



# Access to Public Health Insurance and Household's Dietary Choices, the case of *Seguro Popular* in Rural Mexico

## Acceso al seguro público de salud y opciones alimentarias de los hogares: el caso del Seguro Popular en el México rural

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Article information	Abstract
Received: 10 March 2025	<p><b>Objetivo:</b> Determinar cómo cambian las decisiones alimentarias de los hogares rurales en México una vez que obtienen acceso a programas de atención médica.</p> <p><b>Métodos:</b> Se emplearon modelos de Regresiones Aparentemente No Relacionadas (SUR, por sus siglas en inglés) y estimaciones de Diferencias en Diferencias (DiD), utilizando al seguro <i>Seguro Popular</i> como caso de estudio.</p> <p><b>Resultados:</b> Los hogares ubicados en municipios con alta cobertura de <i>Seguro Popular</i> incrementaron de manera significativa su gasto en azúcares procesados, así como en aceites y grasas.</p> <p><b>Limitaciones:</b> La clasificación de los hogares se basó en porcentajes de cobertura a nivel municipal, lo que puede introducir algún sesgo por clasificación de los hogares en los grupos de control y tratamiento. Asimismo, la naturaleza de corto plazo de los datos posteriores a la implementación del programa limita la generalización de los resultados a efectos de más largo plazo.</p> <p><b>Principales hallazgos:</b> Si bien el programa mejora el acceso a los servicios de atención médica, puede promover de manera no intencionada decisiones alimentarias de menor calidad, lo que subraya la necesidad de que los responsables de política pública consideren las implicaciones más amplias de los programas de aseguramiento en salud sobre la nutrición y la calidad de la dieta.</p>
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Información del artículo	Resumen
<p>Recibido: 10 marzo 2025</p> <p>Aceptado: 29 agosto 2025</p> <hr/> <p>Clasificación JEL: D12, I13, I18, O12, Q18.</p> <p>Palabras clave: consumo de alimentos, hogares rurales, seguro médico.</p>	<p><b>Objective:</b> To determine how the dietary choices of rural households in Mexico change once they gain access to medical care programs. <b>Methods:</b> SUR models and DiD estimations using the Mexican health insurance program Seguro Popular as a case of study. <b>Results:</b> Households in municipalities with high coverage of Seguro Popular significantly increased their expenditure on processed sugars, and oils and fats. <b>Limitations:</b> Classification of households was based on municipal-level coverage percentages, which may introduce some misclassification of the households in the treatment and control groups. Additionally, the short-term nature of our post-implementation data limits the generalizability of our findings to longer-term outcomes. <b>Main findings:</b> While the program improves access to medical care, it may inadvertently promote poorer dietary choices, which highlights the need for policymakers to consider the broader implications of health insurance programs on nutrition and diet quality.</p>

## Introduction

The expansion of public health systems remains a priority for governments around the world in line with the recommendations of the Sustainable Development Goals (SDGs) initiative of 2015. Policy efforts have focused on contributing to goal number three, which aims to “ensure healthy lives and promote well-being for all, at all ages”. Target 3.8 of the SDGs states: “Achieve universal health coverage, including financial risk protection, access to high-quality essential health-care services and access to essential medicine that is safe, effective, high-quality, and affordable, and vaccines for all.” Through free or subsidized health insurance programs, governments attempt to ensure that vulnerable populations obtain access to health services.

Once individuals have gained access to publicly provided insurance, however, not only health, but other socioeconomic variables such as savings and consumption are likely to be affected. Lessons from the literature suggest that an insurance policy helps to reduce out-of-pocket and catastrophic expenditure (Barros, 2008; Doubova et al., 2015; Galarraga et al., 2010; Grogger et al., 2014; Knaul et al., 2006; Knox, 2008; Leininger et al., 2010; Sommers et al., 2017; Sosa-Rubi et al., 2011), lessens the need to maintain precautionary savings either financial or asset-based (Chou et al., 2003; Chou et al., 2004; Wagstaff & Pradhan, 2005), and alters consumption levels (Cheung & Padieu, 2015; Gruber & Yelowitz, 1999; Leininger et al., 2010). In line with this literature, we investigate possible changes in the consumption of food.

The final effect of the insurance programs on dietary choices is unknown *a priori* as an increased level of nutritional awareness or an expansion of disposable income derived from gaining access to medical assistance could lead to the transition to a more nutritionally enriched diet, but it could also incentivize individuals to reduce preventive care habits, including adding unhealthy products to their regular diet, creating a usual case of health hazard, as a result, the health status of the beneficiaries would not necessarily improve, but they would become more reliant on publicly provided medical care, which, under extreme circumstances, could trigger the collapse of public health systems.

Some high-income countries have created public insurance programs with relative success. For example, in Canada, Australia, Finland, Sweden, Norway, and Germany, at least 80% of the population is covered through social protection schemes<sup>1</sup>. On the other hand, there are examples in low and middle-income countries such as Mexico, Guatemala, Nicaragua, Nigeria, Costa Rica, Ghana, and Colombia, where similar programs have produced moderate coverage results.

Rather than studying factors that determine the success or lack thereof of these programs, which are complex and multifaceted such as the quality, type, and number of health services provided (Buchmueller et al., 2005; Chen et al., 2007; Currie & Gruber, 1996; Escobar et al., 2010; Finkelstein et al., 2012; Ghosh et al., 2017; Guindon, 2014; Hadley, 2003; Knox, 2008; Parker et al., 2018; Sommers et al., 2017; Sosa-Rubi et al., 2009; Trujillo et al., 2005; Wagstaff & Pradhan, 2005; Wagstaff et al., 2009), the focus here is on examining the dietary choices of the beneficiaries before and after they received access to health services. An increase in unhealthy food consumption in a regular diet may indicate early signs of moral hazard.

We study the case of rural Mexico for three reasons. First, despite having a rich history of public health systems, its primary institutions were designed to serve the working population registered by a formal employer (mainly through *IMSS* and *ISSSTE*), the more vulnerable, those who were not eligible for any other social security program (excluding those able to afford private health insurance), were only offered access in 2004, when the Mexican Federal government launched *Seguro Popular*. The program registered 5.3 million beneficiaries at its onset, covering about 38% of Mexican municipalities. By the end of 2019, when *Seguro*

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<sup>1</sup> According to the Universal Health Coverage (UHC) Service Coverage Index (SCI) of 2019, as reported in the SDGs monitor indicators by WHO (2021).

*Popular* was reformed and replaced, the number of beneficiaries had grown to 51 million, covering 99.8% of municipalities. Taking advantage of the initial structure of the program we study the food choices of households in the municipalities where the program began.

Second, Mexico's rates of overweight and obesity have remained the highest in the world for decades. In 2002, 57.1% of the adult population was overweight or obese. At the time of *Seguro Popular*, in 2004, it was at 58.3% (WHO, Global Health Observatory). Data from 2018, indicates that the prevalence of being overweight and being obese, for the population aged 20 years and more, has reached 39.1% and 36.1%, respectively, that is, 75.2% in total<sup>2</sup>. Results from this research contribute to understanding how publicly provided programs such as *Seguro Popular* may influence the population's health status via food choices.

Third, when concentrating on vulnerable populations, the rural poor become a natural focus. Just prior to the implementation of *Seguro Popular*, 50% of the Mexican population lived in poverty<sup>3</sup>, and the income of 20% of the total population was insufficient to acquire a basic basket of food<sup>4</sup>. Poverty remained rampant, and by 2004, 47.2% of the Mexican population lived in poverty, while 17.4% still could not afford a basic food basket. More recent data show that between 2018 and 2020, the population living in poverty conditions increased from 51.9 to 55.7 million, which is about 43.9% of the population. Of particular interest are the rural poor, of whom 56.8% lived in poverty in 2020, and about 75% had no access to health services or social security (CONEVAL, 2021). Moreover, evidence suggests that these communities allocate a higher percentage of their resources toward unhealthy foods than those in urban regions (ENSANUT, 2020). Given the issues of malnutrition outlined above, this exacerbates their vulnerability status and the urgency to better comprehend their dietary choices.

We use the Mexican National Survey of Income and Expenditure (ENIGH) of 2002 and 2004 to quantify and classify the total food expenditure of the rural household into nine categories: (1) *animal protein*, (2) *cereals*, (3) *fruit and vegetables*, (4) *milk and derivatives*, (5) *processed sugars*, (6) *oils and fats*, (7) *alcoholic beverages and tobacco*, (8) *food consumed outside the household*, and the remainder is grouped in (9) *others*. Through

<sup>2</sup> Estimated using the Mexican National Health and Nutrition Survey (ENSANUT) of 2018.

<sup>3</sup> This is defined as insufficient income to acquire a basic basket of food and meet the necessary expenses on healthcare, clothing, housing, transport, and education despite the entire household income being used to acquire these goods and services.

<sup>4</sup> This is according to CONEVAL, the Mexican agency in charge of measuring poverty and evaluating it by different income dimensions.



Difference-in-Difference estimations we compare the expenditure on these categories of rural households located in states where *Seguro Popular* started with that of rural households within the same states that were without the program, before and after the implementation. We find strong evidence that *Seguro Popular* increased the consumption expenditure on the categories of *oils and fats*, and *processed sugars*.

The rest of this document is organized as follows, the next section provides a brief background on *Seguro Popular*; section 3 presents a review of the literature that examines similar issues; section 4 characterizes the conceptual framework behind household decision-making and gathers the estimation strategy regarding the data and model; section 5 discusses the results; and section 6 concludes.

## 1. Background on *Seguro Popular*

*Seguro Popular* was launched in 2004 with the aim of providing financial protection to the population lacking social security and access to health care by incorporating them into a public and voluntary insurance program. In 2002 the uninsured segment accounted for approximately 57.8% of the country's total population<sup>5</sup>. At its onset, the program was implemented only in selected regions of a few states, namely, Colima, Jalisco, Aguascalientes, Tabasco, and Campeche. These areas were chosen based on specific criteria related to their capacity to offer health services.

The only requirement to get enrolled was that one had not already signed up for another social security program. By joining, the beneficiary would commit to adhere to the operation rules of the program (2002), which primarily tried to encourage the insured to adopt health promotion and disease prevention behaviors. In practice, however, there were no enforceable mechanisms in place.

The program was largely financed by the federal government through annual contributions, which were determined by three parameters. The first parameter was a social fee or quota, calculated as a percentage of a daily general minimum wage in the labor market, based on the individual's income level or decile. The second parameter was a Federal Solidarity Contribution, which represented at least one and a half times the amount of the social fee. The third parameter was a State Solidarity

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<sup>5</sup> Official Journal of the Federation (2002).

Contribution, which equaled at least half the social fee per affiliated person.

The interventions covered by the insurance were defined in the Universal Catalog of Health Services (*CAUSES*). The number of interventions was adjusted annually based on priority criteria and the structural capacity of the state public health network, health centers, and general hospitals. In 2019, the *Seguro Popular* program was replaced by the *Instituto de Salud para el Bienestar (INSABI)*. That year, *Seguro Popular* guaranteed access to 294 interventions, including 1,807 medical diagnostics, 618 medical procedures, 633 medicines, and 37 medical supplies for general and specialized treatment, urgencies, general surgery, and obstetric consultations.

## 2. Literature Review

The effects of offering public health insurance have been explored in a variety of outcomes, here we describe first some studies that focus on utilization of health facilities as we have presumed the beneficiaries indeed take advantage of the access to a health service gained once they have been insured. Next we examined studies focused on the relationship with financial variables such as savings and consumption, exploring whether the literature supports the claim that financial decisions are indeed altered. Finally, we describe works that focus on the effects on food consumption and nutritional choices.

A review of the existing literature about the relationship between health insurance and households' medical use for high-income countries can be found in Hadley (2003) and Buchmueller et al. (2005), concluding that, overall, the studies consistently report positive and significant impacts of insurance on measures of utilization. Other studies have also shown that health insurance increases health care utilization in adults and children (Currie & Gruber, 1996; Finkelstein et al., 2012; Ghosh et al., 2017; Sommers et al., 2017). The evidence from low- and middle-income countries such as China, Colombia, Taiwan, and Vietnam, indicates that insurance programs have increased outpatient and inpatient utilization in rural and impoverished households (Chen et al., 2007; Guindon, 2014; Trujillo et al., 2005; Wagstaff & Pradhan, 2005; Wagstaff et al., 2009).

Mixing results come from evaluations of the Mexican *Seguro Popular*. Rivera-Hernandez et al.'s (2019) reported that *Seguro Popular* had no significant effect on the use of preventive services (including screening for diabetes, hypertension, breast cancer, and cervical cancer) among adults

aged 50 to 75 years, while Sosa-Rubi et al. (2009) found that adults with diabetes who were enrolled had significantly more access to blood glucose control tests compared to uninsured adults. Knox (2008) also found increased health care utilization, especially in health center visits and hospitalization, and decreased usage of private care providers such as private doctors and pharmacies. Parker et al. (2018) investigated how the program affected the use of health services and diagnostic tests among population aged 50 and older, using the longitudinal Mexican Health and Aging Study from 2001 to 2012. They examined how the impact of the program varied depending on the availability of health services before the program started and the evidence indicates notable disparities in the effects of *Seguro Popular*, depending on how accessible health services were. Findings imply that the population with greater access to health services experiences more substantial and widespread benefits when there is the presence of an illness.

A large body of literature has found that reductions of catastrophic and out-of-pocket health expenditures result from the implementation of health insurance programs (Barros, 2008; Doubova et al., 2015; Galarraga et al., 2010; Grogger et al., 2014; Knaul et al., 2006; Knox, 2008; Leininger et al., 2010; Sommers et al., 2017; Sosa-Rubi et al., 2011), the probability that households will incur impoverishing expenditures also lowers (Knaul et al., 2018). Consequently, the disposable income of the newly insured might rise; the evidence points out that health insurance reduces uncertainty, enabling households to reduce precautionary savings (Chou, Liu, & Huang, 2004; Wagstaff & Pradhan, 2005). For example, the Medicaid program in the United States led to a reduction in savings and an increase in consumption (Gruber & Yelowitz, 1999; Leininger et al., 2010). Chou et al. (2003) studied the effect of health insurance on households' precautionary savings using Taiwan's 1995 introduction of National Health Insurance and found a reduction in savings by an average of 8.6–13.7%.

Cheung and Padieu (2015) pointed out that the New Cooperative Medical Scheme's (NCMS) allowed households to lower savings and boost consumption in rural China. Kirdruanga and Glewwe (2018) studied the impact of Thailand's Universal Health Coverage Scheme (UCS) on households' savings, and they found that, in the short run, the UCS had little or no impact on either households' savings or households' consumption expenditures. No effect on savings was found in the long run (unless savings is defined to include consumption of durable goods). The increased disposable income can also be associated with changes in labor

supply. The literature has produced mixed results, depending on gender, age, and other specific socioeconomic characteristics. Contractions in labor supply can be found in Knox (2008) and Chou and Staiger (2001), while evidence of increases can be found in Garthwaite et al. (2014) and Valle (2014).

The evidence described so far generally supports the notion that providing health insurance fosters the use of health facilities, reduces catastrophic and out-of-pocket health expenditures, and decreases precautionary savings. We now explore the literature that offers insights into how consumption decisions are altered. Gruber and Yelowitz (1999) documented that eligibility to the program Medicaid in the USA, was strongly associated with consumption expenditures. Leininger et al. (2010) focused on studying the Children's Health Insurance Program (CHIP), which provides health coverage to eligible children through Medicaid, using the Consumer Expenditure Survey (from 1996 to 2002) they found that eligibility for CHIP is associated with an increase in overall expenditure, most of which is allocated to consumption of basic needs (housing, food, and transportation).

Evidence from low- and middle-income countries shows comparable results. Wagstaff and Pradhan (2005) studied the effects of the introduction of Vietnam's Health Insurance (VHI) program on health outcomes and nonmedical household consumption. Using propensity score matching with a double-difference estimator (representing households with partial or full family coverage), they found that the program increased nonmedical household consumption, including food consumption. The program also impacted favorably on the height-for-age and weight-for-age of young school children and the body mass index among adults.

Kirdruanga and Glewwe (2018) studied Thailand's Universal Health Coverage Scheme (UCS) on households' consumption using data from the Socio-Economic Survey (SES) and the Health and Welfare Survey (HWS). They found evidence of increased consumption, especially of durable goods, over time (from 2001 to 2007). The UCS's increased consumption was identified as both an income effect (by reducing out-of-pocket medical costs) and a risk reduction effect.

Analysis of the New Cooperative Medical Scheme (NCMS) in rural China has also shown that consumption increases among insured individuals (Bai & Wu, 2014; Cheung & Padieu, 2015; Zhao, 2018). Using data from the China Health and Nutrition Survey (CHNS), Cheung and Padieu (2015)

showed that higher middle-income participants tended to reduce their savings and increase their consumption. For the poorest households, however, they found no effects, likely due to their considerable dissaving and borrowing constraints, as their consumption expenditures were higher than their average income. The share of the food consumption budget was estimated at around 145%.

Zhao (2018) studied the specific impact of the critical illness insurance (CII), an expansion of the NCMS program, on the consumption of rural households and found that the CII increased per capita daily household consumption by 15%. The study also identified heterogeneity in the consumption smoothing effects of CII across households of different income levels as the policy exacerbated consumption inequality among rural households.

Panchalingam (2020) examined the Medicaid expansion program, focusing on the patterns of non-healthcare consumption of insured households. The author found that eligible families spent less on fresh food per adult and more on health and beauty products. He et al. (2020) investigated the impact of the 2010 Patient Protection and the Affordable Care Act (ACA) on non-alcoholic beverage choices in low-income households. Their results indicate that diet-carbonated soft drinks and bottled water purchases increased, while carbonated soft drinks, fruit juice, fruit drinks, milk, and tea remained constant. They also found that the policy decreased sugar purchases and increased purchases of non-alcoholic beverage products with lower sugar content.

Given the changes caused in consumption, health has also been associated with changes in obesity and overweight rates. Studies based on the Affordable Care Act (ACA) show mixed results, while some studies find that overweight and obesity rates decrease (Barbaresco et al., 2015; Courtemanche & Zapata, 2013; Rhubart, 2018). There are also findings that body mass index and obesity tend to increase (Bhattacharya et al., 2009). Bhattacharya et al. (2009) argued that health insurance induces a moral hazard effect by weakening incentives to lose weight. The moral hazard effects on the behavior of insured households have also been examined by Rashad and Markowitz (2009, 2010), who found that having insurance is associated with a higher body mass index but not with a higher probability of being obese.

Evidence from less developed countries is more specific on consumption across food groups. Fan et al. (2021) studied the impact of the public

health insurance New Cooperative Medical Scheme (NCMS) on childhood nutrition in poor rural households in China (2004, 2006, 2009, and 2011), aiming to identify the mechanisms through which health insurance coverage affects nutritional intake. The study showed that NCMS was associated with a decline in calories, fat, and protein intake and an increase in carbohydrates. Increments in out-of-pocket medical expenses were identified as the primary channel through which the NCMS affected children's nutritional intake, as NCMS coverage tended to encourage the use of higher-level medical providers.

Chen et al. (2022) studied the impact of enrollment in the NCMS program on the insured's diet diversity and balance. Their results revealed benefits in diet diversity, overall diet balance, and nutritional intake. For those enrolled, they found evidence of under-consumption of animal products and fruits, and of over-consumption of grains, pointing out what they refer to as a potential health risk on the insured.

The work of Costa-Font et al. (2020) is, to our knowledge, the only study that investigates the effects of *Seguro Popular* on health and nutritional choices. They analyzed the effect of the program on individuals who are overweight and obese, and food consumption using three waves of the Mexican Family Life Survey (MxFLS): one pre-treatment (2002) and two covering the expansion of the program (2005 and 2009). The study primarily focuses on the nutritional choices and outcomes of households benefiting from the program. Their findings indicate that *Seguro Popular* had no discernible impact, as their coefficients on all outcomes are remarkably close to zero and not statistically significant. Their choice of methods, surveys and geographic focus differ from ours, which may explain the different results obtained.

### 3. Estimation Strategy

The econometric analysis begins with the estimation of systems of Seemingly Unrelated Equations (SUR) introduced by Zellner (1962). The explained variables here are the expenditures in each of the food groups. In the SUR models, the equations are linked, as their disturbances are allowed to be correlated, feeding the system with additional information that would be missed if the expenditure equations were considered separately. The correlation in disturbances among the equations that explain household expenditure could come from the same sources, such as income, price levels, or household characteristics, gaining efficiency in the estimation by combining the information on different equations.

There are nine regression equations each for the nine discrete categories of food. Although the demand for each category is represented in individual equations, any income shock will likely affect the demand for all categories. A SUR system is then appropriate to capture this relationship among the equations through the error term. Consumption of the food  $f$  of household  $h$  is expressed in equation (1) as follows:

$$Y_{fh} = \beta_0 + X'_{fh}\beta_f + SP_{fh}\beta_f^+ + \varepsilon_{fh} \quad (1)$$

for  $f = 1, \dots, F$  and  $h = 1, \dots, H$ . Where  $Y_{fh}$  is the real per capita expenditure of household  $h$  on the food category  $f$ ,  $X'$  represents a set of explanatory variables including income, demographic structure of the household (total male and female, minors, and senior adults) and characteristics of the head of the household (age, sex, educational levels, and work formality, for example),  $SP$  is a dummy variable taking a value of one if the household was insured, so  $\beta^+$  will capture the short-run effects (in 2004) of *Seguro Popular*.

The matrix form of the regression model is:

$$Y_f = X_f\beta_f + \varepsilon_f \quad (2)$$

where  $X_f$  is the set of regressors for the equation of the  $f$  category of food, including  $SP$ .

$$[Y_1 : Y_F] = [X_1 \ 0 \ 0 \ 0 \ \dots \ 0 \ X_2 \ \ddots \ 0 \ \dots \ X_F][\beta_1 : \beta_F] + [\varepsilon_1 : \varepsilon_F]$$

The disturbance vectors  $\varepsilon_1$  to  $\varepsilon_F$  are assumed to have the following variance-covariance matrix:

$$V(\varepsilon) = \begin{bmatrix} \sigma_{11}I & \sigma_{f1}I & \sigma_{12}I & \dots & \sigma_{1f}I & \vdots & \vdots & \sigma_{f2}I & \dots & \sigma_{FF}I \end{bmatrix} = \begin{bmatrix} \sigma_{11} & \sigma_{f1} & \sigma_{12} & \dots & \sigma_{1f} & \vdots & \vdots & \sigma_{f2} & \dots & \sigma_{FF} \end{bmatrix} \otimes I \text{ for } f = 1, \dots, F$$

$$V(\varepsilon) = \Sigma \otimes I \quad (3)$$

where  $\Sigma$  is the matrix variances and covariances for the  $F=9$  individual equations. According to Moon and Perron (2006), in the classical linear SUR model, there is the assumption that for each  $f = 1, \dots, F$  conditional on all the regressors  $X$ , the errors  $\varepsilon_t$  are i.i.d with mean zero and homoscedastic variance. Furthermore, by applying least squares or

generalized least squared methods (Srivastava & Dwivedi, 1979), the  $\beta$  estimators can be obtained as:

$$\beta_{GLS} = [X'(\Sigma^{-1} \otimes I_T)X]^{-1}X'(\Sigma^{-1} \otimes I_T)Y. \quad (4)$$

While the SUR model will help us capture the effect of *Seguro Popular* once it was implemented, we are aware of possible self-selection issues. To isolate the causal effect of the program considering a temporal dimension, before and after the intervention, we implement a quasi-experimental design and estimate the effect through a difference in differences (DiD) approach. The DiD technique compares the changes in food expenditure over time between two groups, treatment (population that received the insurance) vs control (the group that did not), while controlling for other socioeconomic characteristics. This estimation method is useful when the data stem from a natural experiment (or quasi-experiment) (Wooldridge, 2013), like when an exogenous event, such as *Seguro Popular*, occurs. The control and treatment groups emerge naturally due to the policy change.

