of care services is of paramount importance, because it can facilitate the decisions of women for educational insertion and the labour market. Care services are a policy instrument aimed at redistributing women's time use and, in general, achieving greater equality in the time use within households and in society (SIDA, 2010); when they are accessible to the population in conditions of poverty, who lack the resources to acquire this type of services, they also contribute to the progressive exercise of rights of the most disregarded population groups. Moreover, influencing the development of the skills of caregivers, particularly girls and boys, has inter-generational benefits.

The productive structure of the territory has different effects on the ability of women and men to generate income, because it influences the magnitude of labour participation gaps between both sexes. The territorial approach is more effective in reducing development gaps, specifically in terms of gender. Although it is not enough to



promote policies to increase the endowment of women's assets, it is necessary to consider their relative position with respect to men, and the type of opportunities in their territorial context (RIMISP, 2015).

Together with the institutional norms and regulations, geographical accessibility, natural resources and infrastructure enable, among other things, the mobility and connectivity of people with other regions or territories, access to basic social services, ways of including the labour markets (Orozco and Gammage, 2017), of goods and services. Specifically, in the case of women, the offer of care services and financial inclusion services are relevant, which interrelatedly affect their labour supply (see also Orozco and López-Rodríguez, 2016).

III

METHODOLOGICAL PROPOSAL

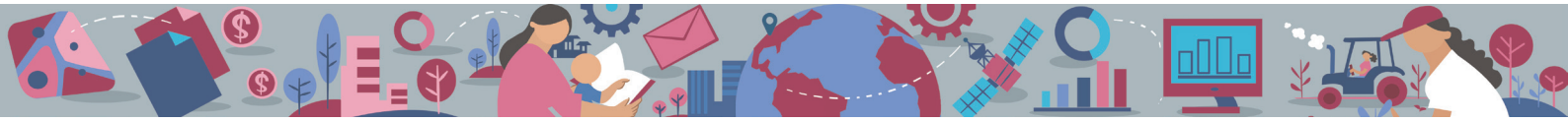
This section proposes a methodology for the integration, use and exploitation of statistical information related to the women's economic empowerment and care services. A geospatial approach is proposed, which incorporates the perspective of the environment and its influences on individual life outcomes into the study of empowerment. The statistics analyzed include work for the market, labour income and care work, both in its paid and unpaid dimensions. The perspective of economic empowerment that relates to the dimension of material resources and its potential to generate returns is beyond the scope of the approach made here. The analysis contemplates the access of women to goods and material resources at the household level, because the primary data sources do not allow disaggregation by sex.[7] The indicator related to social protection, also proposed in the SDGs, is also included.

The geospatial approach in the study of women's economic empowerment recognizes that their opportunities are unequal depending on their place of residence, because multiple elements represented through a set of physical and geographical variables (Vadrevu and Kanjilal, 2016), converge in a given territory to shape the surroundings and the environment. That is, the determinants of empowerment have high levels of spatial dependence (spatial autocorrelation) whose analysis requires the use of geospatial analysis techniques that allow modelling the correlation between person-environment (Bosak and Schroeder, 2005; Kwan, 2002).

Variations, or spatial-territorial inequalities, derive from the existence of these correlation patterns. These inequalities can be observed at a global level, between countries and regions of the world, as well as at sub-national levels, reflecting the conditions of development of the territories. Statistical information of this nature is commonly represented from Georeferenced Information Systems (GIS), while geomatic solutions also allow incorporating non-statistical information relevant to research.

The proposed methodology and the conceptual framework on which this proposal is supported is transversal in several ways, because it addresses dimensions of social, territorial and gender inequalities, as well as the relations between poverty and public policies (GENDERS, 2017). The integrated vision of all these characteristics links the SDGs 1, on poverty; 5, on gender equality; 8, on decent work and economic development; and 10, on reducing inequalities, to address in an intersectional way, forms of cross discrimination that mainly affect poorer women, indigenous women, who live in marginalized or hard-to-reach areas, among others.

7 In this regard, the United Nations has been developing methodological guidelines for the production of statistics on asset ownership from a gender perspective (UN, 2017).



The proposal includes a minimum set of activities and products to be taken into consideration for the analysis of women's economic empowerment from a geospatial approach, including: i) the analytical framework of labour supply and income generation of women and its link with care and the environment, based on a geospatial approach; ii) the definition of the key indicators to empirically measure the conceptual dimensions of economic empowerment and their correlation with unpaid care work, which implies the detection of official sources of information that are relevant, which in this case are exemplified from the study of the information available to Mexico; and, iii) the procedure to generate statistics and geospatial correlation measures that provide information on the link between the potential for economic empowerment and the different dimensions expressed in the conceptual framework.

ANALYTICAL FRAMEWORK

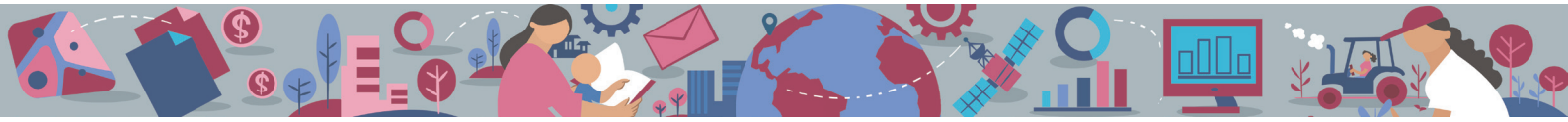
Women's labour participation and income generation are determined from the personal and material resources available to them, as well as the socio-economic profile of their homes, the environment and characteristics of labour markets, and goods markets and services in general. Given the unequal distribution of unpaid work and domestic care, in the case of women, access to services for the care of people can play a decisive role in their possibilities of insertion and permanence of work.

This framework is based on studies on the labour supply of women carried out since the sixties by authors who, in addition to considering the personal resources of women, related their labour participation with the demographic structure and characteristics of their homes. Particularly, when there are children under six years of age and the income of other members of the household and, in some cases, with aspects such as the costs (monetary and time) that women face to participate in the labour market (Cogan, 1977, 1981; Cox, 1989; Gronau, 1974; 1979; Heckman, 1974a, 1974b, 1988; Killingsworth and Heckman, 1986; Mincer, 1962).[8]

More recently, authors such as Shoshana Grossbard and Patricia Apps have deepened the study of women's labour supply, including aspects such as household production and child care services in the statistical analysis models (Apps, 2003; Apps et al., 2012; Grossbard, 2005).[9] The use of other indicators related to care services is limited because

8 For a review of the literature that relates labour participation of women with the production of the household see Grossbard (2019).

9 For a discussion of the study of women's labour supply and the contribution of these input see López-Rodríguez y Orozco (2016).



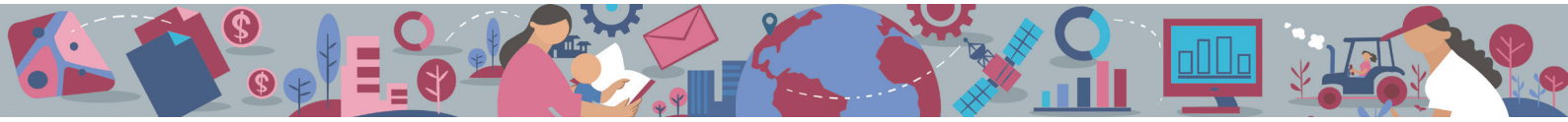
the official statistical information does not always provide data on care for other groups besides girls and boys, such as sick people, older adults or disabled people, or other groups such as school-age minors and adolescents. However, the evidence that exists does document the importance of care responsibilities, at least in regard to childcare.

Specifically, in the international literature, labour supply of women is analyzed not only from the labour market participation (intensive margin), but also from the number of hours they spend working in the market (extensive margin). Both margins influenced by the time women spend on unpaid work, as well as by the availability of formal and non-formal means of care and services to which they have access based on their resources and places of residence.

Thus, when there are territorial correlations between response variables (labour participation, hours of paid work or labour income) and explanatory variables, which include personal resources, materials and infrastructure of the environment, it requires the application of geospatial analysis techniques. These types of approaches and models, unlike traditional approaches, allow spatial correlation to be modelled and deal with the non-independence of observations when the units of analysis (in this case people) that share the same geographical location. GIS can improve research by providing alternative ways of understanding individual experiences permeated by gender (Kwan, 2002), as well as intersectionalities (Hanson, 2002).

In international literature, geo-spatial analysis has been used to study the link between: gender inequalities and fertility in Norway (Arnstein et. al., 2012); the effect that transport, access and mobility have on care during pregnancy and prenatal care in Ghana, Ethiopia and Lesotho (Walker and Vajjhala, 2009); gender and land use, concentration of female poverty in Nepal, Bolivia and Malawi (Bosak and Schroeder, 2005); unpaid work and domestic care in Mexico (Rodríguez and García, 2018). In their study for Norway, Arnstein et. al. (2012) use a gender equality index based on the dimensions of education, labour participation, income, formal childcare services, to identify spatial patterns of correlation between gender inequality and the overall fertility rate through geographically weighted regression analysis, that allows the estimation of relationships between variables through local regressions and the spatial regression panel model of Baltaggi et. al. (2007).

In his study "Gender and GIS: Mapping the Links between Spatial Exclusion, Transport, Access, and the Millennium Development Goals in Lesotho, Ethiopia, and Ghana" Walter and Vajjhala (2009) explain how Geographic Information Systems (GIS) show the gender exclusion dimension in the spatial dimension, and contribute to the geographic identification of vulnerability and social marginalization. Their study uses community participation mapping, demographic and health surveys and transport data as a source of information. They identify that transport and services infrastructure have a critical role in supporting mobility and access to basic services, key issues to reduce poverty,



promote gender equality and development. In the case of Mexico, Rodríguez and García (2018) performed a geospatial analysis of gender inequality in the time devoted to unpaid domestic work from home and care. They found territorial patterns of inequality in the time use associated with the municipal composition, considering the presence of rural population, indigenous population, female-headed households and schooling and participation of women in the labour force (Rodríguez and García, 2018).

Kwan (2002) suggests that to ensure a better representation of women and gender issues in geo-spatial systems it is necessary to: i) complement secondary data with other contextual information; ii) collect quantitative and qualitative data with a gender perspective; iii) special procedures for data manipulation that go beyond those commonly used in GIS; iv) reflexivity at each stage, which consists in transparent study motivations and self-reflection, in order to provide a contextualized understanding from the gender point of view of the problem being analyzed.

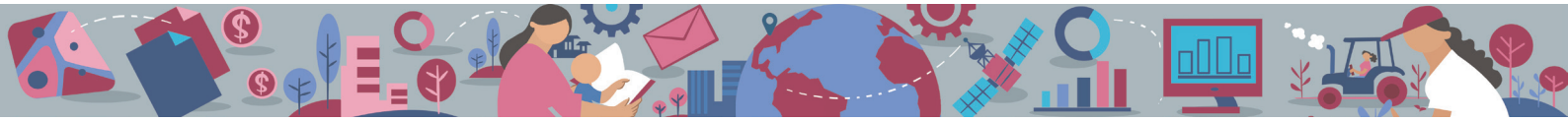
Bosak and Schroeder (2005) make a proposal on how to achieve the intersection between feminist thinking and the use of the GIS, as a new approach capable of showing gender and development problems in the territory through statistical information and use of geomatics. In their review of the potential of geospatial analyzes, they include the study by Donna Haraway (1991) to support the combination of partial perspectives in a more objective representation of reality, which takes advantage of the interpretation of the set of data layers that can be mapped into a system, where the integration of biased perspectives provided by each layer can offer a more complex form of knowledge. This knowledge involves both quantitative and qualitative inputs, which approach the understanding of aspects of social construction from social experiences, using multimedia tools (citing Baxter and Eyles, 1997; Dransch 2000). This includes video, interviews, participatory observation, focus groups, demographic data, results based on ethnographic and anthropological studies. Bosak and Schroeder point out that from the gender point of view these instruments can contribute to facilitate the representation of women's voices to detect development issues and their solutions, particularly if one is aware of the deprivation of women's rights and the poorest men.

Among the main models used in international literature for geospatial analysis are the Spatial Error Models (MEE, Spanish Abbreviation), which add a Wy spatial lag term to the Ordinary Least Squares (OLS) models (Kondo, 2017; Loftin and Ward, 1983; Mathews, 2006),

$y=\alpha+\beta X+\varepsilon$ ...(1)

$y=\alpha+pWy+\beta X+\varepsilon$ ...(2)

with $\varepsilon=\lambda W\varepsilon+u$, where y is the dependent variable (in the case of economic empowerment, labour supply or income), β is the average or intercept value; X is a vector of parameters; X is a matrix of explanatory variables; ε is the random error vector. In this model r is an autoregressive spatial parameter of Wy; λ, is the coefficient of spatially lagged autoregressive errors $W\varepsilon$. The error term u is independently distributed.



INDICATORS

The methodological proposal focuses on the construction of indicators that reflect income and labour supply and their interrelations with other dimensions that affect the economic empowerment discussed from Table A.

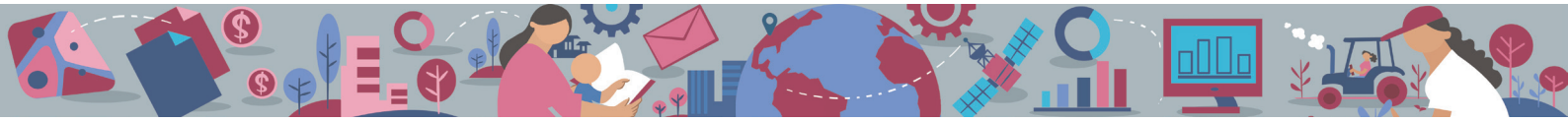
Kabeer (1999) argues that in order to determine the meaning of an empowerment indicator and its validity, it is essential to consider the dimensions of resources, agency and achievements. And what matters is to detect inequalities in the ability of people to choose, not the differences in what they choose (i.e. if women can choose to work or not, instead of whether they actually work). However, he points out that when resource indicators are based on universally valuable operations that reflect people's choices, gender differences may reflect the existence of inequalities in capacities, rather than differences in preferences. Likewise, the absence of differences does not imply the absence of inequalities in other dimensions.

The definition of indicators is based on the structure and availability of data in official information systems and seeks to adapt to its characteristics, rather than innovating in data production. However, in some cases, potential adaptations to the information collection instruments are pointed out, especially when it comes to indicators that have already been adopted within the framework of the SDGs and United Nations projects to strengthen gender statistics.

In order to achieve the greatest possible alignment of the Methodology with the SDGs and to avoid duplication of efforts and dispersion of initiatives that focus on the construction of gender statistics, the definition of key indicators was based on identifying the indicators already agreed by the countries through the global framework of indicators developed by the Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs). This framework was adopted at the United Nations General Assembly in 2017 and refined at the 49th session of the United Nations Statistical Commission in 2018.[10]

Additionally, a review of the work developed by the Inter-Agency and Expert Group on Gender Statistics (IAEG-GS) was carried out under the coordination of the United Nations Statistics Division (UNSD) and UN Women. This group develops this work as part of the Evidence and Data for Gender Equality (EDGE), where indicators proposed by the IAEG-SDGs for monitoring the SDGs are retaken and expanded with a gender

10 Reference documents of the United Nations A / RES / 71/313 and E / CN.3 / 2018/2 in its attachment II. As established in the procedure, it is constantly updated dynamic list, see https://unstats.un.org/sdgs/indicators/indicators-list.



perspective. These indicators make up the Minimum Set of Gender Indicators of the United Nations, which was agreed by the United Nations Statistical Commission at its 44th session, in 2013.[11]

Based on the conceptual framework proposed in section II, related indicators from the SDGs and the EDGE project were identified. Attachment A shows relevant SDG 1, 5, 8 and 10 indicators. In each case, it is mentioned when the indicator is part of the EDGE project, its level of development and the agency responsible for its timely monitoring.

However, although the SDGs contemplate a significant number of indicators related to the economic empowerment of the population in general, and of women in particular, there are other aspects relevant to the women's economic empowerment and its connection with care systems and the environment, that are out of their reach. Although more and more official data sources produce information on resources and achievements disaggregated by sex, agency measures are rarely measured, and although they can be approximated by conventional instruments, such as censuses and surveys, they reflect only part of the agency process. Therefore, the measurement of the latter is still subject to consensus and development before it can reach official statistical production[12]. In this way, this proposal focuses mainly on the dimensions of resources and achievements, as well as on a set of indicators that characterize the surroundings and environment, and that are related to the labour dimension of economic empowerment. Resources are fundamentally identified from the personal dimension, while achievements are expressed from the generation of own labour income.

Table B summarizes in a matrix the dimensions of women's economic empowerment set out in section II, as well as a set of indicators relevant to each dimension. Three cross-sectional approaches (lines) are used in the matrix: gender approach, territorial approach and life cycle approach; and three dimensions (columns).

11 This set of 52 indicators was analyzed and categorized by the IAEG-GS in three levels: level 1, indicators based on international standards produced systematically by the countries; level 2, indicators based on international non- systematic production standards; and level 3, indicators that do not have international standards or systematic production. In addition to being catalogued according to their international availability, level 1 indicators included in the EDGE project have empirical measurements at the country level, available at https://unstats.un.org/edge.

12 OXFAM (2017) has a proposal to measure the empowerment that considers the agency dimension. Several countries have conducted studies in this regard, see Kabeer (1999).

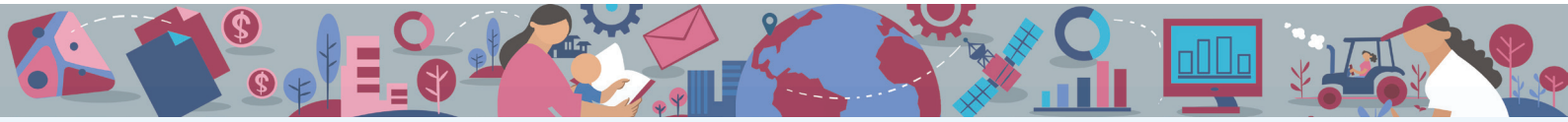


Table B. Indicators for geospatial analysis of economic empowerment, according to transverse and thematic axes.

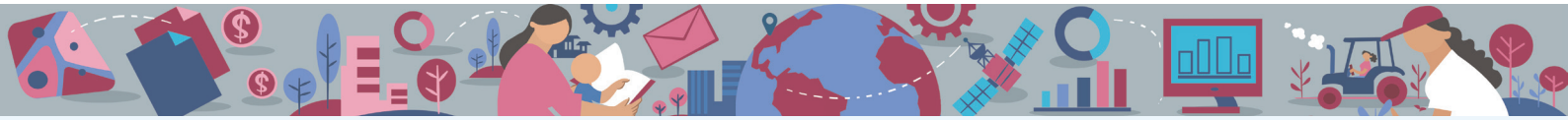
Transverse / Thematic	Work	Resources and Intersectionality	Environment
Gender	**Characterization of labour supply**: Labour participation 15+, by sex[13] Hours dedicated to paid work (weekly) 15+, by sex Hours dedicated to unpaid work (weekly) 15+, by sex[14] Average earnings per hour 15+, by sex, occupation, age and disability[15]	**Resources**: Number of women among owners or holders of agricultural land rights[16] Population with social protection Support networks for care **Intersectionality**: Sex Education Speaks indigenous language Marital status Presence of people with disabilities at home	Commute time, by sex

13 EDGE Beijing Platform for Action F.1, H.3, SDG 8; Level 1; ILO. Some variations of the indicator: Labour participation 25-49 with / without children under 3 years in the household, by sex, defined in EDGE: Beijing Platform for Action F.6, SDG 8; level 3; ILO; Labour participation of people aged 14-29, by sex, defined in EDGE: Labour participation of people aged 15-24 and 15+, by sex; Beijing Platform for Action F.1, H.3, SDG 8; Level 1; ILO.

