





Diagnosis to determine the degree of indebtedness of households in Ciudad Obregón, Sonora

Diagnóstico para determinar el grado de endeudamiento de los hogares en Ciudad Obregón, Sonora

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Abstract

This research addresses a diagnosis of the degree of indebtedness of families settled in Ciudad Obregón, Sonora, in order to compare the level obtained regarding the management of their economic resources and visualize the effect caused according to the degree in which they are. This study was developed under the quantitative approach, with a descriptive scope. The design is field, non-experimental, cross-sectional. With the data obtained from the applied instrument, the debt-to-income ratio (DTI) of the households was calculated, resulting in a ratio of 0.15, which, according to the reference parameter, indicates that households in Cd. Obregón have a healthy DTI. Therefore, it can be concluded that families efficiently manage their resources and do not take the financial risk that a debt incurs, but neither do they take the benefit of assuming a debt responsibly.

Objetivo	Methodology	Contribución
To prepare a diagnosis of the level of indebtedness of families living in Ciudad Obregón, Sonora, in order to compare the level obtained in relation to the management of their economic resources and visualize the effect caused according to the level in which they are found.	The research was carried out using a quantitative approach, with a descriptive scope. The design is field-based, non-experimental, describing and analyzing the variables with their natural results, with a cross-sectional approach.	Valuable information for academic observation in the area of economics and finance as it provides a general overview of the levels of income obtained and the composition of debt in households in Ciudad Obregón, Sonora. It provides the financial perspective on the types of credit most used and the debt behavior in households.

Resumen

La presente investigación aborda un diagnóstico sobre el grado de endeudamiento de las familias asentadas en Ciudad Obregón, Sonora, con la finalidad de comparar el nivel obtenido respecto a la administración de sus recursos económicos y visualizar el efecto causado según el grado en que se encuentre. Dicho estudio se elaboró bajo el enfoque cuantitativo, con alcance descriptivo. El diseño es de campo, no experimental, de corte transeccional. Con los datos obtenidos del instrumento aplicado se calculó la ratio deuda-ingresos (DTI, por sus siglas en inglés) de los hogares, resultando una ratio de 0.15, el cual, de acuerdo al parámetro de referencia indica que los hogares en Cd. Obregón tienen un DTI saludable. Por lo que, se puede concluir que las familias administran de manera eficiente sus recursos y no toman el riesgo financiero que contrae una deuda, pero, tampoco el beneficio al asumir una deuda de manera responsable.

Objetivo	Metodología	Contribución
Elaborar un diagnóstico sobre el grado de endeudamiento de las familias asentadas en Ciudad Obregón, Sonora, con la finalidad de comparar el nivel obtenido respecto a la administración de sus recursos económicos y visualizar el efecto causado según el grado en que se encuentre.	La investigación se elaboró bajo el enfoque cuantitativo, con alcance descriptivo. El diseño es de campo, no experimental describiendo y analizando las variables con sus resultados naturales, de corte transeccional	Información valiosa para observación académica en el área de economía y finanzas ya que aporta una visión general sobre los niveles de ingresos obtenidos y la composición de la deuda en los hogares de Ciudad Obregón, Son. Al sector financiero le proporciona una perspectiva de análisis sobre los tipos de créditos más utilizados y el comportamiento de endeudamiento en los hogares.

Household, Income, Debt

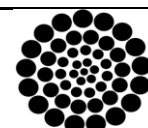
Hogar, Ingresos, Endeudamiento

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Introduction

Background

Family is defined as a ‘Group of people linked by marriage, kinship, cohabitation or affinity’ according to the Royal Spanish Academy ([RAE], 2023, definition 1); however, there are people who live together and may not be from the same genes, these groupings are called households.

The National Institute of Statistics and Geography ([INEGI], 2020) defines households as a group of people who may or may not be family members and live in the same dwelling. The difference then lies in the blood ties of the family who may also live anywhere, whereas in the household they strive to live in the same house sharing expenses and contributing to the income. These two concepts can be unified by forming a family household in which some members are related to the head of the family, living in the same dwelling and sharing living expenses.

In order for the household members to develop their lives in the best possible conditions, it is essential to have a planned household economy that allows for the correct management of income and expenditure. The planning of the household economy does not differ significantly from that of a company in both cases, the objective is the same: to efficiently manage capital to cover the expenses derived from daily needs and activity (BBVA, n.d.). In order to make the best decisions, financial tools are a requirement to be used, and the budget is one of them, in which a planning of income, savings, investments and expenses is projected for a certain period of time, considering the source of income and financing (indebtedness).