Simply measuring the impact of the program as the difference in the output before and after the intervention would not be an accurate estimation either since other individual and household factors might have also changed and influenced the magnitude of the effect. Changes in the expenditures would be incorrectly attributed only to the public intervention under study. The DiD approach helps to isolate the impact of the policy but requires a reliable approach to consider the possible selection bias. To illustrate the procedure, we follow Duflo et al., (2008), define:

- $Foodexp_h^T$ : the average consumption expenditure on a given food category by the household  $h$  that participates in *Seguro Popular*
- $Foodexp_h^C$ : the average consumption expenditure on a given food category by the household  $h$  that does not participate in *Seguro Popular*.

Since a household either participates or not in the program, the estimate of interest is rather the average effect in the population,  $E[Foodexp_h^T - Foodexp_h^C]$ . With access to data on both groups, the effect can be obtained by taking the difference in expected consumption between the group of households with *Seguro Popular*,  $E[Foodexp_h^T|T]$ , and the group without the health insurance,  $E[Foodexp_h^C|C]$ , that is:

$$D = E[Foodexp_h^T|T] - E[Foodexp_h^C|C] \quad (5)$$



The selection bias can be theoretically illustrated by subtracting and adding  $E[Foodexp_h^C|T]$  to equation (5), this is the expected consumption expenditure on the food category of interest for a household in the treatment group had it not been treated, thus:

$$D = E[Foodexp_h^T|T] - E[Foodexp_h^C|T] + E[Foodexp_h^C|T] - E[Foodexp_h^C|C] \quad (6)$$

where:

- $E[Foodexp_h^T|T] - E[Foodexp_h^C|T]$  captures the effect of the *Seguro Popular*
- $E[Foodexp_h^C|T] - E[Foodexp_h^C|C]$  is the selection bias. It captures the difference in potential expenditure between treatment and comparison households; treatment households might have had different average expenditures even if they were not treated.

With a difference-in-difference approach we use data on consumption expenditures before (period 0, year 2002) and after (period 1, year 2004) the implementation of *Seguro Popular* to control for pre-existing differences between the two groups, and under the assumption that differences between the groups remained constant over time (followed parallel trends), the difference-in-difference estimator is:

$$\widehat{DiD} = \hat{E}[Foodexp_1^T|T] - \hat{E}[Foodexp_0^C|T] - [\hat{E}[Foodexp_1^C|C] - \hat{E}[Foodexp_0^C|C]] \quad (7)$$

If the parallel trends assumption holds, equation (7) provides an unbiased estimate of the effect of *Seguro Popular* on the consumption expenditure of the types of food of interest. It can be written as:

$$\hat{E}[Foodexp_1^C|T] - \hat{E}[Foodexp_0^C|T] = \hat{E}[Foodexp_1^C|C] - \hat{E}[Foodexp_0^C|C]$$

which indicates that the consumption expenditure in the treatment group, without access to public health insurance, would have followed the same time trend as the control group. The *DiD* estimator is then obtained by estimating the following linear regression model, for each food category  $f$ :

$$Foodexp_f = \beta_0 + \beta_1 Period + \beta_2 SP + \beta_3 Period * SP + \beta_4 X_h + \varepsilon \quad (8)$$

where *Period* is a dummy variable taking values of one for the post-implementation period, 2004, and *SP* is a dummy for the treatment group. The difference-in-difference estimate  $\beta_3$  measures the effect of *Seguro*

*Popular* (different changes over time), the difference between the calculated trends for the treatments and control group.

In the estimations, the treatment and control group were created based on the percentage of coverage of *Seguro Popular* within the municipality where the households resided. We classified the sample in four groups, starting with municipalities where the program was not offered (0% coverage), followed by a group with municipalities with low coverage (25 - 50%), the third group represents medium coverage (50 - 75%), and the fourth group contains those municipalities with high coverage (>75%). Households located in municipalities where the program's coverage was higher than 50% constitute the treatment group, and those with no coverage form the control group. Ideally, only municipalities with high or full coverage would form the treatment group. Unfortunately, the number of observations here is extremely low (see Table 2), which motivated us to add all municipalities with medium coverage. Results then would be seen as a lower bound approximation to the true effects.

#### 4. Data Description

Data for the empirical analysis come from The Mexican National Household Income and Expenditure Survey (*ENIGH*) of 2002 and 2004. It distinguishes urban from rural communities (< 2,500 inhabitants), allowing us to focus only on the latter. The sample of 2002 represents 3,305,493 rural households and 3,339,657 in the sample of 2004. The survey is rich in information; it provides detailed data on consumption, including expenses and the amounts of food consumed, income, as well as demographic and other socio-economic characteristics of both the household and each household member.

The survey labels the different expenditures by group codes. The purposes of this research require the information labeled with code "A", which identifies expenses on "food and drinks". This group represents more than 80% of the total spending on household intake. All products included in *food and drinks* are further classified into the nine different categories shown in Table 1. Namely, (1) *animal protein*, (2) *cereals*, (3) *fruit and vegetables*, (4) *milk and derivatives*, (5) *processed sugars*, (6) *oils and fats*, (7) *alcoholic beverages and tobacco*, (8) *food consumed outside the household*, and the remainder is grouped in (9) *others*. Consumption expenditures in each one of these nine categories are the explanatory variables that form the system represented in equation (2) for the SUR model, and that will be individually regressed to obtain the DiD estimator shown in equation (8).

**Table 1**  
**Composition of the basket of food by category**

Category	Items
1 Animal protein	Beef, veal, pork, poultry, fish, and seafood.
2 Cereals	Corn, wheat, rice, and other grains.
3 Fruit and vegetables	Vegetables, fruits, legumes, seeds, and tubers.
4 Milk and its derivatives	Milk, cheese, cream, and butter.
5 Processed sugars	Sugar, honey, chocolate, sweets, desserts, artificially flavored drinks, and syrup.
6 Oil and fats	Vegetable oil, coconut oil, margarine, lard, vegetable shortening, and other oils.
7 Alcoholic beverages and tobacco	Liquor, wine, beer, and cigarettes.
8 Food consumed outside the household	Breakfast, lunch, and dinner without distinction between specific products.
9 Others	Others not included above.

Source: Authors' creation using data from the ENIGH, 2022 and 2004.

Table 2 shows how rural households distributed their food expenses in 2002 (left panel) and 2004 (right panel). The columns separate the municipalities according to the proportion of households that *Seguro Popular* insured. As in 2002 *Seguro Popular* had not been implemented, this comparison helps us identify changes in expenditure behavior before and after the policy at different levels of coverage. For example, column [1] in the left panel indicates that in 2002, in households where the policy would remain absent, 27.7% of the total expense was allocated to consumption of *food and vegetables*, 23% was spent on *cereals*, followed by *animal protein* with 16.8%, these three categories then accounted for nearly 70% of the total. In column [4], which shows the expenditure distribution of households located in municipalities where the coverage would be high (over 75%), a similar pattern of expenditure emerges, with *food and vegetables* accounting for 23.7%, followed by *cereals* 23.3%, and *animal protein* with 15.5%. The right panel shows the expenditure shares once the policy was introduced. Column [4] indicates that in households that were granted access to *Seguro Popular*, there was a decrease in the participation of *fruit and vegetables* of about 8 percentage points, to 15.8%, this change appears meaningful as in households that remained excluded, column [1], the proportion only reduced by 5.7 pp, to 22%. The intake of *processed sugars* appears to have increased among those covered by the policy since the share of expenditure in this category more than doubled (from 4.9% to 10.5%). *Cereals* do not show notable changes, while there was a small increase in the share of expenditure on *Animal Protein* (about 3pp).

**Table 2**  
**Households' distribution of food expenditure, 2002 and 2004, by food category and coverage of Seguro Popular in rural Municipalities**

<i>Coverage of Seguro Popular</i>	2002				2004			
	0%	>0-50%	50-75%	75-100%	0%	>0-50%	50-75%	75-100%
	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
Animal protein	16.8%	21.0%	20.4%	15.5%	17.1%	18.2%	16.8%	18.1%
Cereals	23.0%	22.5%	26.8%	23.3%	20.8%	21.8%	20.8%	23.3%
Milk and its derivatives	6.5%	7.1%	4.8%	3.2%	6.4%	7.4%	5.3%	7.0%
Fruit and vegetables	27.7%	21.4%	20.9%	23.7%	22.0%	21.0%	20.1%	15.8%
Processed sugars	9.2%	8.3%	9.9%	4.9%	8.4%	9.6%	12.1%	10.5%
Oil and fats	4.6%	3.7%	3.4%	6.3%	2.4%	3.6%	4.3%	3.4%
Alcoholic beverages and tobacco	0.7%	1.0%	2.0%	1.0%	0.4%	1.1%	1.1%	0.7%
Outside	2.4%	5.6%	2.4%	4.4%	9.1%	5.4%	5.2%	5.1%
Others	9.1%	9.6%	9.4%	17.7%	13.5%	11.9%	14.2%	16.2%
<i>Total</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>
<i>N Households</i>	<i>1,373,742</i>	<i>1,436,701</i>	<i>158,124</i>	<i>1,887</i>	<i>978,280</i>	<i>1,803,878</i>	<i>159,303</i>	<i>7,958</i>
<i>N observations</i>	<i>733</i>	<i>987</i>	<i>231</i>	<i>17</i>	<i>816</i>	<i>973</i>	<i>297</i>	<i>37</i>

Source: Authors calculations using data from the ENIGH 2002, 2004.

Table 3 compares the average expenditure in food for the treated, before and after the policy. The *t-test results* support a statistically significant reduction in *Animal Protein* and *Cereals*, of about \$400 in both cases. We cannot know from the survey what specific types of food households consume away from home, but the expenditure in this category, labeled *Outside*, increased and the change is statistically significant. The category of *Others* also shows a statistically significant increment.

**Table 3**  
**Average expenditure in food before and after the policy, treated households**

<i>Food type</i>	2002		2004		<i>p-value</i>
	Amount	Proportion	Amount	Proportion	
Animal protein	\$1,654.20	20.3%	\$1,299.40	16.9%	0.0129(*)
Cereals	\$1,876.43	26.8%	\$1,400.14	20.9%	0.0000(***)
Milk and its derivatives	\$380.53	4.8%	\$423.39	5.4%	0.4545
Fruit and vegetables	\$1,403.26	20.9%	\$1,311.23	19.9%	0.3321
Processed sugars	\$680.15	9.9%	\$708.41	12.1%	0.6045
Oil and fats	\$240.14	3.5%	\$240.83	4.2%	0.9798
Alcoholic beverages and tobacco	\$136.57	2.0%	\$59.71	1.1%	0.1128

Outside	\$236.53	9.5%	\$440.90	14.3%	0.0331(*)
Others	\$685.05	2.4%	\$925.79	5.2%	0.0005(***)
<i>N Households</i>	160,011		167,261		
<i>N observations</i>	248		334		
<i>p&lt;0.10, *p&lt;0.05, **p&lt;0.01, ***p&lt;0.001</i>					

Source: Authors' calculations using data from the ENIGH 2002, 2004. Note: All expenditures are expressed in real values using December 2018 as the base month.

Comparing the expenditure distribution in food before *Seguro Popular* between the treatment group and the control group (as shown in Table 4), allows us to observe a notably different spending behavior between the groups. On average, the treated group had significantly higher expenditures in *Animal Protein*, *Cereals*, and *Processed sugars*, but lower in *Fruit and vegetables* and *Milk and its derivatives*.

**Table 4**  
**Comparison of average food expenditure between control and treatment groups before *Seguro Popular* (2002)**

Before Sugar Popular (2002)					
	Control		Treatment		p-value
Food type	Amount	Proportion	Amount	Proportion	
Animal protein	1,245.53	16.8%	1,654.20	20.3%	0.0015(**)
Cereals	1,390.87	23.0%	1,876.43	26.8%	0.0000(***)
Milk and its derivatives	484.95	6.5%	380.53	4.8%	0.0364(*)
Fruit and vegetables	1,736.55	27.7%	1,403.26	20.9%	0.0000(***)
Processed sugars	575.99	9.2%	680.15	9.9%	0.0302(*)
Oil and fats	264.89	4.6%	240.14	3.5%	0.2440
Alcoholic beverages and tobacco	29.11	0.7%	136.57	2.0%	0.0112(*)
Outside	273.91	9.1%	236.53	9.5%	0.6546
Others	555.95	2.4%	685.05	2.4%	0.0088(**)
N Households	1,373,742		160,011		
N observations	733		248		
.p<0.10, *p<0.05, **p<0.01, ***p<0.001					

Source: Authors' calculations using data from the ENIGH 2002, 2004.

Various explanatory variables<sup>6</sup> will be employed in the estimations; these are used to control for socio-economic characteristics at the head of the household, household, municipality, and state levels that could have

<sup>6</sup> Table 13 in the appendix shows the list of all variables.

influenced the spending choices. Mean values for the two groups, before and after the intervention, and for all the variables considered are presented in Table 5. The values portray relatively similar groups, in both, the average number of male household members is around 2, equal to the average of 2 female members. The average number of older adults (> 65 years) is less than the unity, and of minors (<18 years) is 1. In 2002, the average monetary income for beneficiaries' households was \$13,154.65, and for the non-beneficiaries was \$12,957.37 (a \$197.29 difference), this gap widened in 2004, as beneficiaries' households had a quarterly income increment of \$56.40, while for those in the control group it grew by \$2,671.89. The number of employed members per household remained between 1 and 2, and around 70% of households received a social transfer. The household head level of education with the highest proportion is basic education, with about 60% of households having an average head age of 48.

Municipal variables are chosen to reflect households' socio-economic and infrastructural aspects that may influence household food consumption, shaping dietary consumption patterns. The average of accredited years of schooling is 5.80. The percentage of the population aged 15 years and over without any school year completed is 16%, 80% of households are male-headed, the percentage of households without piped water, drainage, and electricity is around 4%, 70% of private dwellings households inhabited a floor made of a material other than dirt, and 10% of the population aged 5 and over speaks an indigenous language.

The parallel trends assumption in the DiD procedure means that with the absence of *Seguro Popular*, the food spending behavior of the two groups would have followed the same trend over time. In satisfying the assumption it is useful to examine how similar the groups were before the program. We resort to weighted *t*-tests for means to this end, the *p-values* (Table 11) indicate that the groups were statistically different in a handful of features; in particular, the proportion of older adults (>65) and male children (7-15) are larger in the control group. The variables for education suggest individuals in the treatment group completed more schooling years. The percentage of male-headed households and the proportion of households where the floor is not made of dirt are also higher for the treated.

**Table 5**  
**Mean values of observable socioeconomic characteristics, by group and year**

<i>Variable</i>	2002		2004	
	Control	Treatment	Control	Treatment
Quarterly monetary income in Mexican Pesos	12,957.37	13,154.65	15,629.26	13,211.05
Number of males	1.99	2.01	1.96	2.13
Number of females	2.14	2.15	2.09	1.84
Number of children (<18 years)	1.16	1.19	1.12	1.01
Number of older adults (>65 years)	0.38	0.27	0.37	0.38
Number of employed members	1.53	1.60	1.62	1.41
Receives transfers (= 1 if yes, 0 if not)	0.69	0.68	0.65	0.76
Number of male children between 0 and 6 years	0.22	0.27	0.28	0.26
Number of female children between 0 and 6 years	0.25	0.29	0.21	0.16
Number of male children between 7 and 15 years	0.54	0.39	0.41	0.48
Number of female children between 7 and 15 years	0.46	0.55	0.39	0.32
Level of education not registered (= 1 if yes, 0 if not)	0.06	0.04	0.00	0.00
Level 0 of education registered (= 1 if yes, 0 if not)	0.33	0.25	0.26	0.22
Basic education level registered (= 1 if yes, 0 if not)	0.59	0.69	0.54	0.62
Middle education level registered (= 1 if yes, 0 if not)	0.02	0.02	0.16	0.14
Higher education level registered (= 1 if yes, 0 if not)	0.01	0.00	0.04	0.02
Age of the household head	48.99	47.62	49.32	50.71
% of the population aged 15 years and over without any school year completed	0.21	0.13	0.23	0.03
Average school years	5.74	5.92	5.86	5.87
% of the population aged 5 and over that speaks an Indigenous language	0.11	0.10	0.11	0.08
% of male-headed households	0.79	0.81	0.79	0.82
% of private dwellings inhabited with a floor made of a material other than dirt	0.60	0.70	0.70	0.78
% of private inhabited homes that do not have piped water, drainage, and electricity	0.04	0.04	0.04	0.04
<i>N Households</i>	<i>1,373,742</i>	<i>160,011</i>	<i>978,280</i>	<i>167,261</i>
<i>N observations</i>	<i>733</i>	<i>248</i>	<i>816</i>	<i>334</i>

Source: Authors' calculations using data from the ENIGH 2002, 2004.

**Table 6**  
**Tests for means of independent variables: control vs treatment, 2002**

	2002		<i>p</i> -value
	Control Mean	Treatment Mean	
Monetary income	12,957.366	13,154.653	0.7632
Number of males	1.993	2.007	0.8808
Number of females	2.142	2.145	0.9767
Number of minors (<18 years)	1.163	1.191	0.7784
Number of older adults (>65 years)	0.380	0.273	0.0169(*)
Number of employed members	1.529	1.605	0.2999
Receives transfers (= 1 if yes, 0 if not)	0.695	0.680	0.6598
Number of male children between 0 and 6 years	0.221	0.273	0.1894
Number of female children between 0 and 6 years	0.247	0.286	0.3686
Number of male children between 7 and 15 years	0.536	0.391	0.0061(**)
Number of female children between 7 and 15 years	0.459	0.553	0.1628
Level of education not registered (= 1 if yes, 0 if not)	0.057	0.036	0.1423
Level 0 of education registered (= 1 if yes, 0 if not)	0.331	0.252	0.0167(*)
Basic education level registered (= 1 if yes, 0 if not)	0.592	0.690	0.0045(**)
Middle education level registered (= 1 if yes, 0 if not)	0.015	0.021	0.5404
Higher education level registered (= 1 if yes, 0 if not)	0.005	0.000	0.0794(.)
Household head age	48.988	47.619	0.3308
% of the population aged 15 years and over without any school year completed	0.210	0.127	0.0000(***)
Average school years	5.739	5.921	0.0476(*)
% of the population aged 5 and over that speaks an indigenous language	0.108	0.102	0.0730(.)
% Male-headed households	0.793	0.814	0.0000(***)
% of private dwellings inhabited with a floor made of a material other than dirt	0.601	0.701	0.0000(***)
% of private inhabited homes that do not have piped water, drainage, and electricity	0.043	0.039	0.2511
<i>N Households</i>	1,373,742	160,011	
<i>N observations</i>	733	248	

.<p0.1,\*p<0.05, \*\*p<0.01, \*\*\*p<0.001

Source: Authors' calculations using data from the ENIGH 2002, 2004.



Thus, despite the groups being similar in several features including total income, we cannot presume the two groups to be perfectly identical before the implementation of *Seguro Popular*. Recognizing these pre-existing disparities is essential, as they could introduce bias and confound the estimated treatment effect. Pre-existing differences between the groups may have potential implications for subsequent expenditure outcomes and decision-making processes. By identifying and accounting for these disparities, we can better comprehend the potential effects of these differences on the outcomes of interest, which allows us to mitigate the risk of drawing erroneous conclusions in our estimation of the *Seguro Popular* program's impact.

In this analytical context, we further examine changes in the observed characteristics of the treated group from 2002 to 2004. The outcomes of the weighted t-tests, as presented in Table 7, reveal significant differences across demographic, educational, and municipal characteristics, observed in 16 out of the 23 variables. It is important to note that income levels remained statistically unchanged during this period, and therefore, if any changes in food consumption are found, they should not be attributed to an increase in income.

**Table 7**  
**Tests for means of independent variables: treatment group, 2002 vs 2004**

	2002 Treatment Mean	2004 Treatment Mean	p-value
Monetary income	13,154.653	13,211.052	0.9414
Number of males	2.007	2.131	0.2692
Number of females	2.145	1.843	0.0055(**)
Number of minors (<18 years)	1.191	1.010	0.0970(.)
Number of older adults (>65 years)	0.273	0.378	0.0449(*)
Number of employed members	1.605	1.411	0.0201(*)
Receives transfers (= 1 if yes, 0 if not)	0.680	0.765	0.0242(*)
Number of male children between 0 and 6 years	0.273	0.256	0.7298
Number of female children between 0 and 6 years	0.286	0.159	0.0044(**)
Number of male children between 7 and 15 years	0.391	0.477	0.1768
Number of female children between 7 and 15 years	0.553	0.315	0.0011(**)
Level of education not registered (= 1 if yes, 0 if not)	0.036	0.000	0.0027(**)
Level 0 of education registered (= 1 if yes, 0 if not)	0.252	0.220	0.3636
Basic education level registered (= 1 if yes, 0 if not)	0.690	0.620	0.0751(.)
Middle education level registered (= 1 if yes, 0 if not)	0.021	0.144	0.0000(***)
Higher education level registered (= 1 if yes, 0 if not)	0.000	0.017	0.0189(*)
Household head age	47.619	50.715	0.0387(*)
% of the population aged 15 years and over without any school year completed	0.127	0.034	0.0000(***)

Average school years	5.921	5.874	0.5969
% of the population aged 5 and over that speaks an Indigenous language	0.102	0.084	0.0000(***)
% Male-headed households	0.814	0.822	0.0665(.)
% of private dwellings inhabited with a floor made of a material other than dirt	0.701	0.777	0.0000(***)
% of private inhabited homes that do not have piped water, drainage, and electricity	0.039	0.042	0.2668
<i>N Households</i>	160,011	167,261	
<i>N observations</i>	248	334	
.<p0.1, *p<0.05, **p<0.01, ***p<0.001			

Source: Authors' calculations using data from the ENIGH 2002, 2004.

Considering the results of descriptive statistics, it is imperative to control the behavior of the treatment group over time in the estimations. Tracking the same treatment group over time controls individual disparities and heterogeneities within our data. Characteristics and circumstances of individuals in the treatment group may undergo temporal variations, which can bias the estimates of the impact of *Seguro Popular*. These individual disparities will be accounted for through the selected estimation methods, allowing the focus to remain on net changes resulting from the treatment.

In addition to controlling for individual-level variation, we also assessed broader contextual factors that could influence consumption. To explore whether changes in consumption patterns could be driven by fluctuations in food prices, we conducted *t-tests* comparing average food prices by food groups reported for 2002 and 2004<sup>7</sup> (for treatment and control). Significant increases were found in several categories, including *animal protein, cereals, fruits and vegetables, and food consumed outside the household*. Although price data are not directly included in the estimation models, these tests suggest that any observed substitution toward less healthy food cannot be fully attributed to price inflation. Additionally, as mentioned before, our models include municipal-level fixed characteristics that proxy for local economic and infrastructure conditions, which may partially absorb the effects of regional price dynamics. It is also important to note that food price data in the available sources contain important gaps and inconsistencies, which limit their inclusion as reliable covariates in the main models.

<sup>7</sup> Table 14 in the appendix shows detailed results.

## 5. Results

Following the outline of the two methods presented in the estimation strategy, here we show the estimates of health insurance effect on food consumption, first with SUR models and then with the DiD approach.

### 5.1 Seemingly Unrelated Regressions

With Seemingly Unrelated Regressions (SUR) models we examine the interplay between *Seguro Popular*, sociodemographic characteristics, and their collective influence on household expenditure within the post-treatment period (2004) as expressed in equation (1). The estimates are presented in Table 9; the first column shows the results when the expenditures on each food category are linearly expressed, in the second column they are in logarithms.