14 The indicator defined in EDGE: SDG 5, Level 2; UNSD/UN Women, is defined as "Proportion of time invested in domestic work and unpaid care", this indicator, however, presents technical complications of standardization due to the overlap between time spent on paid and unpaid chores. For this reason, it is proposed to use only the numerator of the indicator originally proposed in the SDGs.

15 SDG 8.5.1. The EDGE Project redefines the indicator to capture the gender pay gap, as the ratio between female wage vs. male wage: F.1, F.5, SDG 8 goal 5; Level 2; ILO.

16 SDG 1.



Transverse / Thematic	Work	Resources and Intersectionality	Environment
Territorial	**Characterization of labour demand**: Size of the economy Diversification of the economy (agriculture, industry and services)[17]	Proportion of people living below the national poverty line, by sex[18]	Size of the locality Number of economic units that provide care services Proportion of people living in households with access to basic services[19] Number of commercial bank branches and ATMs per 100,000 adults[20]
Life cycle		**Age**: Reproductive cycle: Number of children 0-5 Number of children 6-12	Proportion of children under 3 years receiving formal care[21]

a) Including care services, full-time schools, etc. as well as transportation and mobility, financial inclusion services, productive programmes.

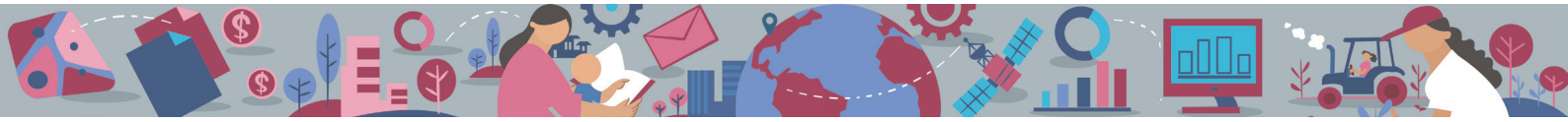
17 Related to EDGE: Distribution of the population employed by sector, by sex (in the sectors of agriculture, industry and services); Beijing Platform for Action F.5, H.3, SDG 8; Level 1; ILO

18 SDG 1.

19 SDG 1.

20 SDG 8. Alternatively, EDGE: Beijing Platform for Action F.1, F.2, SDG 8 goal 10; Level 1; BM; SDG 8.10.2, Proportion of adults (15 years or older) with an account in a bank or other financial institution or with a mobile money service provider, by sex

21 EDGE: Beijing Platform of Action F.6, SDG 5; Level 3; OECD: It lacks metadata definition.



The first dimension reflects characteristics of the labour market. Indicators related to the offer include labour participation, hours dedicated to paid and unpaid work. Furthermore, labour demand is characterized by two indicators related to economic size and diversification in a given territory. These are not related to the profiles of labour suppliers, but reflect labour demand and its attributes, which in turn influence the chances of labour participation. They are related with the availability of employment positions, such as the existence of economic units, their size and diversification, as well as the presence of gender segregation in certain sectors of the economy.

The second dimension links the empowerment with individual and household characteristics that condition the economic participation of women in paid labour markets due to care needs that women must meet, such as the presence of people who require care in their households (girls and boys, schoolchildren or people with disabilities), conditions of poverty and indigenous belonging.

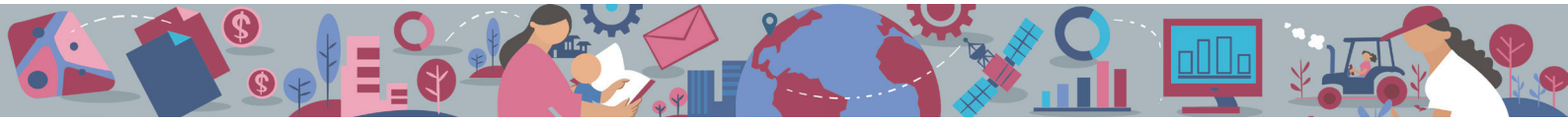
The third dimension relates the needs of care with the existence of basic social services for their satisfaction, as well as the mobility and transport systems that determine the functional relations of labour, production and consumption markets. These indicators capture the characteristics of the environment that influence women's economic empowerment possibilities.

In each case, the correspondence of the proposed indicators with SDG monitoring indicators and gender statistics development priorities of the EDGE project is indicated. The sources of data for the construction of indicators proposed by these two organizations are not explicit in reference institutional documents. However, the EDGE project has a set of metadata about the indicators it proposes, and in these metadata the sources of origin for generating them are described in a generic way.[22]

For the construction of the metadata of the indicators proposed in Table B, when there is a coincidence with the definitions adopted by the SDG or EDGE reference documents, these are the ones used. When the information is not identified in any of these references or in the sources of information, the sources listed in the Global Inventory of International Statistical Standards of the UNSD (Appendix C) were used.[23]

22 See the metadata query by indicator at https://genderstats.un.org/#/downloads.

23 Retrieved from https://unstats.un.org/unsd/iiss/List-of-Statistical-Standards.ashx.



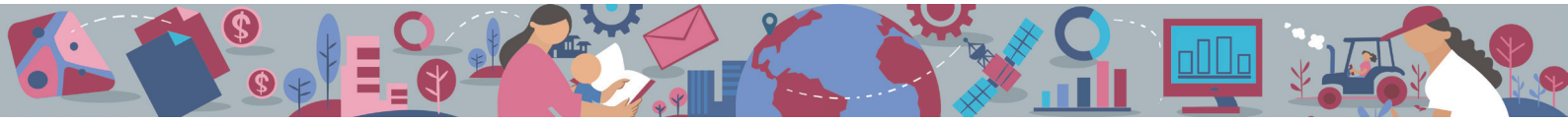
STATISTICAL ESTIMATES OF THE INDICATORS: A CASE STUDY OF MEXICO

This section shows the descriptive analysis of the indicators proposed to measure the women's economic empowerment and the relationship with care systems, both at the national level, and according to their territorial variability and correlation measures, based on a municipal level database (Table 1).

The indicators described below are those defined in Table B, based on the following primary sources of information for Mexico: the Intercensal Survey (EIC, Spanish abbreviation 2015, INEGI); the Economic Census (CE, Spanish abbreviation 2014, INEGI); the estimates of poverty at the municipal level carried out by the National Council for the Evaluation of Social Development Policy (CONEVAL, Spanish abbreviation), for the year 2015; Financial Inclusion Databases (BIF, Spanish abbreviation, 2015) of the National Banking and Securities Commission (CNBV, Spanish abbreviation). In order to define the indicators and the analysis presented, it is necessary to take into account the following data sources.

The EIC 2015 allows for information on labour participation and individual and household socio-economic characteristics with municipal representation, for all municipalities in the country (Tables 2 and 3). For its part, the 2014 CE provides data on economic activities (Table 4) carried out by 4.2 million economic units located in the national territory (Table 5). In urban areas, all fixed economic units are visited, while for rural areas, the EC only presents sample estimates. According to the number of economic units operating in the territory, the State of Mexico, Mexico City and Jalisco occupy the first three places (Table 5). While the total gross production of the economic units is greater in Mexico City, where it represents almost three times more than the production of Nuevo León and the State of Mexico, the two entities that follow in production size (Table 6). This divergence between unit size and total production size generates variations in the average production of the economic units, which are reflected in wide averages of gross production between the different municipalities and districts of the country. Thus, districts in Mexico City have an average gross production of $183 billion pesos, followed in order of importance by the municipalities of Baja California and Campeche, with around $60 billion pesos, and ends at the bottom in Oaxaca, with $518 million, Guerrero with $814 and Tlaxcala, $1,232 million pesos.

At the state level, high levels of average production coincide with high levels of diversification of the economy (Table 7). That is, they cover a greater number of economic lines of businesses shown in Table 4. Half of the country's municipalities have a gross production of less than $71 million pesos, compared to levels above $ 900 million pesos in the municipalities belonging to the two highest production deciles. While the first on average make less than nine economic lines of businesses, those of the two highest deciles have a diversification that exceeds 14 different turns of activity (Table 8). With a clear positive association between diversification and gross production (Table 9).



A particularity with the 2014 CE, is that the municipal data does not contain all of the economic units reported at national or state level, because in municipalities with less than three economic units the data is not shown for reasons of confidentiality. In this way, the municipal database underestimates all economic units. In the case of units dedicated to providing care services, the database only shows 6,189 economic units, out of a total of 8,139 registered in the tabulations produced by the INEGI, in which it considers those units not included in public databases by the principle of confidentiality. That is, only 76% of economic units destined for care are identifiable at a geographical level, with municipal disaggregation (Table 10).[24] As a result, statistical correlations based on census data at a municipal level contain a bias, to the extent that, being indistinguishable, those municipalities with three or less care units are grouped with municipalities that do not have service units of this nature.

For its part, CONEVAL's data is based on the EIC 2015, in addition to other essential data sources to make estimates attached to the criteria of the official measurement of poverty in Mexico, such as the Socioeconomic Conditions Module (MCS, Spanish abbreviation) of the National Survey of Household Income and Expenditure (ENIGH, Spanish abbreviation). In such a way that they are representative at the municipal level. Income poverty levels range from 27% in Nuevo León, to 75% in Chiapas, followed by 70% in Oaxaca. A third of the country's municipalities have poverty levels of around 90% or higher (Table 12).

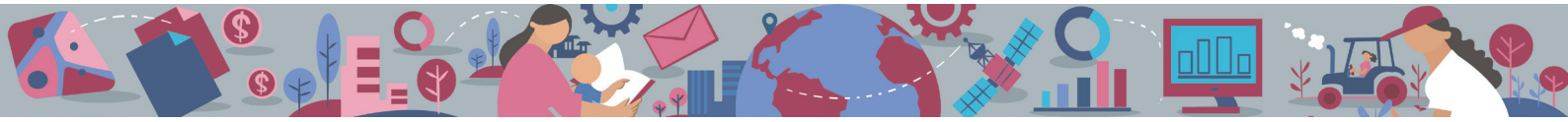
Finally, the financial inclusion information comes from the administrative records produced by the CNBV on a quarterly basis to monitor financial access points, such as commercial and development bank branches, ATMs and point-of-sale terminals.

The EIC 2015 registers 119 million inhabitants, 52% of the population aged 15 or over work, but there is a wide gender gap in labour participation (Table 2). Only 35% of women participate in the paid job market, compared to 71% of men. Both have similar levels of education, 9.2 years on average. Average monthly labour income is $5,607 and $6,550, for women and men, respectively (pesos of 2015).[25]

On average, men commute 20% more time to work than women, 31 min daily compared to 27 (Table 2).

24 In this regard, although the principle of confidentiality must prevail, the INEGI could provide information that at least detects the existence of economic units in a municipality, without showing the municipal data for the purpose of preserving confidentiality. This would allow refining the calculations by differentiating municipalities with three or less economic units, from those where the provision of services is non-existent.

25 Statistics for the population aged 15 years and over.



Beyond the national gender gap, at a subnational level, labour participation presents important variations, with a labour participation that goes from 4% to 70% in the different municipalities of the country, which in the case of women is concentrated in the range 0.5%-54%, while for men it ranges from 5%-86%, depending on the municipal context (Table 3).

These participation percentages decrease drastically by focusing statistics on the population group aged 15 to 29, where women are in their youth and average 22% of labour participation for the national level (Table 2).

The size of the economy measured through the gross production of economic units shows important State variations (Tables 6 to 8). In particular, entities with lower levels of production have lower degrees of diversification of the economy and higher rates of poverty (Tables 9 to 11).

In accordance with the conceptual framework proposed, the results of the correlation matrix[26] show that there is a positive relationship between the levels of education attained and labour participation, but the connection between women's participation with the average level of education in the territorial environment (municipality) is much stronger, 0.85, than that of men, 0.33 (Table 18). At the same time, territories with lower levels of average education (around 5 years) show great variability in labour participation by sex, which ranges from levels close to zero in the case of women, to over 80% in the case of men. While in territories with higher average educational levels (around 12 years), this variability focuses on the range of 40% to 80% (Graph 1). In any case, female participation is always maintained in the lowest segment of the distribution, and male participation in the upper segment.

According to the conceptual framework, the proximity to the sources of employment may have a relevant role in the possibilities of women's employment. There is a negative correlation between women's labour participation and the average distance to workplaces, the greater the distance, the less participation; greater participation associated with higher average educational levels in the territory; and less participation when the proportion of indigenous population in the municipality is greater (Table 18).

26 Given the extension of the correlation matrix of the 64 variables that were considered, table 18 of Appendix A shows the summary of the correlation matrix, highlighting the correlations of labour participation for the total population, for women and for men, with the rest of the variables. The complete correlation matrix is in the CEGS file.

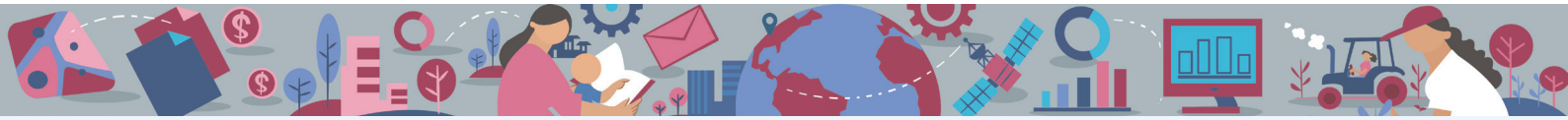
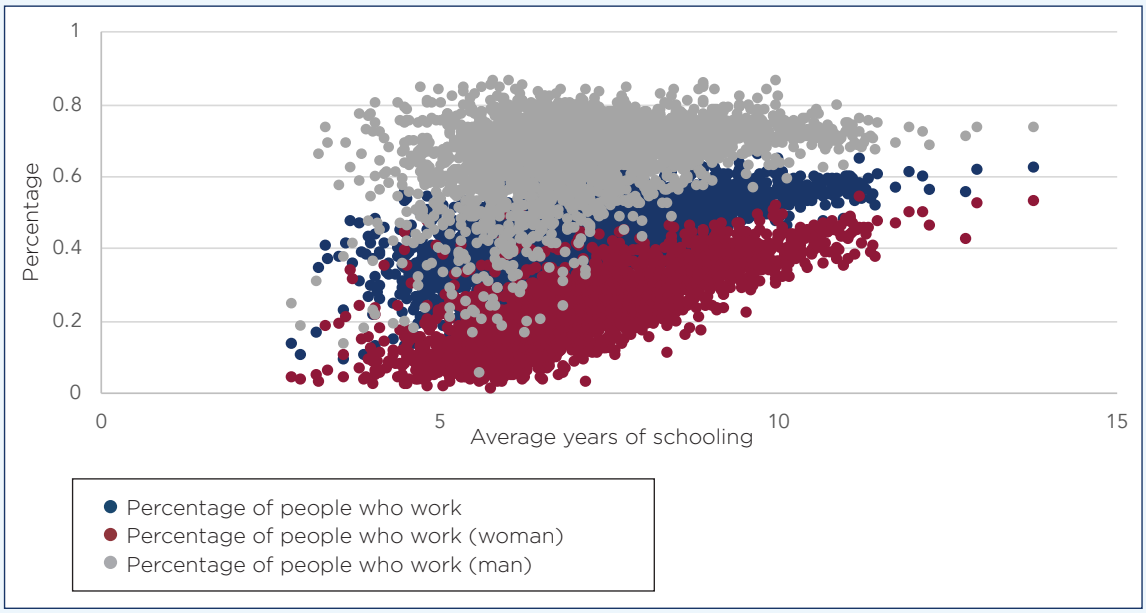


Figure 1. Labour participation and education, according to sex

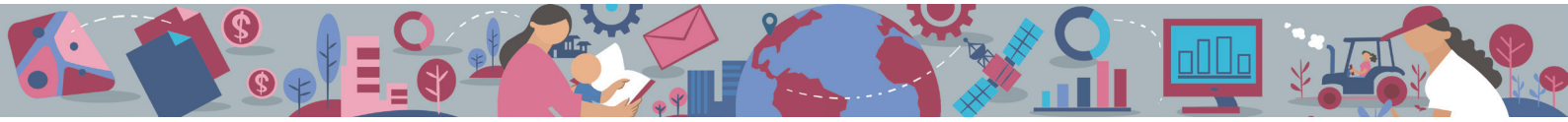


Source: CEGS elaboration from the EIC 2015.

These correlations reflect the needs of care, especially in the case of infants, but are also reflected in the case of older adults, especially when they have certain degrees of disability. The presence of children under 5 and children between 6-12 years, as well as adults over 65, who represent population groups with greater care needs, shows much higher levels of association with women's labour participation, above 0.50, while in the case of men they do not exceed 0.27 in the case of minors and correspond to a correlation of 0.13 in the case of older adults (Table 18).

Consistently, the correlation between female labour and the availability of economic units that provide care services in the territory is 0.92, while among men it is only 0.17. Both the size and the diversification of the economy are more closely related to the participation of women, than that of men. In the case of them, correlation measures are 0.99 and 0.5, in contrast to 0.19 and 0.40. That is, there is a positive and strong correlation between the participation of women and the size and diversification of the economy of the territories in Mexico According to the economic activity sector, the participation of women decreases where there are more economic units destined to agriculture, and increases with levels higher than 0.50 in municipalities with greater presence of service and industry.

The correlation between women's labour participation and the selected measure and financial inclusion is almost double compared to that of men, 0.40 and 0.22, respectively.



In both cases there is a negative correlation between labour participation and percentage of poverty, but again, the correlation coefficient is higher in the case of women, -0.46 and -0.38 in the case of men. This reflects a higher level of association between paid work and the prevalence of poverty in the case of women.

ECONOMETRIC MODEL TO PREDICT WOMEN´S LABOUR PARTICIPATION

In this section, different models are explored to explain the level of correlation between women's income and labour participation, with the characteristics of their homes, the local economy, the presence of care services and the availability of financial inclusion services.

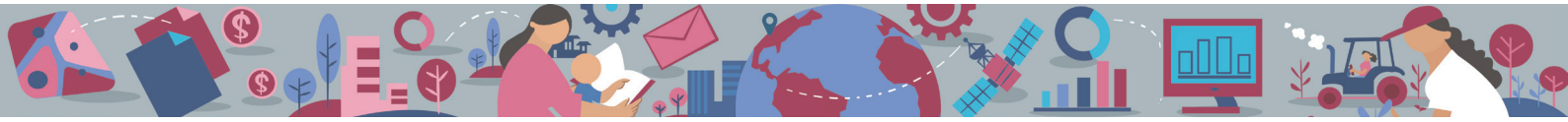
Women´s labour force participation (WLFP) relates with personal, household and environmental factors that influence their chances to enter the labour market. These factors impact WLFP differently compared to men´s labour. Partly, because the presence of small children is indicative of care needs in the household, commonly fulfilled by women. This in turn influences consumption, production and time use decisions in the households (App and Rees, 2009). Specially, care needs reduce considerably women´s availability of time to participate in the labour market.

