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Effects of Income on Family Care Organization in Mexico: An Analysis Based on Data from the *Encuesta Nacional de Ingreso y Gasto de los Hogares* (ENIGH) from 2010 to 2020

Odra A. Saucedo-Delgado * , María Rosa Nieto and Marcela De-La-Sota-Riva-Echánove 

Faculty of Economy and Business, University of Naucalpan de Juárez, Naucalpan 52786, Mexico; maria.nieto@anahuac.mx (M.R.N.); marcela.delasotariva@anahuac.mx (M.D.-L.-S.-R.-E.)

* Correspondence: odra.saucedo@anahuac.mx

Abstract: This article examines the impact of income level on family care organizations in Mexico to elucidate how families apportion care responsibilities according to their economic standing. The study design employed a quantitative approach, utilizing two distinct methodologies to construct two indices: one representing the time devoted to care and the other representing care transferred to the market. Factor analysis converts minutes and hours into a time index and transforms the number of domestic workers and health and hospital expenses into a market index. A regression model estimates the effect of income on these indices, aiming to analyze the relationship between income and spending on health and services and between income and time spent on home care. The results are based on data from the National Household Income and Expenditure Survey (ENIGH) 2010–2020, using a nationally representative sample of 81 thousand dwellings. The data analysis concluded that households with higher incomes spend a more significant proportion of their expenditure on domestic care-paid services and have greater access to professional care. In contrast, lower-income households face significant challenges due to their limited financial resources and the higher demands for unpaid care.



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1. Introduction

The world is undergoing significant demographic and socioeconomic changes due to factors such as the aging population, increased participation of women in the labor market, higher rates of chronic diseases and disabilities, geographic mobility, and the breakdown of traditional family networks. These changes lead to new and diverse care demands and requirements (Skinner and Sogstad 2022).

Families are increasingly assuming the responsibility of caring for their dependents including children, adults over 65, and individuals with disabilities. The World Health Organization (WHO) has highlighted the significance of family caregiving in chronic disease and disability care and advocated for training and support for family caregivers (Organización Panamericana de la Salud [OPS] and Banco Interamericano de Desarrollo [BID] 2023; WHO 2015). Many countries have also introduced policies and programs to support family caregivers, such as family caregiver leave, long-term care insurance, and caregiver assistance (McGarry and Grabowski 2023; Pinilla Cárdenas et al. 2021).

As families assume greater responsibility for the care of dependent members, the efficacy of this care is contingent upon a diverse set of factors. One of the most significant factors is family income, which exerts a profound influence on the way caregiving responsibilities are distributed within the household unit (Fakeye et al. 2022; Wang et al. 2021).

Over the last few years, a vast body of literature has emerged, examining how families organize themselves to meet their care demands within the home (Hrast et al. 2020; Kokorelias et al. 2019; Kuang et al. 2022). Part of this crucial literature departs from the

concept of family care organization and considers both paid and unpaid work (Beauregard and Lup 2020). Other studies explore the impact of income on caregiving family arrangements and the broader implications for family well-being and policy development (Ogunjesa et al. 2022).

The concept of family care organization is intricate and evolving, underscoring the significance of care in aiding dependent household members with physical and emotional assistance (children, older adults, and individuals with disabilities) (Davis et al. 2021; Garg and Agrawal 2020; Martínez Franzoni 2022). This organization typically emphasizes the importance of solidarity and mutual support within the household.

In traditional societies, the care of older people and the sick is regarded as a moral and filial obligation, with the expectation that the children of the older adult will care for them within the family home. The argument is that familial relationships serve as the foundation for the social organization of care tasks for individuals in a state of dependency (Aguila and Casanova 2020; Eggers et al. 2020; Verbakel et al. 2023). However, with the advent of industrialization and urbanization, a significant number of individuals have relocated from rural communities to cities in search of employment, which has resulted in a decline in family care and an increase in the institutionalization of care services (public and private) for older people, infants, and the sick (Durán 2018; Fraga 2019; Katzkowicz et al. 2015). In this regard, family care organizations are responsive to internal and external factors, including the availability of economic resources and time (Garg and Agrawal 2020; Hong et al. 2022).

As mentioned, the term family care organizations encompasses both paid and unpaid work. These responsibilities are frequently discharged by family members or individuals external to the family unit (García Guzmán 2019; Sun et al. 2019). In addition to family members, various other entities, including the state, the market, private organizations, and non-profit organizations, play a distinct role in providing support for care provision (Parada 2020).

Paid care encompasses a range of services procured from the market and provided to individuals in need, with the caregivers receiving financial compensation for their services. Such services may encompass a range of activities, from assistance with daily activities to medical and emotional care. For instance, home caregivers are of great consequence caring for individuals with chronic illnesses, disabilities, and dementia (Cantillon and Teasdale 2021; Russell et al. 2019).