Households in municipalities with relatively large coverage of *Seguro Popular* reduced the consumption expenditure of *fruit and vegetables* by \$441.05 after the program was introduced. This is the largest change among all food categories with statistically significant results, and the only one that decreased. On the other hand, the intake of *processed sugars* (\$142.14), *oils and fats* (\$86.70), and those in the *others* category showed statistically significant increments. These findings are robust to the functional form adopted. In the models where expenditure is expressed in logs, results indicate that beneficiary households, on average, decrease 45% of expenditure in *fruit and vegetables*, but exhibit a 71.2% higher expenditure on *processed sugars* and a 66.1% increase in *oils and fats* consumption compared to their non-beneficiary rural counterparts. The expenditure on *cereals* also increased although the significance is lost when expenditure is in logs.

Thus far, these findings indicate a concerning trend in dietary choices. The significant reduction in expenditure on fruits and vegetables, essential for a healthy diet, contrasts sharply with the increased spending on processed sugars, oils, and fats—categories associated with unhealthy food choices. This shift suggests that while *Seguro Popular* may alleviate problems of access to medical care, it may inadvertently be encouraging poorer dietary choices as well.

**Table 8**  
**Estimate of the effect of *Seguro Popular (SP)* on food consumption, Linear and Logarithmic SUR models**

Equation	R-sq	Obs	Parameter	<i>expenditure</i>	<i>Log(expenditure)</i>
Animal protein	0.2673	1,150	Coef.	-135.35	0.22
			Std. Err.	102.91	0.21
			<i>p</i> -value	0.19	0.3
Cereals	0.183	1,150	Coef.	174.33*	0.08
			Std. Err.	88.69	0.14
			<i>p</i> -value	0.05	0.57
Milk and its derivatives	0.2031	1,150	Coef.	4.17	-0.09
			Std. Err.	57.92	0.21
			<i>p</i> -value	0.94	0.68
Fruit and vegetables	0.1625	1,150	Coef.	-441.05***	-0.45**
			Std. Err.	91.63	0.14
			<i>p</i> -value	0	0
Processed sugars	0.1058	1,150	Coef.	142.15**	0.71***
			Std. Err.	51.98	0.19
			<i>p</i> -value	0.01	0
Oil and fats	0.0728	1,150	Coef.	86.7***	0.66**
			Std. Err.	20.05	0.21
			<i>p</i> -value	0	0
Alcoholic beverages and tobacco	0.0353	1,150	Coef.	-44.62	0.06
			Std. Err.	50.38	0.12
			<i>p</i> -value	0.38	0.6
Outside	0.1074	1,150	Coef.	-72.66	-0.35
			Std. Err.	122.01	0.24
			<i>p</i> -value	0.55	0.14
Others	0.0746	1,150	Coef.	301.26**	0.48**
			Std. Err.	95.66	0.16
			<i>p</i> -value	0	0

.<p0.1,\*p<0.05,\*\*p<0.01,\*\*\*p<0.001

Source: Authors' calculations. Note: the complete set of coefficient estimates are presented in Table 15 and 16 in the appendix.

There are other results that might be relevant for policy making purposes (see Table X in the appendix), for example, more females in the household can be associated with a greater expenditure on the healthier categories of food, and with a lower expenditure on the intake of alcohol and tobacco. Variables at the municipal levels, used to control for the level of infrastructure, significantly influence the estimated changes in

consumption decisions. These elements play a vital role in shaping the results obtained.

## 5.2 Difference-in-Differences (DiD) Estimations

As described above, the use of DiD helps us unravel a clearer causal inference of the effects of *Seguro Popular* as time-invariant differences between the groups are now considered. Results derived from estimating equation (8) are presented in Table 9.

**Table 9**  
**Coefficient estimates of the DiD baseline models**

Group	Coefficient (interaction)	Std. Error	t-stat	p-value
Animal protein	-281.20	179.80	-1.564	0.117953
Cereals	-382.70	164.00	-2.333	0.019735*
Milk and its derivatives	-83.48	111.40	-0.749	0.453645
Fruit and vegetables	-95.16	162.70	-0.585	0.55861
Processed sugars	94.33	92.36	1.021	0.307254
Oil and fats	128.60	41.28	3.117	0.001854**
Alcoholic beverages and tobacco	-102.60	44.14	-2.324	0.0202*
Outside	-64.43	188.20	-0.342	0.732126
Others	-60.76	130.20	-0.467	0.64066
.p<0.10,*p<0.05, **p<0.01, ***p<0.001				

Source: Authors' calculations. Note: the results with the set of all coefficients are presented in Table 17 in Appendix.

The signs of the coefficients associated to *fruits and vegetables* (-), *processed sugars* (+), and *oil and fats* (+) are consistent with the previous results. However, only in the latter category does the statistical significance remain, which validates that beneficiary households increased the expenditure on *oil and fats*, by \$128.60. The impact on the consumption of *alcoholic beverages and tobacco* is negative and now highly significant. Similarly, results suggest a significant reduction in spending on *cereals*, which contrasts with the positive signs found in the earlier models. A possible explanation comes from descriptive statistics. While expenditures on cereal decreased in both the treatment and control groups from 2002 to 2004, the reduction was more prominent in the treatment group. Although the control group had higher total

expenditures in 2004 (\$1,553.60 compared to \$1,400.14 in the treatment group), the treatment group allocated a greater proportion of its resources to cereal (20.76% vs. 20.94%).

The same set of models are estimated with the dependent variables in logs. The results shown in Table 10 are now consistent with the findings derived from the SUR models in two food categories: *processed sugars* and *oil and fats*. In both cases, the increment derived from having access to the program is positive and highly significant. The effect on *alcoholic beverages and tobacco* remains negative and significant.

**Table 10**  
**Coefficient estimates of the DiD models (food expenditures in logs)**

Group	Estimate (interaction)	Std. Error	t-value	p-value
Animal protein	0.569	0.414	1.374	0.169603
Cereals	-0.182	0.274	-0.662	0.508092
Milk and its derivatives	-0.266	0.430	-0.618	0.536518
Fruit and vegetables	-0.114	0.269	-0.423	0.672293
Processed sugars	1.184	0.355	3.338	0.00086***
Oil and fats	1.315	0.413	3.183	0.00148**
Alcoholic beverages and tobacco	-0.311	0.188	-1.652	0.09879(.)
Outside	-0.710	0.390	-1.819	0.068986(.)
Others	0.247	0.325	0.758	0.448475
.p<0.10,*p<0.05, **p<0.01, ***p<0.001				

Source: Author's calculations. Note: the results with the set of all coefficients are presented in Table 18 in Appendix.

Table 11 summarizes the main results from the different methods and specifications. Some key lessons are worth emphasizing: (1) The results demonstrate that food choices do change when individuals gain access to medical insurance. Policymakers should therefore consider integrating nutritional education and support within health insurance programs to better ensure that financial assistance positively influences health outcomes. (2) The evidence here strongly indicates that *Seguro Popular* leads to higher expenditures on *processed sugars* and *oil and fats*, the types of food often linked to obesity, diabetes, and cardiovascular diseases (Hu, et al., 2001; Malik, et al., 2006; Stanhope, 2016). This suggests that *Seguro Popular* may have unintentionally reinforced health issues in rural Mexico by encouraging poor quality diets, in line with what Chen et al. (2022) identified as a potential health risk for the insured. (3) The intake of *fruit*



	(+)Oil and fats	(+)Oil and fats		
	(-)Alcoholic beverages and tobacco	(-)Alcoholic beverages and tobacco		
	(-) Outside	(-) Outside		
Middle-low (Q2)		(-) Cereals		
	(+)Processed sugars	(+)Processed sugars	\$13,869 - 39,056	1,048
	(+)Oil and fats	(+)Oil and fats		
Middle-up (Q3)		(+)Animal protein		
	(+)Processed sugars	(+)Processed sugars	\$39,078 - 45,548	60
Upper (Q4)	(no observations)			

Source: Authors' calculations. Note: Only categories with standard statistical significance shown. Note: the results with the set of all coefficients are presented in Table 19 to 24 in Appendix.

To ensure that the difference-in-differences (DiD) methodology meets the requirement of parallel trends, a series of OLS regressions were executed comparing the 1998-2000 and 2000-2002 periods<sup>8</sup>. The aim was to examine the presence of pre-existing trends by using a placebo treatment as a reference. The results of these tests were consistent with expectations, showing no significant effects during the 1998-2000 period (except for a decrease in consumption of alcoholic beverages and tobacco) and only significant effects in the 2000-2002 period (notably a decrease in spending on oil and fats, as well as the outside and others categories). These findings strengthen the robustness and validity of the general outcomes, supporting the validity of the parallel trends assumption within the difference-in-differences framework.

We are confident that the techniques employed have yielded rigorous results in our efforts to identify the causal effects of *Seguro Popular*. However, two major limitations must be acknowledged. First, although the treatment group should ideally include only households that were granted access to the program, our classification was based on municipal-level coverage percentages. This implies that some households may have been misclassified as treated despite not having actual access. As a result, the estimates may represent a lower bound—or an optimistic view—of the program's overall effect. Second, since the post-implementation data corresponds to the period immediately following the program's launch, our findings capture only short-run effects. No conclusions should be

<sup>8</sup> The complete DiD estimation from which the interaction coefficient belongs is presented in Tables 24–27 in Appendix.



drawn regarding longer-term impacts, as these may decay or reverse over time.

## Conclusions

Free or subsidized insurance programs aimed at promoting access to medical care for the vulnerable poor are ubiquitous around the world. The interconnectedness of financial insurance-savings-consumption decisions imply that these programs may also impact the choices of food. We investigated the final effect of access to medical care on dietary choices taking the Mexican program *Seguro popular* in rural regions as a case of study. *A priori* the effects of these programs were unknown as promoting a healthier diet or encouraging unhealthy habits are both possible.

The findings from our analysis, utilizing both Seemingly Unrelated Regressions (SUR) and Difference-in-Differences (DiD) models, highlighted significant shifts in food consumption patterns following the implementation of *Seguro Popular*. Households in municipalities with high coverage of the program exhibited a significant increase in spending on foods categorized as *processed sugars*, and *oils and fats*. This indicates that the provision of health insurance appears to inadvertently encourage poorer dietary choices. The robustness of these findings across different functional forms and income levels underscores the need for policymakers to consider the broader implications of health insurance programs on dietary habits.

Like many other similar programs across the globe, *Seguro Popular* was established with a clear and honorable objective. However, given the shifts in consumption patterns and nutritional preferences it causes among the recipients in the rural regions of Mexico, the risks of nutritional deterioration are tangible. These could fundamentally undermine the core rationale behind its creation. The results help to add valuable information on public health insurance programs about Mexican rural households' consumption and spending structures. More generally, these findings are helpful in enriching the political debates on the possible unintended consequences of insurance programs in vulnerable communities.

Despite the strengths of our study, it is crucial to acknowledge its limitations. The classification of households based on municipal-level coverage percentages may have introduced some misclassification in the treatment group, potentially biasing our estimates. Additionally, the

short-term nature of our post-implementation data limits the generalizability of our findings to longer-term outcomes. Future research should aim to incorporate longer follow-up periods and more precise measures of program coverage to discern whether these changes are transitory or indicative of enduring transformations. Nonetheless, our study provides valuable insights into the unintended dietary consequences of health insurance programs.

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## Appendix

**Table 13. List of independent variables**

	Variable	Measurement level
<i>ingmon_tri</i>	Monetary income	
<i>hombres</i>	Number of males	
<i>mujeres</i>	Number of females	
<i>menores</i>	Number of minors (<18 years)	
<i>p65mas</i>	Number of older adults (>65 years)	
<i>n_ocup</i>	Number of employed members	Household
<i>transfer</i>	Receives transfers (= 1 if yes, 0 if not)	
<i>hijos06</i>	Number of male children between 0 and 6 years	
<i>hijas06</i>	Number of female children between 0 and 6 years	
<i>hijos15</i>	Number of male children between 7 and 15 years	
<i>hijas15</i>	Number of female children between 7 and 15 years	
<i>nivel1</i>	Level of education not registered (= 1 if yes, 0 if not)	
<i>nivel2</i>	Level 0 of education registered (= 1 if yes, 0 if not)	
<i>nivel3</i>	Basic education level registered (= 1 if yes, 0 if not)	Household
<i>nivel4</i>	Middle education level registered (= 1 if yes, 0 if not)	head
<i>nivel5</i>	Higher education level registered (= 1 if yes, 0 if not)	
<i>edad</i>	Age	
<i>graproes</i>	Average school years	
<i>p15ymase</i>	% of the population aged 15 years and over without any school year completed	
<i>p5ymahli</i>	% of the population aged 5 and over that speaks an Indigenous language	Municipality
<i>hogar_jm</i>	% Male-headed households	(2005)
<i>vph_pidt</i>	% of private dwellings inhabited with a floor made of a material other than dirt	
<i>vph_nade</i>	% of private inhabited homes that do not have piped water, drainage, and electricity	

Source: Author's creation from available census data.

Table 14: *t*-test Results for Changes in Food Prices by Category

Group	Treatment			Control		
	Mean 2002	Mean 2004	p-value	Mean 2002	Mean 2004	p-value
Animal protein	11.749	17.853	0.000 (***)	15.4654	15.5914	0.8642733
Cereals	10.249	14.765	0.000 (***)	10.2720	12.4618	0.000035 (***)
Milk and its derivatives	10.615	10.121	0.7180482	14.8947	16.8494	0.076747
Fruit and vegetables	11.015	13.569	0.0000337 (***)	10.8400	13.5306	0.000 (***)
Processed sugars	11.580	8.877	0.2434487	6.6345	9.2434	0.01795 (*)
Oil and fats	33.779	30.832	0.8155067	10.9487	13.7645	0.542351
Alcoholic beverages and tobacco	5.842	6.759	0.2365537	5.4837	5.7212	0.446508
Outside	12.724	18.206	0.0008321 (***)	7.1756	10.1238	0.000104 (***)
Others	0.824	5.066	0.0000429 (***)	0.1432	10.0629	0.000 (***)
.p<0.10, *p<0.05, **p<0.01, ***p<0.001						

Source: Author's calculations from survey data.



**Table 15: Coefficient Estimates of the SUR Model (lin-lin)**

Equation	R-sq	Obs	Parameter	SP	ingmon_tri	hombres	mujeres	menores	p65mas	n_ocup	transfer	hijos06	hijas06	hijos15	hijas15
Animal protein	0.2673	1,150	Coef.	-135.35	0.05(***)	34.64	89.91	-9.12	-75.72	65.82	235.79(*)	-43.64	-118.89	8.03	136.41(.)
			Std. Err.	102.91	0	57.24	55.09	68.12	93.73	50.79	105.02	110.93	107.05	76.44	72.46
			p-value	0.19	0	0.55	0.1	0.89	0.42	0.2	0.03	0.69	0.27	0.92	0.06
Cereals	0.183	1,150	Coef.	174.33(*)	0.03(***)	102.49(*)	165.65(***)	-82.25	-80.31	30.28	-76.44	-17.06	147.13	-25.15	21.23
			Std. Err.	88.69	0	49.33	47.48	58.7	80.78	43.78	90.51	95.6	92.26	65.88	62.45
			p-value	0.05	0	0.04	0	0.16	0.32	0.49	0.4	0.86	0.11	0.7	0.73
Milk and its derivatives	0.2031	1,150	Coef.	4.17	0.02(***)	-37.32	104.42(**)	-28.92	60.94	-36.24	-53.55	129.83(*)	20.34	22.01	-47.51
			Std. Err.	57.92	0	32.22	31.01	38.34	52.75	28.59	59.11	62.43	60.25	43.02	40.78
			p-value	0.94	0	0.25	0	0.45	0.25	0.21	0.37	0.04	0.74	0.61	0.24
Fruit and vegetables	0.1625	1,150	Coef.	-	0.03(***)	91(.)	401.56(***)	-	-104.16	-	-	182.47(.)	-60.85	92.14	-
			Std. Err.	441.05(***)	0	50.97	49.05	60.65	83.46	45.23	93.51	98.77	95.32	68.06	64.52
			p-value	0	0	0.07	0	0	0.21	0.09	0.03	0.07	0.52	0.18	0.01
Processed sugars	0.1058	1,150	Coef.	142.15(**)	0.01(***)	-10.81	1.89	38.72	-68.6	51.02(*)	32.93	-13.22	-6.6	-55.4	-49.41
			Std. Err.	51.98	0	28.92	27.83	34.41	47.34	25.66	53.05	56.03	54.07	38.61	36.6
			p-value	0.01	0	0.71	0.95	0.26	0.15	0.05	0.54	0.81	0.9	0.15	0.18
Oil and fats	0.0728	1,150	Coef.	86.7(***)	0	-5.37	44.44(***)	-10.35	-14.35	13.2	-14.45	18.49	-28.62	26.1(.)	-25.77(.)
			Std. Err.	20.05	0	11.15	10.73	13.27	18.26	9.9	20.46	21.61	20.86	14.89	14.12
			p-value	0	0.31	0.63	0	0.44	0.43	0.18	0.48	0.39	0.17	0.08	0.07
Alcoholic beverages and tobacco	0.0353	1,150	Coef.	-44.62	0(.)	17.43	-93.64(**)	41.27	-33.48	39.47	9.61	-85.17	24.99	-	61.46(.)
			Std. Err.	50.38	0	28.02	26.97	33.35	45.89	24.87	51.41	54.31	52.41	37.42	35.47
			p-value	0.38	0.06	0.53	0	0.22	0.47	0.11	0.85	0.12	0.63	0.02	0.08
Outside	0.1074	1,150	Coef.	-72.66	0.04(***)	-8.66	-172.89(**)	175.45(*)	12.53	14.47	166.48	-205.6	-87.02	14.68	95.81
			Std. Err.	122.01	0.01	67.87	65.32	80.76	111.12	60.22	124.51	131.51	126.92	90.63	85.9
			p-value	0.55	0	0.9	0.01	0.03	0.91	0.81	0.18	0.12	0.49	0.87	0.27
Others	0.0746	1,150	Coef.	301.26(**)	0.01(**)	-32.39	40.02	18.72	-	41.81	65.63	163.01	166.66(.)	24.4	-46.14
			Std. Err.	95.66	0	53.21	51.21	63.31	87.12	47.21	97.61	103.11	99.5	71.05	67.35
			p-value	0	0	0.54	0.43	0.77	0.08	0.38	0.5	0.11	0.09	0.73	0.49

&lt;p0.1,\*p&lt;0.05,\*\*p&lt;0.01,\*\*\*p&lt;0.001

Source: Author's calculations from survey data.

...continued

Equation	R-sq	Obs	Parameter	nivel1	nivel2	nivel3	edad	p15ymase	graproes	p5ymahli	hogar_jm	vph_pidt	vph_nade	_cons
Animal protein	0.2673	1,150	Coef.	40.67	180.9	559.68(*)	0.88	904.64(***)	-38.87	4348.05(**)	-1880.82(.)	576.17(*)	3450.95(***)	2195.67(.)
			Std. Err.	268.84	248.29	258.13	4.28	205.93	78.73	1530.56	961.36	288.05	845.56	1152.75
			p-value	0.88	0.47	0.03	0.84	0	0.62	0	0.05	0.05	0	0.06
Cereals	0.183	1,150	Coef.	203.87	340.59	277.13	0.53	488.59(**)	21.09	-771.56	2540.67(**)	937.43(***)	-1375(.)	1618.01
			Std. Err.	231.7	213.99	222.47	3.69	177.48	67.85	1319.1	828.54	248.25	728.74	993.48
			p-value	0.38	0.11	0.21	0.89	0.01	0.76	0.56	0	0	0.06	0.1
Milk and its derivatives	0.2031	1,150	Coef.	427.98(**)	-237(.)	-65.11	-1.03	-182.05	85.49(.)	1845.31(*)	-976.87(.)	-57.1	-1015.54(*)	669.53
			Std. Err.	151.31	139.75	145.28	2.41	115.91	44.31	861.44	541.08	162.12	475.9	648.8
			p-value	0.01	0.09	0.65	0.67	0.12	0.05	0.03	0.07	0.73	0.03	0.3
Fruit and vegetables	0.1625	1,150	Coef.	284.83	294.18	210.38	-0.85	759.17(***)	-83.6	795.45	-462.28	10.38	190.64	1528.11
			Std. Err.	239.38	221.09	229.85	3.81	183.37	70.1	1362.84	856.01	256.49	752.9	1026.42
			p-value	0.23	0.18	0.36	0.82	0	0.23	0.56	0.59	0.97	0.8	0.14
Processed sugars	0.1058	1,150	Coef.	61.83	44.51	-36.52	-3.43	109.56	140.48(***)	-1149.38	170.86	793.63(***)	-704.66(.)	773.01
			Std. Err.	135.8	125.42	130.39	2.16	104.02	39.77	773.14	485.62	145.5	427.12	582.29
			p-value	0.65	0.72	0.78	0.11	0.29	0	0.14	0.73	0	0.1	0.18
Oil and fats	0.0728	1,150	Coef.	8.97	30.81	3.75	-0.02	-16.38	-31.06(*)	-74.53	785.34(***)	96.96(.)	-203.92	-455.7(*)
			Std. Err.	52.38	48.37	50.29	0.83	40.12	15.34	298.2	187.3	56.12	164.74	224.59
			p-value	0.86	0.52	0.94	0.98	0.68	0.04	0.8	0	0.08	0.22	0.04
Alcoholic beverages and tobacco	0.0353	1,150	Coef.	-38.02	-10.61	-69.14	1.13	-39.25	-121.42(**)	-1860.32(*)	-399.52	261.24(.)	-356.23	1153.4(*)
			Std. Err.	131.61	121.56	126.37	2.1	100.82	38.54	749.31	470.65	141.02	413.96	564.35
			p-value	0.77	0.93	0.58	0.59	0.7	0	0.01	0.4	0.06	0.39	0.04
Outside	0.1074	1,150	Coef.	-667.45(*)	667.19(*)	-358.41	-7.08	515.72(*)	111.62	2796.09	-1878.66(.)	696.52(*)	134.36	1265.66
			Std. Err.	318.73	294.38	306.04	5.08	244.15	93.34	1814.62	1139.79	341.51	1002.48	1366.69
			p-value	0.04	0.02	0.24	0.16	0.04	0.23	0.12	0.1	0.04	0.89	0.35
Others	0.0746	1,150	Coef.	-99.14	-222.76	-315.15	2.44	647.8(**)	69.84	2990.84(*)	1400.87	479.57(.)	-2163.29(**)	-1574.46
			Std. Err.	249.88	230.79	239.93	3.98	191.41	73.18	1422.63	893.57	267.74	785.93	1071.46
			p-value	0.69	0.33	0.19	0.54	0	0.34	0.04	0.12	0.07	0.01	0.14

&lt;p0.1,\*p&lt;0.05,\*\*p&lt;0.01,\*\*\*p&lt;0.001

**Table 16: Coefficient Estimates of the SUR Model (log-lin)**

Equation	R-sq	Obs	Parameter	group	ingmon_tri	hombres	mujeres	menores	p65mas	n_ocup	transfer	hijos06	hijas06	hijos15	hijas15
Animal protein	0.2846	1,150	Coef.	0.22	0(***)	-0.08	0.32(**)	0.06	-0.24	0.12	-0.28	0.12	-0.28	-0.18	0.43(**)
			Std. Err.	0.21	0	0.12	0.11	0.14	0.19	0.11	0.22	0.23	0.22	0.16	0.15
			p-value	0.3	0	0.52	0.01	0.65	0.21	0.25	0.21	0.6	0.22	0.25	0
Cereals	0.178	1,150	Coef.	0.08	0(***)	-0.02	0.23(**)	-0.03	-0.16	0.13(.)	-0.18	0.18	0.1	0.1	-0.14
			Std. Err.	0.14	0	0.08	0.08	0.09	0.13	0.07	0.15	0.15	0.15	0.11	0.1
			p-value	0.57	0	0.75	0	0.79	0.23	0.07	0.22	0.23	0.49	0.37	0.17
Milk and its derivatives	0.2449	1,150	Coef.	-0.09	0(***)	-0.29(*)	0.34(**)	0.09	0.04	-0.07	-0.08	0.09	-0.45(*)	0.13	-0.36(*)
			Std. Err.	0.21	0	0.12	0.11	0.14	0.19	0.11	0.22	0.23	0.22	0.16	0.15
			p-value	0.68	0	0.02	0	0.53	0.83	0.52	0.7	0.7	0.04	0.41	0.02
Fruit and vegetables	0.1277	1,150	Coef.	-0.45(**)	0(*)	0.1	0.5(***)	-0.13	-0.11	0.01	-0.11	0.14	-0.13	0.07	-0.22(*)
			Std. Err.	0.14	0	0.08	0.08	0.1	0.13	0.07	0.15	0.16	0.15	0.11	0.1
			p-value	0	0.01	0.19	0	0.18	0.39	0.84	0.45	0.37	0.41	0.51	0.03
Processed sugars	0.106	1,150	Coef.	0.71(***)	0(**)	0.16	0.15	0.08	-0.36(*)	-0.03	0.23	-0.25	-0.2	-0.14	-0.2
			Std. Err.	0.19	0	0.11	0.1	0.13	0.17	0.09	0.2	0.21	0.2	0.14	0.13
			p-value	0	0.01	0.12	0.16	0.54	0.04	0.71	0.25	0.23	0.32	0.34	0.15
Oil and fats	0.0809	1,150	Coef.	0.66(**)	0	-0.06	0.52(***)	-0.24(.)	-0.25	0.16	-0.19	0.47(*)	-0.25	0.21	-0.29(*)
			Std. Err.	0.21	0	0.12	0.11	0.14	0.19	0.1	0.21	0.23	0.22	0.16	0.15
			p-value	0	0.84	0.62	0	0.08	0.19	0.12	0.38	0.04	0.25	0.18	0.05
Alcoholic beverages and tobacco	0.0321	1,150	Coef.	0.06	0(*)	0.01	-0.21(**)	0.1	0	0.13(*)	0.02	-0.15	0.11	-0.22(*)	0.1
			Std. Err.	0.12	0	0.07	0.06	0.08	0.11	0.06	0.12	0.13	0.13	0.09	0.08
			p-value	0.6	0.02	0.94	0	0.19	0.99	0.03	0.89	0.23	0.37	0.01	0.23
Outside	0.1408	1,150	Coef.	-0.35	0(***)	0.11	-0.28(*)	0.22	-0.17	0.04	0.83(**)	-0.39	0.2	-0.25	0.33(*)
			Std. Err.	0.24	0	0.13	0.13	0.16	0.22	0.12	0.24	0.26	0.25	0.18	0.17
			p-value	0.14	0	0.42	0.03	0.16	0.44	0.73	0	0.13	0.42	0.16	0.05
Others	0.1499	1,150	Coef.	0.48(**)	0(*)	0.15(.)	0.33(***)	-0.02	-0.39(**)	0.04	0.12	-0.02	0.07	-0.09	-0.15
			Std. Err.	0.16	0	0.09	0.09	0.11	0.15	0.08	0.17	0.18	0.17	0.12	0.11
			p-value	0	0.03	0.09	0	0.83	0.01	0.59	0.48	0.89	0.7	0.47	0.19

.&lt;p0.1,\*p&lt;0.05,\*\*p&lt;0.01,\*\*\*p&lt;0.001

Source: Author's calculations from survey data.