This pattern replicates at the society at the macro and local environments, particularly in municipal territories. The analysis of WLFP in 2,445 municipalities of Mexico indicates that female´s participation rate is associated to both, their individual capacities –such as education level–as well as to the availability of care services for small children and persons with care needs in their locations (Table 1).[27]

To model WLFP we use aggregated data at the municipal level. Sources of information include the Inter-Census Survey (EIC 2015, INEGI); the Economic Census (CE 2014, INEGI); and the Financial Inclusion Databases (BIF, 2015) from the National Banking and Stock Commission (CNBV). Also, a Composed Index for Localities Accessibility, aggregated at the municipal level is used.[28]

27 See Appendix A: variables used in the econometric model.

28 It was constructed with the Travel Time Cost Surface Model (TTCSM), using data from the Continuum of Mexican Elevations 3.0 (INEGI), the National Roads Network 2017 (INEGI e IMT-SCT) and the set of data of Land use and Vegetation, scale 1:250 000 Series VI (INEGI). See Composed Index for Localities Accessibility, mimeo.



WLFP rate for 15 years and older at the EIC is 35% for the whole country, with an average income of $5,284 pesos per month. Average age in the analyzed group is 39 years and average education is 9 years–complete secondary school. At the national level, there are 18.9 economic units dedicated to care services, and 10.9 economic units to financial services –both in the scale per 100,000 inhabitants (Table 2).

Even when there is a high positive correlation (0.54) between male and female participation, there are municipalities with high levels of economic activity where WLFP is very low. In the municipalities where male participation is low–i.e. 35% or lower, which is female participation rate at the national level–women´s participation is also very low (Graph 1, Panel A). This is mainly identified in municipalities in the State of Oaxaca (Table 3), which means there is a territorial pattern. In the opposite extreme, municipalities with high levels of male labour participation show wide variations in female participation that goes from cero to 50% (Graph 1, Panel B). In this case, municipalities are spread in nine different states over the country (Table 4).

Graph 2. Labour participation in municipalities with high and low levels of participation

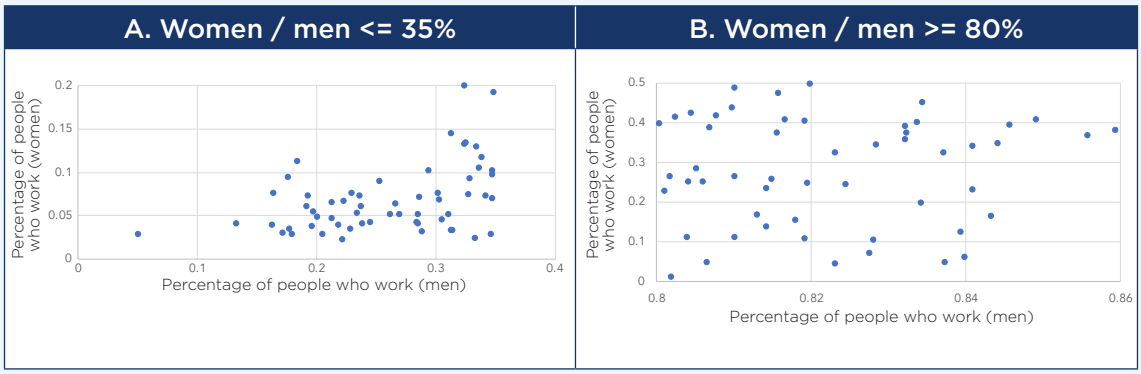
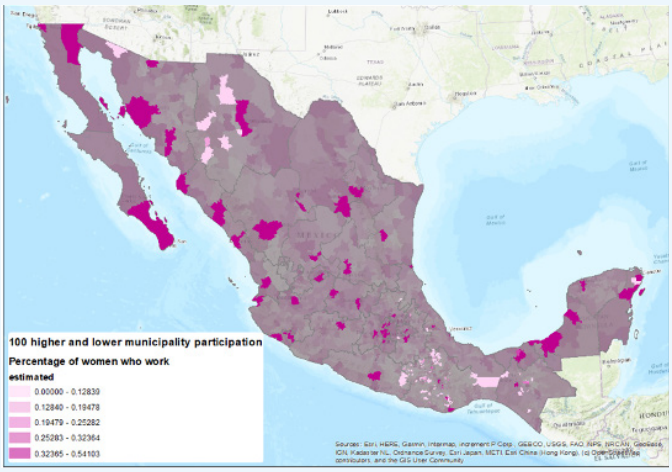
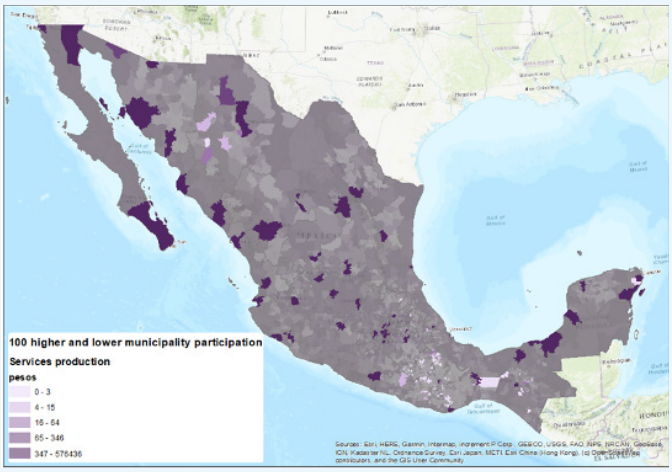
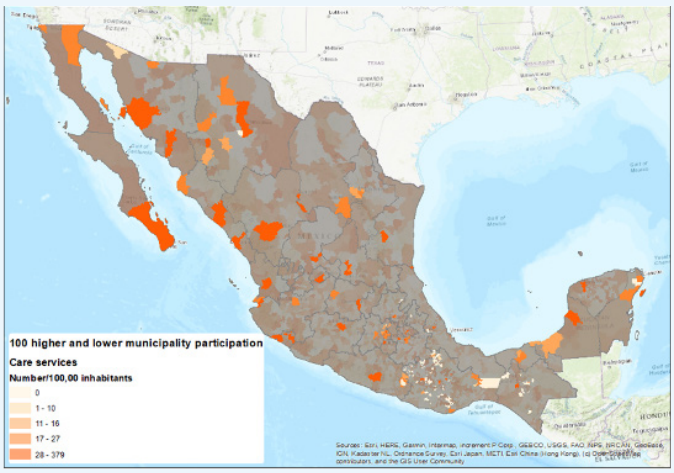


Figure 1. Low and high WLFP relative to male´s participation: labour, economic production and care services



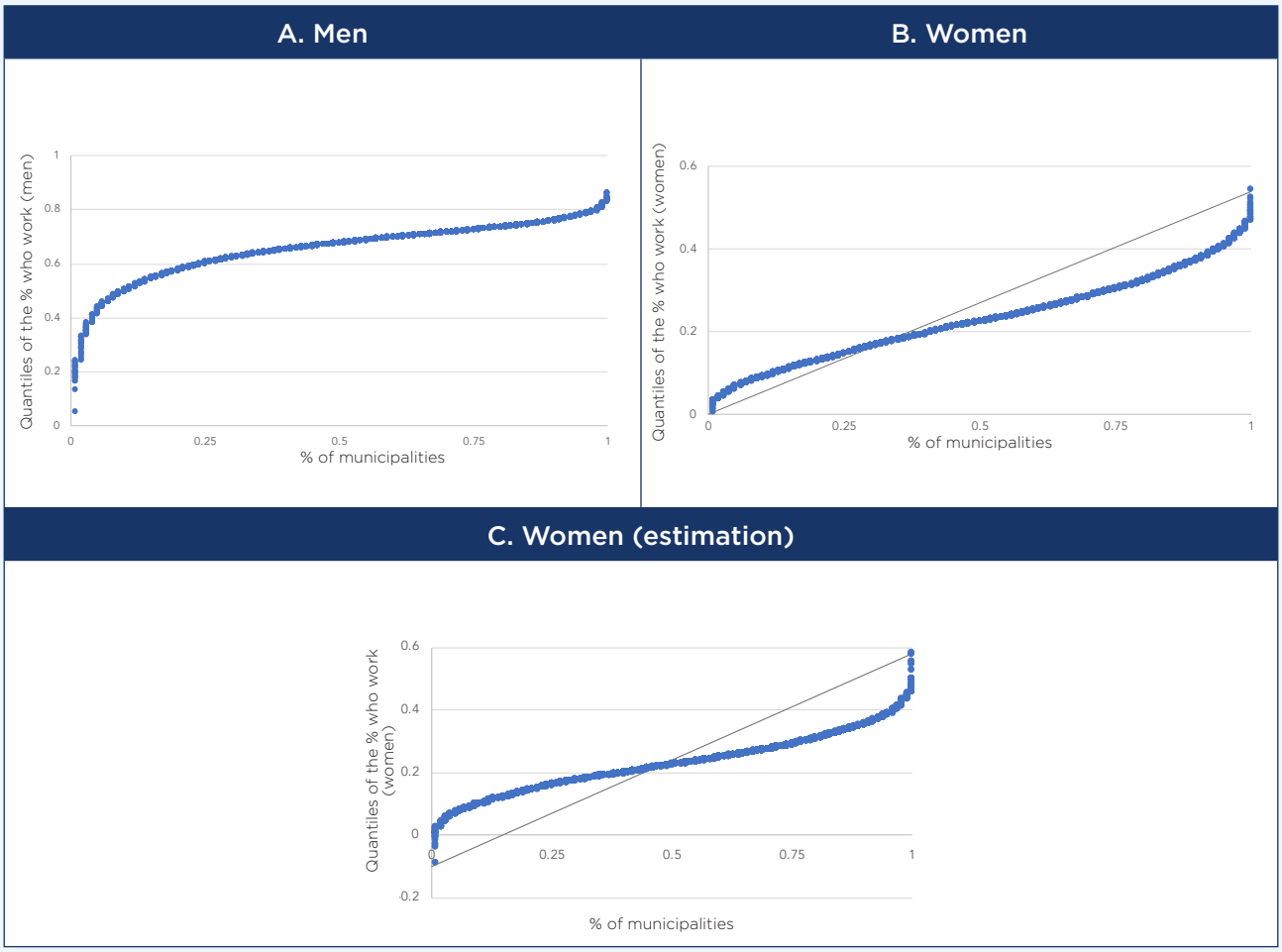


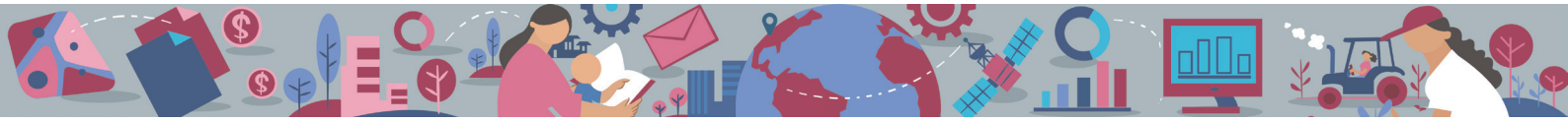


The gender gap in labour participation is considerably high. Further, in half the municipalities of the country, women´s labour participation doesn´t even reach 23% (Table 5). Therefore, labour participation distribution is different between men and women (Graph 2, Panels A and B), with far superior rates in the male case.

The estimations of our model show that, given the observed factors, the expected female participation is superior to the observed one in the municipalities were participation is lower (Graph 3, Panels C and B).

Graph 3. Cumulative distribution of labour participation





In female labour participation models the presence of children under 12 years olds in the household has a negative effect on women´s possibilities of entering the labour market (Gammage and Orozco, 2008; Apps and Rees 2009). In our model at municipal level, this pattern is confirmed: a 10% increase in the proportion of children in this age group from the total population, is associated with a 4% decrease in women´s economic participation (Table 6).

Accessibility of the municipality of residence is also a variable related negatively to the economic participation.[29] In this case, higher isolation or less accessibility impacts negatively the proportion of women that insert themselves in the labour force, partly, due to the monetary and time costs associated with labour insertion when economic activity is somewhere far from their houses (Cogan 1980a; 1981).

WLFP is lower where concentration of indigenous populations is higher. Yet, the statistical significance of this variable is lost when the estimation is controlled by the set of variables describing women´s context, especially those explaining the economic characteristics. This result confirms a double labour exclusion through gender and ethnical origin when no other controls are used to explain the relationship, but also, reflects that exclusion is modelled through the environment´s characteristics.

On the other hand, some factors are positively related to women´s labour participation. An additional year in women´s average education is associated with an increase of three percentage points in WLFP participation at the municipality level. In the same way, an increase of 10 economic units providing care services for each 100,00 inhabitants, is associated with an increase of 1.2 percentage point in women´s participation. In comparative terms, investing at this rate in economic units dedicated to care services has an effect equivalent to 41.4% of the expected effect of increasing in one year the average education of the total female population.

Other factors related positively with WLFP are the size of the economic activity in the services sector and the diversification of the economy. The last one indicates that a 10% increase in economic diversification, which means the number of economic sectors or branches that take place in the municipality´s territory, is associated with an increase of 0.6% in female´s labour participation.

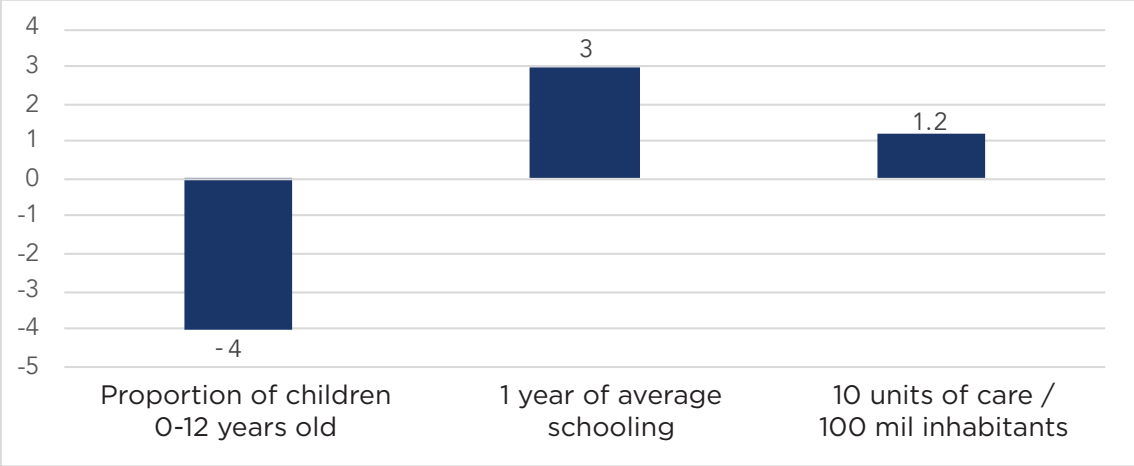
It is worth saying that, even when the magnitude of the economic activity measured by the total gross production in the economic units is positively related with female economic participation, the coefficient shows that, to observe variations in the variable of interest of one percent or higher, the average variation in the economic activity

29 Composite Index of Accessibility to Localities is used, which measures the distance between each location to neighbouring towns of different sizes.

should be of a 7% increase in the gross total production of all the economic units at the national level (equivalent to a billion pesos or more). This implies that, expecting the economic growth to be enough to increase women´s economic empowerment through labour participation, seems to be unfeasible.

Graph 4 summarizes the change in female labour participation associated to the variation in the presence of minors under 12 years old, average education and the availability of care services.

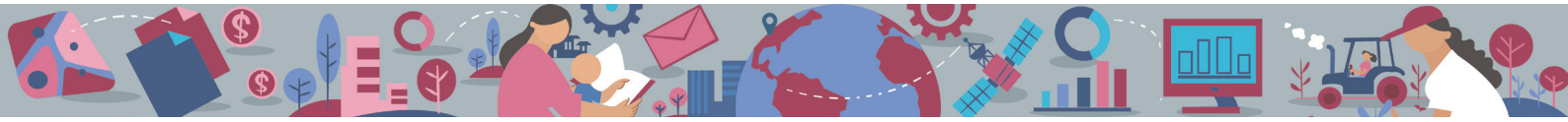
Graph 4. Changes in female labour participation associated with different explanatory variables



Another positively related factor, but that presents no statistical significance, once the model is controlled by the context and economic variables, is the availability of financial services. This is a relationship to be explored in future and more spatially sophisticated models, considering the literature evidence.

An exploratory regression of the aggregated data at municipal level confirms the outcome obtained through descriptive statistics, when their relationships are considered together. Particularly, they reflect the positive and statistically significant correlation between the presence of economic units that provide care services and women's labour participation (Tables 19 and 20)[30]. This is a relationship that occurs specifically in the case of women, because they are the ones that respond most to unpaid care and domestic work in the household. It does not persist when analyzing income and labour participation of men.

30 See Appendix A



Labour participation of the population is related to the levels of education. At the municipal level, a one-year increase in the average education of population aged 15 and over, is associated with a 2% increase in total labour participation. While the presence of indigenous population is associated with lower levels of participation in paid work, but only in the case of women's participation, for the total population it is not significant (Table 19).

The variables related to the economic activity and municipal infrastructure for financial inclusion and care systems are positively associated with the labour participation of the population. The economic activity is measured from three variables, the number of economic units, the number of economic activities that take place in the municipality[31] and the total gross production of economic units. Although the size of production is important, it loses statistical significance when considering economic diversification, which has a greater weight on the participation of the population in the labour market. The greater the economic diversification, the greater the labour participation. The presence of branches, ATMs and point of sale terminals has a positive but statistically non-significant association with the participation of the municipality's population in the labour market. While the availability of care services is associated with an increase in the participation of the population in the workplace.

The associations between these variables with the participation in the labour market of women and men are different. In the case of women, they explain 76.4% of the variability in labour participation (Table 20), while in the case of men, only 16.7% (Table 21)[32]. A one-year increase in the average education of the population is associated with an increase of a 3.5% on women's labour participation - compared to only 0.4% in the case of men. The greater the concentration of indigenous population in the municipality, the lower the female participation in the labour market, 1.9%, without significant effects being observed in relation to this variable in the case of men.

The economic diversification in the municipality is more associated with a female participation than with a male participation, 0.66% and 0.59%, respectively. On the other hand, a 10% increase on the availability of infrastructure related to financial inclusion is correlated with a 2.4% increase on male participation, but it is not statistically significant in women's case. In the case of the availability of services for childcare, the opposite is true. There is no statistically significant association with the participation of men, but in the case of women, a 10% increase in the availability of services is associated with a 0.15% increase in labour participation.

31 Using the two-digit classification of the SCIAN.

32 See Appendix A

IV

FINDINGS AND LIMITATIONS

Although the conceptual framework incorporates various elements on literature about what it means and the forms of representation of economic empowerment, the methodology proposed from that framework focuses mainly on the definition and use of generation of their own labour income as an indicator of economic empowerment, based on their existing link between women's work (paid and unpaid) and care systems.

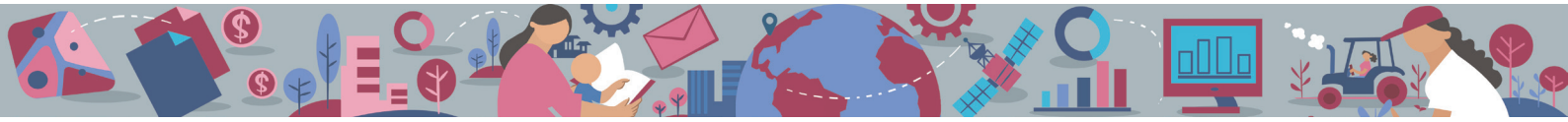
This is due on the one hand to the fact that labour participation and the generation of own income are the indicators most linked to the construction of autonomy and empowerment, and also those that have made the most progress in the definition and production at international level. And on the other, that one of the premises in the construction of the methodology is to provide a frame of reference to measure empowerment based on official statistics. The development of empowerment indicators related to the ownership of assets and their financial returns is still an area under construction, on which the UNSD has been working for several years, and on which there are no definitive consensuses yet.