The objective of paid care is to adapt to the specific needs of family organizations, thereby improving the welfare conditions of the recipients. This adaptability provides relief to family members, allowing them to work and manage other responsibilities. However, the acquisition of care services under precarious and unprofessional conditions poses challenges for families, care workers, and society (Guimarães and Hirata 2020; Duijs et al. 2022; Hopfgartner et al. 2022; Strandell and Stranz 2021).

Unpaid care involves various activities facilitating social reproduction, mainly providing caring for relatives, friends, or neighbors without financial compensation (Ierullo 2022). It is often the case that women assume the responsibility of providing this type of care, which is vital for the well-being of those who receive it (Cruz et al. 2023; Sarrasanti et al. 2020). Nevertheless, unpaid caregiving, particularly among the working-age population, entails considerable opportunity costs for the caregivers, their families, and society. These economic costs, quantified in terms of time spent on caregiving, are associated with lower employment rates and diminished income prospects (Brimblecombe et al. 2020; Brimblecombe and Cartagena Farias 2022; Cartagena Farias and Brimblecombe 2023).

The elevated opportunity cost of unpaid care in impoverished households indicates an escalating demand for this necessity, particularly in developing countries such as Latin America (Arriagada 2021). The term “care crisis” describes the inability of public institutions to provide the necessary infrastructure and services to meet the population’s needs, particularly in regions with high inequality and limited economic resources. The

accelerated aging processes and the increased demand for care also contribute to public institution's challenges (Gutiérrez Robledo et al. 2022).

The household income level is a pivotal factor in the organization of care. It can influence the manner in which each family allocates the responsibilities associated with these tasks among its members (Aguila et al. 2019; López-Ortega and Águila 2022; Mayans and Vaca 2023). Furthermore, it allows for identifying the care responsibilities that households transfer to the market through the hiring of paid services and how this affects the distribution of unpaid tasks assumed by households and family members. Ultimately, this affects the well-being of care recipients and caregivers (Filgueira and Martínez 2019; Velázquez 2023).

Families with older adults often face higher care expenses, and higher-income households tend to use more market-paid care services (Lera et al. 2020; Tur-Sinai 2022). Low-income families frequently encounter more significant difficulties in providing care due to a lack of financial resources and the necessity to work to support the household (Kayaalp et al. 2021; Lam et al. 2022).

Thus, family resources and household income influence the adoption of various family care organization strategies. In addition, these strategies are associated with the sociodemographic structures of households, which include the type of headship and age of each family member, the labor participation of members, paid domestic work, unpaid domestic work by other family members, and access to social security services (Failache Mirza et al. 2024).

Various socioeconomic factors, including household income, significantly influence the dynamics of family caregiving. The research conducted by Ehrlich (2023) on the organization of family care and paid work among women in Germany provides evidence of the relevance of economic and employment status on home care services, or the transfer of such demands to the market, and has significant implications for social policies. This study highlights that lower-income households face more significant challenges in accessing these services, which can decrease the family's net worth, necessitating the need for targeted social support.

In addition, Tumini and Wilkis (2022) emphasize the significance of categorizing households with care demands according to the heads of households and their income levels. These authors classify households with care demands into four categories: (i) male-headed with low income, (ii) male-headed with high income, (iii) female-headed with low income, and (iv) female-headed with high income. In these four categories, in the case of older adults, the heads of household—both men and women—are the primary caregivers. However, in the case of infant care, these demands tend to be delegated to other members of the household and friends (unpaid services) or hired persons (paid services).

In societies that are socio- and economically unequal, as is the case for several developing countries, studies on the impact of the relationship between income and family organization of care tend to focus their attention on unpaid care, which tends to be relevant among lower-income families. In this sense, García Guzmán (2019) establishes that in the specific context of poor Mexican households, the burden of unpaid work—where caregiving tasks stand out—is more significant when compared to other income strata, especially in rural areas. In addition, from the perspective of time poverty, this author found that in households with the lowest income deciles, the opportunity cost of unpaid care is very high since they do not have additional time to devote to paid work.

In Mexico, many researchers have extensively studied the concept of family care organization in recent decades due to its significance for the well-being of families and the country's economic development (Aguila et al. 2019; López-Ortega and Águila 2022; Mayans and Vaca 2023). The results of the National Household Income and Expenditure Survey (ENIGH) 2020 indicate that the average expenditure on domestic care services in Mexico is MXN (Mexican Peso) 274 per month per household (equivalent to USD—US Dollar—16.4). This expenditure is higher in households with higher incomes. Similarly, the same survey shows that Mexico's access to home care services is limited, especially for

people with a lower income. For instance, only 7.4% of households with an income below one minimum wage have access to childcare services. In comparison, 35.2% of households with an income above five minimum wages have access to these services (INEGI 2020).