...continued

Equation	R-sq	Obs	Parameter	nivel1	nivel2	nivel3	edad	p15ymase	graproes	p5ymahli	hogar_jm	vph_pidt	vph_nade	_cons
Animal protein	0.2846	1,150	Coef.	-0.04	0.52	1.02(.)	-0.02(.)	2.62(***)	-0.32(.)	-14.2(***)	-5.64(**)	2.21(***)	-11.68(***)	10.43(***)
			Std. Err.	0.56	0.52	0.54	0.01	0.43	0.16	3.18	2	0.6	1.76	2.39
			p-value	0.94	0.31	0.06	0.08	0	0.05	0	0.01	0	0	0
Cereals	0.178	1,150	Coef.	0.03	0.31	0.23	0	0.41	-0.18	-4.24(*)	-2.61(.)	2.3(***)	-3.12(**)	7.26(***)
			Std. Err.	0.37	0.34	0.36	0.01	0.28	0.11	2.12	1.33	0.4	1.17	1.59
			p-value	0.93	0.36	0.53	0.94	0.15	0.11	0.05	0.05	0	0.01	0
Milk and its derivatives	0.2449	1,150	Coef.	-1.27(*)	-0.06	0.26	-0.02(.)	-0.55	0.12	2.4	-6.96(**)	1.09(.)	-3.32(.)	7.55(**)
			Std. Err.	0.56	0.52	0.54	0.01	0.43	0.16	3.18	2	0.6	1.76	2.4
			p-value	0.02	0.91	0.63	0.06	0.2	0.45	0.45	0	0.07	0.06	0
Fruit and vegetables	0.1277	1,150	Coef.	0.56	0.52	0.32	-0.01(*)	-0.11	-0.05	2.67	-2.36(.)	0.4	-2.17(.)	7.36(***)
			Std. Err.	0.38	0.35	0.36	0.01	0.29	0.11	2.15	1.35	0.4	1.19	1.62
			p-value	0.14	0.14	0.37	0.04	0.7	0.67	0.21	0.08	0.32	0.07	0
Processed sugars	0.106	1,150	Coef.	0.03	-0.06	-0.15	-0.02(**)	0.68(.)	-0.31(*)	-4.31	-1.91	2.44(***)	-3.25(*)	7.24(**)
			Std. Err.	0.5	0.46	0.48	0.01	0.38	0.15	2.85	1.79	0.54	1.58	2.15
			p-value	0.96	0.89	0.76	0.01	0.08	0.03	0.13	0.29	0	0.04	0
Oil and fats	0.0809	1,150	Coef.	0.31	0.63	0.03	-0.01	0.12	-0.44(**)	-1.05	6.34(**)	1.29(*)	-3.04(.)	-1.84
			Std. Err.	0.55	0.5	0.52	0.01	0.42	0.16	3.11	1.95	0.59	1.72	2.34
			p-value	0.57	0.22	0.96	0.49	0.77	0.01	0.74	0	0.03	0.08	0.43
Alcoholic beverages and tobacco	0.0321	1,150	Coef.	-0.1	-0.09	-0.22	0	-0.35	-0.02	0.97	0.16	0.02	-1.43	0.45
			Std. Err.	0.31	0.29	0.3	0.01	0.24	0.09	1.79	1.13	0.34	0.99	1.35
			p-value	0.74	0.75	0.47	0.91	0.15	0.86	0.59	0.89	0.95	0.15	0.74
Outside	0.1408	1,150	Coef.	-0.6	-0.22	-0.09	-0.02(.)	1.05(*)	0.27	5.68	-6.58(**)	0.55	-3.86(*)	4.87(.)
			Std. Err.	0.62	0.57	0.6	0.01	0.48	0.18	3.54	2.22	0.67	1.95	2.66
			p-value	0.33	0.71	0.88	0.06	0.03	0.14	0.11	0	0.41	0.05	0.07
Others	0.1499	1,150	Coef.	-0.24	-0.18	-0.25	-0.01	1.44(***)	0.08	2.03	3.67(*)	0.52	-6.71(***)	1.13
			Std. Err.	0.43	0.39	0.41	0.01	0.33	0.12	2.43	1.53	0.46	1.34	1.83
			p-value	0.58	0.65	0.54	0.17	0	0.51	0.4	0.02	0.25	0	0.54

&lt;p0.1,\*p&lt;0.05,\*\*p&lt;0.01,\*\*\*p&lt;0.001

**Table 17: OLS Diff-in-Diff Results (lin-lin)**

Characteristic	Animal protein			Cereals			Milk and its derivatives			Fruit and vegetables			Processed sugars		
	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value
group	440	86, 794	0.015	620	297, 942	<0.001	-83	-303, 136	0.5	-214	-534, 106	0.2	-98	-280, 84	0.3
after	-20	-151, 111	0.8	-105	-225, 14	0.084	95	14, 176	0.022	-115	-233, 3.4	0.057	-46	-113, 22	0.2
comb	-281	-634, 71	0.12	-383	-704, -61	0.020	-83	-302, 135	0.5	-95	-414, 224	0.6	94	-87, 275	0.3
ingmon_tri	0.06	0.05, 0.06	<0.001	0.03	0.03, 0.04	<0.001	0.02	0.02, 0.03	<0.001	0.04	0.03, 0.04	<0.001	0.02	0.02, 0.03	<0.001
HOMBRES	-4.2	-80, 71	>0.9	232	163, 301	<0.001	0.56	-46, 47	>0.9	119	51, 188	<0.001	35	-4.0, 74	0.079
MUJERES	68	5.5, 130	0.033	156	100, 213	<0.001	25	-13, 64	0.2	142	85, 198	<0.001	48	16, 80	0.003
P65MAS	181	62, 300	0.003	106	-3.4, 215	0.057	128	54, 202	<0.001	-32	-140, 76	0.6	24	-38, 85	0.5
EDAD	-5.6	-11, 0.24	0.060	-1.3	-6.6, 4.0	0.6	-1.7	-5.3, 1.9	0.4	0.59	-4.7, 5.8	0.8	-7.2	-10, -4.2	<0.001
N_OCUP	-4.0	-77, 69	>0.9	-87	-153, -20	0.010	-24	-69, 21	0.3	28	-38, 93	0.4	-16	-53, 21	0.4
TRANSFER	-202	-334, -70	0.003	-167	-288, -47	0.007	-74	-156, 7.9	0.076	-65	-184, 55	0.3	56	-11, 124	0.10
hijos06	-6.6	-138, 125	>0.9	-229	-349, -109	<0.001	106	24, 187	0.011	-122	-241, -3.2	0.044	-42	-110, 25	0.2
hijas06	-96	-224, 31	0.14	-38	-155, 78	0.5	118	39, 197	0.003	-87	-202, 29	0.14	13	-52, 79	0.7
hijos15	-1.6	-103, 100	>0.9	-94	-187, -1.4	0.047	-49	-112, 14	0.12	70	-22, 162	0.13	-57	-109, -4.7	0.033
hijas15	18	-80, 115	0.7	3.2	-85, 92	>0.9	38	-22, 98	0.2	-47	-135, 41	0.3	-48	-98, 1.6	0.058
p15ymase	229	-124, 582	0.2	164	-158, 486	0.3	-76	-295, 142	0.5	-504	-823, -184	0.002	-208	-390, -27	0.024
graproe	77	-54, 207	0.3	49	-70, 169	0.4	-95	-176, -14	0.022	-166	-284, -47	0.006	-31	-98, 36	0.4
p5ymahli	-253	-3,222, 2,715	0.9	19	-2,690, 2,727	>0.9	-825	-2,665, 1,014	0.4	-50	-2,736, 2,636	>0.9	691	-835, 2,216	0.4
hogar_jm	1,788	-221, 3,796	0.081	-1,718	-3,551, 115	0.066	-783	-2,028, 462	0.2	-4,423	-6,240, -2,605	<0.001	242	-790, 1,274	0.6

Source: Author's calculations from survey data.

## ...continued

hogar_jm	1,788	-221, 3,796	0.081	-1,718	-3,551, 115	0.066	-783	-2,028, 462	0.2	-4,423	-6,240, -2,605	<0.001	242	-790, 1,274	0.6
vph_pidt	630	126, 1,133	0.014	701	241, 1,161	0.003	642	329, 954	<0.001	-529	-985, -73	0.023	-130	-389, 129	0.3
vph_nade	-2,038	-3,095, -981	<0.001	-350	-1,315, 615	0.5	-828	-1,483, -173	0.013	-318	-1,275, 638	0.5	-13	-557, 530	>0.9
nivel1	344	-110, 799	0.14	-23	-438, 392	>0.9	-235	-517, 47	0.10	-78	-489, 333	0.7	485	251, 718	<0.001
nivel2	611	188, 1,034	0.005	-71	-457, 315	0.7	-100	-362, 163	0.5	219	-163, 602	0.3	378	161, 595	<0.001
nivel3	772	325, 1,218	<0.001	-82	-489, 326	0.7	-82	-358, 195	0.6	52	-352, 456	0.8	326	96, 555	0.005
nivel4	15	-578, 609	>0.9	-621	-1,162, -79	0.025	700	333, 1,068	<0.001	-516	-1,053, 21	0.059	570	266, 875	<0.001
estado1	-1,606	-3,053, -160	0.030	-795	-2,114, 525	0.2	321	-575, 1,217	0.5	465	-844, 1,774	0.5	484	-259, 1,227	0.2
estado6	-301	-857, 255	0.3	32	-476, 539	>0.9	353	8.7, 698	0.044	-76	-579, 428	0.8	228	-58, 513	0.12
estado11	-908	-1,128, -687	<0.001	-355	-556, -154	<0.001	-241	-378, -104	<0.001	-106	-306, 93	0.3	187	73, 300	0.001
estado14	82	-416, 579	0.7	-89	-543, 365	0.7	0.85	-307, 309	>0.9	286	-164, 736	0.2	212	-44, 467	0.10
estado15	608	346, 871	<0.001	-204	-444, 35	0.094	162	-0.12, 325	0.050	891	653, 1,128	<0.001	-50	-185, 84	0.5
estado19	-1,071	-1,569, -573	<0.001	-264	-718, 190	0.3	-311	-619, -2.3	0.048	117	-334, 567	0.6	457	202, 713	<0.001
estado21	-349	-595, -103	0.005	-135	-360, 89	0.2	20	-132, 172	0.8	416	194, 639	<0.001	-14	-141, 112	0.8
estado22	-908	-1,233, -582	<0.001	-94	-391, 202	0.5	216	15, 417	0.036	1,008	714, 1,302	<0.001	4.2	-163, 171	>0.9
estado27	1.4	-503, 506	>0.9	-560	-1,020, -99	0.017	-277	-589, 36	0.083	108	-349, 565	0.6	263	4.0, 522	0.047
estado28	-1,251	-1,829, -672	<0.001	-455	-982, 73	0.091	-145	-503, 213	0.4	451	-72, 974	0.091	148	-150, 445	0.3
estado29	-378	-898, 141	0.2	-352	-826, 121	0.14	-248	-569, 74	0.13	936	466, 1,405	<0.001	-206	-473, 61	0.13
estado30	-477	-686, -267	<0.001	-359	-550, -168	<0.001	191	61, 321	0.004	-16	-206, 173	0.9	-56	-163, 52	0.3
estado31	-238	-636, 161	0.2	803	439, 1,167	<0.001	-382	-629, -135	0.002	239	-122, 599	0.2	589	384, 794	<0.001

<sup>1</sup> CI = Confidence Interval

Source: Author's calculations from survey data.

...continued

Characteristic	Oil and fats			Alcoholic beverages and tobacco			Outside			Others		
	Beta	95% CI <sup>7</sup>	p-value	Beta	95% CI <sup>7</sup>	p-value	Beta	95% CI <sup>7</sup>	p-value	Beta	95% CI <sup>7</sup>	p-value
group	-9.4	-91, 72	0.8	45	-42, 132	0.3	-228	-598, 143	0.2	118	-138, 374	0.4
after	-96	-126, -66	<0.001	-1.7	-34, 30	>0.9	418	281, 554	<0.001	321	227, 416	<0.001
comb	129	48, 210	0.002	-103	-189, -16	0.020	-64	-434, 305	0.7	-61	-316, 194	0.6
ingmon_tri	0.00	0.00, 0.00	0.002	0.00	0.00, 0.00	0.5	0.04	0.04, 0.05	<0.001	0.01	0.00, 0.01	0.002
HOMBRES	11	-6.8, 28	0.2	11	-7.5, 30	0.2	-25	-105, 54	0.5	84	29, 139	0.003
MUJERES	14	-0.33, 28	0.055	-18	-33, -2.6	0.022	-186	-251, -120	<0.001	56	11, 101	0.014
P65MAS	10	-17, 38	0.5	8.3	-21, 38	0.6	-15	-141, 110	0.8	58	-29, 144	0.2
EDAD	-0.60	-1.9, 0.73	0.4	0.17	-1.3, 1.6	0.8	-5.2	-11, 0.88	0.094	-3.2	-7.4, 1.0	0.14
N_OCUP	42	25, 58	<0.001	3.0	-15, 21	0.7	-47	-122, 29	0.2	0.93	-52, 53	>0.9
TRANSFER	-23	-53, 7.6	0.14	-5.6	-38, 27	0.7	233	95, 371	<0.001	32	-64, 127	0.5
hijos06	-3.8	-34, 26	0.8	-18	-50, 15	0.3	-82	-220, 56	0.2	-57	-152, 38	0.2
hijas06	21	-8.1, 50	0.2	14	-17, 46	0.4	32	-101, 166	0.6	93	0.51, 185	0.049
hijos15	5.6	-18, 29	0.6	-21	-46, 3.6	0.093	-33	-139, 74	0.5	-53	-126, 21	0.2
hijas15	26	3.8, 48	0.022	24	-0.07, 48	0.051	197	95, 299	<0.001	28	-43, 98	0.4
p15ymase	-175	-256, -94	<0.001	-42	-129, 45	0.3	-81	-450, 289	0.7	253	-2.6, 508	0.052
grapros	33	3.2, 63	0.030	-33	-65, -0.86	0.044	148	11, 285	0.034	-5.6	-100, 89	>0.9
p5ymahli	1,295	613, 1,976	<0.001	-336	-1,065, 393	0.4	3,934	826, 7,042	0.013	977	-1,172, 3,127	0.4
hogar_jm	183	-279, 644	0.4	173	-320, 667	0.5	2,320	217, 4,423	0.031	591	-863, 2,045	0.4

## ...continued

hogar_jm	183	-279, 644	0.4	173	-320, 667	0.5	2,320	217, 4,423	0.031	591	-863, 2,045	0.4
vph_pidt	31	-85, 147	0.6	94	-30, 218	0.14	-393	-921, 134	0.14	672	308, 1,037	<0.001
vph_nade	269	27, 512	0.030	-36	-296, 223	0.8	-300	-1,406, 807	0.6	198	-567, 964	0.6
nivel1	9.7	-95, 114	0.9	15	-97, 126	0.8	298	-178, 774	0.2	392	62, 721	0.020
nivel2	-31	-128, 66	0.5	19	-85, 123	0.7	379	-64, 822	0.093	451	145, 757	0.004
nivel3	-85	-188, 17	0.10	18	-92, 127	0.8	463	-4.3, 930	0.052	243	-80, 566	0.14
nivel4	-138	-274, -1.6	0.047	40	-105, 186	0.6	769	148, 1,391	0.015	416	-14, 846	0.058
estado1	-57	-389, 275	0.7	-113	-469, 242	0.5	395	-1,120, 1,909	0.6	-51	-1,098, 997	>0.9
estado6	-186	-314, -59	0.004	57	-79, 194	0.4	403	-179, 985	0.2	440	38, 843	0.032
estado11	-64	-115, -14	0.013	-23	-77, 31	0.4	-98	-329, 133	0.4	136	-24, 296	0.095
estado14	-77	-191, 37	0.2	64	-58, 187	0.3	323	-198, 844	0.2	-255	-615, 105	0.2
estado15	-109	-169, -49	<0.001	-33	-98, 31	0.3	-53	-328, 222	0.7	48	-142, 238	0.6
estado19	-41	-155, 73	0.5	359	236, 481	<0.001	-352	-872, 169	0.2	-32	-392, 329	0.9
estado21	-21	-78, 35	0.5	-13	-74, 47	0.7	38	-220, 295	0.8	196	18, 374	0.031
estado22	-22	-96, 53	0.6	2.7	-77, 83	>0.9	228	-112, 568	0.2	239	4.2, 475	0.046
estado27	-78	-194, 38	0.2	-32	-156, 92	0.6	216	-313, 744	0.4	-4.8	-370, 361	>0.9
estado28	26	-107, 159	0.7	-0.11	-142, 142	>0.9	-170	-775, 436	0.6	-192	-610, 227	0.4
estado29	-49	-168, 70	0.4	-39	-166, 89	0.6	-51	-595, 492	0.9	-108	-484, 268	0.6
estado30	-9.7	-58, 38	0.7	-5.3	-57, 46	0.8	-28	-247, 191	0.8	82	-69, 234	0.3
estado31	60	-31, 152	0.2	-35	-132, 63	0.5	405	-13, 822	0.057	452	163, 741	0.002

<sup>†</sup> CI = Confidence Interval

Source: Author's calculations from survey data.



**Table 18: OLS Diff-in-Diff Results (log-lin)**

Characteristic	Animal protein			Cereals			Milk and its derivatives			Fruit and vegetables			Processed sugars		
	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value
group	0.19	-0.63, 1.0	0.6	0.68	0.14, 1.2	0.013	-0.44	-1.3, 0.40	0.3	0.05	-0.47, 0.58	0.8	-0.52	-1.2, 0.18	0.15
after	-0.26	-0.56, 0.04	0.095	-0.35	-0.55, -0.15	<0.001	-0.10	-0.41, 0.21	0.5	-0.20	-0.39, 0.00	0.049	-0.55	-0.81, -0.29	<0.001
comb	0.57	-0.24, 1.4	0.2	-0.18	-0.72, 0.36	0.5	-0.27	-1.1, 0.58	0.5	-0.11	-0.64, 0.41	0.7	1.2	0.49, 1.9	<0.001
ingmon_tri	0.00	0.00, 0.00	<0.001	0.00	0.00, 0.00	<0.001	0.00	0.00, 0.00	<0.001	0.00	0.00, 0.00	<0.001	0.00	0.00, 0.00	<0.001
HOMBRES	0.06	-0.12, 0.23	0.5	0.13	0.01, 0.25	0.027	0.05	-0.13, 0.23	0.6	0.22	0.11, 0.34	<0.001	0.44	0.29, 0.59	<0.001
MUJERES	0.24	0.09, 0.38	0.001	0.19	0.09, 0.28	<0.001	0.30	0.15, 0.45	<0.001	0.35	0.26, 0.44	<0.001	0.26	0.14, 0.39	<0.001
P65MAS	0.54	0.27, 0.82	<0.001	-0.08	-0.26, 0.10	0.4	0.30	0.01, 0.58	0.040	0.21	0.03, 0.39	0.020	-0.03	-0.26, 0.21	0.8
EDAD	-0.02	-0.03, -0.01	0.002	0.00	-0.01, 0.00	0.3	-0.02	-0.03, 0.00	0.008	-0.02	-0.03, -0.01	<0.001	-0.02	-0.04, -0.01	<0.001
N_OCUP	-0.10	-0.27, 0.07	0.3	-0.10	-0.22, 0.01	0.063	-0.25	-0.42, -0.08	0.005	-0.04	-0.15, 0.07	0.5	-0.19	-0.34, -0.05	0.008
TRANSFER	-0.71	-1.0, -0.41	<0.001	-0.12	-0.32, 0.08	0.3	-0.50	-0.82, -0.18	0.002	-0.04	-0.23, 0.16	0.7	-0.05	-0.31, 0.21	0.7
hijos06	0.11	-0.19, 0.42	0.5	-0.04	-0.24, 0.16	0.7	0.26	-0.05, 0.58	0.10	-0.18	-0.38, 0.02	0.075	-0.04	-0.30, 0.22	0.8
hijas06	0.00	-0.30, 0.29	>0.9	0.09	-0.11, 0.28	0.4	-0.06	-0.36, 0.25	0.7	-0.15	-0.34, 0.04	0.13	-0.23	-0.48, 0.02	0.075
hijos15	-0.06	-0.29, 0.18	0.6	-0.12	-0.28, 0.03	0.13	-0.02	-0.26, 0.22	0.9	0.06	-0.09, 0.21	0.4	-0.38	-0.58, -0.17	<0.001
hijas15	-0.12	-0.35, 0.10	0.3	-0.04	-0.18, 0.11	0.6	-0.12	-0.35, 0.11	0.3	-0.23	-0.38, -0.09	0.002	-0.24	-0.43, -0.05	0.013
p15ymase	0.92	0.11, 1.7	0.026	0.35	-0.18, 0.89	0.2	-0.09	-0.94, 0.75	0.8	0.21	-0.31, 0.74	0.4	-0.56	-1.3, 0.14	0.12
graproes	-0.28	-0.58, 0.02	0.069	-0.18	-0.38, 0.02	0.080	-0.17	-0.48, 0.15	0.3	-0.08	-0.28, 0.12	0.4	-0.28	-0.54, -0.03	0.031
p5ymahli	-8.1	-15, -1.2	0.021	-4.6	-9.1, -0.08	0.046	-4.1	-11, 3.0	0.3	1.9	-2.5, 6.4	0.4	-0.29	-6.2, 5.6	>0.9
hogar_jm	0.11	-4.5, 4.7	>0.9	-2.8	-5.8, 0.31	0.078	-4.1	-8.9, 0.70	0.094	-3.5	-6.5, -0.45	0.024	2.1	-1.9, 6.1	0.3

Source: Author's calculations from survey data.