The availability of data also results in a restriction on the possibilities of information use. This is due to the fact that the available data are basically limited to the dimensions of resources and achievements, leaving aside intermediate information that according to the literature also plays an important role in the empowerment process, such as that related to the agency of women, commonly not available but in some studies conducted and without national representativeness.

Despite the restriction of the approach, the literature developed since the 1960s demonstrates the importance of analyzing the different factors that are proposed, and documents the effect that the variables that measure approximately their care responsibilities, such as those proposed in the methodology have on the insertion of women and the generation of own income.

Future challenges for the production and use of statistical information related to economic empowerment are centred on the creation of detailed inventories of information availability and metadata from national information systems in the countries. And later, in the production of internationally verifiable statistics, which can account for the inequalities between countries and facilitate monitoring over time that allows assessing progress and setbacks in empowerment.

Although the availability and comparability of data can present enormous variations at international level, the capture of most of the indicators can be obtained, or in fact already generated, with close adherence to international statistical standards. In some cases, when the indicators are not yet generated, they can be obtained from simple modifications to the collection instruments that do not involve adding reagents or affecting the current collection of data, but do extend the possibility of having more accurate information to guide



advancements not only through performance indicators, but at the policy level. Such is the case of the indicator that refers to the proportion of children, 3 years of age or younger, who attend formal care services.

In a more advanced phase, the production of new data whose methodologies are currently in the design process, such as those related to material resources and their yields, or those that refer to agency processes, will be part of future challenges.

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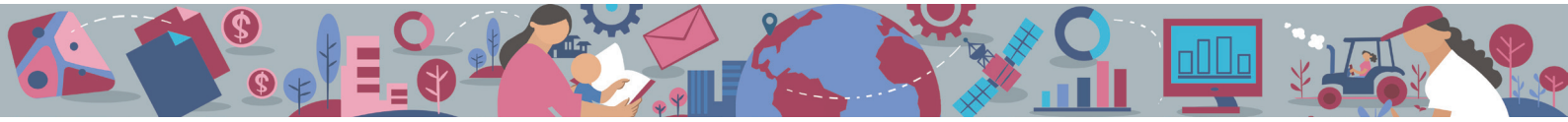

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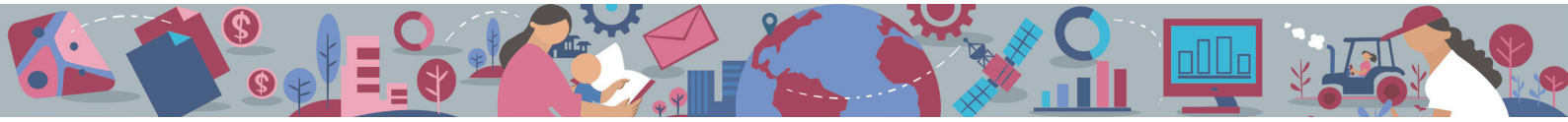

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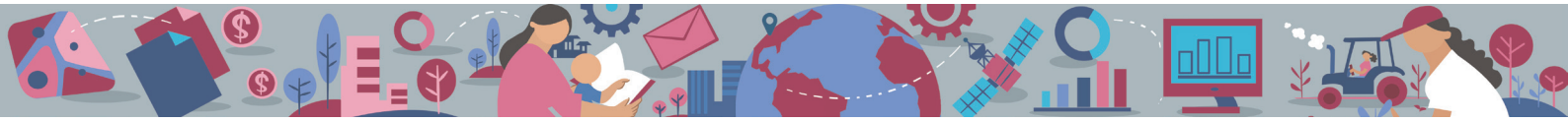

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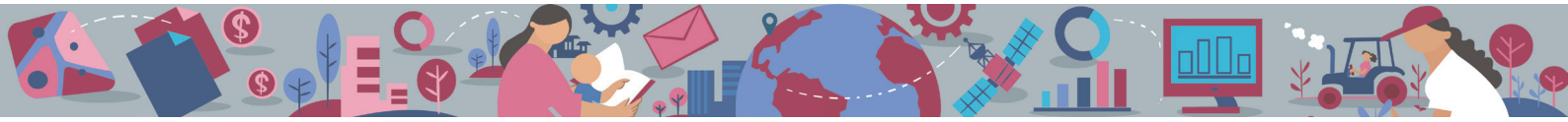

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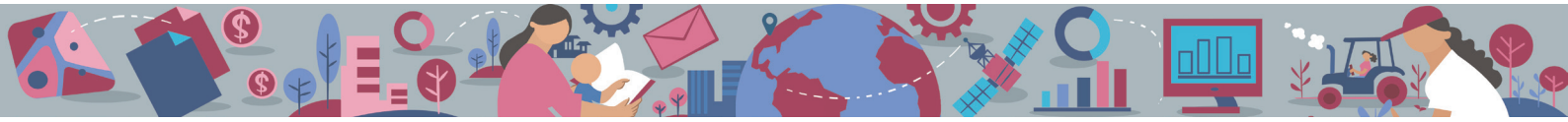

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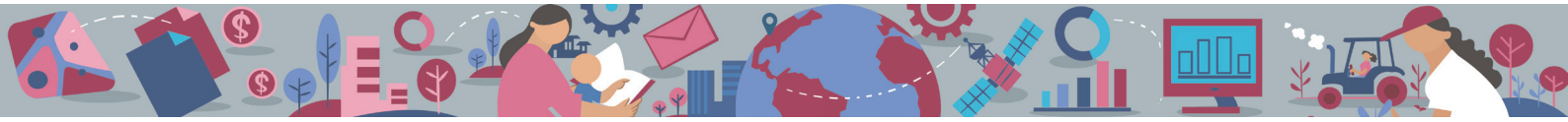

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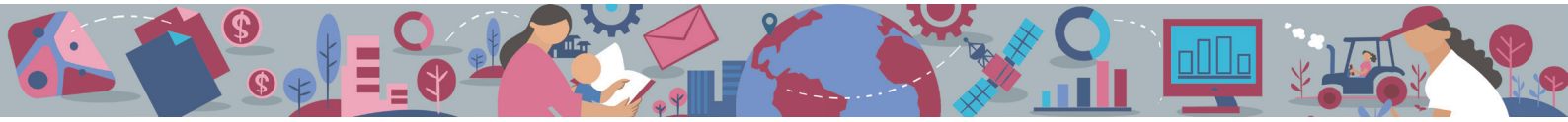

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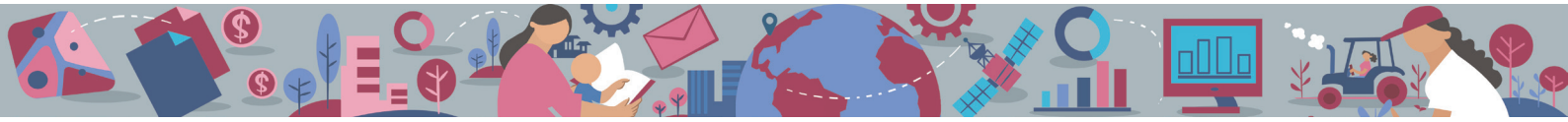

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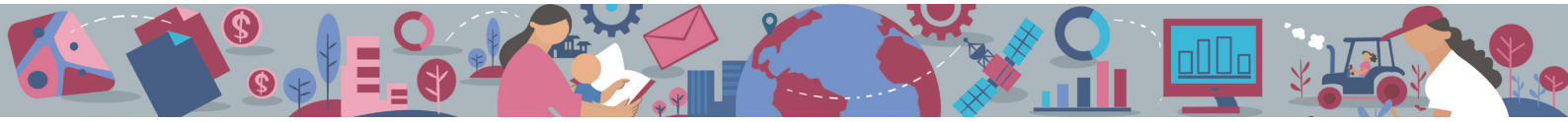

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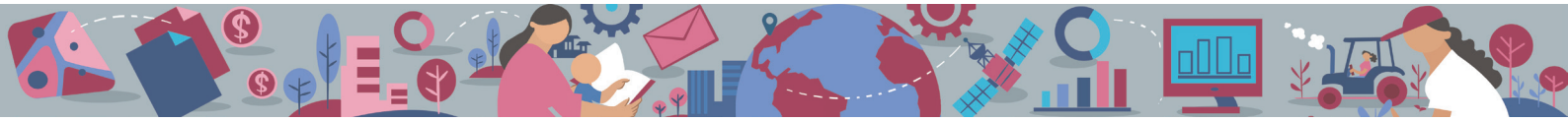
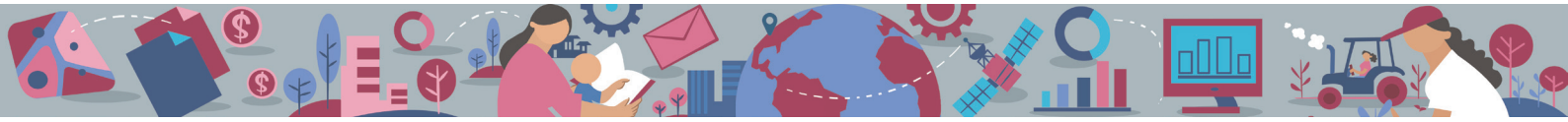


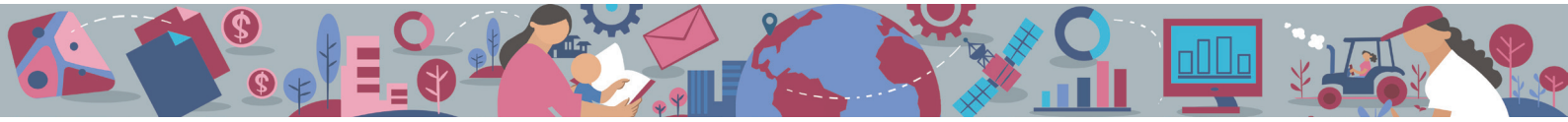
APPENDIX A. VARIABLES USED IN THE ECONOMETRIC MODEL

Table 1. General database structure

Variable	Label
entmun	Entity and municipality code
ent	Entity code
nom_ent	Name of entity
mun	Municipality code
nom_mun	Name of municipality
trabaja	Percentage of population that work
t_altrab	Minutes of commuting to work (average)
tdnr_sem	Hours of unpaid house work per week
ing_trab	Monthly inclome (average)
ss	Percentage of population with social security
esc	Years of schooling (average)
indigena	Percentage of population that speaks an indigenous language
trabaja15_29	Percentage of population that work (age 15-29)
nini	Youth between 15 and 29 who do not work or study
est_trab	Youth between 15 and 29 who work and study
est_notrab	Youth between 15 and 29 who study but do not work
noest_trab	Youht between 15 and 29 who work but do not study
trabaja_m	Percentage of population that work (women)
t_altrab_m	Minutes of commuting to work (average) (women)
tdnr_m	Hours of unpaid domestic work per week (average) (women)
ing_trab_m	Monthly income (average) (women)
ss_m	Percentage of population with social security (women)
esc_m	Average years of schooling (women)
indigena_m	Percentage of population that speaks an indigenous language (women)
trabaja15_29_m	Percentage of population that work (age 15-29) (women)
nini_m	Youth between 15 and 29 who do not work or study (women)
est_trab_m	Youth between 15 and 29 who work and study (women)
est_notrab_m	Youth between 15 and 29 who study but do not work (women)
noest_trab_m	Youht between 15 and 29 who work but do not study (women)
trabaja_h	Percentage of population that work (men)
t_altrab_h	Minutes of commuting to work (average) (men)



tdnr_h	Hours of unpaid domestic work per week (average) (men)
ing_trab_h	Monthly income (average) (men)
ss_h	Percentage of population with social security (men)
esc_h	Average years of schooling (men)
indigena_h	Percentage of population that speaks an indigenous language (men)
trabaja15_29_h	Percentage of population that work (age 15-29) (men)
nini_h	Youth between 15 and 29 who do not work or study (men)
est_trab_h	Youth between 15 and 29 who work and study (men)
est_notrab_h	Youth between 15 and 29 who study but do not work (men)
noest_trab_h	Youht between 15 and 29 who work but do not study (men)
ue_sc	Economic Units Grouped by Confidentiality Principle
ue_agric	Economic Units in agriculture
ue_indus	Economic Units in industry
ue_serv	Economic Units in services
ue_tot	Total Economic Units
ue_cuidados	Economic Units for Care
diver	Diversification of the economy (different types of units)
pbt_sc	PBT in Economic Units Grouped by Confidentiality principle mdp
pbt_agric	PBT in Economic Unitsin agriculture mdp
pbt_indus	PBT in Economic Units in industry mdp
pbt_serv	PBT in Economic Units in services mdp
pbt_tot	PBT in total economic Unites mdp
pbt_cuidados	PBT in Economic Units for MDP Care
ue6244	Economic Units Nurseries
m6244	Municipalities with ue nurseries of the CE
estancias	Number of child stays, BD SEDESOL 2018
mestancias	Municipalities with stays for children
privada	Number of private nurseries of the DENUE 2018
mprivada	Municipalities with private nurseries of the DENUE 2018
denue	Number of public and private nurseries of the DENUE 2018
mdenue	Municipalities with public and private nurseries of the DENUE 2018
denue100	Number of public and private nurseries of the DENUE 2018 per 100,000 adults
suctot_caj100	Total branches and ATMs
dec_suctot_~100	10 quantiles of suctot_caj100
con_suctot_~100	Municipality with total branches or ATMs
con_suc_caj~100	Municipality with total branches, ATMs or POS



superficie_km2	Municipal area in km2
poblacion_adu~a	Adult population of the Financial Inclusion base
nin0_5	Number of children per household aged 0 to 5
nin6_12	Number of children per household aged 0 to 5
am_65	Number of older adults per household aged 65 and over
promnin0_5	Average number of children per household aged 0 to 5
promnin6_12	Average number of children per household aged 0 to 5
promam_65	Average number of older adults per household aged 65 and over
vivtot	(count) x
pobtot	Population of the EIC 2015
hombres	Male population of the EIC 2015
per15_29	Population from 15 to 29 of the EIC 2015
per15_29_m	Female population from 15 to 29 of the EIC 2015
per15_29_h	Male population from 15 to 29 the EIC 2015
pobl_CONEVAL	Municipal population CONEVAL adjustment to MCS
p_pobreza	Percentage of population in multidimensional poverty
p_1car	Percentage of population with 1 social deprivation
p_3car	Percentage of population with 3 social deprivations
p_rezedu	Percentage of the population lagging behind in education
p_salud	Percentage of the population with deprivation in access to health services
p_ss	Percentage of the population with deprivation in access to social security
p_viv	Percentage of population with deprivation due to quality and spaces of the dwelling
p_serviv	Percentage of population with deprivation in access to basic services in the dwelling
p_alim	Percentage of the population with deprivation in access to food
ing_lb	Percentage of population with income below the welfare line
ing_lbmin	Percentage of population with income below the minimum welfare line
decil_pbt_tot	10 quantiles of pbt_tot
decil_ing_lb	10 quantiles of ing_lb
sexo	sex
denue100_sexo	Percentage of male population in the municipality

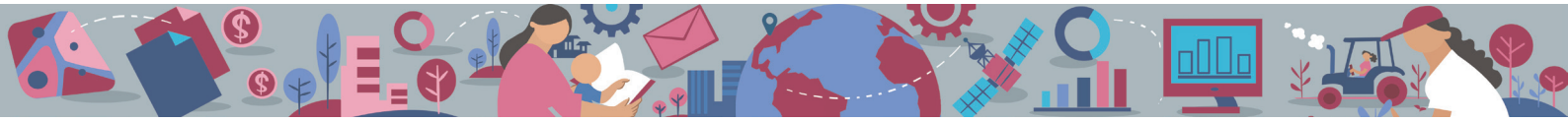
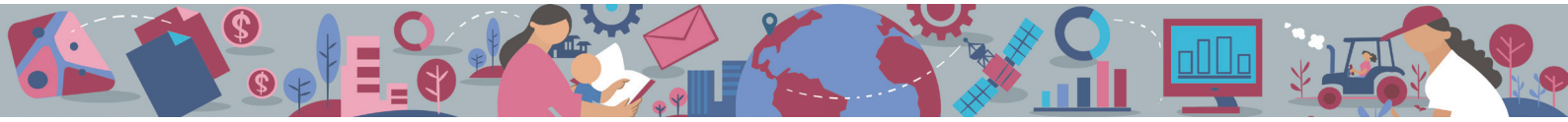


Table 2. Descriptive statistics socioeconomic information of the EIC 2015, by sex

Total						
variable	N	sum	mean	sd	min	max
trabaja	15,779,901	44,908,038	0.52	0.5	0	1
TIE_TRASLA~B	6,983,908	1,267,404,522	29.96	28.7	0	120
tdnr_sem	15,864,879	2,490,402,164	28.73	43.61	0	945
INGTRMEN	6,657,894	252,607,026,629	6,201.52	8,135.74	0	960,000.00
ss	15,589,400	67,443,475	0.8	0.4	0	1
SEXO	15,864,879	41,414,339	0.48	0.5	0	1
EDAD	22,692,265	3,719,336,184	31.12	33.31	0	999
ESCOACUM	15,745,757	789,048,272	9.16	4.6	0	24
HLENGUA	15,798,689	5,877,578	0.07	0.25	0	1
SITUA_CONY~L	15,795,057	51,160,526	0.59	0.49	0	1
nin0_5	5,854,392	12,713,051	0.4	0.68	0	11
nin6_12	5,854,392	15,486,843	0.48	0.77	0	13
am_65	5,854,392	8,633,335	0.27	0.57	0	12
per15_29	5,767,012	30,690,709	1	0	1	1
per15_29_m	2,957,796	15,620,779	1	0	1	1
per15_29_h	2,809,216	15,069,930	1	0	1	1
fuerza1529	5,735,906	13,497,455	0.44	0.5	0	1
nini1	5,767,012	8,300,231	0.27	0.44	0	1
nini2	5,767,012	1,330,223	0.04	0.2	0	1
nini3	5,767,012	8,756,076	0.29	0.45	0	1
nini4	5,767,012	12,142,188	0.4	0.49	0	1

Women						
variable	N	sum	mean	sd	min	max
trabaja	8,214,145	15,790,685	0.35	0.48	0	1
TIE_TRASLA~B	2,126,686	413,262,227	27.4	27.22	0	120
tdnr_sem	8,264,466	2,022,110,338	44.66	51.55	0	945
INGTRMEN	2,029,935	80,101,401,236	5,606.58	6,811.48	0	960,000.00
ss	8,126,732	36,249,278	0.82	0.38	0	1
SEXO	8,264,466	-	0	0	0	0
EDAD	8,264,466	1,792,031,984	39.58	17.46	15	110
ESCOACUM	8,202,758	405,251,870	9.01	4.63	0	24



HLENGUA	8,230,922	3,033,998	0.07	0.25	0	1
SITUA_CONY~L	8,228,682	25,840,226	0.57	0.49	0	1
nin0_5						
nin6_12						
am_65						
per15_29	2,957,796	15,620,779	1	0	1	1
per15_29_m	2,957,796	15,620,779	1	0	1	1
per15_29_h	-	-	.	.	.	.
fuerza1529	2,940,172	4,700,320	0.3	0.46	0	1
nini1	2,957,796	6,388,975	0.41	0.49	0	1
nini2	2,957,796	546,858	0.04	0.18	0	1
nini3	2,957,796	4,453,530	0.29	0.45	0	1
nini4	2,957,796	4,144,539	0.27	0.44	0	1

Men						
variable	N	sum	mean	sd	min	max
trabaja	7,565,756	29,117,353	0.71	0.46	0	1
TIE_TRASLA~B	4,816,824	850,272,700	31.43	29.41	0	120
tdnr_sem	7,600,413	468,291,826	11.31	22.23	0	714
INGTRMEN	4,590,067	172,183,456,084	6,549.70	8,758.35	0	960,000.00
ss	7,462,668	31,194,197	0.78	0.42	0	1
SEXO	7,600,413	41,414,339	1	0	1	1
EDAD	7,600,413	1,607,134,614	38.81	17.29	15	110
ESCOACUM	7,542,999	383,796,402	9.33	4.56	0	24
HLENGUA	7,567,767	2,843,580	0.07	0.25	0	1
SITUA_CONY~L	7,566,375	25,320,300	0.61	0.49	0	1
nin0_5						
nin6_12						
am_65						
per15_29	2,809,216	15,069,930	1	0	1	1
per15_29_m	-	-	.	.	.	.
per15_29_h	2,809,216	15,069,930	1	0	1	1
fuerza1529	2,795,734	8,797,135	0.59	0.49	0	1
nini1	2,809,216	1,911,256	0.13	0.33	0	1
nini2	2,809,216	783,365	0.05	0.22	0	1
nini3	2,809,216	4,302,546	0.29	0.45	0	1
nini4	2,809,216	7,997,649	0.53	0.5	0	1

Source: Intercensal Survey 2015, database of people.