One of the main characteristics of Mexican family care organization is considerably influenced by factors such as family structure, geographic location, and socioeconomic status (Velázquez 2023). However, caring for family members falls mainly on women, with mothers and grandmothers assuming a particularly significant role. The National Time Use Survey (ENUT) in Mexico (INEGI 2019) revealed that total working time per week is inequitable, with women supplying the most significant proportion of unpaid household work. This information implies that due to the social norms that underpin the sexual division of labor, women perform, on average, 67% of these activities, men only perform an average of 28%, while other family members or domestic family members conduct the remaining 5%. Consequently, in many Mexican households, women are expected to perform most household chores, including caring for infants, older people, and family members who are ill or have a disability.

Despite extensive research on family care organizations, there is still a need for a deeper understanding of how household income affects caregiving in different economic situations. Previous studies have mainly focused on the financial burdens of caregiving and differences in access to care services. However, more needs to be achieved towards focusing on how income affects the distribution of care chores within the household and what this means for the family.

This article aims to examine the impact of household income levels on family care organizations in Mexico. It seeks to elucidate how families apportion care responsibilities according to their economic status. It investigates the time devoted to caregiving within the family, and how paid work externalizes these duties to the market. It is essential to acknowledge that the primary objective of this article is to analyze the influence of income on family care organizations, irrespective of the gender of the household head or the specific type of care involved.

2. Materials and Methods

2.1. Description of the National Household Income and Expenditure Survey (*Encuesta Nacional de Ingreso y Gasto de los Hogares, ENIGH*)

The primary source information of this study is the National Household Income and Expenditure Survey (*Encuesta Nacional de Ingreso y Gasto de los Hogares [ENIGH]*). The ENIGH is an economic and social study published by the National Institute of Statistics and Geography (INEGI). The objective of this survey is to provide a statistical overview of household income and expenditures in terms of amount, origin, and distribution. Furthermore, it provides data on the occupational and sociodemographic characteristics of household members, as well as information on housing infrastructure and household equipment (INEGI 2020).

The ENIGH is a crucial data source for generating statistics, providing the essential information required to construct the Household Account of Mexico's System of National Accounts. This encompasses household members' expenditure patterns, encompassing monetary and non-monetary transactions related to the acquisition of final consumption goods. Additionally, the survey gathers data on the income received by household members in exchange for their labor, capital, and subsidies. Furthermore, the survey offers insights into household members' occupational and sociodemographic characteristics (INEGI 2020).

The ENIGH has been conducted every two years since 1992. In each data collection, the observation unit for the study is the "household", which is defined as a group of one or more persons who usually reside in the same dwelling and are supported by a common expense, mainly for subsistence. The survey consists of face-to-face interviews with members of selected households (INEGI 2018).

Likewise, in each data collection period, the generation of statistics is based on the application of a probabilistic sampling scheme; in turn, the design is two-stage, stratified by

clusters, where the ultimate unit of selection is the dwelling, and the unit of observation is the household, obtaining both quantitative and qualitative household and individual family members' information. Consequently, the results obtained from the survey are generalized to the entire population. Among the most outstanding features of the ENIGH is its sample size of 105,483 households, which is one of the largest in the history of the country for a household income and expenditure survey. This feature allows it to be representative at the state level, with estimates for urban and rural areas. In addition, income and expenditure are measured jointly for all households surveyed (INEGI 2018).

Since 2008, INEGI has presented the latest iteration of the ENIGH, which includes a set of variables constructed according to the guidelines established by the United Nations. In addition, the latest iteration of the ENIGH is used in the annex of the survey, the Module of Socioeconomic Conditions (MSC). The main objective of the MSC is to provide comprehensive data on household income, its composition and distribution, and household members' access to essential services such as health, social security, and education. The results of the ENIGH 2020 survey will make it possible to measure the changes in household income and expenditures as a result of the sanitary emergency period initiated by COVID-19, in which the measures to limit the population and the closure of economic activities caused changes in the income and expenditures of Mexican households (INEGI 2020).

Outstanding issues captured by the ENIGH include the following:

- Housing characteristics.
- Residents and identification of households in the dwelling.
- Sociodemographic characteristics of the residents of the dwelling.
- Home equipment and services.
- Activity status and occupational characteristics of household members aged 12 and over.
- Total current income (monetary and non-monetary) of households.
- Financial and capital perceptions of households and their members.
- Current household monetary expenditure.
- Financial and capital household expenditures.
- Dimensions of the deficiencies.

The results of the ENIGH are employed for a variety of purposes, including the construction of indicators for the study of poverty, the calculation of statistics on living standards, and the study of the behavior of the national economy in the field of household economy, with a comparative analysis of other countries. In addition, the ENIGH outcomes allow analysts and policymakers to understand the economic and social circumstances of households and the population at large (INEGI 2018, 2020).

In this paper, the ENIGH has been a valuable data source for understanding how families distribute care responsibilities based on their household income level, the time devoted to unpaid caregiving within the family, and the extent to which paid work transfers these responsibilities to the market. The ENIGH variable questionnaires used in this study included minutes and hours spent on home care, health, and hospital expenses, the number of domestic workers, and household income deciles level.