## ...continued

hogar_jm	0.11	-4.5, 4.7	>0.9	-2.8	-5.8, 0.31	0.078	-4.1	-8.9, 0.70	0.094	-3.5	-6.5, -0.45	0.024	2.1	-1.9, 6.1	0.3
vph_pidt	2.2	1.0, 3.3	<0.001	1.9	1.1, 2.7	<0.001	1.7	0.49, 2.9	0.006	-0.06	-0.82, 0.69	0.9	-0.26	-1.3, 0.74	0.6
vph_nade	-8.6	-11, -6.2	<0.001	-2.4	-4.0, -0.78	0.004	-4.8	-7.3, -2.3	<0.001	-2.3	-3.9, -0.71	0.005	-2.0	-4.1, 0.06	0.056
nivel1	0.18	-0.87, 1.2	0.7	0.33	-0.37, 1.0	0.4	0.32	-0.77, 1.4	0.6	0.63	-0.05, 1.3	0.071	0.74	-0.15, 1.6	0.10
nivel2	1.0	0.03, 2.0	0.043	0.32	-0.33, 0.96	0.3	0.89	-0.12, 1.9	0.085	1.0	0.37, 1.6	0.002	0.46	-0.37, 1.3	0.3
nivel3	1.0	0.01, 2.1	0.047	0.29	-0.39, 0.97	0.4	1.1	0.03, 2.2	0.044	0.74	0.07, 1.4	0.031	0.59	-0.29, 1.5	0.2
nivel4	-0.25	-1.6, 1.1	0.7	-0.62	-1.5, 0.28	0.2	1.3	-0.07, 2.8	0.063	0.14	-0.75, 1.0	0.8	1.1	-0.03, 2.3	0.057
estado1	-2.5	-5.8, 0.85	0.14	-1.4	-3.7, 0.76	0.2	1.6	-1.9, 5.0	0.4	0.08	-2.1, 2.2	>0.9	1.6	-1.3, 4.4	0.3
estado6	-0.21	-1.5, 1.1	0.7	-0.47	-1.3, 0.38	0.3	1.9	0.52, 3.2	0.006	-0.45	-1.3, 0.38	0.3	0.63	-0.47, 1.7	0.3
estado11	-1.9	-2.4, -1.4	<0.001	-1.0	-1.4, -0.70	<0.001	-0.11	-0.64, 0.42	0.7	-0.36	-0.69, -0.03	0.034	0.23	-0.20, 0.67	0.3
estado14	0.12	-1.0, 1.3	0.8	0.07	-0.69, 0.83	0.9	0.40	-0.79, 1.6	0.5	0.22	-0.53, 0.96	0.6	1.4	0.42, 2.4	0.005
estado15	0.61	0.01, 1.2	0.046	-0.35	-0.75, 0.05	0.089	0.62	-0.01, 1.2	0.053	0.73	0.34, 1.1	<0.001	-0.22	-0.73, 0.30	0.4
estado19	-2.2	-3.4, -1.1	<0.001	-0.61	-1.4, 0.14	0.11	-0.16	-1.4, 1.0	0.8	-0.62	-1.4, 0.13	0.11	1.0	0.01, 2.0	0.047
estado21	-0.75	-1.3, -0.18	0.010	-0.34	-0.72, 0.04	0.076	0.01	-0.58, 0.60	>0.9	0.30	-0.07, 0.67	0.11	0.47	-0.01, 0.96	0.056
estado22	-1.6	-2.4, -0.90	<0.001	-0.34	-0.83, 0.16	0.2	1.0	0.25, 1.8	0.010	0.55	0.07, 1.0	0.026	0.56	-0.08, 1.2	0.084
estado27	-0.14	-1.3, 1.0	0.8	-0.80	-1.6, -0.03	0.042	-0.91	-2.1, 0.30	0.14	-0.14	-0.89, 0.62	0.7	1.4	0.40, 2.4	0.006
estado28	-2.1	-3.4, -0.75	0.002	-0.81	-1.7, 0.07	0.071	0.08	-1.3, 1.5	>0.9	0.28	-0.59, 1.1	0.5	0.00	-1.1, 1.1	>0.9
estado29	-0.78	-2.0, 0.42	0.2	-0.57	-1.4, 0.23	0.2	-0.31	-1.6, 0.93	0.6	0.62	-0.15, 1.4	0.12	-0.55	-1.6, 0.47	0.3
estado30	0.23	-0.26, 0.71	0.4	-0.29	-0.61, 0.03	0.073	0.67	0.17, 1.2	0.009	0.05	-0.26, 0.36	0.8	0.44	0.02, 0.85	0.038
estado31	-0.45	-1.4, 0.47	0.3	0.48	-0.13, 1.1	0.12	-0.83	-1.8, 0.12	0.087	0.07	-0.52, 0.67	0.8	1.6	0.81, 2.4	<0.001

<sup>†</sup> CI = Confidence Interval

Source: Author's calculations from survey data.

...continued

Characteristic	Oil and fats			Alcoholic beverages and tobacco			Outside			Others		
	Beta	95% CI <sup>1</sup>	p-value	Beta	95% CI <sup>1</sup>	p-value	Beta	95% CI <sup>1</sup>	p-value	Beta	95% CI <sup>1</sup>	p-value
group	-0.31	-1.1, 0.50	0.5	0.06	-0.31, 0.43	0.8	-0.16	-0.93, 0.61	0.7	0.03	-0.60, 0.67	>0.9
after	-0.88	-1.2, -0.58	<0.001	-0.11	-0.25, 0.02	0.10	1.5	1.2, 1.7	<0.001	0.39	0.16, 0.63	0.001
comb	1.3	0.50, 2.1	0.001	-0.31	-0.68, 0.06	0.10	-0.71	-1.5, 0.06	0.069	0.25	-0.39, 0.88	0.4
ingmon_tri	0.00	0.00, 0.00	0.9	0.00	0.00, 0.00	>0.9	0.00	0.00, 0.00	<0.001	0.00	0.00, 0.00	0.11
HOMBRES	0.12	-0.06, 0.29	0.2	0.04	-0.04, 0.12	0.3	-0.07	-0.23, 0.10	0.4	0.30	0.17, 0.44	<0.001
MUJERES	0.22	0.07, 0.36	0.003	-0.08	-0.14, -0.01	0.019	-0.32	-0.45, -0.18	<0.001	0.35	0.24, 0.47	<0.001
P65MAS	-0.05	-0.32, 0.22	0.7	0.07	-0.06, 0.20	0.3	0.04	-0.22, 0.30	0.7	0.14	-0.08, 0.35	0.2
EDAD	-0.01	-0.02, 0.01	0.2	0.00	-0.01, 0.01	0.8	-0.02	-0.03, -0.01	<0.001	-0.02	-0.03, -0.01	<0.001
N_OCUP	0.31	0.14, 0.48	<0.001	0.05	-0.03, 0.12	0.2	-0.04	-0.20, 0.11	0.6	0.13	0.00, 0.26	0.055
TRANSFER	-0.15	-0.45, 0.16	0.3	-0.05	-0.19, 0.09	0.5	0.70	0.41, 0.98	<0.001	-0.08	-0.32, 0.16	0.5
hijos06	0.04	-0.27, 0.34	0.8	-0.05	-0.18, 0.09	0.5	-0.22	-0.50, 0.07	0.13	-0.11	-0.35, 0.13	0.4
hijas06	-0.14	-0.43, 0.16	0.4	0.06	-0.07, 0.20	0.4	0.24	-0.04, 0.52	0.091	-0.03	-0.26, 0.20	0.8
hijos15	0.11	-0.12, 0.34	0.4	-0.07	-0.17, 0.04	0.2	0.06	-0.16, 0.28	0.6	-0.11	-0.30, 0.07	0.2
hijas15	0.18	-0.05, 0.40	0.12	0.10	0.00, 0.20	0.052	0.38	0.17, 0.59	<0.001	-0.10	-0.28, 0.08	0.3
p15ymase	-1.2	-2.0, -0.39	0.004	-0.26	-0.63, 0.11	0.2	0.16	-0.60, 0.93	0.7	0.39	-0.25, 1.0	0.2
graproes	0.28	-0.02, 0.58	0.070	-0.16	-0.29, -0.02	0.026	0.44	0.15, 0.72	0.003	-0.29	-0.53, -0.06	0.016
p5ymahli	13	5.8, 19	<0.001	-1.4	-4.5, 1.7	0.4	9.0	2.6, 15	0.006	-3.3	-8.6, 2.1	0.2
hogar_jm	1.1	-3.5, 5.7	0.6	1.7	-0.36, 3.8	0.10	1.0	-3.3, 5.4	0.6	2.2	-1.4, 5.9	0.2

## ...continued

hogar_jm	1.1	-3.5, 5.7	0.6	1.7	-0.36, 3.8	0.10	1.0	-3.3, 5.4	0.6	2.2	-1.4, 5.9	0.2
vph_pidt	0.28	-0.87, 1.4	0.6	0.67	0.14, 1.2	0.013	-0.48	-1.6, 0.61	0.4	2.3	1.4, 3.2	<0.001
vph_nade	2.5	0.03, 4.9	0.047	-0.41	-1.5, 0.70	0.5	-1.4	-3.7, 0.92	0.2	-2.1	-4.1, -0.24	0.028
nivel1	0.15	-0.90, 1.2	0.8	0.28	-0.20, 0.75	0.3	0.78	-0.21, 1.8	0.12	2.1	1.3, 3.0	<0.001
nivel2	0.10	-0.87, 1.1	0.8	0.27	-0.18, 0.71	0.2	0.99	0.08, 1.9	0.034	2.4	1.7, 3.2	<0.001
nivel3	-0.90	-1.9, 0.12	0.084	0.20	-0.27, 0.67	0.4	0.83	-0.14, 1.8	0.094	2.4	1.6, 3.2	<0.001
nivel4	-0.02	-1.4, 1.3	>0.9	0.30	-0.32, 0.92	0.3	1.2	-0.06, 2.5	0.061	2.3	1.2, 3.3	<0.001
estado1	-0.12	-3.4, 3.2	>0.9	-0.56	-2.1, 0.96	0.5	0.74	-2.4, 3.9	0.6	-1.1	-3.7, 1.5	0.4
estado6	-1.2	-2.5, 0.07	0.063	0.40	-0.19, 0.98	0.2	1.1	-0.11, 2.3	0.074	0.35	-0.65, 1.4	0.5
estado11	-0.39	-0.90, 0.12	0.13	0.06	-0.17, 0.30	0.6	-0.12	-0.60, 0.36	0.6	-0.10	-0.50, 0.30	0.6
estado14	-0.05	-1.2, 1.1	>0.9	0.21	-0.31, 0.73	0.4	-0.65	-1.7, 0.43	0.2	-0.82	-1.7, 0.08	0.073
estado15	-0.45	-1.1, 0.15	0.14	-0.24	-0.51, 0.04	0.091	-0.56	-1.1, 0.01	0.053	0.11	-0.36, 0.59	0.6
estado19	-0.09	-1.2, 1.1	0.9	0.76	0.24, 1.3	0.004	-0.89	-2.0, 0.19	0.10	-0.75	-1.6, 0.15	0.10
estado21	0.13	-0.44, 0.69	0.7	-0.12	-0.37, 0.14	0.4	-0.32	-0.85, 0.21	0.2	0.16	-0.28, 0.61	0.5
estado22	0.27	-0.48, 1.0	0.5	0.21	-0.13, 0.55	0.2	0.55	-0.16, 1.3	0.13	0.16	-0.43, 0.75	0.6
estado27	-0.15	-1.3, 1.0	0.8	-0.18	-0.71, 0.35	0.5	0.03	-1.1, 1.1	>0.9	0.24	-0.67, 1.2	0.6
estado28	0.19	-1.1, 1.5	0.8	-0.03	-0.64, 0.58	>0.9	-0.44	-1.7, 0.81	0.5	-0.80	-1.8, 0.25	0.13
estado29	0.43	-0.76, 1.6	0.5	-0.25	-0.79, 0.30	0.4	0.10	-1.0, 1.2	0.9	-0.11	-1.1, 0.82	0.8
estado30	0.59	0.11, 1.1	0.016	-0.13	-0.35, 0.09	0.2	-0.45	-0.90, 0.01	0.054	0.34	-0.04, 0.72	0.076
estado31	1.1	0.23, 2.1	0.014	-0.40	-0.82, 0.02	0.060	0.97	0.11, 1.8	0.028	0.08	-0.64, 0.80	0.8

<sup>7</sup> CI = Confidence Interval

Source: Author's calculations from survey data.

**Table 19: OLS Diff-in-Diff Results by Quartiles (Quartile 1) (lin-lin)**

Characteristic	Animal protein			Cereals			Milk and its derivatives			Fruit and vegetables			Processed sugars		
	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value
group	429	82, 776	0.016	586	227, 946	0.001	38	-167, 244	0.7	-99	-413, 216	0.5	-5.4	-190, 179	>0.9
after	28	-109, 165	0.7	-127	-269, 14	0.078	5.9	-75, 87	0.9	-153	-277, -29	0.016	40	-33, 112	0.3
comb	-222	-571, 126	0.2	-263	-623, 98	0.2	36	-170, 242	0.7	53	-262, 369	0.7	2.1	-183, 187	>0.9
ingmon_tri	0.08	0.06, 0.10	<0.001	0.07	0.05, 0.09	<0.001	0.01	0.00, 0.03	0.009	0.09	0.07, 0.10	<0.001	0.04	0.03, 0.05	<0.001
HOMBRES	48	-36, 132	0.3	183	97, 270	<0.001	36	-13, 86	0.15	61	-15, 137	0.11	24	-20, 69	0.3
MUJERES	102	34, 171	0.004	52	-19, 122	0.2	44	3.1, 84	0.035	165	103, 227	<0.001	-8.5	-45, 28	0.6
P65MAS	274	159, 389	<0.001	35	-83, 154	0.6	50	-18, 118	0.15	42	-62, 145	0.4	-5.9	-67, 55	0.8
EDAD	-8.1	-14, -2.3	0.006	-1.3	-7.3, 4.8	0.7	-3.4	-6.8, 0.06	0.054	-5.8	-11, -0.49	0.032	0.31	-2.8, 3.4	0.8
N_OCUP	-94	-176, -12	0.025	-15	-100, 70	0.7	34	-14, 83	0.2	15	-60, 89	0.7	8.3	-35, 52	0.7
TRANSFER	-103	-243, 37	0.2	-36	-181, 109	0.6	-116	-198, -33	0.006	115	-11, 242	0.075	-22	-96, 53	0.6
hijos06	-24	-162, 114	0.7	-171	-313, -28	0.019	46	-36, 128	0.3	-150	-275, -25	0.019	21	-52, 95	0.6
hijas06	-93	-229, 44	0.2	29	-112, 170	0.7	126	45, 207	0.002	-209	-333, -86	<0.001	6.6	-66, 79	0.9
hijos15	-29	-146, 89	0.6	-96	-218, 26	0.12	-76	-145, -6.2	0.033	27	-80, 133	0.6	-11	-74, 52	0.7
hijas15	-80	-188, 29	0.2	-52	-164, 60	0.4	-67	-131, -2.9	0.040	-33	-131, 65	0.5	-2.3	-60, 55	>0.9
p15ymase	367	41, 693	0.027	-74	-412, 263	0.7	-115	-307, 78	0.2	-475	-771, -180	0.002	-158	-331, 16	0.075
graproe	-61	-201, 80	0.4	-7.7	-153, 138	>0.9	-67	-151, 16	0.11	-172	-299, -45	0.008	-26	-100, 49	0.5
p5ymahli	-771	-3,638, 2,096	0.6	1,495	-1,469, 4,459	0.3	-758	-2,454, 938	0.4	292	-2,303, 2,886	0.8	803	-721, 2,327	0.3
hogar_jm	1,027	-1,099, 3,153	0.3	-717	-2,915, 1,481	0.5	-1,254	-2,511, 3.9	0.051	-1,576	-3,500, 347	0.11	1,429	299, 2,560	0.013

Source: Author's calculations from survey data.

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vph_pidt	1,191	682, 1,699	<0.001	785	259, 1,311	0.003	550	249, 851	<0.001	-56	-516, 405	0.8	117	-153, 388	0.4
vph_nade	-1,273	-2,294, -253	0.014	199	-856, 1,254	0.7	-436	-1,040, 168	0.2	400	-523, 1,324	0.4	820	277, 1,362	0.003
nivel1	41	-465, 548	0.9	-628	-1,152, -104	0.019	-461	-761, -162	0.003	164	-294, 622	0.5	-76	-345, 194	0.6
nivel2	268	-212, 748	0.3	-674	-1,170, -177	0.008	-435	-719, -151	0.003	319	-116, 754	0.2	-80	-335, 175	0.5
nivel3	561	36, 1,087	0.036	-713	-1,257, -170	0.010	-450	-761, -139	0.005	141	-335, 617	0.6	-38	-317, 242	0.8
nivel4	380	-754, 1,513	0.5	-364	-1,536, 809	0.5	-329	-1,000, 341	0.3	207	-819, 1,233	0.7	22	-581, 625	>0.9
estado1	-1,506	-3,140, 127	0.071	-603	-2,293, 1,086	0.5	373	-593, 1,339	0.4	97	-1,382, 1,575	0.9	172	-696, 1,041	0.7
estado6	-395	-1,137, 348	0.3	-62	-830, 706	0.9	273	-167, 712	0.2	-280	-952, 392	0.4	127	-268, 522	0.5
estado11	-662	-902, -422	<0.001	-485	-733, -236	<0.001	-79	-221, 63	0.3	-281	-498, -64	0.011	50	-78, 178	0.4
estado14	-72	-593, 449	0.8	-83	-622, 456	0.8	-108	-417, 200	0.5	-94	-566, 377	0.7	68	-209, 345	0.6
estado15	390	100, 679	0.008	-371	-670, -72	0.015	47	-124, 218	0.6	627	365, 889	<0.001	-187	-341, -33	0.017
estado19	-1,009	-1,571, -446	<0.001	-411	-993, 170	0.2	-275	-608, 57	0.10	130	-379, 639	0.6	204	-95, 503	0.2
estado21	-433	-718, -148	0.003	-238	-532, 57	0.11	136	-32, 305	0.11	391	133, 648	0.003	9.7	-142, 161	0.9
estado22	-1,086	-1,534, -638	<0.001	47	-416, 510	0.8	43	-222, 308	0.8	220	-186, 625	0.3	-8.7	-247, 230	>0.9
estado27	-187	-685, 311	0.5	-598	-1,113, -83	0.023	-372	-666, -77	0.014	-165	-616, 286	0.5	145	-119, 410	0.3
estado28	-1,251	-1,817, -686	<0.001	-679	-1,263, -95	0.023	-181	-515, 154	0.3	-15	-527, 496	>0.9	-40	-340, 261	0.8
estado29	-888	-1,558, -217	0.009	-462	-1,155, 231	0.2	-252	-648, 145	0.2	545	-62, 1,151	0.078	-270	-626, 87	0.14
estado30	-141	-359, 78	0.2	-162	-388, 64	0.2	146	17, 275	0.027	9.9	-188, 208	>0.9	-99	-216, 17	0.094
estado31	-351	-747, 45	0.082	623	214, 1,032	0.003	-254	-488, -20	0.033	77	-281, 435	0.7	373	162, 583	<0.001

† CI = Confidence Interval

Source: Author's calculations from survey data.

...continued

Characteristic	Oil and fats			Alcoholic beverages and tobacco			Outside			Others		
	Beta	95% CI <sup>1</sup>	p-value	Beta	95% CI <sup>1</sup>	p-value	Beta	95% CI <sup>1</sup>	p-value	Beta	95% CI <sup>1</sup>	p-value
group	-26	-113, 61	0.6	69	-20, 158	0.13	14	-255, 283	>0.9	235	-97, 568	0.2
after	-77	-111, -43	<0.001	14	-21, 49	0.4	339	233, 445	<0.001	520	389, 651	<0.001
comb	112	25, 199	0.012	-113	-202, -23	0.014	-286	-556, -16	0.038	-272	-606, 61	0.11
ingmon_tri	0.01	0.01, 0.02	<0.001	0.00	0.00, 0.01	0.11	0.04	0.03, 0.06	<0.001	0.03	0.01, 0.04	0.004
HOMBRES	-11	-32, 10	0.3	4.6	-17, 26	0.7	-32	-97, 33	0.3	42	-38, 122	0.3
MUJERES	8.9	-8.3, 26	0.3	-19	-37, -1.4	0.034	-60	-113, -7.1	0.026	38	-27, 104	0.3
P65MAS	54	26, 83	<0.001	16	-14, 45	0.3	-7.0	-96, 82	0.9	61	-49, 170	0.3
EDAD	-1.7	-3.2, -0.28	0.020	-0.08	-1.6, 1.4	>0.9	-4.8	-9.3, -0.29	0.037	-4.3	-9.8, 1.3	0.13
N_OCUP	28	7.5, 48	0.008	5.1	-16, 26	0.6	3.6	-60, 67	>0.9	-49	-127, 30	0.2
TRANSFER	-16	-51, 19	0.4	-11	-47, 25	0.5	67	-41, 176	0.2	136	2.2, 270	0.046
hijos06	-19	-53, 16	0.3	-20	-55, 15	0.3	-167	-274, -60	0.002	-81	-213, 51	0.2
hijas06	-28	-62, 6.1	0.11	20	-15, 55	0.3	18	-87, 124	0.7	108	-23, 238	0.11
hijos15	16	-14, 45	0.3	-15	-45, 15	0.3	29	-62, 120	0.5	-31	-143, 82	0.6
hijas15	31	3.4, 58	0.027	17	-11, 45	0.2	69	-15, 153	0.11	56	-48, 160	0.3
p15ymase	-77	-158, 4.9	0.065	-45	-129, 38	0.3	-35	-288, 217	0.8	194	-118, 506	0.2
grapros	8.4	-27, 44	0.6	-38	-74, -1.8	0.040	144	35, 253	0.010	-58	-192, 77	0.4
p5ymahli	831	115, 1,547	0.023	-396	-1,132, 341	0.3	1,812	-407, 4,032	0.11	-726	-3,468, 2,017	0.6
hogar_jm	46	-485, 577	0.9	188	-358, 734	0.5	1,773	127, 3,419	0.035	222	-1,812, 2,256	0.8

## ...continued

vph_pidt	92	-35, 219	0.2	116	-15, 247	0.081	-123	-517, 271	0.5	502	16, 989	0.043
vph_nade	515	260, 770	<0.001	-11	-273, 251	>0.9	-167	-957, 623	0.7	192	-784, 1,168	0.7
nivel1	-159	-286, -33	0.014	1.5	-129, 132	>0.9	144	-248, 537	0.5	363	-122, 847	0.14
nivel2	-154	-274, -34	0.012	11	-112, 134	0.9	239	-133, 611	0.2	370	-90, 829	0.11
nivel3	-268	-399, -137	<0.001	-5.3	-140, 130	>0.9	189	-218, 597	0.4	166	-337, 669	0.5
nivel4	-130	-413, 153	0.4	-21	-312, 270	0.9	629	-249, 1,507	0.2	227	-857, 1,312	0.7
estado1	-9.5	-417, 398	>0.9	-166	-586, 253	0.4	-111	-1,376, 1,154	0.9	-313	-1,876, 1,250	0.7
estado6	-137	-322, 49	0.15	-9.2	-200, 181	>0.9	231	-344, 806	0.4	47	-664, 757	0.9
estado11	-41	-101, 18	0.2	-38	-100, 23	0.2	145	-41, 331	0.13	-26	-255, 204	0.8
estado14	-33	-163, 97	0.6	115	-19, 249	0.093	-96	-499, 308	0.6	-440	-939, 58	0.083
estado15	-77	-149, -4.6	0.037	-47	-121, 27	0.2	192	-32, 416	0.094	-108	-385, 169	0.4
estado19	76	-65, 216	0.3	109	-36, 253	0.14	-261	-696, 174	0.2	-238	-775, 300	0.4
estado21	-17	-88, 55	0.6	-17	-90, 56	0.7	70	-151, 290	0.5	431	159, 703	0.002
estado22	-86	-198, 26	0.13	-1.7	-117, 113	>0.9	179	-168, 526	0.3	-334	-763, 94	0.13
estado27	-11	-135, 114	0.9	-51	-179, 77	0.4	108	-278, 494	0.6	-111	-587, 366	0.6
estado28	16	-125, 157	0.8	-19	-165, 126	0.8	-152	-589, 286	0.5	-357	-898, 183	0.2
estado29	-69	-236, 98	0.4	-75	-247, 97	0.4	166	-353, 685	0.5	-316	-957, 325	0.3
estado30	42	-13, 96	0.14	-0.55	-57, 56	>0.9	-234	-403, -65	0.007	-25	-234, 184	0.8
estado31	52	-47, 151	0.3	-64	-166, 37	0.2	-18	-324, 289	>0.9	95	-284, 473	0.6

<sup>†</sup> CI = Confidence Interval

Source: Author's calculations from survey data.