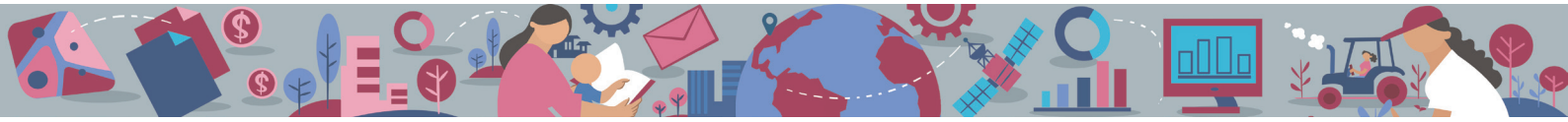
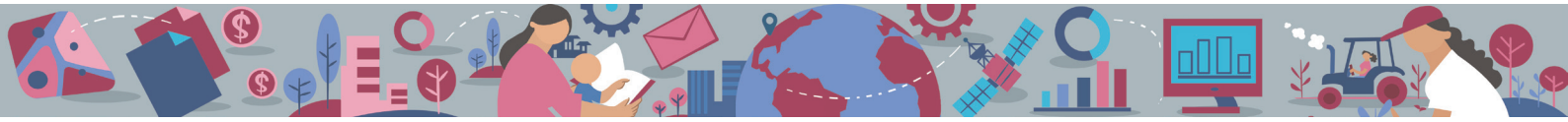


Table 3. Descriptive statistics socioeconomic information of the EIC 2015, municipal level

Variable	Obs	Weight	Mean	Std.	Min	Max
trabaja	2,446	86,581,084	0.52	0.07	0.04	0.70
t_altrab	2,446	86,581,084	29.88	8.86	5.63	80.40
tdnr_sem	2,457	86,692,424	28.73	5.82	-	57.44
ing_trab	2,446	86,581,084	6,014.31	2,272.77	72.68	23,081.85
ss	2,446	86,581,084	0.80	0.06	0.36	0.99
esc	2,446	86,581,084	9.16	1.63	2.85	13.81
indigena	2,446	86,581,084	0.07	0.17	-	1.00
nin0_5	2,457	86,692,424	44,280.10	46,705.90	5.00	175,297.00
nin6_12	2,457	86,692,424	54,882.99	58,645.23	6.00	211,857.00
am_65	2,457	86,692,424	32,234.68	37,128.53	16.00	146,301.00
trabaja15_29	2,446	86,581,084	0.44	0.06	0.05	0.66
nini	2,457	86,692,424	0.27	0.08	-	0.80
est_trab	2,457	86,692,424	0.04	0.02	-	0.09
est_notrab	2,457	86,692,424	0.29	0.06	-	0.50
noest_trab	2,457	86,692,424	0.39	0.05	-	0.62
trabaja_m	2,446	86,581,084	0.35	0.10	0.00	0.54
t_altrab_m	2,446	86,581,084	26.74		0.24	77.66
tdnr_m	2,457	86,692,424	44.74	9.19	-	96.31
ing_trab_m	2,446	86,581,084	5,284.20	1,726.65	143.00	15,670.90
ss_m	2,446	86,581,084	0.82	0.06	0.37	0.99
esc_m	2,446	86,581,084	9.01	1.60	2.39	13.30
indigena_m	2,446	86,581,084	0.07	0.17	-	1.00
trabaja15_~m	2,446	86,581,084	0.22	0.06	-	0.41
nini_m	2,457	86,692,424	0.40	0.12	-	1.00
est_trab_m	2,457	86,692,424	0.04	0.02	-	0.09
est_notrab_m	2,457	86,692,424	0.29	0.06	-	0.51
noest_trab_m	2,457	86,692,424	0.27	0.07	-	0.48
per15_29_m	2,457	86,692,424	59,821.23	64,634.77	4.00	229,361.00
trabaja_h	2,446	86,581,084	0.70	0.06	0.05	0.86
t_altrab_h	2,446	86,581,084	31.33	9.13	4.17	81.01
tdnr_h	2,457	86,692,424	11.30	3.27	-	24.39
ing_trab_h	2,446	86,581,084	6,471.43	2,680.73	71.74	30,043.79
ss_h	2,446	86,581,084	0.77	0.07	0.35	0.99
esc_h	2,446	86,581,084	9.34	1.68	3.28	14.43



indigena_h	2,446	86,581,084	0.07	0.17	-	1.00
trabaja15_~h	2,446	86,581,084	0.34	0.05	0.02	0.56
nini_h	2,457	86,692,424	0.13	0.05	-	0.72
est_trab_h	2,457	86,692,424	0.05	0.02	-	0.12
est_notrab_h	2,457	86,692,424	0.29	0.06	-	0.60
noest_trab_h	2,457	86,692,424	0.53	0.07	-	0.82
per15_29_h	2,457	86,692,424	58,894.90	64,466.49	6.00	225,950.00

Table 4. List of economic activities

Economic activity
21 Mining
23 Construction
31 – 33 manufactoring industries
43 Wholesale trade
46 Retail trade
48 - 49 transport, post and storage
51 Information in mass media
52 Financial and insurance services
53 Real estate and rental services of movable and intangible property
54 services professionals, scientists and technicals
56 Business support services and waste management and remediation services
61 Educational services
62 Health and social assistance services
71 Cultural and sports entertainment services, and other recreational services
72 Temporary accommodation and food and beverage preparation services
81 Other services except government activities
SC Sectors grouped by the principle of confidentiality
11 Agriculture, animal husbandry and exploitation, forestry, fishing and hunting (only fishing, aquaculture and services related to agricultural and forestry activities)
22 Generation, transmission and distribution of electrical energy, supply of water and gas through pipelines to the final consumer
55 Corporations

Source: Own elaboration based on the 2014 INEGI Economic Census.

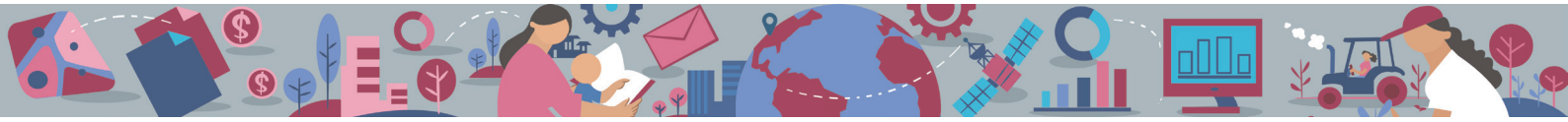


Table 5. Number of economic units by activity sector, according to state

State	Agriculture	Industry	Services	Principle of confidentiality	Total
Aguascalientes	9	5,020	42,361	59	47,449
Baja California	269	7,852	87,722	39	95,882
Baja California	678	2,788	24,622	26	28,114
Campeche	899	3,721	27,940	68	32,628
Chiapas	630	17,463	136,559	628	155,280
Chihuahua	30	8,934	87,696	384	97,044
Ciudad de México	6	33,043	382,365	67	415,481
Coahuila	22	8,510	74,886	221	83,639
Colima	200	2,896	26,103	74	29,273
Durango	14	5,372	44,825	241	50,452
Guanajuato	41	28,943	193,739	246	222,969
Guerrero	1,418	27,479	106,248	419	135,564
Hidalgo	88	12,235	85,751	493	98,567
Jalisco	167	34,722	277,446	678	313,013
Michoacán	699	30,784	163,266	606	195,355
Morelos	288	8,869	75,349	145	84,651
México	187	52,985	481,031	635	534,838
Nayarit	1,282	4,426	41,147	103	46,958
Nuevo_León	8	13,670	121,533	271	135,482
Oaxaca	2,886	37,447	134,409	3,212	177,954
Puebla	242	42,310	207,558	1,208	251,318
Querétaro	10	7,273	61,643	96	69,022
Quintana_Roo	104	3,262	42,051	71	45,488
San Luis Potosí	63	9,415	78,333	343	88,154
Sinaloa	2,296	9,539	81,301	106	93,242
Sonora	735	11,143	78,333	431	90,642
Tabasco	2,272	5,429	52,179	93	59,973
Tamaulipas	780	8,907	94,432	215	104,334
Tlaxcala	88	9,676	48,141	340	58,245
Veracruz	2,127	25,378	210,728	1,159	239,392
Yucatán	1,022	23,214	73,712	530	98,478
Zacatecas	176	5,509	45,834	345	51,864
Total	19,736	508,214	3,689,243	13,552	4,230,745

Source: Own elaboration based on the 2014 Economic Census, INEGI.
Indicators for the geospatial analysis of economic empowerment, according to transversal and thematic axes.
Care: 10 economic activities related to health services and social assistance are taken into consideration.

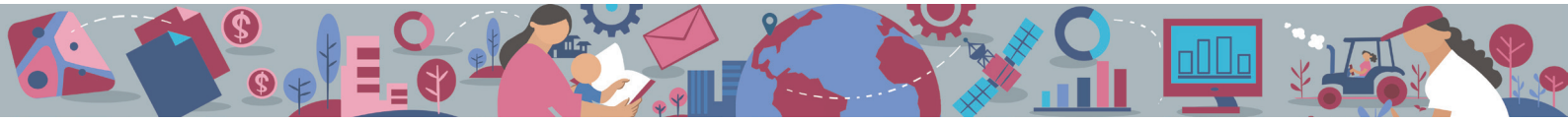


Table 6. Gross production by activity sector, according to state (millions of pesos)

State	Agriculture	Industry	Services	Principle of confidentiality	Total
Aguascalientes	13	143,400	37,848	2,222	183,483
Baja California	2,294	185,093	108,346	7,418	303,153
Baja California	1,583	12,850	35,535	1,861	51,828
Campeche	1,010	16,816	32,895	597,312	648,033
Chiapas	1,017	82,713	49,819	24,055	157,604
Chihuahua	43	212,759	100,021	7,189	320,012
Ciudad de México	5	837,561	2,081,116	25,102	2,943,783
Coahuila	176	536,596	88,821	8,364	633,956
Colima	758	12,889	22,979	4,234	40,859
Durango	18	61,093	33,126	15,251	109,487
Guanajuato	27	541,062	154,406	6,331	701,826
Guerrero	360	16,864	46,615	2,131	65,971
Hidalgo	20	263,499	40,043	2,386	305,949
Jalisco	204	422,301	266,012	9,350	697,867
Michoacán	278	93,199	81,721	4,095	179,292
Morelos	50	98,604	45,290	631	144,575
México	41	781,311	315,849	19,035	1,116,235
Nayarit	564	17,340	26,079	346	44,328
Nuevo_León	7	817,737	472,409	26,976	1,317,129
Oaxaca	486	241,994	47,798	5,245	295,524
Puebla	84	327,202	124,872	15,689	467,847
Querétaro	1	242,904	90,342	1,595	334,842
Quintana_Roo	141	9,462	97,473	5,777	112,854
San Luis Potosí	14	204,555	65,547	8,281	278,396
Sinaloa	6,124	56,514	88,413	9,080	160,131
Sonora	3,266	292,849	95,356	48,497	439,969
Tabasco	2,502	119,227	55,213	302,568	479,509
Tamaulipas	510	315,929	102,044	5,161	423,644
Tlaxcala	4	61,060	12,104	735	73,903
Veracruz	966	481,624	143,919	47,850	674,359
Yucatán	1,667	58,518	121,780	1,656	183,621
Zacatecas	8	54,685	23,125	16,528	94,346
Total	24,236	7,620,210	5,106,917	1,232,951	13,984,313

* Total gross production is the value of all goods and services produced or marketed by the economic unit as a result of the exercise of its activities, including the value of the manufactured products; the gross marketing margin; the works executed; income from the provision of services, as well as the rental of machinery and equipment, and other movable and immovable property; the value of fixed assets produced for own use, among others. It includes: the variation in inventories of products in process. Goods and services are valued at producer prices.

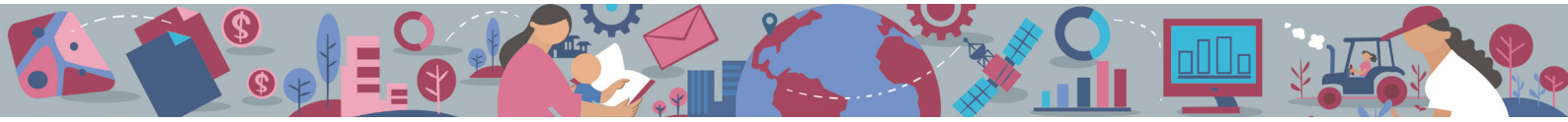


Table 7. Municipal average total gross production by sector and diversification, according to state (millions of pesos)

State	Municipalities	Agriculture	Industry	Services	Principal of confidentiality	Care	Total	Diversification
Aguascalientes	11	1	13,036	3,441	202	25	16,680	13
Baja California	5	459	37,019	21,669	1,855	128	60,631	17
Baja California Sur	5	317	2,570	7,107	372	15	10,366	17
Campeche	11	92	1,529	2,990	54,301	4	58,912	14
Chiapas	117	9	701	422	207	1	1,347	10
Chihuahua	67	1	3,176	1,493	111	10	4,776	8
Ciudad de México	16	-	52,348	130,070	2,092	95	183,986	16
Coahuila	38	5	14,121	2,337	226	6	16,683	11
Colima	10	76	1,289	2,298	470	11	4,086	15
Durango	39	-	1,566	849	391	2	2,807	10
Guanajuato	46	1	11,762	3,357	138	9	15,257	14
Guerrero	81	4	208	575	27	1	814	11
Hidalgo	84	-	3,137	477	29	-	3,642	11
Jalisco	125	2	3,378	2,128	75	9	5,583	12
Michoacán	113	2	825	723	37	2	1,587	12
Morelos	33	2	2,988	1,372	21	7	4,381	14
México	125	-	6,250	2,527	160	3	8,930	13
Nayarit	20	28	867	1,304	19	5	2,216	13
Nuevo León	51	-	16,034	9,263	574	24	25,826	10
Oaxaca	570	1	425	84	9	-	518	6
Puebla	217	-	1,508	575	72	1	2,156	9
Querétaro	18	-	13,495	5,019	89	13	18,602	13
Quintana_Roo	10	14	946	9,747	578	7	11,285	15
San Luis Potosí	58	-	3,527	1,130	143	4	4,800	10
Sinaloa	18	340	3,140	4,912	504	21	8,896	15
Sonora	72	45	4,067	1,324	674	7	6,111	8
Tabasco	17	147	7,013	3,248	17,798	3	28,206	16
Tamaulipas	43	12	7,347	2,373	126	6	9,852	11
Tlaxcala	60	-	1,018	202	12	-	1,232	11
Veracruz	212	5	2,272	679	226	1	3,181	10
Yucatán	106	16	552	1,149	16	2	1,732	9
Zacatecas	58	-	943	399	285	1	1,627	11
Total	2,456	10	3,101	2,079	509	4	5,694	10

* Total gross production is the value of all goods and services produced or marketed by the economic unit as a result of the exercise of its activities, including the value of the manufactured products; the gross marketing margin; the works executed; income from the provision of services, as well as the rental of machinery and equipment, and other movable and immovable property; the value of fixed assets produced for own use, among others. It includes: the variation in inventories of products in process. Goods and services are valued at producer prices.

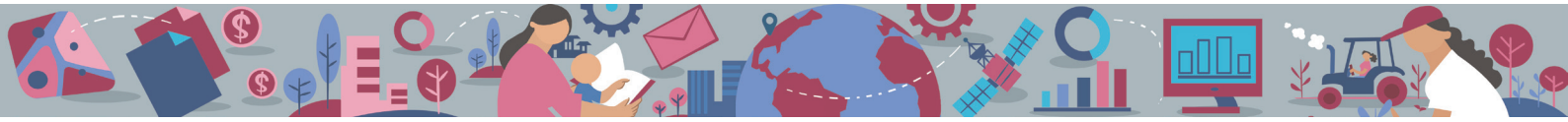


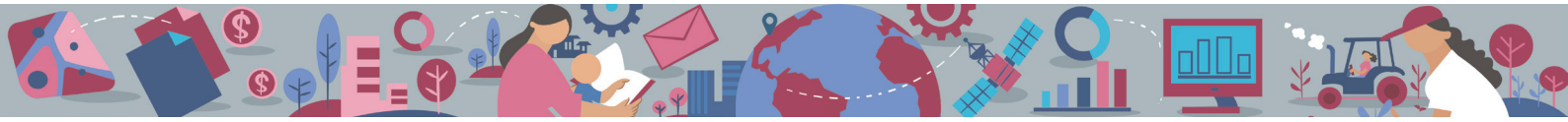
Table 8. Municipal diversification (types of economic units) according to deciles of total gross production (millions of pesos)

Decile	Total gross production (decile, millions of pesos)	Diversification		
		Mean	Min	Max
10	2	3	1	7
20	7	5	2	8
30	15	6	2	11
40	31	8	2	12
50	71	9	3	13
60	143	11	4	15
70	343	12	4	17
80	900	13	2	17
90	3,996	14	2	17
100	792,319	16	3	19
Total		10	1	19

Source: Own elaboration based on the 2014 INEGI Economic Census.
Indicators for the geospatial analysis of economic empowerment, according to transversal and thematic axes.
Diversification: Number of economic activities out of a total of 20 two-digit categories.