According to the main gateway to statistical information collected, systematised, produced and published by the Economic Commission for Latin America and the Caribbean ([CEPASTAL], n.d.) ‘Household income is the sum of the amounts received by its members as salaried or independent workers, plus the amounts received from retirement, pensions and social transfers or from other households plus the amounts received from interest, dividends and other property income’.

For his part, Maiterst (2020) mentions that indebtedness is the term given to the acquisition of credit or credits to be paid in certain amounts in determined periods, whereby a part of the income is kept committed to pay it according to the obligations acquired with the third party.

For the purposes of this research, at the time of writing, there are empirical studies and documents that are related to resource management and families, one of them is the Strengthening of Financial and Administrative Education in Latacunga Families, research conducted by Montero and Gallardo (2022), which was developed to carry out a project where families in a city in Ecuador were taught about finances, one of its objectives being to determine financial indicators in each family to use them as premises that allow them to identify their levels of economic solvency.

The second document consulted is called Student's Handbook. Family Economy developed by the International Labour Organisation (2020), which serves as a financial education tool for families, where in each chapter concepts, cases, exercises and templates are presented for the elaboration of family financial plans considering savings, budgeting, indebtedness and risk management. In addition to the thesis called Financial Plan for Families by Gómez (2016), whose objective focuses on families learning to effectively manage their income and maintain control over debts.

Problem statement

The National Survey on Household Finances ([ENFIH], 2019), reveals among its main findings that 66.5% of households live up to date with their income and expenses, while 20.7% do not have sufficient income for their basic needs, and only 12.8% have savings as part of their financial planning. More than half of the households have debts, representing 56.9% of the population, in total 20.9 million households, divided into mortgage debt (11.6%) and non-mortgage debt (53.8%); mortgage debt represents 15% of monthly income and non-mortgage debt represents 17%.

According to these results, it is assumed that there are two aspects, one is that families truly cannot afford to obtain more income to cover their needs, and the other is that they mismanage their income, quickly using it up and resorting to loans incorrectly; some even go beyond their means by acquiring more things than their salary allows with credit, and without realising they have used it for everything, they end up asking for a new loan, repeating the same steps, generating a cycle of over-indebtedness. Ramos (2021) indicates that this happens because the debtor overestimates their income due to the inability to manage their expenses or give in to the temptations of consumption and advertising.

Manjón and Cremades (2020) mention that getting into debt immoderately brings with it economic and financial problems in the household, which cause shortages of food, services and other inputs, by directing most of their income to pay debts, and even, in the absence of more income, they go to the extreme of selling personal property. This leads to family conflicts, stress, health problems and unproductiveness, keeping family members in a state of constant survival. Likewise, over-indebtedness negatively affects a person's credit history, which can make it difficult to access loans and credit in the future according to Garrido (2023), this being one of the most logical consequences of non-payment and legal action taken by creditors towards the debtor.

Research question

What is the relationship between the degree of indebtedness of households in the municipal capital of an entity and the management of their resources?

Objective

To carry out a diagnosis of the degree of indebtedness of households in Ciudad Obregón, Sonora, in order to compare the level obtained with respect to the administration of their economic resources and to visualise the effect caused according to the degree of indebtedness.

Justification

The present research is considered pertinent, since carrying out its objective will benefit researchers and the financial sector, providing them with a perspective of analysis on the behaviour of indebtedness and the administration of resources maintained by families settled in the municipal capital of an entity.

Methodology

The research was carried out using a quantitative approach, with a descriptive scope. The design is field-based, as data collection was carried out on the delimited subjects and no variable or condition was manipulated, describing and analysing the variables with their natural results, therefore, it is non-experimental with a transectional cut, as it was carried out over a certain period of time,

The instrument developed and used for data collection was divided into two sections, I. Household income and II. Indebtedness. The questions were designed in numerical sequences, where the respondent selects a single range corresponding to the question according to the options provided.

The ranges used in the questionnaire sections are in scale order; and the numerical series method defined by Anderson et al, (2019) as a series of values used to analyse patterns and trends in the data. Applying this method, the options provided in the questionnaire are adjusted according to the data retrieved concerning income, expenditure and expenses collected from inhabitants of the State of Sonora.