**Table 20: OLS Diff-in-Diff Results by Quartiles (Quartile 2) (lin-lin)**

Characteristic	Animal protein			Cereals			Milk and its derivatives			Fruit and vegetables			Processed sugars		
	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value
group	331	-465, 1,128	0.4	731	87, 1,375	0.026	-505	-988, -21	0.041	-528	-1,244, 187	0.15	-179	-550, 193	0.3
after	-118	-380, 143	0.4	-16	-228, 195	0.9	140	-19, 299	0.084	128	-107, 363	0.3	-217	-339, -95	<0.001
comb	-370	-1,125, 384	0.3	-482	-1,092, 128	0.12	-47	-505, 411	0.8	-353	-1,031, 325	0.3	338	-14, 690	0.060
ingmon_tri	0.04	0.02, 0.06	<0.001	0.01	0.00, 0.02	0.15	0.02	0.01, 0.03	0.002	0.03	0.01, 0.04	<0.001	0.01	0.01, 0.02	<0.001
HOMBRES	-162	-303, -22	0.024	270	157, 384	<0.001	-72	-158, 13	0.10	131	4.8, 257	0.042	28	-37, 94	0.4
MUJERES	-27	-144, 89	0.6	204	110, 299	<0.001	-21	-92, 50	0.6	29	-76, 134	0.6	99	45, 154	<0.001
P65MAS	-119	-388, 151	0.4	227	8.7, 445	0.042	244	80, 407	0.004	-146	-388, 96	0.2	41	-85, 167	0.5
EDAD	5.8	-6.7, 18	0.4	-0.46	-11, 9.7	>0.9	7.4	-0.19, 15	0.056	18	7.0, 29	0.002	-19	-25, -13	<0.001
N_OCUP	87	-41, 216	0.2	-172	-276, -68	0.001	-47	-124, 31	0.2	-6.4	-122, 109	>0.9	-15	-75, 44	0.6
TRANSFER	-347	-607, -87	0.009	-381	-591, -171	<0.001	-177	-335, -19	0.028	-449	-683, -216	<0.001	67	-54, 188	0.3
hijos06	145	-116, 406	0.3	-247	-458, -36	0.022	303	144, 461	<0.001	8.9	-226, 244	>0.9	-130	-252, -8.6	0.036
hijas06	-36	-284, 212	0.8	-56	-256, 144	0.6	62	-89, 212	0.4	154	-69, 377	0.2	-8.6	-124, 107	0.9
hijos15	109	-68, 287	0.2	-90	-234, 53	0.2	31	-77, 138	0.6	131	-28, 290	0.11	-63	-146, 20	0.14
hijas15	86	-93, 265	0.3	88	-57, 233	0.2	135	27, 244	0.015	64	-97, 225	0.4	-129	-213, -46	0.002
p15ymase	-329	-1,302, 645	0.5	820	32, 1,607	0.041	-244	-835, 347	0.4	-514	-1,389, 361	0.2	-280	-734, 175	0.2
graproes	132	-139, 404	0.3	-4.9	-224, 214	>0.9	-80	-245, 84	0.3	-351	-595, -108	0.005	10	-117, 137	0.9
p5ymahli	-2,387	-9,334, 4,559	0.5	-4,114	-9,731, 1,502	0.2	-270	-4,484, 3,944	0.9	-3,859	-10,101, 2,383	0.2	1,180	-2,061, 4,420	0.5
hogar_jm	2,758	-1,313, 6,830	0.2	-1,900	-5,191, 1,392	0.3	116	-2,354, 2,586	>0.9	-9,329	-12,987, -5,671	<0.001	538	-1,361, 2,437	0.6

Source: Author's calculations from survey data.

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vph_pidt	-365	-1,499, 770	0.5	1,537	620, 2,455	0.001	190	-499, 878	0.6	-1,463	-2,483, -443	0.005	-487	-1,017, 42	0.071
vph_nade	-3,143	-5,456, -830	0.008	-801	-2,672, 1,069	0.4	-1,298	-2,701, 106	0.070	-1,966	-4,045, 112	0.064	-1,088	-2,167, -8.9	0.048
nivel1	-4.2	-863, 854	>0.9	29	-666, 723	>0.9	-682	-1,203, -161	0.010	-722	-1,493, 49	0.067	1,108	708, 1,509	<0.001
nivel2	330	-460, 1,119	0.4	216	-422, 855	0.5	-363	-842, 116	0.14	-372	-1,082, 338	0.3	885	517, 1,253	<0.001
nivel3	437	-380, 1,254	0.3	49	-612, 709	0.9	-294	-789, 202	0.2	-585	-1,319, 149	0.12	767	386, 1,148	<0.001
nivel4	-862	-1,926, 202	0.11	-423	-1,283, 437	0.3	-688	-1,333, -42	0.037	-1,376	-2,332, -420	0.005	716	220, 1,213	0.005
estado1	-1,761	-4,260, 739	0.2	-1,149	-3,170, 872	0.3	736	-781, 2,252	0.3	1,147	-1,099, 3,393	0.3	702	-464, 1,868	0.2
estado6	-279	-1,285, 728	0.6	209	-605, 1,022	0.6	860	250, 1,471	0.006	387	-517, 1,291	0.4	351	-118, 821	0.14
estado11	-1,204	-1,655, -752	<0.001	3.0	-362, 368	>0.9	-250	-523, 24	0.074	36	-370, 441	0.9	335	124, 545	0.002
estado14	391	-598, 1,381	0.4	64	-736, 864	0.9	400	-200, 1,000	0.2	796	-93, 1,685	0.079	524	62, 985	0.026
estado15	625	117, 1,133	0.016	-109	-520, 302	0.6	332	24, 640	0.035	1,232	776, 1,689	<0.001	71	-166, 308	0.6
estado19	-1,250	-2,181, -319	0.009	-347	-1,100, 406	0.4	-225	-790, 340	0.4	312	-525, 1,148	0.5	711	277, 1,146	0.001
estado21	-427	-896, 43	0.075	68	-312, 447	0.7	17	-268, 301	>0.9	557	135, 978	0.010	30	-189, 249	0.8
estado22	-918	-1,472, -363	0.001	-74	-523, 374	0.7	384	47, 720	0.025	1,461	962, 1,959	<0.001	81	-178, 340	0.5
estado27	718	-414, 1,849	0.2	-357	-1,272, 558	0.4	155	-531, 841	0.7	1,034	18, 2,051	0.046	274	-254, 802	0.3
estado28	-1,182	-2,463, 98	0.070	-309	-1,344, 727	0.6	31	-746, 808	>0.9	1,001	-149, 2,152	0.088	23	-575, 620	>0.9
estado29	-345	-1,193, 502	0.4	-317	-1,003, 368	0.4	-145	-659, 369	0.6	1,288	526, 2,049	<0.001	-155	-550, 241	0.4
estado30	-900	-1,371, -430	<0.001	-522	-902, -141	0.007	199	-86, 485	0.2	-4.9	-428, 418	>0.9	15	-205, 234	0.9
estado31	219	-661, 1,100	0.6	723	11, 1,435	0.047	-248	-782, 287	0.4	527	-265, 1,318	0.2	870	459, 1,281	<0.001

<sup>†</sup> CI = Confidence Interval

Source: Author's calculations from survey data.

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Characteristic	Oil and fats			Alcoholic beverages and tobacco			Outside			Others		
	Beta	95% CI <sup>1</sup>	p-value	Beta	95% CI <sup>1</sup>	p-value	Beta	95% CI <sup>1</sup>	p-value	Beta	95% CI <sup>1</sup>	p-value
group	-3.1	-174, 167	>0.9	11	-186, 208	>0.9	-1,363	-2,258, -468	0.003	99	-334, 532	0.7
after	-121	-177, -65	<0.001	3.8	-61, 68	>0.9	519	226, 813	<0.001	54	-88, 196	0.5
comb	208	47, 370	0.012	-64	-250, 123	0.5	495	-352, 1,342	0.3	316	-94, 726	0.13
ingmon_tri	0.00	0.00, 0.00	0.7	0.00	0.00, 0.00	>0.9	0.04	0.02, 0.06	<0.001	0.01	0.00, 0.02	0.052
HOMBRES	22	-8.4, 52	0.2	14	-21, 48	0.4	-77	-234, 81	0.3	122	46, 198	0.002
MUJERES	11	-14, 36	0.4	-13	-41, 16	0.4	-299	-430, -168	<0.001	81	18, 144	0.012
P65MAS	-77	-134, -19	0.009	-2.8	-69, 64	>0.9	-27	-330, 276	0.9	87	-59, 234	0.2
EDAD	0.63	-2.1, 3.3	0.6	0.46	-2.6, 3.5	0.8	0.70	-13, 15	>0.9	-2.3	-9.1, 4.5	0.5
N_OCUP	48	21, 76	<0.001	1.5	-30, 33	>0.9	-36	-180, 109	0.6	15	-54, 85	0.7
TRANSFER	-55	-110, 0.96	0.054	8.3	-56, 73	0.8	273	-19, 565	0.067	-134	-276, 6.8	0.062
hijos06	38	-17, 94	0.2	-9.4	-74, 55	0.8	122	-171, 416	0.4	14	-128, 156	0.8
hijas06	74	21, 127	0.007	10	-51, 72	0.7	-41	-319, 238	0.8	52	-82, 187	0.4
hijos15	-4.3	-42, 34	0.8	-22	-66, 21	0.3	-47	-246, 152	0.6	-72	-169, 24	0.14
hijas15	34	-4.2, 72	0.081	30	-14, 74	0.2	342	141, 543	<0.001	-23	-120, 74	0.6
p15ymase	-484	-693, -276	<0.001	-27	-268, 213	0.8	290	-803, 1,384	0.6	-153	-682, 377	0.6
grapros	47	-11, 105	0.11	-23	-90, 45	0.5	409	105, 714	0.009	198	51, 346	0.008
p5ymahli	2,177	691, 3,663	0.004	-220	-1,937, 1,497	0.8	11,209	3,406, 19,013	0.005	6,596	2,820, 10,372	<0.001
hogar_jm	588	-283, 1,460	0.2	95	-912, 1,101	0.9	1,452	-3,121, 6,026	0.5	286	-1,927, 2,499	0.8

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vph_pidt	5.6	-237, 248	>0.9	63	-217, 344	0.7	-2,527	-3,802, -1,252	<0.001	655	38, 1,272	0.038
vph_nade	-29	-524, 465	>0.9	-83	-654, 489	0.8	-969	-3,568, 1,629	0.5	1,199	-58, 2,456	0.062
nivel1	135	-48, 319	0.15	30	-182, 242	0.8	312	-652, 1,277	0.5	277	-190, 744	0.2
nivel2	9.2	-160, 178	>0.9	18	-177, 213	0.9	-28	-915, 859	>0.9	404	-25, 833	0.065
nivel3	-31	-206, 144	0.7	6.4	-195, 208	>0.9	291	-626, 1,209	0.5	268	-176, 712	0.2
nivel4	-22	-250, 205	0.8	102	-161, 365	0.4	-56	-1,251, 1,140	>0.9	261	-318, 839	0.4
estado1	-152	-687, 383	0.6	-44	-662, 574	0.9	2,513	-294, 5,321	0.079	322	-1,036, 1,681	0.6
estado6	-340	-555, -125	0.002	99	-150, 347	0.4	1,680	549, 2,810	0.004	580	34, 1,127	0.038
estado11	-197	-293, -100	<0.001	0.17	-111, 112	>0.9	-10	-517, 496	>0.9	270	25, 515	0.031
estado14	-198	-410, 13	0.066	6.2	-238, 251	>0.9	1,675	564, 2,787	0.003	-182	-720, 356	0.5
estado15	-224	-333, -115	<0.001	-22	-148, 103	0.7	217	-354, 788	0.5	225	-51, 501	0.11
estado19	-218	-417, -19	0.032	524	294, 755	<0.001	806	-240, 1,852	0.13	256	-250, 762	0.3
estado21	-79	-179, 22	0.13	-1.8	-118, 114	>0.9	230	-297, 758	0.4	108	-147, 363	0.4
estado22	-95	-214, 24	0.12	18	-119, 155	0.8	677	53, 1,300	0.033	632	331, 934	<0.001
estado27	-203	-445, 39	0.10	-40	-319, 240	0.8	1,089	-181, 2,360	0.093	134	-481, 749	0.7
estado28	35	-239, 309	0.8	-24	-341, 292	0.9	783	-655, 2,222	0.3	71	-625, 767	0.8
estado29	-141	-322, 41	0.13	-8.6	-218, 201	>0.9	526	-426, 1,478	0.3	155	-305, 616	0.5
estado30	-63	-164, 37	0.2	-1.5	-118, 115	>0.9	536	7.3, 1,064	0.047	370	115, 626	0.005
estado31	72	-116, 261	0.5	-0.15	-218, 218	>0.9	1,406	417, 2,395	0.005	1,313	835, 1,792	<0.001

<sup>†</sup> CI = Confidence Interval

Source: Author's calculations from survey data.

**Table 21: OLS Diff-in-Diff Results by Quartiles (Quartile 3) (lin-lin)**

Characteristic	Animal protein			Cereals			Milk and its derivatives			Fruit and vegetables			Processed sugars		
	Beta	95% CI <sup>1</sup>	p-value	Beta	95% CI <sup>1</sup>	p-value	Beta	95% CI <sup>1</sup>	p-value	Beta	95% CI <sup>1</sup>	p-value	Beta	95% CI <sup>1</sup>	p-value
group	-4,875	-10,356, 606	0.077	-1,591	-4,955, 1,773	0.3	-2,808	-7,799, 2,182	0.2	1,703	-2,219, 5,625	0.4	-3,599	-5,484, -1,715	0.001
after	-2,132	-4,402, 137	0.063	-11	-1,403, 1,382	>0.9	-1,265	-3,332, 801	0.2	1,279	-345, 2,902	0.11	-959	-1,739, -178	0.020
comb	3,823	-1,320, 8,967	0.13	870	-2,286, 4,027	0.6	1,502	-3,181, 6,185	0.5	-225	-3,905, 3,455	0.9	2,542	774, 4,311	0.009
ingmon_tri	-0.57	-1.3, 0.16	0.12	-0.17	-0.62, 0.28	0.4	0.07	-0.60, 0.73	0.8	-0.23	-0.75, 0.30	0.4	-0.27	-0.52, -0.02	0.035
HOMBRES	-102	-1,731, 1,526	0.9	-70	-1,069, 930	0.9	308	-1,175, 1,791	0.7	930	-236, 2,095	0.11	344	-216, 904	0.2
MUJERES	1,136	90, 2,182	0.036	130	-511, 772	0.7	579	-373, 1,531	0.2	874	126, 1,622	0.026	53	-307, 412	0.8
P65MAS	158	-2,570, 2,887	>0.9	-1,048	-2,723, 626	0.2	-587	-3,071, 1,897	0.6	-72	-2,025, 1,880	>0.9	-685	-1,623, 253	0.14
EDAD	-48	-184, 88	0.5	62	-21, 146	0.13	-44	-168, 80	0.5	-8.7	-106, 89	0.8	-21	-68, 26	0.3
N_OCUP	-1,004	-2,851, 842	0.3	869	-264, 2,002	0.12	-524	-2,206, 1,157	0.5	-1,133	-2,454, 188	0.086	24	-611, 659	>0.9
TRANSFER	-740	-2,705, 1,225	0.4	-305	-1,511, 901	0.6	213	-1,576, 2,003	0.8	729	-677, 2,135	0.3	-475	-1,151, 200	0.2
hijos06	-11	-2,740, 2,717	>0.9	813	-862, 2,488	0.3	-404	-2,889, 2,080	0.7	-1,294	-3,246, 658	0.2	204	-734, 1,142	0.6
hijas06	-2,203	-4,940, 534	0.10	721	-958, 2,401	0.4	-901	-3,393, 1,590	0.4	-464	-2,422, 1,494	0.6	41	-900, 981	>0.9
hijos15	-585	-2,443, 1,273	0.5	572	-568, 1,713	0.3	-355	-2,047, 1,337	0.7	-1,303	-2,633, 27	0.054	-698	-1,337, -59	0.035
hijas15	156	-1,539, 1,852	0.8	1,039	-1.8, 2,079	0.050	-343	-1,887, 1,200	0.6	-534	-1,748, 679	0.4	134	-449, 717	0.6
p15ymase	-15,154	-25,134, -5,175	0.006	-1,483	-7,607, 4,641	0.6	-3,743	-12,830, 5,343	0.4	-2,073	-9,213, 5,068	0.5	334	-3,096, 3,765	0.8
graproes	-160	-2,003, 1,683	0.9	855	-276, 1,986	0.13	361	-1,317, 2,039	0.6	-957	-2,276, 361	0.14	1,019	385, 1,652	0.004
p5ymahli	30,314	-43,177, 103,805	0.4	33,864	-11,237, 78,966	0.13	-2,957	-69,869, 63,955	>0.9	3,150	-49,434, 55,735	0.9	34,475	9,211, 59,740	0.012
hogar_jm	13,932	-25,254, 53,118	0.5	572	-23,477, 24,621	>0.9	-12,225	-47,903, 23,454	0.5	21,988	-6,050, 50,027	0.11	-6,082	-19,553, 7,389	0.3

Source: Author's calculations from survey data.

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vph_pidt	-5,313	-23,560, 12,935	0.5	954	-10,245, 12,152	0.9	-8,156	-24,770, 8,458	0.3	9,826	-3,231, 22,882	0.13	-109	-6,382, 6,164	>0.9
vph_nade	14,627	-25,513, 54,768	0.4	-11,124	-35,758, 13,510	0.3	-8,943	-45,490, 27,604	0.6	7,374	-21,347, 36,095	0.6	7,522	-6,277, 21,321	0.3
nivel1	6,466	-967, 13,900	0.082	-3,189	-7,751, 1,373	0.2	7,279	511, 14,047	0.037	-2,488	-7,808, 2,831	0.3	5,215	2,659, 7,770	<0.001
nivel2	9,097	1,453, 16,741	0.024	-4,163	-8,854, 528	0.077	7,339	379, 14,298	0.040	-2,094	-7,563, 3,375	0.4	4,626	1,998, 7,254	0.002
nivel3	8,310	1,412, 15,207	0.022	-4,507	-8,740, -274	0.039	7,375	1,095, 13,656	0.025	-1,495	-6,430, 3,440	0.5	3,361	990, 5,732	0.009
nivel4	7,925	309, 15,541	0.043	-4,525	-9,199, 149	0.057	8,179	1,245, 15,113	0.025	-2,198	-7,647, 3,251	0.4	4,219	1,601, 6,837	0.004
estado1															
estado6	-3,022	-11,748, 5,705	0.5	-1,160	-6,515, 4,195	0.6	998	-6,947, 8,943	0.8	-1,521	-7,765, 4,723	0.6	-482	-3,482, 2,518	0.7
estado11	-4,520	-15,221, 6,181	0.4	-7,140	-13,707, -573	0.035	-1,216	-10,959, 8,527	0.8	2,174	-5,483, 9,830	0.5	-4,319	-7,997, -640	0.025
estado14	-6,829	-19,193, 5,535	0.3	-2,430	-10,018, 5,158	0.5	808	-10,450, 12,065	0.9	-1,626	-10,473, 7,220	0.7	-5,201	-9,452, -951	0.021
estado15	-7,241	-16,125, 1,642	0.10	-2,334	-7,786, 3,117	0.4	-231	-8,319, 7,857	>0.9	-1,434	-7,790, 4,922	0.6	-3,365	-6,419, -311	0.033
estado19	-2,450	-11,941, 7,041	0.6	1,590	-4,234, 7,415	0.6	1,820	-6,821, 10,462	0.7	-4,420	-11,211, 2,371	0.2	1,788	-1,475, 5,051	0.3
estado21	-4,554	-14,587, 5,479	0.3	-2,794	-8,951, 3,363	0.3	-1,164	-10,299, 7,970	0.8	253	-6,926, 7,432	>0.9	-3,675	-7,124, -225	0.039
estado22	-8,649	-18,303, 1,005	0.075	-1,776	-7,701, 4,149	0.5	-11	-8,801, 8,779	>0.9	-2,579	-9,486, 4,329	0.4	-2,481	-5,800, 837	0.13
estado27	201	-10,752, 11,155	>0.9	-1,898	-8,620, 4,824	0.5	1,236	-8,737, 11,209	0.8	-3,752	-11,590, 4,085	0.3	-426	-4,192, 3,339	0.8
estado28															
estado29	-1,754	-10,568, 7,060	0.7	-3,269	-8,678, 2,140	0.2	217	-7,808, 8,241	>0.9	964	-5,343, 7,270	0.7	-2,297	-5,327, 733	0.12
estado30	-4,163	-13,003, 4,677	0.3	-2,179	-7,604, 3,246	0.4	1,808	-6,240, 9,857	0.6	-1,768	-8,093, 4,557	0.6	-1,083	-4,122, 1,956	0.5
estado31	-1,841	-13,232, 9,549	0.7	-229	-7,219, 6,761	>0.9	3,921	-6,450, 14,292	0.4	-6,571	-14,721, 1,579	0.10	-1,287	-5,203, 2,629	0.5

<sup>†</sup> CI = Confidence Interval

Source: Author's calculations from survey data.