Table 9. Average total gross production by diversification of economic activities at the municipal level

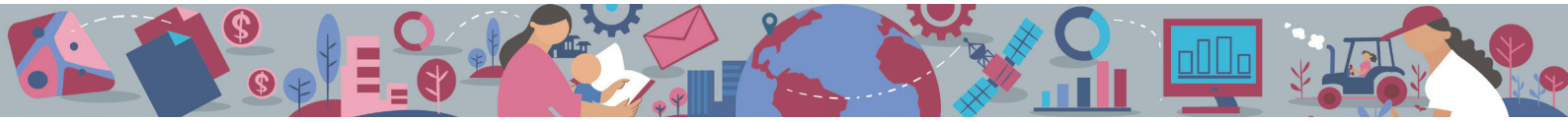
Diversification	Municipalities	Average total gross production (Millions of pesos)
1	12	1
2	90	72
3	151	85
4	168	19
5	185	26
6	166	149
7	143	55
8	157	155
9	138	225
10	140	216
11	163	293
12	157	724
13	149	663
14	146	2,692
15	184	8,163
16	161	16,444



17	119	38,270
18	23	165,170
19	4	170,810
Total	2456	5,694

Table 10. Number of economic units that provide care services, according to state

Census Year	State	Economic activity	UE Economic Units	UE in BD municipality	%
2014	00 Total Nacional	6244 Nurseries	8,139	6,189	0.76
2014	01 Aguascalientes	6244 Nurseries	145	122	0.84
2014	02 Baja California	6244 Nurseries	357	340	0.95
2014	03 Baja California Sur	6244 Nurseries	113	54	0.48
2014	04 Campeche	6244 Nurseries	89	62	0.70
2014	05 Coahuila de Zaragoza	6244 Nurseries	228	208	0.91
2014	06 Colima	6244 Nurseries	89	81	0.91
2014	07 Chiapas	6244 Nurseries	154	91	0.59
2014	08 Chihuahua	6244 Nurseries	446	419	0.94
2014	09 Ciudad de México	6244 Nurseries	734	694	0.95
2014	10 Durango	6244 Nurseries	123	86	0.70
2014	11 Guanajuato	6244 Nurseries	382	303	0.79
2014	12 Guerrero	6244 Nurseries	117	50	0.43
2014	13 Hidalgo	6244 Nurseries	104	52	0.50
2014	14 Jalisco	6244 Nurseries	492	364	0.74
2014	15 México	6244 Nurseries	788	553	0.70
2014	16 Michoacán de Ocampo	6244 Nurseries	272	196	0.72
2014	17 Morelos	6244 Nurseries	153	52	0.34
2014	18 Nayarit	6244 Nurseries	173	122	0.71
2014	19 Nuevo León	6244 Nurseries	365	337	0.92
2014	20 Oaxaca	6244 Nurseries	174	80	0.46
2014	21 Puebla	6244 Nurseries	322	212	0.66
2014	22 Querétaro	6244 Nurseries	212	170	0.80
2014	23 Quintana Roo	6244 Nurseries	155	110	0.71
2014	24 San Luis Potosí	6244 Nurseries	224	159	0.71
2014	25 Sinaloa	6244 Nurseries	338	327	0.97
2014	26 Sonora	6244 Nurseries	250	212	0.85

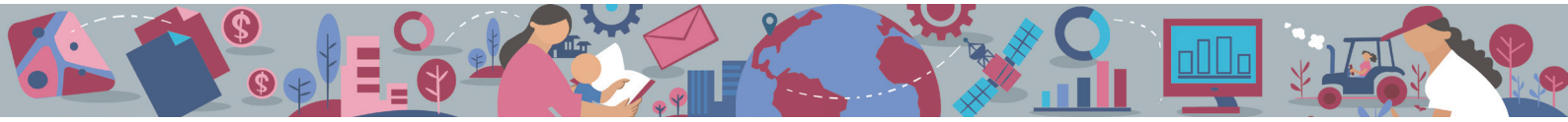


2014	27 Tabasco	6244 Nurseries	111	84	0.76
2014	28 Tamaulipas	6244 Nurseries	262	233	0.89
2014	29 Tlaxcala	6244 Nurseries	130	57	0.44
2014	30 Veracruz de Ignacio de la Llave	6244 Nurseries	352	188	0.53
2014	31 Yucatán	6244 Nurseries	181	134	0.74
2014	32 Zacatecas	6244 Nurseries	104	37	0.36

Source: own elaboration based on the 2014 Economic Census, INEGI. https://www.inegi.org.mx/app/saic/
The sum of the partials may not coincide with the total due to rounding.
The inconsistency between the database download and the census tabs is due to the fact that the municipal database does not contain data for municipalities with less than 3 economic units, due to the principle of confidentiality.
The lines in which the key of the economic activity has one or more letters "C" or "SC" present the data of various classes, sub-branches, branches, subsectors or sectors of activity grouped together, due to the principle of confidentiality.

Table 11. Poverty and deprivations indicators from the official CONEVAL measurement

State	Percentage of population in poverty	Percentage of population with at least one deprivation	Percentage of population with 3 or more deprivations	Educational backwardness	Deprivation in access to health services	Deprivation in access to social security
Aguascalientes	30.96	58.87	8.52	13.74	13.69	42.91
Baja California	29.20	62.96	12.25	13.29	17.94	46.58
Baja California Sur	27.93	62.84	14.54	14.00	12.84	43.17
Campeche	42.09	74.12	27.54	20.17	12.35	57.69
Chiapas	72.55	89.69	47.07	29.95	18.87	81.25
Chihuahua	29.31	56.00	7.32	15.72	11.94	39.75
Ciudad de México	27.78	54.56	5.82	8.86	19.09	45.33
Coahuila	24.43	49.61	7.35	12.08	13.62	30.87
Colima	33.25	67.24	13.78	17.61	13.57	52.35
Durango	39.28	67.32	11.31	15.93	15.38	50.54
Guanajuato	42.04	73.85	16.56	20.34	14.49	57.00
Guerrero	67.10	92.06	50.59	25.08	16.60	77.01
Hidalgo	49.39	80.06	21.34	17.42	18.33	68.66
Jalisco	34.78	63.44	12.84	18.67	17.14	48.91
Michoacán	57.20	82.80	32.13	26.45	22.99	69.81
Morelos	48.44	74.82	21.52	16.73	16.21	60.88
México	47.55	68.73	15.95	13.16	19.82	57.86
Nayarit	38.24	70.27	15.46	15.92	15.92	56.68

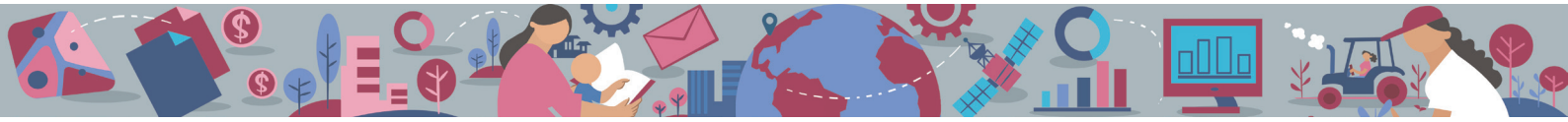


Nuevo León	18.88	48.01	6.55	11.33	12.55	31.46
Oaxaca	68.11	88.18	45.51	27.22	17.04	76.98
Puebla	60.98	82.94	26.89	21.73	18.87	71.26
Querétaro	31.27	63.87	14.47	14.71	13.03	50.14
Quintana Roo	33.43	69.52	20.78	14.97	16.35	52.18
San Luis Potosí	45.64	71.18	20.91	17.68	10.17	56.45
Sinaloa	32.24	67.90	14.04	15.71	14.64	49.19
Sonora	28.76	59.36	11.94	12.57	13.37	37.77
Tabasco	45.38	87.22	35.21	17.81	17.08	70.48
Tamaulipas	38.91	63.83	12.52	16.12	14.96	46.22
Tlaxcala	52.25	76.92	14.81	13.72	14.86	66.81
Veracruz	57.27	82.82	34.97	25.44	18.91	66.95
Yucatán	41.86	71.52	27.83	21.77	14.84	53.05
Zacatecas	51.53	75.13	13.21	19.08	12.39	61.55

*National totals may not coincide with figures reported by CONEVAL due to adjustments to the MCS and the reference year.

Table 11. Poverty and deprivations indicators from the official CONEVAL measurement (continued)

State	Deprivation due to quality and spaces of the dwelling	Deprivation in access to basic services in the dwelling	Deprivation in access to food	Population with income below the welfare line	Population with income below the minimum welfare line
Aguascalientes	4.84	4.69	18.80	41.38	12.38
Baja California	9.25	12.15	14.71	37.10	9.34
Baja California Sur	14.08	11.49	21.76	34.25	8.96
Campeche	18.39	34.18	23.23	46.74	14.52
Chiapas	28.98	54.56	25.03	75.21	44.62
Chihuahua	4.94	4.21	12.97	41.65	13.18
Ciudad de México	4.85	1.72	9.85	36.36	7.54
Coahuila	5.10	4.49	16.51	38.52	10.27
Colima	9.17	9.63	19.53	40.98	9.14
Durango	5.67	11.63	17.79	49.42	13.65
Guanajuato	8.94	12.61	25.85	50.24	16.83
Guerrero	33.63	60.07	40.56	69.30	33.77
Hidalgo	9.56	24.29	21.40	54.34	21.54
Jalisco	7.69	9.33	15.25	43.81	10.72



Michoacán	15.98	26.04	31.44	62.37	23.12
Morelos	13.59	21.49	26.07	55.03	21.57
México	10.09	10.14	20.22	59.78	20.38
Nayarit	7.58	16.87	19.55	45.79	16.86
Nuevo León	4.49	4.35	15.50	27.88	5.22
Oaxaca	20.69	59.20	32.23	70.75	37.28
Puebla	13.82	27.30	23.91	67.08	27.08
Querétaro	8.47	16.95	17.54	39.51	8.94
Quintana Roo	18.00	18.75	21.75	39.24	11.17
San Luis Potosí	14.05	29.90	16.86	54.00	22.25
Sinaloa	8.26	14.05	23.24	38.05	7.82
Sonora	8.79	9.98	23.71	37.01	8.90
Tabasco	11.66	46.21	39.82	47.70	15.09
Tamaulipas	8.92	10.44	19.57	47.92	14.22
Tlaxcala	10.61	11.02	21.30	61.92	18.23
Veracruz	20.33	40.14	29.06	61.15	25.03
Yucatán	18.33	39.22	16.87	48.44	14.62
Zacatecas	4.28	14.44	20.01	59.23	23.99

*National totals may not coincide with figures reported by CONEVAL due to adjustments to the MCS and the reference year.

Table 12. Distribution of the country's municipalities by income poverty deciles

decil_ing_lb	N	mean	min	max
1	245	34.5	3.5	43.6
2	245	48.3	43.7	53.3
3	244	56.5	53.3	59.4
4	245	62.1	59.5	65.4
5	244	67.9	65.4	71.0
6	245	73.1	71.0	76.1
7	245	78.4	76.1	81.1
8	244	83.9	81.1	87.3
9	245	90.5	87.3	94.4
10	244	97.3	94.5	99.9
Total	2,446	51.7	3.5	99.9

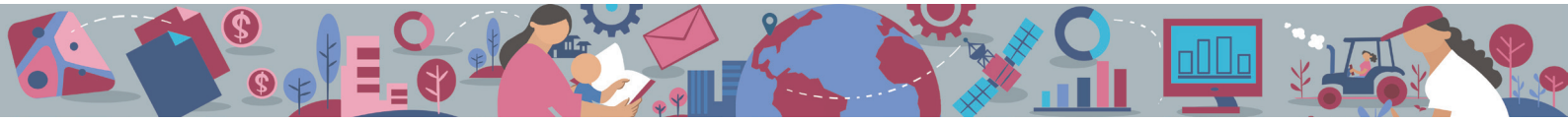


Table 13. Percentiles of municipalities with access to bank branches and ATMs per 100,000 adults

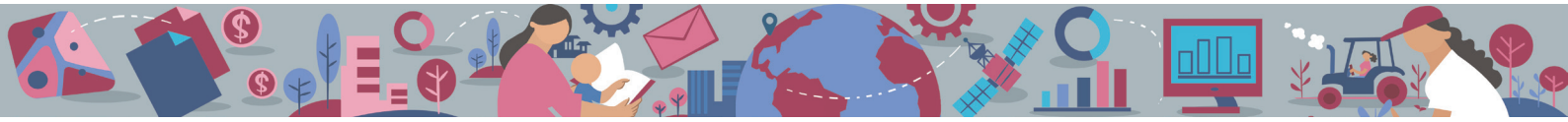
con_suctot		con_suc_caj_tpv100	
_caj100	0	1	Total
0	691	225	916
	75.44	24.56	100
	100	12.74	37.28
1	0	1,541	1,541
	0	100	100
	0	87.26	62.72
Total	691	1,766	2,457
	28.12	71.88	100
	100	100	100

Table 14. Distribution of the country's municipalities by income poverty deciles and bank branches and ATMs per 100,000 adults

Variable	N	mean	min	max
dec_suctot_caj100				
1	916	0	0	0
4	67	0.055791	0.019	0.071
5	247	0.1134089	0.072	0.159
6	246	0.2012683	0.16	0.247
7	244	0.303627	0.248	0.363
8	248	0.4330323	0.364	0.509
9	244	0.6288934	0.51	0.765
10	245	1.173151	0.766	5.41
Total	2457	0.28637	0	5.41

Table 15. Municipalities without commercial branches, development banks, cooperatives, microfinance institutions or ATMs

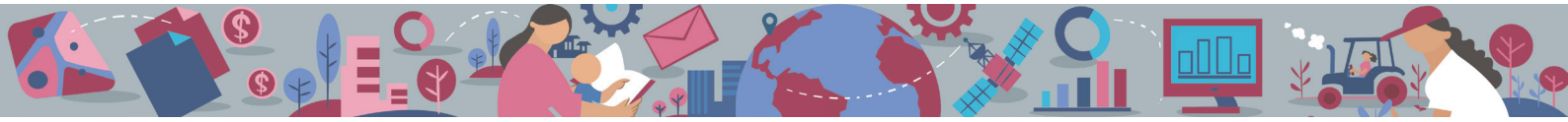
State	N	%
Chiapas	42	4.59
Chihuahua	24	2.62
Coahuila	5	0.55
Durango	9	0.98



Guerrero	24	2.62
Hidalgo	9	0.98
Jalisco	7	0.76
México	7	0.76
Michoacán	13	1.42
Nayarit	1	0.11
Nuevo León	6	0.66
Oaxaca	463	50.55
Puebla	119	12.99
San Luis Potosí	10	1.09
Sonora	36	3.93
Tamaulipas	6	0.66
Tlaxcala	29	3.17
Veracruz	54	5.9
Yucatán	39	4.26
Zacatecas	13	1.42
Total	916	100

Table 16. Municipalities without commercial branches, development banks, cooperatives, microfinance institutions, ATMs or point of sale terminals. Average characteristics, according to state

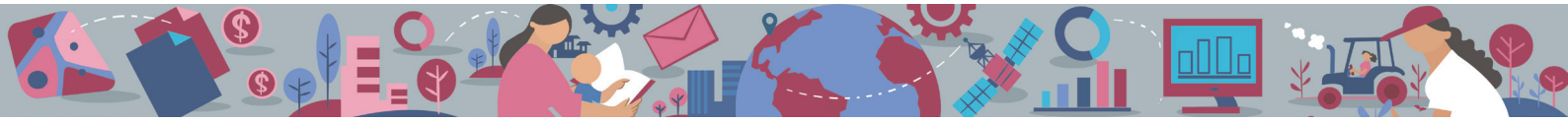
State	N	%	Surface	Population	Adult population
Chiapas	32	4.63	157	12,890	8,149
Chihuahua	3	0.43	1,061	1,827	1,350
Coahuila	2	0.29	1,809	1,451	1,090
Durango	5	0.72	1,660	3,703	2,682
Guerrero	19	2.75	623	13,789	8,949
Hidalgo	9	1.3	242	9,131	6,431
Jalisco	2	0.29	696	3,248	2,277
México	1	0.14	127	7,057	4,838
Nayarit	1	0.14	5,100	37,439	23,026
Nuevo León	2	0.29	1,042	1,437	1,094
Oaxaca	425	61.51	126	2,886	1,980
Puebla	79	11.43	119	6,434	4,424
San Luis Potosí	6	0.87	509	8,557	6,026
Sonora	21	3.04	1,237	1,325	1,004



Tamaulipas	2	0.29	487	2,357	1,719
Tlaxcala	8	1.16	30	5,869	4,175
Veracruz	40	5.79	109	8,187	5,647
Yucatán	28	4.05	207	4,029	2,854
Zacatecas	6	0.87	662	5,491	3,895
Total	691	100	217	4,597	3,122

Table 17. Municipalities with commercial branches, development banks, cooperatives, microfinance institutions, ATMs or point of sale terminals

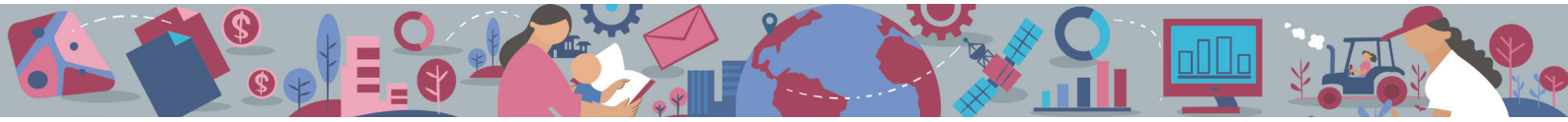
State	N	%	Surface	Populatio	Adult population
Aguascalientes	11	0.62	506	117,060	82,459
Baja California	5	0.28	14,022	696,830	511,821
Baja California Sur	5	0.28	14,735	152,785	110,672
Campeche	11	0.62	5,169	82,534	59,952
Chiapas	86	4.87	821	56,282	38,501
Chihuahua	64	3.62	3,811	57,885	41,647
Ciudad de México	16	0.91	92	553,412	433,601
Coahuila	36	2.04	4,110	82,160	59,638
Colima	10	0.57	546	72,345	53,243
Durango	34	1.93	3,335	51,359	36,659
Guanajuato	46	2.60	660	126,469	89,510
Guerrero	62	3.51	863	53,324	37,046
Hidalgo	75	4.25	251	37,282	26,726
Jalisco	123	6.96	642	64,429	46,481
México	124	7.02	188	135,994	98,797
Michoacán	113	6.40	530	40,677	29,031
Morelos	33	1.87	150	58,192	42,631
Nayarit	19	1.08	1,170	62,439	44,895
Nuevo León	49	2.77	1,274	103,734	76,735
Oaxaca	145	8.21	285	19,211	13,630
Puebla	138	7.81	178	41,199	29,002
Querétaro	18	1.02	654	111,359	79,998
Quintana Roo	10	0.57	6,304	157,482	112,919
San Luis Potosí	52	2.94	1,106	51,964	36,937
Sinaloa	18	1.02	3,227	165,809	121,199



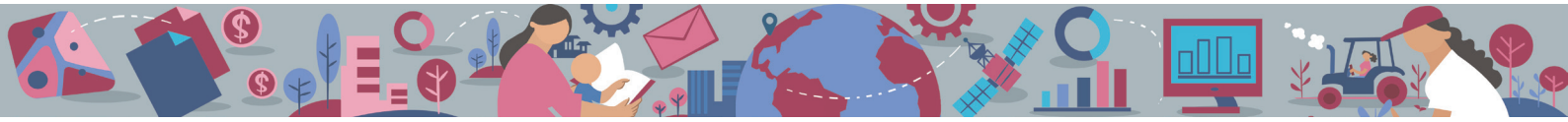
Sonora	51	2.89	3,232	56,960	41,236
Tabasco	17	0.96	1,451	140,229	100,720
Tamaulipas	41	2.32	1,922	86,308	63,341
Tlaxcala	52	2.94	73	23,679	16,741
Veracruz	172	9.74	424	44,879	33,079
Yucatán	78	4.42	433	25,717	18,929
Zacatecas	52	2.94	1,362	29,675	21,075
Total	1,766	100.00	1,047	66,720	48,358