2.2. Methods

This paper employs two distinct methodologies. The initial methodology was employed with the objective of constructing two factors: one representing the index of time devoted to care and the other representing the index related to the care transferred to the market.

2.2.1. Factor Analysis

Given the inherent complexity of the database variables pertaining to care time and market dynamics, it is advised that advanced statistical techniques, such as exploratory factor analysis (EFA), be employed. EFA is a statistical technique of interdependence distinguished by its versatility. Its primary objective is to identify groups of variables (commonly referred to as factors) that are highly correlated with one another. Additionally,

it is utilized to reduce the complexity of a multitude of variables into a smaller number (Méndez Martínez and Rondón Sepúlveda 2012). According to these authors, the stages involved in the application of EFA are as follows:

1. Objective: to reduce dimensions or determine factors.
2. Design: to identify the type of data to be used and to evaluate the number and type of variables.
3. Assumptions: the normality of the variables; if the assumption of normality is not met, at least the original variables are expected to have moderate degrees of correlation between them.
4. The derivation of factors and the assessment of overall fit are presented below. The most commonly employed methodologies are principal component analysis and common factor analysis.

Given a dataset relating to n individuals that have been studied according to the variables $(x_1, \dots, x_p)$, the factor model for the i -th observation ($i = 1, \dots, n$) is written as follows:

$$x_{ij} = \lambda_{j1}f_{1i} + \dots + \lambda_{jm}f_{mi} + u_{ij}, \quad (1)$$

for $j = 1, \dots, p$, where x_{ij} refers to the individual i of variable j , and $\lambda_{jm}f_{mi}$ is the effect of the factor m -th. The effects of the factors on x_{ij} are the product of the coefficients $\lambda_{j1}, \dots, \lambda_{jm}$, which depend on the relationship between each factor and variable j , and the values of the m factors on the sample element i , $f_{1i}, \dots, f_{mi}$.

In this study, a factor analysis was employed to transform minutes and hours into an index designated as “time”. Similarly, the same analysis was applied to convert the variables of health expenses, hospital expenses, and the number of domestic workers into an index called “market”.

2.2.2. Multiple Linear Regression Analysis

Multiple linear regression tries to fit linear or linearizable models between a dependent or response variable (y) and more than one independent variable $(x_1, \dots, x_p)$. Based on this, multiple linear models follow the following equation.

$$y = \beta_0 + \beta_1x_1 + \dots + \beta_px_p + u_1, \quad (2)$$

The model is formulated using the coefficients β , referred to as partial regression coefficients or dependent partial coefficients. β_0 is the parameter of the constant term, β_1 denotes the average effect produced by a unit increase in x_1 on the dependent variable (y), keeping all other factors fixed, and so on with all parameters β_k with the respective x_k (Wooldridge 2010). The variable u_i in Equation (2) symbolizes the residual or error, which is the discrepancy between the observed value and the value estimated by the model (Stock and Watson 2012).

Considering both statistical models, conducted on data from 2010 to 2020, quarterly household current income was identified as the independent variable (x). The dependent variables (y) were the market index and time. While time was measured weekly, the market was measured quarterly, and three variables were transformed into natural logarithms to facilitate the interpretation of each coefficient as elasticity.

The proposed model aims to estimate the effect of each explanatory variable on the dependent variable. It seeks to analyze the relationship between income and spending on health and services, as well as the relationship between income and time spent on home care.

3. Results

3.1. Descriptive Statistics

This section presents an analysis of the demographic characteristics of the households included in the study, with data updated to reflect the ENIGH 2020 sample, which consists of 105,483 households (INEGI 2020).

In accordance with the ENIGH (2010–2020) data collection methodology, the unit of analysis is the household. Consequently, Table 1 presents the descriptive statistics at this level of aggregation. Column 1 presents the sex of the head household (Sex_head hh), with a median value of 1. This indicates that the head of the household is male, with a value of 2 indicating the head of the household is female. Similarly, the median and mode values are both 1. Therefore, it can be established that in most households within the sample, the head of the household is male. In column 2, the head of the household is presented (Age_head hh). Most individuals identified as household heads are 50 years of age or older. It is noteworthy that the data presented in the survey indicate that the minimum age of a household head is 14 years old, while the maximum age is 107 years old. As indicated in column 3 (School_head hh), the majority of household heads have six formal years of education, which suggests that they have only completed primary education. Column 4 indicates that the majority of participating households have four members. It should be noted that according to the ENIGH data, the maximum number of household members is up to 25. Columns 5 and 6 indicate that 50% of households comprise two female and two male members. Similarly, column 7 shows that 50% of the households have two persons between the ages of 12 and 64. However, column 8 shows that 50% of the households have no persons over 65. Nevertheless, there are households that have up to four members over 65.

Table 1. Sociodemographic descriptive statistics.