Within this sequence, the subject selects one of the options closest to the monthly monetary value, which is requested according to the section in which he/she finds him/herself. In such a way that, at the end, we obtain the income, expenses and debts incurred by the families of the surveyed subjects, which allows us to calculate the debt-income ratio.

The following Table identifies the units of measurement for each of the variables:

Box

Table 1

Operationalisation of variables

Variable	Definition	Unit of measurement
Household Income	The sum of the total financial resources that a household receives in a certain period of time, through work, business, transfers, investments, from the government, or others.	Monthly income between less than \$5,000 and more than \$80,000. Items 1 and 2.
Household Indebtedness	The sum of financial obligations that the household assumes in order to finance in a certain period, needs, expenses, investments, or others, being these obligations obtained by credits, loans or debts.	Educational, mortgage, auto debt less than \$5,000 and up to more than \$70,000. Item: 3-10.
Credits	A financial transaction in which a financial institution temporarily provides the use of an amount of money to a borrower, who undertakes to repay the amount within a set period of time, together with agreed interest.	Credit card debt under \$5,000 and up to more than \$100,000.
Insurance	A contract whereby an insurance company undertakes, in return for the payment of a premium, to indemnify the insured or his beneficiary for damages suffered as a result of an uncertain and fortuitous event.	ITEM 11.
Loans	A contract whereby one party delivers to the other a certain sum of money or other fungible thing, and the other party undertakes to return the sum in the same kind and quality.	Minimum monthly payment of \$500 and a maximum of \$30,500.

Note: The definitions given in the table are the author's own elaboration

The research is carried out in the state of Sonora, specifically in Ciudad Obregón, the municipal capital with 436,484 registered inhabitants, of which 221,883 are women and 214,601 are men; in other words, for every 97 men, there are 100 women in the municipality, the average age being 32 years old, and 61% are economically active from the age of 12.

From this entity, households have been selected as the subject of research, which according to the 2020 population and housing census conducted by INEGI resulted in 135,701.

To select the ideal sample for the purposes of this research, we applied the suggestions of Hernández et al (2010) on the calculation of probability samples through the simple random method for finite populations, the authors point out that this type of sample is essential in survey research designs, where the aim is to generalise the results to a population. The quality of this type of sample is that all elements of the population have the same probability of being chosen, so the sample elements will have values very close to the values of the population, since the measurements of the subset will be very precise estimates of the larger set. This precision depends on the sampling error, also called standard error.

The formula for calculating the size of a probability sample was developed by Krejcie et al. in 1970. This formula is used to calculate the appropriate sample size for a finite population with a specified level of confidence and level of precision. The formula for the probability sample size is:

$$n = (N * Z^2 * p * q) / [(N - 1) * e^2 + Z^2 * p * q] \quad (1)$$

Where:

N= 135, 701 households

Z= 1.96

p= 0.5

q= 0.5

e= 10%

$$n = (135,701 * 1.96^2 * .5 * .5) / [(135,701 - 1) * .10^2 + 1.96^2 * .5 * .5] = 95.952482 = 96$$

According to the above calculation, 96 households in Ciudad Obregón are represented by one person over 18 years of age who forms and maintains a household.

Results and discussion

In Section I: Household income, according to the information collected, 9.4% of the respondents earn less than \$5,000; 26% of the respondents have monthly household incomes ranging from \$5,000 to \$10,000, followed by 17.7% who earn between \$11,000 and \$15,000 per month; while 9.4% have incomes between \$16,000 and \$20,000. 3% between \$26,000 and \$30,000, 10.4% report incomes between \$31,000 and \$40,000; 6.3% between \$41,000 and \$50,000; 4.2% between \$51,000 and \$60,000; 0% between \$61,000 and \$79,000 and 1% more than \$80,000. According to the National Survey of Occupation and Employment (ENOE), as of the first quarter of 2023, half of the households in Mexico have an income equal to or less than \$10,320 per month. Likewise, the average income of Mexican households was \$13,854 (Luna & Gallegos, 2023).

The results obtained in section II: Family indebtedness show that 68.8% of the families do not have a mortgage loan, and the remaining 31.2% do have a mortgage loan. Regarding educational debts, 92.7% stated that they did not have any, while 7.3% said that they did. With regard to car loans, 84.4% of those surveyed do not have this type of debt, while 15.6% of families pay this type of loan.