Table 18. Correlations of variables

Variable	Percentage of population who work	Percentage of population who work (women)	Percentage of population who work (men)
	trabaja	trabaja_m	trabaja_h
trabaja	1.00	0.93	0.81
t_altrab	0.06	0.03	0.11
tdnr_sem	0.37	0.34	0.27
ing_trab	0.64	0.73	0.29
ss	-0.36	-0.38	-0.28
esc	0.73	0.85	0.33
indigena	-0.41	-0.45	-0.21
nin0_5	0.49	0.53	0.27
nin6_12	0.48	0.52	0.26
am_65	0.40	0.50	0.13
trabaja15_29	0.88	0.76	0.79
nini	-0.87	-0.92	-0.54
est_trab	0.74	0.82	0.39
est_notrab	0.28	0.46	-0.08
noest_trab	0.77	0.60	0.80
trabaja_m	0.93	1.00	0.55
t_altrab_m	0.24	0.24	0.19
tdnr_m	0.24	0.17	0.23
ing_trab_m	0.58	0.68	0.23
ss_m	-0.37	-0.39	-0.28
esc_m	0.74	0.85	0.33
indigena_m	-0.41	-0.45	-0.21
trabaja15_29_m	0.89	0.91	0.60



nini_m	-0.79	-0.92	-0.35
est_trab_m	0.73	0.82	0.35
est_notrab_m	0.34	0.52	-0.03
noest_trab_m	0.88	0.92	0.55
trabaja_h	0.81	0.55	1.00
t_altrab_h	0.04	0.00	0.10
tdnr_h	0.65	0.69	0.36
ing_trab_h	0.64	0.72	0.30
ss_h	-0.34	-0.36	-0.26
esc_h	0.72	0.83	0.33
indigena_h	-0.41	-0.45	-0.20
trabaja15_29_h	0.72	0.51	0.82
nini_h	-0.83	-0.69	-0.83
est_trab_h	0.72	0.79	0.40
est_notrab_h	0.20	0.38	-0.13
noest_trab_h	0.22	-0.08	0.63
ue_agric	0.02	0.03	-0.02
ue_indus	0.42	0.49	0.20
ue_serv	0.44	0.52	0.19
denue_g_r	0.50	0.59	0.22
denue_g_r100	0.47	0.56	0.17
ue_tot	0.44	0.52	0.19
diver	0.66	0.71	0.39
pbt_agric	0.08	0.10	0.02
pbt_indus	0.37	0.41	0.17
pbt_serv	0.34	0.42	0.13
pbt_cuidados	0.33	0.40	0.12
pbt_tot	0.39	0.46	0.17
superficie_km2	0.10	0.11	0.00
suctot_caj100	0.52	0.61	0.22
pobl_CONEVAL	0.47	0.53	0.23
p_pobreza	-0.75	-0.82	-0.38
p_1car	-0.70	-0.78	-0.34
p_3car	-0.67	-0.75	-0.32
p_rezedu	-0.68	-0.78	-0.30
p_salud	0.28	0.29	0.22



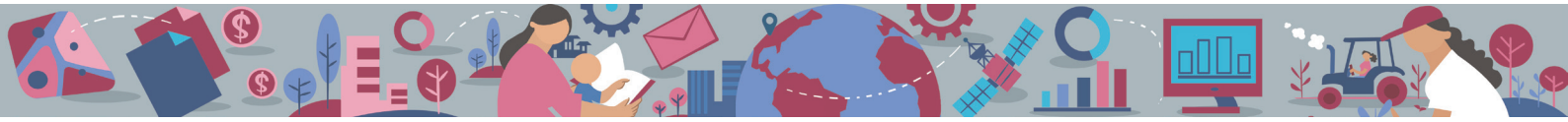
p_ss	-0.68	-0.75	-0.34
p_viv	-0.53	-0.61	-0.25
p_serviv	-0.71	-0.78	-0.38
p_alim	-0.43	-0.48	-0.20
acces	-0.10	-0.11	-0.13

Table 19. Work, economic environment and care services. Total population

Source	SS	df	MS	Number of obs	=	2,445
				F(7, 2437)	=	509.04
Model	7.50743406	7	1.07249058	Prob > F	=	0
Residual	5.13451141	2,437	0.002106898	R-squared	=	0.5939
				Adj R-squared	=	0.5927
Total	12.6419455	2,444	0.005172645	Root MSE	=	0.0459
trabaja	**Coef.**	**Std. Err.**	**t**	**P>t**	**[95% Conf.**	**Interval]**
esc	0.020	0.001	20.440	0.000	0.018	0.022
indigena	-0.012	0.007	-1.840	0.066	-0.025	0.001
ue_tot	0.000	0.000	2.060	0.039	0.000	0.000
diver	0.006	0.001	12.160	0.000	0.005	0.007
pbt_tot	0.000	0.000	-0.590	0.553	0.000	0.000
denue100	0.001	0.000	7.100	0.000	0.001	0.001
con_suc_caj_tpv100	0.010	0.007	1.280	0.199	-0.005	0.024
_cons	0.217	0.009	23.070	0.000	0.198	0.235

Table 20. Work, economic environment and care services. Women

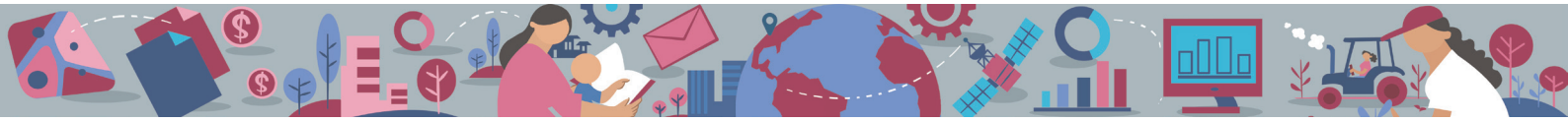
Source	SS	df	MS	Number of obs	=	2,445
				F(7, 2437)	=	1128.09
Model	18.071643	7	2.58166328	Prob > F	=	0
Residual	5.57713097	2,437	0.002288523	R-squared	=	0.7642
				Adj R-squared	=	0.7635
Total	23.6487739	2,444	0.009676258	Root MSE	=	0.04784



trabaja_m	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
esc	0.0352	0.001	34.430	0.000	0.033	0.037
indigena	-0.0195	0.007	-2.840	0.004	-0.033	-0.006
ue_tot	0.0000	0.000	5.870	0.000	0.000	0.000
diver	0.0066	0.001	12.450	0.000	0.006	0.008
pbt_tot	0.0000	0.000	-1.590	0.113	0.000	0.000
denue100	0.0015	0.000	11.390	0.000	0.001	0.002
con_suc_caj_tpv100	-0.0077	0.008	-1.000	0.316	-0.023	0.007
_cons	-0.0940	0.010	-9.610	0.000	-0.113	-0.075

Table 21. Work, economic environment and care services. Men

Source	SS	df	MS	Number of obs	=	2,445
				F(7, 2437)	=	69.96
Model	1.54599373	7	0.220856247	Prob > F	=	0
Residual	7.69342533	2,437	0.003156925	R-squared	=	0.1673
				Adj R-squared	=	0.1649
Total	9.23941906	2,444	0.00378045	Root MSE	=	0.05619
trabaja_h	**Coef.**	**Std. Err.**	**t**	**P>t**	**[95% Conf.**	**Interval]**
esc	0.0044	0.001	3.680	0.000	0.002	0.007
indigena	0.0039	0.008	0.480	0.631	-0.012	0.020
ue_tot	0.0000	0.000	-1.170	0.242	0.000	0.000
diver	0.0059	0.001	9.500	0.000	0.005	0.007
pbt_tot	0.0000	0.000	-0.250	0.800	0.000	0.000
denue100	0.0003	0.000	1.760	0.079	0.000	0.001
con_suc_caj_tpv100	0.0240	0.009	2.650	0.008	0.006	0.042
_cons	0.5468	0.011	47.580	0.000	0.524	0.569



APPENDIX B. TABLES AND DEFINITIONS

Table B1. SDG indicators related to the women's economic empowerment and care systems.

SDG	Indicator
1. End poverty	1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)
	1.2.1 Proportion of population living below the national poverty line, by sex and age
	1.2.2 Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions
	1.3.1 Proportion of population covered by social protection, by sex
	1.4.1 Proportion of population living in households with access to basic services
	1.4.2 Proportion of total adult population with secure tenure rights to land, (a) with legally recognized documentation, and (b) who perceive their rights to land as secure, by sex and type of tenure
5. Gender equality	5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location EDGE: Level 2 UNSD/UN Women.
	5.A.1 a) Percentage of people with ownership or secure rights over agricultural land, by sex; b) Proportion of women among owners or rights-bearers of agricultural land, by type of tenure
8. Decent work and economic growth	8.3.1 Proportion of informal employment in non-agriculture employment, by sex EDGE: Level 2 ILO
	8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities EDGE: Level 2 ILO
	8.5.2 Unemployment rate, by sex, age and persons with disabilities EDGE: Level 1 ILO
	8.6.1 Proportion of youth (aged 15-24 years) not in education, employment or training
	8.8.2 Level of national compliance of labour rights, by sex
	8.10.1 Number of commercial bank branches and number of automated teller machines (ATMs) per 100,000 adults
	8.10.2 Proportion of adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider EDGE: Level 1, BM
	8. *B. 1 Total public spending on social protection and employment programs as a Proportion of national budgets and GDP*
10. Reduce inequalities	10.4.1 Labour Proportion of GDP, comprising wages and social protection transfers

Source: selected from https://sustainabledevelopment.un.org Section SDGs, goals and indicators and the "Turning promises into action: Gender equality in the 2030 Agenda for Sustainable Development" report, UN Women, 2018a.

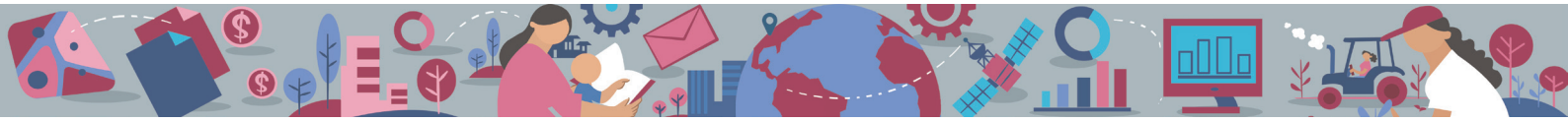
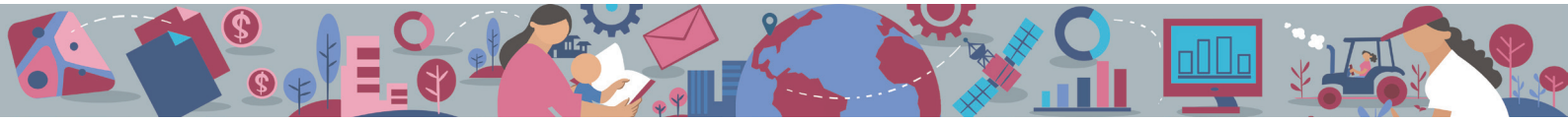


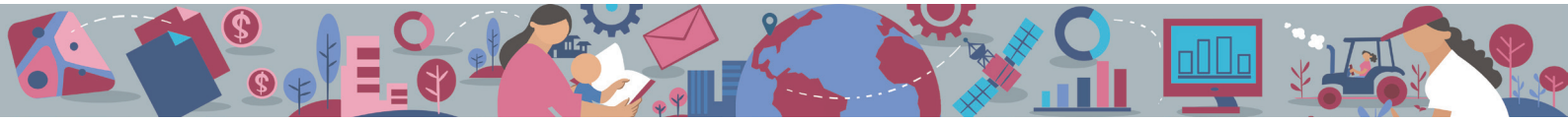
Table B2. Care services registered in NAICS 2013

62 Health care and social assistance
621 Outpatient medical services and related servicesT
...
622 HospitalsT
...
623 Social assistance and health care residential facilitiesT
6231 ***Residential facilities with nursing care for convalescent, in rehabilitation, incurable and terminal patientsT***
62311 Residential facilities with nursing care for convalescent, in rehabilitation, incurable and terminal patients
623111 Residential facilities with nursing care for convalescent, in rehabilitation, incurable and terminal patients, private sector
Residential facilities with nursing care for convalescent, in rehabilitation, incurable and terminal patients, public sector
6232 Residential care facilities for persons with mental retardation, mental disorder and addictionsT
62321 Residential care facilities for persons with mental retardationT
623211 Residential care facilities for persons with mental retardation, privatesector
623212 Residential care facilities for persons with mental retardation, public sector
62322 Residential care facilities for persons with mental disorder and addictionsT
623221 Residential care facilities for persons with mental disorder and addictions, private sector
623222 Residential care facilities for persons with mental disorder and addictions, public sector
6233 Rest homes and other residential care facilities for the elderlyT
62331 Rest homes and other residential care facilities for the elderlyT
623311 Rest homes and other residential care facilities for the elderly, private sector
623312 Rest homes and other residential care facilities for the elderly, public sector
6239 Orphanages and other social assistance residential care facilitiesT
62399 Orphanages and other social assistance residential care facilitiesT
623991 Orphanages and other social assistance residential care facilities, private sector
623992 Orphanages and other social assistance residential care facilities, public sector
624 Other social assistance servicesT
6241 Guidance and social work servicesT
62411 Guidance and social work services for children and the youthT
624111 Guidance and social work services for children and the youth, private sector
624112 Guidance and social work services for children and the youth, public sector
62412 Attention and day care centers for the elderly and persons with a disabilityT
624121 Attention and day care centers for the elderly and persons with a disability, private sector
624122 Attention and day care centers for the elderly and persons with a disability, public sector
62419 Other guidance and social work servicesT
624191 Self-help organizations for alcoholics and persons with other addictions
624198 Other guidance and social work services, private sector
624199 Other guidance and social work services, public sector
6242 Community food, housing and emergency servicesT
62421 Community food servicesT
624211 Community food services, private sector
624212 Community food services, public sector



62422 Community temporary sheltersT
624221 Community temporary shelters, private sector
624222 Community temporary shelters, public sector
62423 Community emergency servicesT
624231 Community emergency services, private sector
624232 Community emergency services, public sector
6243 ***Job training services to unemployed and underemployed persons, and to persons with a disabilityT***
62431 Job training services to unemployed and underemployed persons, and to persons with a disabilityT
624311 Job training services to unemployed and underemployed persons, and to persons with a disability, private sector
624312 Job training services to unemployed and underemployed persons, and to persons with a disability, public sector
6244 ***NurseriesT***
62441 NurseriesT
624411 Nurseries, private sector
624412 Nurseries, public sector

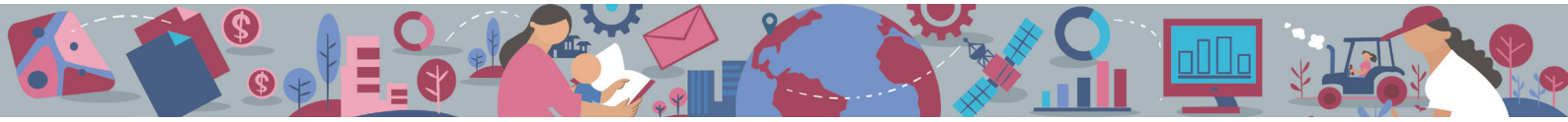
"T" refers to trilaterally agreed categories, while the categories without the letter are exclusive categories of Mexico. The sum of all the categories makes up the SCIAN MEXICO.



APPENDIX C. METADATA

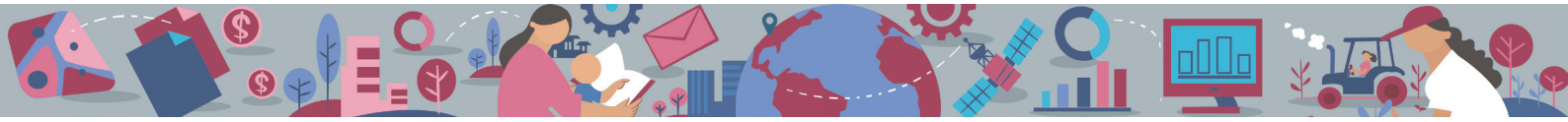
Goal 8	**Decent work and economic growth** **Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.**
Goal 8.5	By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value
Indicator 8.5.2	Proportion of people aged 15 or older who work.
Definition	Persons in employment are defined as all those of working age (usually persons aged 15 and older) who reported to have performed paid work a week before the survey Source: 2015 Intercensal Survey, INEGI
Metadata	$\frac{\textit{People who work (15 and older)}}{\textit{Number of people aged 15 ancd older}}$
Unit	Proportion
Disaggregation	Sex Municipality (the original data source allows us to get information at a national, state or municipal level)

Goal 8	**Decent work and economic growth** **Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.**
Goal 8.5	By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value
Indicator	Labour income, monthly average (aged 15 and older)
Definition	Median monthly income of people aged 15 and older who work doing paid activities. Source: 2015 Intercensal Survey, INEGI
Metadata	$\frac{\textit{Sum of monthly income from people who work (15 and older)}}{\textit{Number of people aged 15 and older who work}}$
Unit	Mexican pesos
Disaggregation	Sex Municipality (the original data source allows us to get information at a national, state or municipal level)



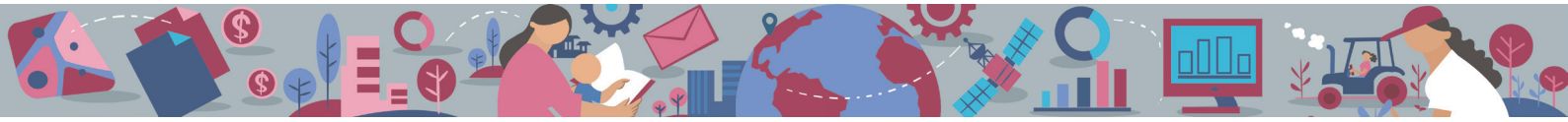
Goal 8	**Decent work and economic growth** **Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.**
Goal	N/A
Indicator	Commuting time to work (average minutes per day).
Definition	Average minutes required by a person to commute from their home to their workplace (people aged 15 or older). Source: 2015 Intercensal Survey, INEGI
Metadata	$\frac{\textit{Sum of the total commuting time (house-work)}}{\textit{Number of people aged 15 and older who work}}$
Unit	Minutes
Disaggregation	Sex Municipality (the original data source allows us to get information at a national, state or municipal level).