	Sex_Head hh	Age_Head hh	School_Head hh	Members_hh	Men_hh	Women_hh	Members_12_64_hh	Members_> 65_hh
Mean	1.29	51.09	5.62	3.55	1.73	1.82	2.52	0.33
Median	1.00	50.00	6.00	3.00	2.00	2.00	2.00	0.00
Mode	1.00	50.00	6.00	4.00	1.00	1.00	2.00	0.00
Std Dev	0.45	15.99	2.56	1.81	1.14	1.19	1.51	0.62
Min	1.00	14.00	1.00	1.00	0.00	0.00	0.00	0.00
Max	2.00	107.00	11.00	25.00	13.00	12.00	12.00	4.00

3.2. Estimates and Analysis of Results

The initial model elucidates the relationship between household weekly income deciles and the time index. As previously stated, a multiple regression linear model was selected to facilitate the direct interpretation of the effect of each income decile on the time variable. In particular, the variables included in the time index were the hours and minutes individuals spent on unpaid caregiving activities for children, older adults, and sick and disabled people. The second model was a multiple regression model used to measure the effect that deciles of weekly household income have on the index measuring care attributable to the market. This index considers the variables of healthcare expenditures, hospice care, and the number of household workers by market choices.

Table 2 presents the descriptive statistics of the variables utilized in constructing the time and market indices. Columns 1 and 2 correspond to the weekly hours and minutes dedicated to caregiving, respectively. Half of the households in the sample reported spending 16 h and 0 min per week on caregiving within the household. The majority of households dedicate approximately 14 h per week to caregiving activities. However, the average household spends nearly 24 h weekly on these tasks. Notably, the standard deviation is approximately 20 h per week, indicating a considerable range in the number of hours spent on caregiving across the sample households. The minimum observed value is 0 h and 0 min, while the maximum is 99 and 59 min per week. Columns 3, 4, and 5 present quarterly care, health, and hospital service expenditures. It should be noted that most households do not report expenditures on any of these three items. However, 50% of households report expenditures on care and health, not hospitals.

Table 2. Index creation variables descriptive statistics.

	Hours	Minutes	Care Expenses	Health Expenses	Hospital Expenses	Num_Domestic Work
Mean	23.04	0.46	1431.82	1233.32	141.08	0.00
Median	16.00	0.00	987.03	166.30	0.00	0.00
Mode	14.00	0.00	0.00	0.00	0.00	0.00
Std Dev	19.69	3.75	2217.93	5705.26	2126.77	0.04
Min	0.00	0.00	0.00	0.00	0.00	0.00
Max	99.00	59.00	99,653.17	489,697.82	254,347.81	3.00

Given the high standard deviation observed for all three types of expenditures, the average expenditure in all three cases is positive. The final column (6) corresponds to the number of domestic workers in the household. It demonstrates that most participating households do not employ domestic workers, with the average number of workers being nearly zero. As the standard deviation is minimal, only a small number of households in the sample have this type of worker, although there are households with no domestic workers and others with up to three.

Table 3 illustrates the quarterly income distribution across the 10 household income deciles within the sample. As indicated in Column 1, most households have a quarterly income of MXN 1956.52. Half of the households in the sample earn MXN 2996.04 every three months. However, the income range is considerable, with a minimum of MXN 16 and a maximum of MXN 354,414.00. This reflects the unequal distribution of income in Mexico. The income distribution in deciles is markedly skewed to the right, with a considerable disparity between the ninth and tenth deciles. The difference in quarterly income between these two groups is approximately 347 times greater, ranging from MXN 7416.23 to 354,413.65. This suggests a limited number of households with exceptionally high incomes, with the majority of the sample (approximately 90%) having a quarterly income below MXN 7416.23.

Table 3. Household income decile descriptive statistics.

	Income (Inc)	Inc1	Inc2	Inc3	Inc4	Inc5	Inc6	Inc7	Inc8	Inc9	Inc10
Mean	3936.60	1.95	2.07	2.12	2.17	2.21	2.25	2.29	2.34	2.40	2.53
Median	2996.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Mode	1956.52	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Std Dev	4110.10	7.46	8.82	9.54	10.17	10.75	11.33	12.00	12.76	13.79	16.27
Min	16.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Max	354,414.00	1187.06	1638.98	2063.13	2506.02	2996.04	3583.14	4348.26	5438.61	7416.23	354,413.65

3.2.1. Time Index

The time and income variables were measured weekly and transformed into natural logarithms to facilitate the interpretation of each coefficient as elasticity. Table 4 presents the results of the analysis conducted on data from the period 2010 to 2020.

There is a positive correlation between the income and time index, and all variables for all income deciles are statistically significant at the 95% confidence level. The variable $\ln(\text{Inc}_1)$ represents the first income decile, $\ln(\text{Inc}_2)$ the second, and so on. Additionally, the coefficient is smaller at higher incomes. In other words, as illustrated in Table 4, an increase of 1% in income for the variable $\ln(\text{Inc}_1)$ results in a 0.4% increase in the time spent on care. For the second decile, $\ln(\text{Inc}_2)$, an increase of 1% in income produces a 0.37% increase in the number of hours and minutes spent on unpaid household care.