Regarding the level of debt acquired through the use of credit cards, 33.3% mentioned not using this financial instrument, of the remaining % who do use it, 14.6% have a debt of less than \$5000; 18.8% from \$5000 to \$15,000; 8.3% between \$15,000 and \$25,000; 9.4% between \$25,000 and \$35,000; and 9.4% between \$25,000 and \$35,000. 4% between \$25,000 and \$35,000; 1% between \$35,000 and \$45,000; 0% between \$45,000 and \$55,000; 3.1% between \$55,000 and \$65,000; 3.1% between \$65,000 and \$75,000; 2.1% between \$75,000 and \$85,000; 1% between \$85,000 and \$95,000; and 5.3% over \$95,000.

These results differ from those obtained by the ENFIH (2019) in finding that 55.4% of the total value of household debt corresponds to mortgage debt, 11.5% to credit card debt and 9.3% to vehicle debt.

Based on the data collected, only 18.8% of the families surveyed have contracted health insurance, indicating that 81.3% of families do not have contracted health insurance. Continuing in the area of insurance, 4.2% do not have auto insurance, while of the remaining % that do have auto insurance, 23.4% pay less than \$500 per month for auto insurance, 42.6% pay between \$500 and \$1,500, 14.9% pay between \$1,500 and \$3,500 per month for their insurance, and another 14.9% pay more than \$55,000 per month. According to data from the 2021 National Financial Inclusion Survey (ENIF), only 21% of the Mexican population had some type of insurance, either Life (13%), Auto (10%) or Medical Expenses (6%).

In light of the data obtained, 70.8% of the families surveyed do not have any debts with friends or relatives, while 29.2% have this type of debt. Both to make ends meet and to meet an economic emergency, among the main options of the population in Mexico, is to ask for loans from family and friends, as reported by the National Survey on Financial Health (ENSAFI) presented in 2024 by INEGI and the National Commission for the Protection and Defence of Users of Financial Services (CONDUSEF), according to Juarez (2024) of the Economist. There it is revealed that, of the population over 18 years of age, 30.5% reported that during the last month (prior to the survey), they did not have enough money to cover their expenses without going into debt, and 41.6% revealed that they had borrowed from family or friends to face the difficulty.

Conclusions

With the results obtained from the applied instrument, the debt-to-income ratio (DTI) of the households was calculated by dividing the total monthly debt payments by the total monthly income, resulting in a ratio of 0.15, taking into account that a debt-to-income ratio of 0.36 or lower is considered healthy, while a ratio higher than 0.43 may indicate financial difficulties (Faster Capital, 2024), it is considered that the households in Cd. Obregón, Son. have a healthy DTI.

In the analysis of the results it is observed that most households have debt, however, this does not represent a high percentage of their income, so it can be concluded that families manage their resources efficiently and do not take the financial risk that debt entails, but neither the benefit of assuming debt responsibly.

This research generates valuable information for academic observation in the area of economics and finance as it provides an overview of the income levels and debt composition of households in Ciudad Obregón, Son, which can be used to develop financial education programmes that provide them with strategies for resource management and debt management. It provides the financial sector with an analytical perspective on the types of credit most commonly used and the debt behaviour of households.

Declarations

Conflict of interest

The authors declare that they have no conflicts of interest. They have no known competing financial interests or personal relationships that might have appeared to influence the research reported in this article.

Authors' contribution

Osuna-Marrufo Erika: Contributed to the project idea, rationale, instrument construction, data collection and processing.

Acosta-Mellado, Erika Ivett: I contributed to the methodological assessment of the entire research.

Ruíz-Perez, Roberto: I contribute to the research method and technique.

Valenzuela-Reynaga Rodolfo: I contribute to the discussion of the results.

Availability of data and materials

The instrument and the results obtained are kept by the authors in the cloud associated with their institutional e-mail addresses. The sources consulted in the references are available in electronic databases outside the institutional ones, so their availability over time cannot be assured.

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Abbreviations

BBVA Banco Bilbao Vizcaya Argentaria

CEPASTAL Statistical Database and Publications of the Economic Commission for Latin America and the Caribbean (ECLAC)

CONDUSEF National Commission for the Protection and Defence of Financial Services Users (Comisión Nacional para la Protección y Defensa de los Usuarios de Servicios Financieros)

ENSAFI National Financial Health Survey

ENIF National Financial Inclusion Survey

ENFIH National Survey of Household Finances

INEGI National Institute of Statistics and Geography

ENOE National Occupancy Survey and Employment

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Background

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