Goal 4	**Quality education** **The goal of achieving inclusive and quality education for all reaffirms the belief that education is one of the most powerful and proven vehicles for sustainable development. This goal ensures that all girls and boys complete free primary and secondary schooling by 2030. It also aims to provide equal access to affordable vocational training, and to eliminate gender and wealth disparities with the aim of achieving universal access to a quality higher education.**
Target 4.5	By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations
Indicator	Average schooling years.
Definition	Average schooling years for people aged 3 or older (cumulative) Source: 2015 Intercensal Survey, INEGI
Metadata	$\frac{\textit{Sum of school years for people aged 3 or older (cumulative)}}{\textit{Total number of people aged 3 and older}}$
Unit	Years
Disaggregation	Sex Municipality (the original data source allows us to get information at a national, state or municipal level)



Goal 10	**Reduce inequalities** **Adopt sound policies to empower lower income earners, and promote economic inclusion of all regardless of sex, race or ethnicity.**
Target 10.2	By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status
Indicator	Proportion of the population that speaks an indigenous language.
Definition	Proportion of people aged 3 or older who speak an indigenous language. Source: 2015 Intercensal Survey, INEGI
Metadata	$\frac{\textit{Number of people aged 3 or older who speak an indigenous language}}{\textit{Total number of people aged 3 and older}}$
Unit	Proportion
Disaggregation	Sex Municipality (the original data source allows us to get information at a national, state or municipal level)

Goal 5	**Gender equality** **Ending all ways of discrimination against women and girls is not only a basic human right, but it is crucial to accelerating sustainable development. It has been proven time and again, that empowering women and girls has a multiplier effect, and helps drive up economic growth and development across the board.**
Target 5.4	Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate
Indicator	Average hours (per week) that people aged 15 or older spend doing unpaid work.
Definition	It is the average number of hours allocated by the members of the household to clean the house, prepare meals, wash clothes, buy goods and services, and provide general and health care in order to meet the needs of the household members; without obtaining any payment or compensation. Source: 2015 Intercensal Survey, INEGI
Metadata	$\frac{\textit{Sum of unpaid hours (people aged 15 and older)}}{\textit{Total number of people aged 15 and older}}$
Unit	Hours (weekly)
Disaggregation	Sex Municipality (the original data source allows us to get information at a national, state or municipal level)



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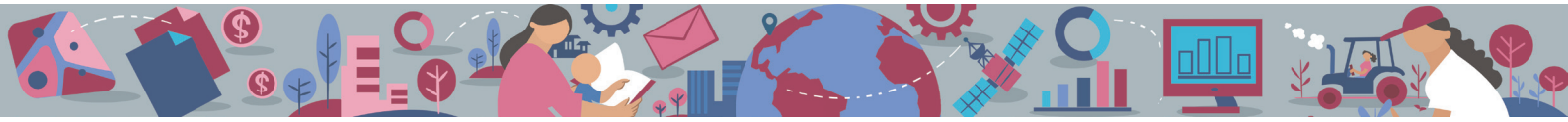
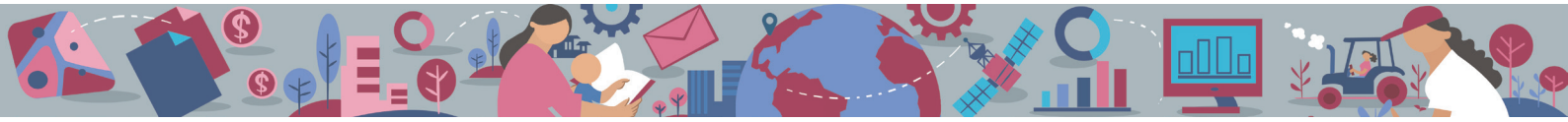
Target	N/A
Indicator	Proportion of the population married, in domestic partnership or co-habitation.
Definition	Proportion of people who consider themselves in a domestic partnership, married or in cohabitation. Source: 2015 Intercensal Survey, INEGI
Metadata	$\frac{\textit{Number of people married or cohabitating (aged 12 and older)}}{\textit{Total number of people (aged 12 and older)}}$
Unit	Proportion
Disaggregation	Municipality (the original data source allows us to get information at a national, state or municipal level)

Goal 5	**Gender equality** **Ending all ways of discrimination against women and girls is not only a basic human right, but it is crucial to accelerating sustainable development. It has been proven time and again, that empowering women and girls has a multiplier effect, and helps drive up economic growth and development across the board.**
Target 5.4	Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate
Indicator	Average number of children aged 0-5 per household
Definition	It is the average number of children aged 0-5 per household. Source: 2015 Intercensal Survey, INEGI
Metadata	$\frac{\textit{Sum of children aged 0-5}}{\textit{Number of households}}$
Unit	Children aged 0-5
Disaggregation	Municipality (the original data source allows us to get information at a national, state or municipal level)



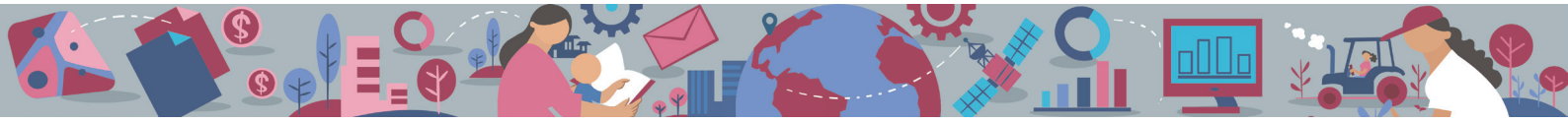
Goal 5	**Gender equality** **Ending all ways of discrimination against women and girls is not only a basic human right, but it is crucial to accelerating sustainable development. It has been proven time and again, that empowering women and girls has a multiplier effect, and helps drive up economic growth and development across the board.**
Target 5.4	Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate
Indicator	Average number of children aged 6-12 per household.
Definition	It is the average number of children aged 6-12 per household. Source: 2015 Intercensal Survey, INEGI
Metadata	$\frac{\textit{Sum of children aged 6-12}}{\textit{Number of households}}$
Unit	Children aged 6-12
Disaggregation	Municipality (the original data source allows us to get information at a national, state or municipal level)

Goal 1	**End poverty** **Eradicating poverty in all its forms remains one of the greatest challenges facing humanity. While the number of people living in extreme poverty has dropped by more than half (from 1.9 billion in 1990, to 836 million in 2015) too many people are still struggling to meet the most basic human needs.**
Target 1.3	Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable
Indicator	Population that enjoys social health care.
Definition	It is the percentage of the population (all ages) with social health care, including Popular Insurance or For a New Generation, IMSS, ISSSTE, State ISSSTE, Pemex, Army, Navy or other institution. Source: 2015 Intercensal Survey, INEGI
Metadata	$\frac{\textit{Number of people with social health care}}{\textit{Total number of people}}$
Unit	Proportion
Disaggregation	Sex Municipality (the original data source allows us to get information at a national, state or municipal level)



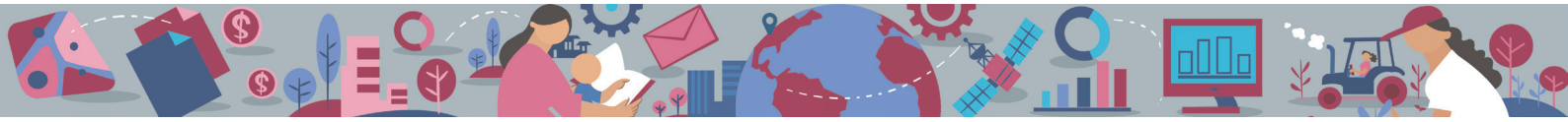
Goal 1	**End poverty in all its forms everywhere.** **Eradicating poverty in all its forms remains one of the greatest challenges facing humanity. While the number of people living in extreme poverty dropped by more than half between 1990 and 2015, too many people are still struggling to meet the most basic human needs.**
Target 1.1	By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day
Indicator	Proportion of the population living under the line of welfare.
Definition	Proportion of the population living under the line of welfare. Source: CONEVAL estimations based on MCS-ENIGH 2010, 2010 Census of Population and Housing, 2015 statistical model for the continuity of MCS- ENIGH, and the 2015 Intercensal Survey.[33]
Metadata	$\frac{\textit{Number of people living under the line of welfare}}{\textit{Total number of people}}$
Unit	Proportion
Disaggregation	Municipality (the original data source allows us to get information at a national, state or municipal level)

33 Available in https://www.coneval.org.mx/Medicion/Paginas/Pobreza-municipal.aspx. Metodología establecida en pp. 73-74 del documento https://www.coneval.org.mx/Medicion/Documents/Pobreza_municipal/Metodologia_municipal_2015.pdf.



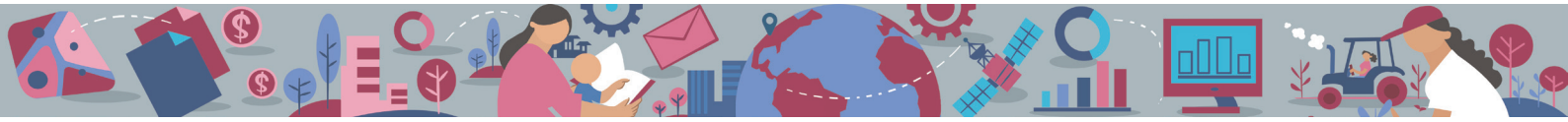
Goal 1	**End poverty in all its forms everywhere.** **Eradicating poverty in all its forms remains one of the greatest challenges facing humanity. While the number of people living in extreme poverty dropped by more than half between 1990 and 2015, too many people are still struggling to meet the most basic human needs.**
Target 1.4	By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance
Indicator 1.4.1	Percentage of the population with deprivation in access to basic services in the dwelling
Definition	The household is considered as deprivation basic services if one of the following criteria is not met: Piped water inside or outside the household, but within the land; drainage connected to the public network or a septic tank. Power obtained from the public service, solar panel or other source, private plant, and That the fuel used for cooking is LPG or natural gas, electricity, and that the house has a chimney if it uses firewood or coal. Source: CONEVAL estimations based on MCS-ENIGH 2010, 2010 Census of Population and Housing, 2015 statistical model for the continuity of MCS- ENIGH, and the 2015 Intercensal Survey.[34]
Metadata	$\frac{\textit{Number of people with deprivation in access to basic services in the dwelling}}{\textit{Total number of people}}$
Unit	Proportion
Disaggregation	Municipality (the original data source allows us to get information at a national, state or municipal level)

34 Available in https://www.coneval.org.mx/Medicion/Paginas/Pobreza-municipal.aspx. Metodología establecida en pp. 73-74 del documento https://www.coneval.org.mx/Medicion/Documents/Pobreza_municipal/Metodologia_municipal_2015.pdf. For more references: http://blogconeval.gob.mx/wordpress/index.php/2013/07/23/que-es-el-acceso-a-los-servicios-basicos-en-la- vivienda/.



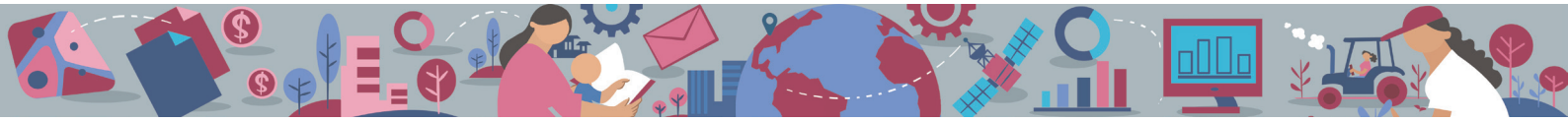
Goal 5	**Gender equality** **Ending all ways of discrimination against women and girls is not only a basic human right, but it is crucial to accelerating sustainable development. It has been proven time and again, that empowering women and girls has a multiplier effect, and helps drive up economic growth and development across the board.**
Target 5.4	Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate
Indicator	Economic units providing services to citizens.
Definition	Number of economic units providing services to citizens (health and social assistance services, home nursing services, nurseries and other residences for the care of the elderly, etc.): 6214 Outpatient care centers 6216 Home nursing services 6231 Residential facilities with nursing care for convalescent, in rehabilitation, incurable and terminal patients 6232 Residential care facilities for persons with mental retardation, mental disorder and addictions 6233 Nursing homes and other residences for the elderly 623C Branches grouped by the principle of confidentiality 62412 Attention and day care centers for the elderly and persons with a disability 62419 Other guidance and social work services 6244 Nurseries Municipal data does not contain all of the economic units reported at a national or state level. Due to confidentiality reasons, the data is not shown for those municipalities with less than three economic units. Source: 2014 Economic Census, INEGI[35]
Metadata	Number of economic units providing care services in the territorial space.
Unit	Economic units.
Disaggregation	National, State, Municipality

35 https://www.inegi.org.mx/app/saic/default.aspx

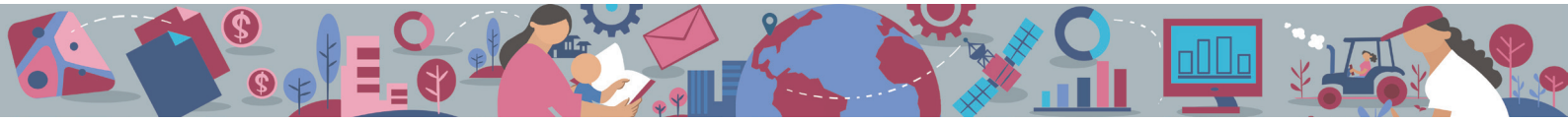


Goal 8	**Decent work and economic growth** **Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.**
Goal 8.1	Sustain per capita economic growth in accordance with national circumstances, and in particular at least 7% per annum GDP growth in the least-developed countries.
Indicator	Size of the economy (economic units).
Definition	It is the number of economic establishments in the municipality (from small shops to large factories) permanently settled in a location and delimited by constructions and fixed installations, where the production and / or marketing of goods and / or services is carried out. Municipal data does not contain all of the economic units reported at a national or state level. Due to confidentiality reasons, the data is not shown for those municipalities with less than three economic units. Source: 2014 Economic Census, INEGI
Metadata	Number of economic units in the territorial space.
Unit	Economic units.
Disaggregation	National, State, Municipality

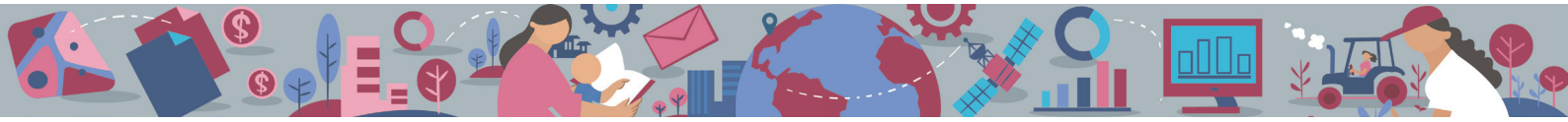
Goal 8	**Decent work and economic growth** **Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.**
Goal 8.1	Sustain per capita economic growth in accordance with national circumstances, and in particular at least 7% per annum GDP growth in the least-developed countries.
Indicator	Size of the economy (gross production).
Definition	It is the sum of the total gross production of the economic units located in the territorial space. Municipal data does not contain all of the economic units reported at a national or state level. Due to confidentiality reasons, the data is not shown for those municipalities with less than three economic units. Source: 2014 Economic Census, INEGI
Metadata	Sum of total gross production of economic units located in the territorial space.
Unit	Thousands of pesos.
Disaggregation	National, State, Municipality



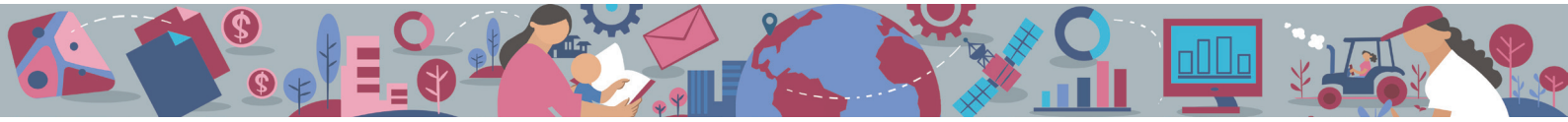
Goal 8	**Decent work and economic growth** **Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.**
Target 8.1	Sustain per capita economic growth in accordance with national circumstances, and in particular at least 7% per annum GDP growth in the least-developed countries.
Indicator	Economic diversification (agriculture, industry and services).
Definition	Number of economic activities carried out in the territorial space, from a total of 20 clustered activities: 21 Mining 23 Construction 31 - 33 Manufacturing industries 43 Wholesalers 46 Retailers 48 - 49 Transportation, mail and storage 51 Information in the media 52 Financial and insurance services 53 Services related to real estate and leasing of tangible and intangible goods 54 Professional, scientific and technical services 56 Business support services, waste management and remediation services 61 Educational services 62 Health and social assistance services 71 Cultural and sports services, and other leisure services 72 Temporary accommodation and food and beverage services 81 Other services, except government activities CS Sectors grouped by the confidentiality principle 11 Agriculture, animal breeding and exploitation, forest use, fishing and hunting (only fishing, aquaculture and services related to agricultural and forestry activities) 22 Generation, transmission and distribution of electric power; water and gas supplied to the end user through pipelines 55 Corporate Source: 2014 Economic Census, INEGI
Metadata	Number of economic activities carried out in the municipality, from the 20 main economic activities registered by the economic census.
Unit	Economic activities
Disaggregation	National, State, Municipality



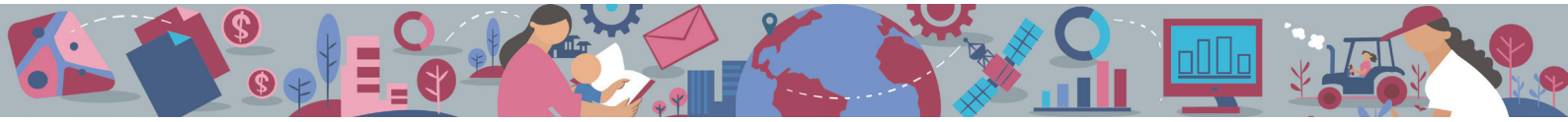
SDG 8	**SDG 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all**
Target 8.1	Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries.
Indicator	Economic size in gross industrial production in thousands of pesos.
Definition used for the analysis	Sum of the total gross production of the industrial economic units in a defined territorial space in thousands of pesos. The municipal data do not contain the total production of the industrial economic units reported at the national or state level because in municipalities with less than three economic units the data is not shown due to confidentiality.
Data source	Economic Census 2014, INEGI.
Metadata	Sum of the total gross production of economic units located in a defined territorial space. 21 Mining 23 Construction 31 - 33 manufacturing industries 22 Generation, transmission and distribution of electrical energy, supply of water and gas through pipelines to the final consumer.
Unit	Thousands of pesos of total gross production.
Geographical disaggregation	National, state level, municipal level.



SDG 8	**SDG 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.**
Target 8.1	Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries.
Indicator	Economic size in gross production of services in thousands of pesos.
Definition used for the analysis	Sum of the total gross production of services in a defined territorial space in thousands of pesos. The municipal data do not contain the total production of the industrial economic units reported at the national or state level because in municipalities with less than three economic units the data is not shown due to confidentiality.
Data source	Economic Census 2014, INEGI.
Metadata	Sum of the total gross production of services in a defined territorial space. 43 Wholesale trade 46 Retail sale. 48 - 49 transport, mail and storage 51 Mass media 52 Financial and insurance services 53 Real estate services and rental of movable and intangible assets 54 Professional services, scientists and technicians 55 Corporations 56 Business support services and waste management and remediation services 61 Educational services 62 Health and social assistance services 71 Cultural and sports entertainment services, and other recreational services 72 Temporary accommodation and food and beverage preparation services 81 Other services except government activities
Unit	Thousands of pesos of total gross production of services.
Geographical disaggregation	National, state level, municipal level.



Goal 8	**Decent work and economic growth** **Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.**
Target 8.10	Strengthen the capacity of domestic financial institutions to encourage and to expand access to banking, insurance and financial services for all
Indicator	8.10.1 Number of commercial bank branches and number of automated teller machines (ATMs) per 100,000 adults (aged 18 and older).
Definition	Number of ATMs and commercial bank branches per 100,000 adults. (People aged 18 and older) Source: Financial Inclusion Databases (September 2015), CNBV
Metadata	$\frac{\textit{Number of commercial bank branches and number of automated teller machines (ATMs) * 100,000}}{\textit{Total number of adults (18 and older)}}$
Unit	ATMs and commercial bank branches per 100,000 adults.
Disaggregation	National, State, Municipality



APPENDIX D. REGRESSION MODELS

Mixed models

They are an extension to the generalized linear regression model. Regression models are basically fixed effects models, where variations within groups are not considered. They only take into account variations among groups. Mixed models incorporate fixed effects and random effects, which allows the effect of a variable to be deviated based on a nested structure. In this case, territorial to capture the geospatial variation.

$y = Xb + Zu + e$

Fixed X (measured by linear regression)

Random Z

u y e are not correlated

They allow us to model the correlation in M independent clusters (municipalities)

CEGS
Global Centre of Excellence
on Gender Statistics

UN
WOMEN

WOMEN
COUNT