Table 4. Multiple linear regression model. Weekly hours spent on caregiving as a function of weekly household income deciles.

ln(Time)	Coefficient	Standard Error	t-Value	p-Value	95% Confidence Interval	
ln(Inc_1)	0.4000	0.0011	357.7400	0.0000	0.3978	0.4022
ln(Inc_2)	0.3765	0.0010	368.5500	0.0000	0.3745	0.3785
ln(Inc_3)	0.3650	0.0010	370.6700	0.0000	0.3631	0.3670
ln(Inc_4)	0.3505	0.0010	361.1200	0.0000	0.3486	0.3524
ln(Inc_5)	0.3460	0.0009	371.3000	0.0000	0.3442	0.3479
ln(Inc_6)	0.3378	0.0009	376.7600	0.0000	0.3361	0.3396
ln(Inc_7)	0.3296	0.0009	369.5900	0.0000	0.3279	0.3314
ln(Inc_8)	0.3220	0.0009	369.1300	0.0000	0.3203	0.3238
ln(Inc_9)	0.3121	0.0008	372.1900	0.0000	0.3104	0.3137
ln(Inc_10)	0.2910	0.0008	361.1500	0.0000	0.2895	0.2926

Additionally, for the variable $\ln(\text{Inc}_9)$, an increase of 1% in income within the ninth decile results in a 0.31% increase in the time index. For the highest income decile, $\ln(\text{Inc}_{10})$, an increase of 1% in income results in a 0.29% increase in the number of hours and minutes dedicated to unpaid care for children, older people, and people with illnesses and disabilities. In other words, as income deciles increase, the time index also increases, but with a corresponding decrease in elasticity from the first to the last decile. This relation indicates that the responsiveness of the time index to variations in income is diminishing. Individuals located in lower deciles experience greater changes in care time as a response to variations in income than those located in higher deciles.

Similarly, per the interpretation of increases, a decline of 1% in an individual's income within the initial decile will consequently result in a reduction of 0.40% in the time index. This reduction indicates that an individual may relinquish their care responsibilities to compensate for the decline in income. This effect is analogous across each decile, yet the impact is more pronounced in lower deciles than in higher ones; notably, the coefficient decreases in value.

The observed income behavior can be interpreted as showing that the time spent on unpaid care is decreasing because higher-income households dedicate more time to their work than to caring for the family. Conversely, lower-income households typically have only one family member engaged in paid employment, while another member provides care for children, the elderly, and people with illnesses or disabilities.

3.2.2. Market Index

The market and income variables are measured weekly in natural logarithms. In this way, each coefficient can represent elasticity. Table 5 presents the results of the analysis for the period of 2010 to 2020. This table illustrates that the variables within the market index are negatively related to income up to the seventh decile. The final three deciles demonstrate a positive correlation with the market.

An increase in income results in a shift into higher deciles, which in turn leads to an increase in demand for market services. In lower deciles, the demand for market-provided care services declines. Similarly, all variables for all income deciles are statistically significant at the 95% confidence level. Table 5 illustrates that a 1% increase in income within the first decile results in a 0.19% decline in expenditures on health, hospital services, and the demand for household workers.

As indicated by the variable $\ln(\text{Inc}_2)$, an increase of 1% in income for households in the second decile corresponds to a decrease of 0.15% in the market index. From the eighth decile onwards, there is a positive relationship between the market index and income. In other words, for the variable $\ln(\text{Inc}_8)$, an increase of 1% in income in the eighth decile is associated with a 0.03% increase in expenditures on health, hospitals, and household workers. Furthermore, for the variable $\ln(\text{Inc}_9)$, a 1% increase in income results in a 0.14%

increase in expenditures on health, hospital, and household worker demand for the ninth decile. Similarly, an increase of 1% in income for $\ln(\text{Inc}_{10})$ is associated with a 0.46% increase in the market index for the highest income decile.

Table 5. Multiple linear regression model. Care attributable to the market as a function of household weekly income deciles.

$\ln(\text{Market})$	Coefficient	Standard Error	t-Value	p-Value	95% Confidence Interval	
$\ln(\text{Inc}_1)$	−0.1926	0.0042	−45.9500	0.0000	−0.2009	−0.1844
$\ln(\text{Inc}_2)$	−0.1477	0.0039	−37.4900	0.0000	−0.1555	−0.1400
$\ln(\text{Inc}_3)$	−0.1318	0.0038	−34.4900	0.0000	−0.1393	−0.1243
$\ln(\text{Inc}_4)$	−0.1044	0.0032	−32.4800	0.0000	−0.1107	−0.0981
$\ln(\text{Inc}_5)$	−0.0669	0.0035	−18.8400	0.0000	−0.0738	−0.0599
$\ln(\text{Inc}_6)$	−0.0417	0.0042	−9.9100	0.0000	−0.0499	−0.0334
$\ln(\text{Inc}_7)$	−0.0134	0.0041	−3.2700	0.0000	−0.0214	−0.0054
$\ln(\text{Inc}_8)$	0.0273	0.0041	6.7100	0.0000	0.0193	0.0352
$\ln(\text{Inc}_9)$	0.1357	0.0062	22.0300	0.0000	0.1236	0.1478
$\ln(\text{Inc}_{10})$	0.4574	0.0105	43.5900	0.0000	0.4369	0.4780