...continued

Characteristic	Oil and fats			Alcoholic beverages and tobacco			Outside			Others		
	Beta	95% CI <sup>7</sup>	p-value	Beta	95% CI <sup>7</sup>	p-value	Beta	95% CI <sup>7</sup>	p-value	Beta	95% CI <sup>7</sup>	p-value
group	234	-672, 1,139	0.6	2,270	69, 4,470	0.044	7,997	1,004, 14,990	0.028	-393	-3,848, 3,063	0.8
after	81	-294, 456	0.6	-684	-1,595, 227	0.13	1,326	-1,570, 4,221	0.3	-99	-1,529, 1,332	0.9
comb	37	-812, 887	>0.9	745	-1,320, 2,810	0.4	741	-5,822, 7,303	0.8	636	-2,607, 3,879	0.7
ingmon_tri	-0.02	-0.14, 0.10	0.7	0.11	-0.18, 0.40	0.4	-0.08	-1.0, 0.85	0.9	-0.26	-0.72, 0.20	0.2
HOMBRES	-44	-313, 225	0.7	388	-266, 1,042	0.2	402	-1,677, 2,480	0.7	119	-908, 1,146	0.8
MUJERES	-95	-268, 78	0.3	236	-184, 656	0.2	-1,826	-3,161, -492	0.011	553	-106, 1,212	0.092
P65MAS	244	-207, 694	0.3	174	-921, 1,270	0.7	1,472	-2,009, 4,953	0.4	-47	-1,768, 1,673	>0.9
EDAD	6.8	-16, 29	0.5	-34	-89, 20	0.2	131	-43, 304	0.13	-33	-119, 53	0.4
N_OCUP	65	-240, 370	0.7	-467	-1,209, 274	0.2	436	-1,920, 2,792	0.7	-474	-1,638, 690	0.4
TRANSFER	-40	-365, 285	0.8	-99	-888, 690	0.8	-1,557	-4,064, 950	0.2	-356	-1,595, 883	0.5
hijos06	69	-381, 520	0.7	-603	-1,698, 493	0.3	2,739	-742, 6,221	0.11	150	-1,570, 1,870	0.9
hijas06	9.5	-443, 462	>0.9	-550	-1,648, 549	0.3	3,351	-140, 6,843	0.058	-1,105	-2,831, 620	0.2
hijos15	-0.53	-308, 306	>0.9	-671	-1,417, 75	0.074	-994	-3,365, 1,377	0.4	-796	-1,968, 375	0.2
hijas15	191	-89, 471	0.2	-407	-1,088, 273	0.2	1,041	-1,122, 3,204	0.3	-308	-1,377, 761	0.5
p15ymase	40	-1,609, 1,689	>0.9	-799	-4,806, 3,207	0.7	19,446	6,713, 32,178	0.006	-1,311	-7,603, 4,981	0.7
grapros	-118	-423, 186	0.4	-457	-1,197, 282	0.2	310	-2,041, 2,661	0.8	-921	-2,083, 241	0.11
p5ymahli	-5,529	-17,671, 6,612	0.3	4,455	-25,050, 33,961	0.7	-77,646	-171,412, 16,121	0.10	-24,060	-70,394, 22,274	0.3
hogar_jm	2,051	-4,423, 8,525	0.5	2,597	-13,135, 18,330	0.7	28,711	-21,286, 78,709	0.2	-2,053	-26,759, 22,653	0.9

Source: Author's calculations from survey data.

## ...continued

vph_pidt	640	-2,374, 3,655	0.7	7,282	-44, 14,608	0.051	19,126	-4,156, 42,408	0.10	8,170	-3,335, 19,674	0.15
vph_nade	29	-6,603, 6,660	>0.9	8,214	-7,902, 24,330	0.3	14,399	-36,816, 65,614	0.6	18,571	-6,737, 43,878	0.14
nivel1	-617	-1,845, 611	0.3	110	-2,875, 3,094	>0.9	-4,247	-13,732, 5,237	0.3	4,017	-669, 8,704	0.086
nivel2	-719	-1,982, 544	0.2	1,035	-2,034, 4,104	0.5	-5,817	-15,569, 3,936	0.2	3,231	-1,588, 8,051	0.2
nivel3	-576	-1,715, 564	0.3	1,640	-1,129, 4,409	0.2	-6,093	-14,894, 2,707	0.2	3,149	-1,200, 7,497	0.14
nivel4	-483	-1,741, 775	0.4	979	-2,079, 4,036	0.5	-8,473	-18,190, 1,244	0.082	3,980	-822, 8,782	0.10
estado1												
estado6	-1,078	-2,519, 364	0.13	-4,647	-8,150, -1,143	0.014	-13,967	-25,101, -2,833	0.018	-1,737	-7,238, 3,765	0.5
estado11	190	-1,578, 1,958	0.8	958	-3,338, 5,254	0.6	-5,840	-19,493, 7,813	0.4	650	-6,097, 7,396	0.8
estado14	-370	-2,413, 1,673	0.7	-3,053	-8,017, 1,911	0.2	-7,682	-23,458, 8,093	0.3	-4,837	-12,632, 2,958	0.2
estado15	-1,099	-2,566, 369	0.13	-2,837	-6,404, 729	0.11	-4,986	-16,320, 6,348	0.4	-3,003	-8,603, 2,598	0.3
estado19	-1,509	-3,077, 59	0.058	-3,651	-7,462, 159	0.059	-15,837	-27,947, -3,728	0.015	-2,299	-8,282, 3,685	0.4
estado21	-1,121	-2,778, 537	0.2	-1,656	-5,685, 2,372	0.4	-9,202	-22,003, 3,600	0.14	-2,071	-8,397, 4,254	0.5
estado22	-700	-2,295, 895	0.4	-3,124	-7,000, 752	0.10	-7,009	-19,326, 5,308	0.2	-3,095	-9,182, 2,991	0.3
estado27	-1,143	-2,952, 667	0.2	-5,478	-9,876, -1,081	0.019	-16,085	-30,060, -2,109	0.028	-1,519	-8,425, 5,387	0.6
estado28												
estado29	-884	-2,340, 573	0.2	-1,507	-5,046, 2,031	0.4	-11,824	-23,070, -578	0.041	-2,286	-7,843, 3,271	0.4
estado30	-1,202	-2,663, 258	0.10	-2,430	-5,979, 1,119	0.2	-4,634	-15,913, 6,645	0.4	-1,882	-7,455, 3,692	0.5
estado31	-848	-2,730, 1,034	0.3	-3,090	-7,663, 1,483	0.2	-14,580	-29,113, -47	0.049	667	-6,515, 7,848	0.8

<sup>†</sup> CI = Confidence Interval

Source: Author's calculations from survey data.



**Table 22: OLS Diff-in-Diff Results by Quartiles (Quartile 1) (log-lin)**

Characteristic	Animal protein			Cereals			Milk and its derivatives			Fruit and vegetables			Processed sugars		
	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value
group	-0.18	-1.2, 0.88	0.7	0.74	0.02, 1.5	0.043	-0.28	-1.3, 0.75	0.6	0.04	-0.65, 0.74	0.9	-0.49	-1.4, 0.40	0.3
after	-0.05	-0.46, 0.37	0.8	-0.44	-0.72, -0.16	0.002	-0.11	-0.52, 0.29	0.6	-0.16	-0.43, 0.12	0.3	-0.50	-0.85, -0.14	0.006
comb	0.91	-0.15, 2.0	0.092	0.10	-0.62, 0.82	0.8	0.03	-1.0, 1.1	>0.9	-0.06	-0.75, 0.64	0.9	1.3	0.38, 2.2	0.005
ingmon_tri	0.00	0.00, 0.00	<0.001	0.00	0.00, 0.00	<0.001	0.00	0.00, 0.00	<0.001	0.00	0.00, 0.00	<0.001	0.00	0.00, 0.00	<0.001
HOMBRES	0.18	-0.08, 0.43	0.2	-0.06	-0.23, 0.12	0.5	0.30	0.05, 0.55	0.019	0.00	-0.17, 0.17	>0.9	0.29	0.07, 0.50	0.009
MUJERES	0.21	0.00, 0.42	0.048	0.06	-0.08, 0.20	0.4	0.39	0.18, 0.59	<0.001	0.43	0.29, 0.57	<0.001	0.04	-0.14, 0.21	0.7
P65MAS	1.1	0.76, 1.5	<0.001	-0.30	-0.54, -0.06	0.013	0.53	0.19, 0.87	0.002	0.35	0.12, 0.58	0.003	0.08	-0.21, 0.38	0.6
EDAD	-0.04	-0.06, -0.02	<0.001	0.00	-0.01, 0.01	0.6	-0.03	-0.04, -0.01	0.002	-0.03	-0.04, -0.01	<0.001	-0.01	-0.02, 0.01	0.4
N_OCUP	-0.33	-0.58, -0.08	0.009	0.11	-0.06, 0.28	0.2	-0.26	-0.50, -0.01	0.039	0.08	-0.08, 0.25	0.3	-0.05	-0.26, 0.16	0.6
TRANSFER	-0.70	-1.1, -0.27	0.001	-0.06	-0.35, 0.22	0.7	-0.83	-1.2, -0.41	<0.001	-0.04	-0.32, 0.24	0.8	-0.11	-0.47, 0.25	0.6
hijos06	-0.21	-0.63, 0.21	0.3	0.24	-0.04, 0.53	0.094	-0.04	-0.45, 0.37	0.9	-0.11	-0.39, 0.16	0.4	0.25	-0.11, 0.60	0.2
hijas06	-0.04	-0.45, 0.38	0.9	0.16	-0.12, 0.44	0.3	0.25	-0.16, 0.65	0.2	-0.36	-0.64, -0.09	0.009	-0.20	-0.55, 0.16	0.3
hijos15	-0.18	-0.54, 0.18	0.3	0.13	-0.11, 0.37	0.3	-0.10	-0.45, 0.25	0.6	0.17	-0.07, 0.40	0.2	-0.13	-0.44, 0.17	0.4
hijas15	0.10	-0.23, 0.43	0.6	-0.10	-0.32, 0.13	0.4	-0.43	-0.75, -0.11	0.009	-0.44	-0.66, -0.22	<0.001	-0.08	-0.36, 0.20	0.6
p15ymase	1.8	0.81, 2.8	<0.001	0.23	-0.44, 0.90	0.5	0.69	-0.28, 1.7	0.2	0.39	-0.26, 1.0	0.2	-0.03	-0.87, 0.81	>0.9
graproes	-0.14	-0.57, 0.29	0.5	-0.50	-0.79, -0.21	<0.001	-0.10	-0.52, 0.31	0.6	-0.35	-0.63, -0.07	0.015	-0.55	-0.91, -0.19	0.003
p5ymahli	-8.8	-18, -0.05	0.049	-5.8	-12, 0.08	0.053	-5.2	-14, 3.3	0.2	0.14	-5.6, 5.9	>0.9	-2.9	-10, 4.5	0.4
hogar_jm	-1.6	-8.0, 4.9	0.6	-1.1	-5.4, 3.3	0.6	-5.3	-12, 0.96	0.10	-4.0	-8.2, 0.26	0.066	2.5	-3.0, 8.0	0.4

Source: Author's calculations from survey data.

## ...continued

vph_pidt	1.9	0.35, 3.5	0.016	2.7	1.6, 3.7	<0.001	1.7	0.23, 3.3	0.024	0.50	-0.51, 1.5	0.3	0.68	-0.63, 2.0	0.3
vph_nade	-7.9	-11, -4.8	<0.001	-0.92	-3.0, 1.2	0.4	-4.8	-7.9, -1.8	0.002	-0.28	-2.3, 1.8	0.8	0.09	-2.5, 2.7	>0.9
nivel1	0.76	-0.79, 2.3	0.3	-1.0	-2.1, 0.00	0.050	0.57	-0.93, 2.1	0.5	0.16	-0.85, 1.2	0.7	0.10	-1.2, 1.4	0.9
nivel2	1.3	-0.14, 2.8	0.076	-1.1	-2.1, -0.16	0.023	0.75	-0.67, 2.2	0.3	0.49	-0.47, 1.4	0.3	0.07	-1.2, 1.3	>0.9
nivel3	1.2	-0.38, 2.8	0.13	-1.2	-2.3, -0.14	0.027	0.89	-0.67, 2.5	0.3	-0.10	-1.2, 0.95	0.8	0.88	-0.48, 2.2	0.2
nivel4	2.3	-1.1, 5.8	0.2	-0.69	-3.0, 1.6	0.6	0.57	-2.8, 3.9	0.7	0.12	-2.1, 2.4	>0.9	0.30	-2.6, 3.2	0.8
estado1	-2.5	-7.4, 2.5	0.3	-1.2	-4.5, 2.2	0.5	1.7	-3.2, 6.5	0.5	-0.09	-3.3, 3.2	>0.9	1.5	-2.7, 5.7	0.5
estado6	0.21	-2.1, 2.5	0.9	-0.24	-1.8, 1.3	0.8	1.2	-1.0, 3.4	0.3	-1.1	-2.6, 0.37	0.14	0.55	-1.4, 2.5	0.6
estado11	-1.8	-2.5, -1.1	<0.001	-1.3	-1.8, -0.85	<0.001	0.26	-0.46, 0.97	0.5	-0.64	-1.1, -0.16	0.009	-0.30	-0.92, 0.31	0.3
estado14	0.78	-0.81, 2.4	0.3	0.01	-1.1, 1.1	>0.9	0.80	-0.75, 2.3	0.3	-0.08	-1.1, 0.96	0.9	1.6	0.24, 2.9	0.021
estado15	0.95	0.07, 1.8	0.035	-0.35	-0.94, 0.25	0.3	0.44	-0.42, 1.3	0.3	0.82	0.24, 1.4	0.005	-0.73	-1.5, 0.01	0.054
estado19	-2.0	-3.7, -0.32	0.020	-1.0	-2.2, 0.13	0.082	-0.13	-1.8, 1.5	0.9	-0.37	-1.5, 0.75	0.5	0.57	-0.88, 2.0	0.4
estado21	-0.37	-1.2, 0.50	0.4	-0.39	-0.98, 0.19	0.2	-0.53	-1.4, 0.32	0.2	0.22	-0.35, 0.79	0.4	0.35	-0.38, 1.1	0.4
estado22	-2.7	-4.1, -1.4	<0.001	-0.34	-1.3, 0.58	0.5	-0.50	-1.8, 0.83	0.5	0.22	-0.67, 1.1	0.6	0.40	-0.75, 1.6	0.5
estado27	-0.28	-1.8, 1.2	0.7	-0.75	-1.8, 0.28	0.2	-1.1	-2.6, 0.39	0.15	0.08	-0.91, 1.1	0.9	1.4	0.16, 2.7	0.028
estado28	-2.1	-3.8, -0.33	0.019	-1.5	-2.6, -0.32	0.012	-0.13	-1.8, 1.5	0.9	0.24	-0.89, 1.4	0.7	-0.27	-1.7, 1.2	0.7
estado29	-1.8	-3.9, 0.20	0.078	-0.75	-2.1, 0.63	0.3	-0.96	-2.9, 1.0	0.3	0.59	-0.74, 1.9	0.4	-1.2	-2.9, 0.51	0.2
estado30	0.10	-0.57, 0.77	0.8	0.32	-0.13, 0.77	0.2	0.41	-0.24, 1.1	0.2	0.36	-0.08, 0.79	0.11	0.57	0.00, 1.1	0.048
estado31	-1.1	-2.3, 0.14	0.083	0.25	-0.57, 1.1	0.6	-1.9	-3.0, -0.68	0.002	-0.06	-0.85, 0.73	0.9	1.2	0.21, 2.2	0.018

<sup>†</sup> CI = Confidence Interval

Source: Author's calculations from survey data.

...continued

Characteristic	Oil and fats			Alcoholic beverages and tobacco			Outside			Others		
	Beta	95% CI <sup>7</sup>	p-value	Beta	95% CI <sup>7</sup>	p-value	Beta	95% CI <sup>7</sup>	p-value	Beta	95% CI <sup>7</sup>	p-value
group	-0.78	-1.8, 0.20	0.12	0.16	-0.31, 0.62	0.5	0.07	-0.72, 0.85	0.9	0.30	-0.58, 1.2	0.5
after	-0.85	-1.2, -0.46	<0.001	0.02	-0.16, 0.20	0.8	1.3	0.95, 1.6	<0.001	0.68	0.33, 1.0	<0.001
comb	1.5	0.51, 2.5	0.003	-0.45	-0.92, 0.02	0.059	-1.2	-1.9, -0.37	0.004	0.00	-0.88, 0.89	>0.9
ingmon_tri	0.00	0.00, 0.00	<0.001	0.00	0.00, 0.00	0.5	0.00	0.00, 0.00	<0.001	0.00	0.00, 0.00	0.11
HOMBRES	-0.19	-0.43, 0.05	0.11	0.06	-0.06, 0.17	0.3	0.02	-0.16, 0.21	0.8	0.23	0.02, 0.44	0.032
MUJERES	0.07	-0.12, 0.27	0.5	-0.12	-0.22, -0.03	0.008	-0.14	-0.30, 0.01	0.066	0.39	0.21, 0.56	<0.001
P65MAS	0.38	0.05, 0.70	0.023	0.12	-0.04, 0.27	0.13	-0.02	-0.27, 0.24	0.9	0.17	-0.12, 0.46	0.2
EDAD	-0.02	-0.03, 0.00	0.035	0.00	-0.01, 0.01	0.6	-0.03	-0.04, -0.01	<0.001	-0.02	-0.04, -0.01	0.002
N_OCUP	0.46	0.22, 0.69	<0.001	0.09	-0.02, 0.20	0.12	-0.05	-0.24, 0.13	0.6	0.11	-0.10, 0.32	0.3
TRANSFER	0.08	-0.32, 0.47	0.7	-0.12	-0.31, 0.07	0.2	0.44	0.12, 0.75	0.006	0.29	-0.07, 0.64	0.11
hijos06	-0.04	-0.43, 0.35	0.8	-0.14	-0.32, 0.05	0.2	-0.73	-1.0, -0.42	<0.001	-0.14	-0.49, 0.21	0.4
hijas06	-0.31	-0.70, 0.08	0.12	0.16	-0.02, 0.34	0.088	0.03	-0.27, 0.34	0.8	-0.17	-0.52, 0.17	0.3
hijos15	0.32	-0.02, 0.65	0.063	-0.11	-0.27, 0.04	0.2	0.07	-0.19, 0.33	0.6	-0.22	-0.52, 0.08	0.15
hijas15	0.35	0.04, 0.65	0.027	0.14	-0.01, 0.28	0.067	0.36	0.11, 0.60	0.004	-0.16	-0.44, 0.11	0.2
p15ymase	-0.45	-1.4, 0.48	0.3	-0.36	-0.80, 0.07	0.10	0.53	-0.21, 1.3	0.2	0.38	-0.44, 1.2	0.4
graproes	0.01	-0.39, 0.41	>0.9	-0.21	-0.39, -0.02	0.032	0.44	0.13, 0.76	0.006	-0.45	-0.81, -0.10	0.013
p5ymahli	9.4	1.3, 18	0.023	-1.2	-5.0, 2.7	0.6	4.6	-1.9, 11	0.2	-7.9	-15, -0.66	0.033
hogar_jm	-2.9	-8.9, 3.1	0.3	1.6	-1.2, 4.5	0.3	2.2	-2.5, 7.0	0.4	4.8	-0.60, 10	0.082

## ...continued

vph_pidt	1.3	-0.12, 2.8	0.072	0.87	0.19, 1.6	0.013	0.29	-0.85, 1.4	0.6	3.0	1.7, 4.3	<0.001
vph_nade	5.4	2.5, 8.3	<0.001	-0.10	-1.5, 1.3	0.9	-1.7	-4.0, 0.60	0.15	-1.5	-4.1, 1.1	0.3
nivel1	-1.1	-2.6, 0.30	0.12	-0.18	-0.86, 0.50	0.6	0.68	-0.45, 1.8	0.2	1.8	0.52, 3.1	0.006
nivel2	-0.87	-2.2, 0.49	0.2	-0.05	-0.69, 0.60	0.9	0.80	-0.28, 1.9	0.15	1.9	0.67, 3.1	0.002
nivel3	-2.1	-3.6, -0.60	0.006	-0.18	-0.89, 0.52	0.6	1.0	-0.15, 2.2	0.086	1.8	0.42, 3.1	0.010
nivel4	-0.10	-3.3, 3.1	>0.9	-0.06	-1.6, 1.5	>0.9	1.2	-1.3, 3.8	0.3	1.1	-1.8, 3.9	0.5
estado1	0.77	-3.9, 5.4	0.7	-0.97	-3.2, 1.2	0.4	0.38	-3.3, 4.1	0.8	-1.2	-5.4, 2.9	0.6
estado6	-0.86	-3.0, 1.2	0.4	-0.11	-1.1, 0.89	0.8	-0.04	-1.7, 1.6	>0.9	0.34	-1.5, 2.2	0.7
estado11	-0.42	-1.1, 0.26	0.2	-0.09	-0.42, 0.23	0.6	0.29	-0.25, 0.83	0.3	-0.67	-1.3, -0.06	0.032
estado14	0.01	-1.5, 1.5	>0.9	0.16	-0.54, 0.85	0.7	-0.45	-1.6, 0.72	0.5	-1.5	-2.8, -0.20	0.024
estado15	-0.24	-1.1, 0.58	0.6	-0.38	-0.77, 0.01	0.057	0.19	-0.46, 0.84	0.6	-0.48	-1.2, 0.25	0.2
estado19	0.98	-0.62, 2.6	0.2	0.12	-0.64, 0.87	0.8	-0.93	-2.2, 0.34	0.2	-1.0	-2.4, 0.40	0.2
estado21	-0.08	-0.89, 0.73	0.8	-0.26	-0.64, 0.12	0.2	-0.47	-1.1, 0.17	0.15	0.30	-0.42, 1.0	0.4
estado22	-0.51	-1.8, 0.76	0.4	0.05	-0.55, 0.66	0.9	-0.19	-1.2, 0.82	0.7	-0.96	-2.1, 0.17	0.095
estado27	0.73	-0.68, 2.1	0.3	-0.20	-0.87, 0.47	0.6	-0.49	-1.6, 0.63	0.4	-0.02	-1.3, 1.2	>0.9
estado28	0.59	-1.0, 2.2	0.5	-0.15	-0.91, 0.61	0.7	-0.40	-1.7, 0.87	0.5	-1.8	-3.2, -0.38	0.013
estado29	0.05	-1.9, 1.9	>0.9	-0.54	-1.4, 0.36	0.2	0.71	-0.80, 2.2	0.4	-0.73	-2.4, 0.96	0.4
estado30	1.2	0.61, 1.8	<0.001	-0.10	-0.39, 0.20	0.5	-0.74	-1.2, -0.25	0.003	0.37	-0.18, 0.92	0.2
estado31	0.58	-0.55, 1.7	0.3	-0.50	-1.0, 0.03	0.065	-0.15	-1.0, 0.74	0.7	-0.59	-1.6, 0.41	0.2

<sup>†</sup> CI = Confidence Interval

Source: Author's calculations from survey data.