4. Discussion

This study of family caregiving organization in Mexico reveals a complex interconnection between household income, the distribution of caregiving responsibilities, and decisions regarding medical care and assistance. The significance of this topic lies in its influence on the well-being of families and the country's economic advancement. The primary findings of this research indicate that in the absence of an extensive public service network for household members in a dependent condition, higher-income households in Mexico, due to their more significant financial resources, transfer the demand for care to the market. The findings of this research indicate that an increase in income percentage results in an increase in the percentage of time spent on caregiving for each income decile. However, the impact on time spent on caregiving is less pronounced in the higher deciles than in the first deciles. This suggests that although households in the highest decile continue to require unpaid care, the proportion of time spent on caregiving is lower than that of households with income levels in the lowest deciles.

Based on the above, it can be said that in the households of the sample studied, the time spent on unpaid care is less in households with higher incomes, since they devote more time to their work than to caring for the family. In contrast, lower-income households are more likely to have only one family member in paid employment, while another member provides care within the household.

As Arlie Hochschild (1989) argues, higher-income households tend to have more people in paid employment, which allows them to spend less time on unpaid care. Conversely, households with lower incomes tend to have fewer working members, forcing them to rely on unpaid care provided by other family members, such as grandparents or siblings. In the same regard, Schneider and Hastings (2017) posit that US households with higher incomes may demonstrate a proclivity for more significant consumption preferences in the care market than those with lower incomes, particularly about household work, where care activities represent a significant aspect. Income inequality significantly impacts the daily lives of US households, particularly regarding domestic labor. Those with higher incomes can outsource this type of work by hiring others to perform it. Data from the 2003–2013 American Time Use Survey indicate that this inequality is also reflected in a notable discrepancy in the amounts of time spent on housework by women of high and low socioeconomic status. Furthermore, within the Chilean context, Arriagada (2021) states that a negative correlation exists between income and the opportunity costs of providing unpaid care measured in time. Consequently, when income conditions improve, households transfer care responsibilities to other caregivers who offer their services in the market, whether formal or informal.

In the absence of a care policy at the state level, families are compelled to assume responsibility for the care of their members, whether through unpaid labor or by procuring services from the market. This perspective of families as providers of well-being presents several challenges, particularly related to gender equality, income, and social justice. The organization of caregiving within households is often inadequate and unequal, with the burden disproportionately falling on women. This inequality limits their employment opportunities and perpetuates gender gaps. As [Goldin \(2021\)](#) has observed, the demand for domestic workers has increased in recent years due to several factors, including the growing participation of women in the labor force, the aging of the population, and declining fertility rates. Households with higher incomes are the primary consumers of household workers, as they possess greater financial resources to allocate towards these expenditures. In contrast, households in the lowest-income families rely on their social networks, including neighbors, friends, and family members, to care for those in need ([Heckman 2011](#)).

[Thil et al. \(2023\)](#) examined the relationship between female labor market insertion and the demand for childcare, and the substitution between formal and informal care services for this population group, in a sample of 14 European countries with data obtained between 2010 and 2017. The results indicate a positive correlation between the mother's labor supply and the demand for childcare. This latter point suggests that as the mother's participation in the labor market increases, the household's demand for childcare services also rises.

The findings above corroborate the notion that when women enter the labor market, they and their households can transfer the care of their children to the market. If a woman enters the labor market and her income increases, this reduces her opportunity cost regarding the use of time for unpaid care within the family environment.

Furthermore, this study highlights the substitutability between formal and informal childcare. Additionally, it demonstrates that parents with higher levels of education are more likely to transfer their care demands to institutionalize public services or the market. These results may be related to the potential income or wages in the labor market that allow educated women and, in general, educated parents to pay for this type of care.

One of the main challenges that many families face in Mexico, and other countries in Latin America, is the absence of a welfare state that provides universal access to public care services. In the absence of such services, households tend to implement various organizational strategies to cope with family care demands ([Martínez Franzoni 2022](#)). These strategies may include the provision of aid, typically from women (sisters, cousins, aunts) to other family members, or using external care services such as domestic workers or nurses. In both cases, these services are typically non-professional. The use of paid services is often precarious due to low wages and a lack of access to social security. In this regard, [Guerra-Martín and González-Fernández \(2021\)](#) suggest that within the family organization of care, strategies to improve the care of dependent persons should also consider the capacity of family caregivers to adjust their caregiving practices, change their expectations, find new forms of support, and seek additional resources. Therefore, in this context, it can be posited that the organization of family caregiving may entail alterations in the roles and responsibilities of family members, the establishment of informal support networks, the pursuit of medical and social care services, and the implementation of strategies for stress management. Furthermore, emotional overload may also be a factor ([Martínez-Montilla et al. 2017](#); [Ortiz-Amo et al. 2023](#)).

It should be noted that this research is subject to some limitations. The first limitation pertains to the cross-sectional design of the study. In other words, the dataset is based on a biennial survey, which precludes the possibility of establishing continuity of information over time. This precludes the possibility of establishing cause-and-effect relationships, given that both exposure and outcome are measured simultaneously. Additionally, this study does not specify the types of care and their economic implications for family income.

A further limitation of this article is that it focuses on the impact of income on family care organizations at the household level, without considering gender asymmetries within

families. This limitation is pertinent, as in Mexico and the rest of Latin America, the surge in demand for care services correlates with the economic expansions that commenced at the beginning of this century and the integration of women into the paid labor force. Nevertheless, this has not been reflected in equitable access to employment opportunities or in salary conditions ([Martínez Franzoni 2022](#)). These conditions of inequity are particularly evident among women with lower incomes and greater need for paid employment. Similarly, [Charmes \(2019\)](#) found in a study of unpaid family care in 76 countries that women had less access to the labor market than men due to the more extensive time they spent on unpaid family care. Moreover, a comparison of the time spent on unpaid family care by women with the levels of household income in the countries under study revealed that the time spent on this activity decreased as the level of income increased in all countries except Ghana, where the reduction in time was more pronounced at intermediate income levels.

In addition, the restricted accessibility of the ENIGH data, which covers the period from 2010 to 2020, represents another limitation. It is possible that circumstances have changed since the data were collected, which may affect the relevance of the findings of this research in a more contemporary context. Given the central role of family caregiving and the complex interrelationship between economic, social, and health factors, it is imperative to assess the impact of the Coronavirus Disease 2019 (COVID-19) pandemic on the organization of caregiving in Mexico and to what extent it has precipitated significant changes in the organization of family caregiving.

5. Conclusions

This article explores how household income levels affect family care organizations in Mexico, highlighting how families distribute caregiving responsibilities based on their income level decile. The main results of this research lead to the conclusion that household income is a significant determinant of how unpaid care tasks are addressed. Higher-income households tend to devote more time to paid work and transfer their demands for care to the market through hiring household workers or accessing private health services. In contrast, lower-income households dedicate less time to paid work and frequently encounter economic constraints that result in their reliance on informal support networks, such as neighbors, friends, and family members, to meet care needs.

Based on the results above, robust public infrastructure and care services are indispensable for guaranteeing the well-being and quality of life of the Mexican population. Addressing the economic and social inequalities that influence these dynamics and ensuring equitable access to care and health services for all population groups is essential to achieving an optimal balance between family well-being and national development.

Moreover, it is necessary to ensure the harmonious coexistence of the various components of a care policy, including education, health, work, and social assistance, through additional measures—that is, a unified approach based on inter-institutional coordination, as noted by the [Instituto Nacional de las Mujeres \[INMUJERES\]](#) and [United Nations Women \[UN Women\] \(2018\)](#). Consequently, it is imperative to have a rigorous monitoring and evaluation system for care services in Mexico designed to assess the quality, accessibility, and areas for improvement of these services while ensuring that the staff responsible for providing them receive the necessary training.

Furthermore, advocating for a more egalitarian distribution of domestic and care responsibilities is challenging. Such a shift would necessitate substantial cultural transformation and the implementation of policies and initiatives that advance gender equality. These policies must acknowledge care work as a collective responsibility of the entire family and facilitate the equitable involvement of women and men in all aspects of life. This complex yet indispensable step is paramount for the future of care services in Mexico.

The dearth of access to quality caregiving services constrains women's involvement in public life and the labor market, and the overall quality of life of the entire population. Nevertheless, a collaborative initiative to enhance the infrastructure and public services for care in Mexico could potentially bring about a transformation in this regard. By ensuring

the equitable provision of quality services for all citizens, a future in which all citizens have access to quality care services can be created. This promising future is not merely a utopian vision; it is a tangible possibility, one in which we can collectively advance toward the creation of a more just and inclusive society.

A future line of research will endeavor to update the data presented here (ENIGH, 2010–2020) to more recent years. The objective is to evaluate the influence of income on the structuring of family care organization in contexts of heightened vulnerability, such as the Coronavirus (COVID-19) pandemic. Furthermore, it is imperative to underscore the necessity for additional research to examine the gender implications in caregiving organizations. In this regard, it could encompass studies on how gender disparities impact the distribution of care work in households and how policies can address these disparities. Ultimately, it would be beneficial to investigate the feasibility and efficacy of implementing specific care-related public policies in Mexico, such as evaluating proposals for caregiving subsidies, paid parental leave, and training programs for caregivers.

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