**Table 23: OLS Diff-in-Diff Results by Quartiles (Quartile 2) (log-lin)**

Characteristic	Animal protein			Cereals			Milk and its derivatives			Fruit and vegetables			Processed sugars		
	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value
group	0.76	-0.59, 2.1	0.3	0.47	-0.38, 1.3	0.3	-1.2	-2.7, 0.39	0.14	-0.35	-1.2, 0.49	0.4	-0.48	-1.7, 0.71	0.4
after	-0.33	-0.77, 0.11	0.15	0.02	-0.26, 0.30	>0.9	0.03	-0.49, 0.54	>0.9	0.11	-0.16, 0.39	0.4	-0.43	-0.82, -0.04	0.031
comb	-0.23	-1.5, 1.0	0.7	-0.70	-1.5, 0.11	0.090	-0.71	-2.2, 0.78	0.4	-0.10	-0.90, 0.69	0.8	1.1	-0.01, 2.2	0.052
ingmon_tri	0.00	0.00, 0.00	0.014	0.00	0.00, 0.00	0.13	0.00	0.00, 0.00	0.11	0.00	0.00, 0.00	0.9	0.00	0.00, 0.00	0.2
HOMBRES	-0.38	-0.61, -0.14	0.002	0.22	0.07, 0.37	0.004	-0.51	-0.79, -0.23	<0.001	0.28	0.13, 0.43	<0.001	0.53	0.32, 0.74	<0.001
MUJERES	0.14	-0.06, 0.34	0.2	0.22	0.10, 0.35	<0.001	0.02	-0.21, 0.25	0.8	0.13	0.01, 0.26	0.035	0.51	0.34, 0.69	<0.001
P65MAS	-0.71	-1.2, -0.25	0.002	0.31	0.03, 0.60	0.033	-0.41	-0.95, 0.12	0.13	-0.11	-0.39, 0.18	0.5	-0.38	-0.78, 0.02	0.065
EDAD	0.02	0.00, 0.04	0.029	-0.01	-0.02, 0.01	0.4	0.03	0.00, 0.05	0.020	0.02	0.00, 0.03	0.012	-0.05	-0.07, -0.03	<0.001
N_OCUP	0.09	-0.13, 0.30	0.4	-0.32	-0.45, -0.18	<0.001	-0.14	-0.39, 0.11	0.3	-0.19	-0.33, -0.05	0.006	-0.33	-0.52, -0.14	<0.001
TRANSFER	-0.96	-1.4, -0.52	<0.001	-0.29	-0.56, -0.01	0.043	-0.31	-0.82, 0.20	0.2	-0.41	-0.68, -0.13	0.004	-0.10	-0.49, 0.29	0.6
hijos06	0.66	0.22, 1.1	0.003	-0.34	-0.62, -0.06	0.017	0.88	0.37, 1.4	<0.001	-0.01	-0.28, 0.27	>0.9	-0.36	-0.75, 0.03	0.068
hijas06	0.07	-0.35, 0.49	0.7	0.12	-0.15, 0.38	0.4	-0.15	-0.64, 0.34	0.6	0.18	-0.08, 0.44	0.2	-0.43	-0.80, -0.06	0.022
hijos15	0.22	-0.08, 0.52	0.2	-0.25	-0.44, -0.06	0.010	0.39	0.05, 0.74	0.027	0.11	-0.08, 0.29	0.3	-0.51	-0.77, -0.24	<0.001
hijas15	-0.39	-0.69, -0.08	0.012	0.06	-0.14, 0.25	0.6	0.25	-0.10, 0.60	0.2	0.11	-0.08, 0.30	0.2	-0.51	-0.78, -0.24	<0.001
p15ymase	-1.4	-3.0, 0.28	0.10	0.22	-0.82, 1.3	0.7	-1.9	-3.8, 0.01	0.051	-0.41	-1.4, 0.62	0.4	-1.9	-3.4, -0.47	0.010
graproes	-0.46	-0.91, 0.00	0.052	-0.07	-0.36, 0.22	0.6	0.00	-0.54, 0.53	>0.9	0.07	-0.22, 0.35	0.6	0.10	-0.31, 0.51	0.6
p5ymahli	-11	-23, 0.28	0.056	-7.2	-15, 0.26	0.059	-0.91	-15, 13	0.9	2.7	-4.6, 10	0.5	8.0	-2.4, 18	0.13
hogar_jm	3.8	-3.0, 11	0.3	-3.9	-8.3, 0.42	0.076	-2.0	-10, 6.0	0.6	-3.3	-7.6, 1.0	0.14	3.4	-2.7, 9.5	0.3

Source: Author's calculations from survey data.

## ...continued

vph_pidt	0.88	-1.0, 2.8	0.4	1.7	0.46, 2.9	0.007	0.14	-2.1, 2.4	0.9	-1.2	-2.4, -0.03	0.045	-1.5	-3.2, 0.17	0.078
vph_nade	-8.2	-12, -4.3	<0.001	-4.0	-6.4, -1.5	0.002	-2.4	-6.9, 2.2	0.3	-5.0	-7.5, -2.6	<0.001	-3.7	-7.1, -0.19	0.038
nivel1	-1.3	-2.7, 0.19	0.089	0.99	0.08, 1.9	0.034	-1.3	-2.9, 0.43	0.14	0.13	-0.78, 1.0	0.8	1.6	0.27, 2.8	0.018
nivel2	-0.14	-1.5, 1.2	0.8	1.3	0.42, 2.1	0.003	-0.23	-1.8, 1.3	0.8	0.34	-0.49, 1.2	0.4	0.85	-0.33, 2.0	0.2
nivel3	-0.07	-1.4, 1.3	>0.9	1.0	0.16, 1.9	0.021	0.05	-1.6, 1.7	>0.9	0.10	-0.76, 0.97	0.8	0.37	-0.85, 1.6	0.6
nivel4	-2.1	-3.9, -0.29	0.023	-0.19	-1.3, 0.94	0.7	-0.20	-2.3, 1.9	0.9	-1.2	-2.3, -0.04	0.043	0.98	-0.61, 2.6	0.2
estado1	-3.0	-7.2, 1.2	0.2	-1.7	-4.4, 0.98	0.2	2.3	-2.6, 7.2	0.4	0.87	-1.8, 3.5	0.5	1.9	-1.8, 5.6	0.3
estado6	-0.89	-2.6, 0.81	0.3	-0.12	-1.2, 0.95	0.8	3.3	1.3, 5.3	0.001	0.13	-0.93, 1.2	0.8	1.1	-0.39, 2.6	0.14
estado11	-2.1	-2.8, -1.3	<0.001	-0.38	-0.86, 0.10	0.12	0.31	-0.58, 1.2	0.5	0.27	-0.21, 0.74	0.3	0.83	0.16, 1.5	0.016
estado14	-0.80	-2.5, 0.87	0.3	0.27	-0.78, 1.3	0.6	0.56	-1.4, 2.5	0.6	0.83	-0.21, 1.9	0.12	1.2	-0.26, 2.7	0.11
estado15	0.13	-0.73, 0.98	0.8	-0.44	-0.98, 0.11	0.11	1.1	0.12, 2.1	0.028	0.66	0.12, 1.2	0.016	0.18	-0.58, 0.94	0.6
estado19	-3.0	-4.5, -1.4	<0.001	-0.41	-1.4, 0.58	0.4	0.25	-1.6, 2.1	0.8	-0.62	-1.6, 0.36	0.2	1.9	0.47, 3.3	0.009
estado21	-1.2	-2.0, -0.37	0.004	-0.42	-0.92, 0.08	0.10	0.70	-0.23, 1.6	0.14	0.43	-0.07, 0.92	0.091	0.79	0.08, 1.5	0.028
estado22	-1.6	-2.5, -0.67	<0.001	-0.37	-0.96, 0.22	0.2	2.0	0.93, 3.1	<0.001	0.71	0.13, 1.3	0.017	0.71	-0.12, 1.5	0.092
estado27	0.71	-1.2, 2.6	0.5	-0.38	-1.6, 0.82	0.5	0.08	-2.1, 2.3	>0.9	0.36	-0.83, 1.6	0.6	1.4	-0.29, 3.1	0.10
estado28	-1.3	-3.4, 0.88	0.2	0.21	-1.2, 1.6	0.8	1.5	-1.0, 4.0	0.3	0.68	-0.67, 2.0	0.3	0.00	-1.9, 1.9	>0.9
estado29	-0.64	-2.1, 0.79	0.4	-0.62	-1.5, 0.28	0.2	0.41	-1.3, 2.1	0.6	0.74	-0.16, 1.6	0.11	-0.04	-1.3, 1.2	>0.9
estado30	0.03	-0.76, 0.83	>0.9	-1.2	-1.7, -0.69	<0.001	1.0	0.09, 1.9	0.031	-0.11	-0.60, 0.39	0.7	0.71	0.00, 1.4	0.049
estado31	0.93	-0.56, 2.4	0.2	0.76	-0.18, 1.7	0.11	1.3	-0.42, 3.0	0.14	0.50	-0.42, 1.4	0.3	2.6	1.2, 3.9	<0.001

<sup>†</sup> CI = Confidence Interval

...continued

Characteristic	Oil and fats			Alcoholic beverages and tobacco			Outside			Others		
	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value
group	0.40	-1.1, 1.9	0.6	-0.08	-0.75, 0.60	0.8	-1.8	-3.5, -0.15	0.033	-0.25	-1.2, 0.73	0.6
after	-0.85	-1.3, -0.36	<0.001	-0.23	-0.45, -0.01	0.045	1.9	1.3, 2.4	<0.001	0.10	-0.22, 0.42	0.5
comb	1.5	0.05, 2.9	0.043	0.00	-0.64, 0.64	>0.9	0.03	-1.5, 1.6	>0.9	0.65	-0.28, 1.6	0.2
ingmon_tri	0.00	0.00, 0.00	0.14	0.00	0.00, 0.00	0.2	0.00	0.00, 0.00	<0.001	0.00	0.00, 0.00	0.074
HOMBRES	0.29	0.03, 0.56	0.029	-0.01	-0.13, 0.10	0.8	-0.25	-0.54, 0.04	0.10	0.41	0.24, 0.58	<0.001
MUJERES	0.24	0.02, 0.46	0.030	0.02	-0.08, 0.12	0.6	-0.49	-0.74, -0.25	<0.001	0.27	0.13, 0.42	<0.001
P65MAS	-0.79	-1.3, -0.28	0.002	-0.07	-0.30, 0.16	0.6	0.16	-0.40, 0.72	0.6	0.09	-0.24, 0.42	0.6
EDAD	0.01	-0.01, 0.03	0.5	0.00	-0.01, 0.01	0.7	-0.01	-0.03, 0.02	0.6	-0.01	-0.02, 0.01	0.3
N_OCUP	0.11	-0.13, 0.35	0.4	0.02	-0.09, 0.12	0.8	0.05	-0.22, 0.32	0.7	0.06	-0.10, 0.22	0.5
TRANSFER	-0.64	-1.1, -0.15	0.010	0.05	-0.17, 0.27	0.6	0.73	0.19, 1.3	0.008	-0.72	-1.0, -0.40	<0.001
hijos06	0.32	-0.17, 0.81	0.2	0.11	-0.11, 0.33	0.3	0.61	0.07, 1.2	0.027	0.01	-0.32, 0.33	>0.9
hijas06	0.14	-0.33, 0.60	0.6	-0.09	-0.30, 0.12	0.4	0.51	-0.01, 1.0	0.053	0.04	-0.26, 0.35	0.8
hijos15	-0.04	-0.37, 0.29	0.8	0.04	-0.11, 0.19	0.6	0.17	-0.20, 0.54	0.4	-0.05	-0.27, 0.16	0.6
hijas15	0.16	-0.17, 0.50	0.3	0.03	-0.12, 0.18	0.7	0.49	0.11, 0.86	0.010	0.00	-0.22, 0.22	>0.9
p15ymase	-2.6	-4.4, -0.76	0.006	0.07	-0.76, 0.89	0.9	0.36	-1.7, 2.4	0.7	0.07	-1.1, 1.3	>0.9
grapros	0.48	-0.03, 0.99	0.065	-0.10	-0.33, 0.13	0.4	0.71	0.15, 1.3	0.013	0.04	-0.30, 0.37	0.8
p5ymahli	16	3.2, 29	0.015	-1.4	-7.3, 4.5	0.6	18	3.4, 32	0.016	8.5	-0.05, 17	0.051
hogar_jm	6.3	-1.3, 14	0.11	1.4	-2.0, 4.9	0.4	-2.9	-11, 5.5	0.5	-0.84	-5.9, 4.2	0.7

## ...continued

vph_pidt	-0.95	-3.1, 1.2	0.4	0.56	-0.40, 1.5	0.3	-4.2	-6.5, -1.8	<0.001	1.2	-0.22, 2.6	0.10
vph_nade	-1.1	-5.5, 3.2	0.6	-1.2	-3.2, 0.73	0.2	-2.4	-7.2, 2.4	0.3	-1.9	-4.8, 0.94	0.2
nivel1	0.67	-0.95, 2.3	0.4	1.1	0.35, 1.8	0.004	1.2	-0.56, 3.0	0.2	1.3	0.26, 2.4	0.014
nivel2	-0.03	-1.5, 1.5	>0.9	0.78	0.11, 1.5	0.022	0.89	-0.75, 2.5	0.3	1.9	0.92, 2.9	<0.001
nivel3	-1.2	-2.7, 0.33	0.12	0.71	0.01, 1.4	0.045	0.72	-0.98, 2.4	0.4	1.9	0.86, 2.9	<0.001
nivel4	0.98	-1.0, 3.0	0.3	1.1	0.16, 2.0	0.021	0.16	-2.1, 2.4	0.9	1.1	-0.17, 2.5	0.088
estado1	-1.2	-5.9, 3.6	0.6	-0.08	-2.2, 2.0	>0.9	3.4	-1.8, 8.6	0.2	-0.23	-3.3, 2.9	0.9
estado6	-2.3	-4.2, -0.42	0.017	0.67	-0.19, 1.5	0.13	3.1	1.0, 5.2	0.004	1.0	-0.23, 2.2	0.11
estado11	-0.58	-1.4, 0.27	0.2	0.32	-0.07, 0.70	0.10	-0.21	-1.2, 0.73	0.7	0.39	-0.16, 0.95	0.2
estado14	-0.56	-2.4, 1.3	0.6	0.40	-0.43, 1.2	0.3	0.20	-1.9, 2.3	0.8	-0.19	-1.4, 1.0	0.8
estado15	-1.0	-2.0, -0.06	0.038	-0.14	-0.57, 0.29	0.5	-0.56	-1.6, 0.50	0.3	0.77	0.14, 1.4	0.016
estado19	-1.3	-3.1, 0.42	0.14	1.4	0.56, 2.1	<0.001	0.95	-0.99, 2.9	0.3	-0.02	-1.2, 1.1	>0.9
estado21	0.19	-0.70, 1.1	0.7	0.08	-0.32, 0.48	0.7	0.13	-0.85, 1.1	0.8	0.43	-0.15, 1.0	0.14
estado22	-0.06	-1.1, 0.98	>0.9	0.43	-0.04, 0.90	0.075	1.3	0.17, 2.5	0.025	1.0	0.32, 1.7	0.004
estado27	-1.3	-3.4, 0.85	0.2	-0.22	-1.2, 0.74	0.6	2.4	0.00, 4.7	0.050	0.61	-0.79, 2.0	0.4
estado28	-0.21	-2.6, 2.2	0.9	0.06	-1.0, 1.1	>0.9	0.73	-1.9, 3.4	0.6	0.89	-0.69, 2.5	0.3
estado29	0.17	-1.4, 1.8	0.8	0.06	-0.66, 0.78	0.9	0.69	-1.1, 2.5	0.4	0.75	-0.30, 1.8	0.2
estado30	0.38	-0.51, 1.3	0.4	0.01	-0.39, 0.41	>0.9	-0.19	-1.2, 0.79	0.7	0.70	0.12, 1.3	0.019
estado31	1.7	0.06, 3.4	0.042	-0.28	-1.0, 0.47	0.5	2.8	0.94, 4.6	0.003	1.4	0.30, 2.5	0.012

<sup>†</sup> CI = Confidence Interval

Source: Author's calculations from survey data.



**Table 24: OLS Diff-in-Diff Results by Quartiles (Quartile 3) (log-lin)**

Characteristic	Animal protein			Cereals			Milk and its derivatives			Fruit and vegetables			Processed sugars		
	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value	Beta	95% CI <sup>†</sup>	p-value
group	-2.0	-7.2, 3.2	0.4	-2.3	-5.5, 0.91	0.15	-8.9	-18, 0.00	0.050	-0.17	-4.5, 4.2	>0.9	-3.5	-11, 4.3	0.3
after	-1.2	-3.3, 0.98	0.3	0.02	-1.3, 1.3	>0.9	-1.3	-5.0, 2.4	0.4	0.26	-1.5, 2.1	0.8	-2.4	-5.6, 0.86	0.14
comb	4.5	-0.35, 9.4	0.066	0.80	-2.2, 3.8	0.6	5.5	-2.8, 14	0.2	-1.9	-6.0, 2.2	0.3	7.5	0.24, 15	0.044
ingmon_tri	0.00	0.00, 0.00	0.7	0.00	0.00, 0.00	0.5	0.00	0.00, 0.00	0.6	0.00	0.00, 0.00	0.4	0.00	0.00, 0.00	0.2
HOMBRES	0.81	-0.73, 2.3	0.3	0.08	-0.87, 1.0	0.9	0.13	-2.5, 2.8	>0.9	0.62	-0.67, 1.9	0.3	0.88	-1.4, 3.2	0.4
MUJERES	0.93	-0.06, 1.9	0.064	0.35	-0.26, 0.96	0.2	0.89	-0.81, 2.6	0.3	0.80	-0.03, 1.6	0.058	0.39	-1.1, 1.9	0.6
P65MAS	0.78	-1.8, 3.4	0.5	-0.98	-2.6, 0.61	0.2	-2.0	-6.5, 2.4	0.3	-0.73	-2.9, 1.4	0.5	-0.33	-4.2, 3.6	0.9
EDAD	-0.08	-0.21, 0.05	0.2	0.05	-0.03, 0.13	0.2	0.04	-0.18, 0.26	0.7	0.00	-0.11, 0.11	>0.9	0.06	-0.13, 0.25	0.5
N_OCUP	-2.2	-4.0, -0.47	0.017	0.20	-0.88, 1.3	0.7	0.22	-2.8, 3.2	0.9	-0.50	-2.0, 0.96	0.5	-0.79	-3.4, 1.8	0.5
TRANSFER	-1.4	-3.2, 0.50	0.14	-0.27	-1.4, 0.87	0.6	-0.53	-3.7, 2.7	0.7	0.42	-1.1, 2.0	0.6	-0.81	-3.6, 2.0	0.5
hijos06	-1.5	-4.1, 1.1	0.2	0.76	-0.82, 2.3	0.3	1.8	-2.6, 6.3	0.4	0.12	-2.0, 2.3	>0.9	1.5	-2.4, 5.3	0.4
hijas06	-1.1	-3.7, 1.4	0.4	0.87	-0.72, 2.5	0.3	1.1	-3.3, 5.6	0.6	-0.07	-2.2, 2.1	>0.9	0.83	-3.1, 4.7	0.6
hijos15	-1.7	-3.5, 0.02	0.052	0.34	-0.74, 1.4	0.5	-0.87	-3.9, 2.2	0.5	-1.2	-2.7, 0.29	0.11	-1.5	-4.2, 1.1	0.2
hijas15	-0.33	-1.9, 1.3	0.7	0.44	-0.54, 1.4	0.3	0.80	-2.0, 3.6	0.5	-0.06	-1.4, 1.3	>0.9	0.75	-1.7, 3.2	0.5
p15ymase	-11	-20, -1.6	0.026	-0.87	-6.7, 4.9	0.7	-8.5	-25, 7.7	0.3	-1.3	-9.2, 6.6	0.7	1.7	-12, 16	0.8
grapros	-1.0	-2.8, 0.70	0.2	0.75	-0.32, 1.8	0.2	1.7	-1.3, 4.6	0.3	-0.47	-1.9, 0.99	0.5	0.59	-2.0, 3.2	0.6
p5ymahli	20	-50, 89	0.5	28	-15, 70	0.2	34	-85, 154	0.5	8.1	-50, 66	0.8	13	-92, 117	0.8
hogar_jm	16	-21, 53	0.4	12	-11, 35	0.3	0.45	-63, 64	>0.9	16	-15, 47	0.3	23	-33, 78	0.4

## ...continued

vph_pidt	1.9	-15, 19	0.8	0.98	-9.6, 12	0.8	-2.4	-32, 27	0.9	14	-0.08, 29	0.051	7.6	-18, 34	0.5
vph_nade	15	-23, 53	0.4	-11	-34, 13	0.3	-2.6	-68, 63	>0.9	14	-18, 46	0.4	-7.6	-65, 49	0.8
nivel1	7.3	0.25, 14	0.043	-2.8	-7.1, 1.5	0.2	3.9	-8.2, 16	0.5	-2.8	-8.7, 3.1	0.3	1.1	-9.4, 12	0.8
nivel2	8.9	1.7, 16	0.020	-3.5	-8.0, 0.92	0.11	2.8	-9.6, 15	0.6	-2.3	-8.3, 3.8	0.4	0.39	-10, 11	>0.9
nivel3	8.3	1.8, 15	0.017	-3.4	-7.4, 0.63	0.091	3.0	-8.2, 14	0.6	-1.4	-6.9, 4.0	0.6	0.11	-9.7, 9.9	>0.9
nivel4	3.9	-3.3, 11	0.3	-4.1	-8.5, 0.32	0.066	0.48	-12, 13	>0.9	-2.3	-8.3, 3.7	0.4	0.95	-9.9, 12	0.9
estado1															
estado6	-4.7	-13, 3.5	0.2	1.1	-4.0, 6.2	0.6	0.62	-14, 15	>0.9	-1.5	-8.4, 5.4	0.6	-8.4	-21, 4.0	0.2
estado11	1.0	-9.1, 11	0.8	-5.4	-12, 0.80	0.082	-17	-34, 0.61	0.057	-3.0	-11, 5.5	0.5	-8.9	-24, 6.3	0.2
estado14	-7.0	-19, 4.7	0.2	-0.11	-7.3, 7.1	>0.9	-4.5	-25, 16	0.6	-5.8	-16, 4.0	0.2	-5.6	-23, 12	0.5
estado15	-6.1	-15, 2.3	0.14	-0.86	-6.0, 4.3	0.7	-2.4	-17, 12	0.7	-4.3	-11, 2.7	0.2	-8.7	-21, 4.0	0.2
estado19	-8.2	-17, 0.82	0.071	2.1	-3.4, 7.6	0.4	3.9	-11, 19	0.6	-5.1	-13, 2.4	0.2	-3.7	-17, 9.8	0.6
estado21	-3.3	-13, 6.2	0.5	-1.8	-7.6, 4.0	0.5	-6.7	-23, 9.6	0.4	-4.4	-12, 3.6	0.3	-10	-24, 4.2	0.15
estado22	-8.0	-17, 1.1	0.081	-1.8	-7.4, 3.8	0.5	-4.3	-20, 11	0.6	-5.7	-13, 2.0	0.13	-8.8	-23, 4.9	0.2
estado27	-6.3	-17, 4.1	0.2	0.08	-6.3, 6.4	>0.9	-4.8	-23, 13	0.6	-2.3	-11, 6.4	0.6	-7.1	-23, 8.5	0.3
estado28															
estado29	-0.83	-9.2, 7.5	0.8	-2.2	-7.3, 2.9	0.4	-3.2	-17, 11	0.6	-3.3	-10, 3.6	0.3	-7.3	-20, 5.2	0.2
estado30	-1.8	-10, 6.6	0.7	-0.83	-6.0, 4.3	0.7	-0.31	-15, 14	>0.9	-4.4	-11, 2.6	0.2	-5.7	-18, 6.9	0.3
estado31	-3.8	-15, 7.0	0.5	-1.8	-8.4, 4.8	0.6	2.1	-16, 21	0.8	-8.3	-17, 0.73	0.068	-9.7	-26, 6.5	0.2

<sup>†</sup> CI = Confidence Interval

Source: Author's calculations from survey data.

...continued

Characteristic	Oil and fats			Alcoholic beverages and tobacco			Outside			Others		
	Beta	95% CI <sup>1</sup>	p-value	Beta	95% CI <sup>1</sup>	p-value	Beta	95% CI <sup>1</sup>	p-value	Beta	95% CI <sup>1</sup>	p-value
group	4.1	-5.0, 13	0.3	6.0	-0.93, 13	0.084	9.5	1.6, 17	0.022	-0.83	-8.9, 7.3	0.8
after	3.1	-0.65, 6.9	0.10	-2.0	-4.9, 0.84	0.15	3.9	0.59, 7.1	0.024	-0.05	-3.4, 3.3	>0.9
comb	-0.50	-9.0, 8.0	0.9	1.5	-5.0, 8.0	0.6	-4.5	-12, 2.9	0.2	3.2	-4.4, 11	0.4
ingmon_tri	0.00	0.00, 0.00	0.4	0.00	0.00, 0.00	0.2	0.00	0.00, 0.00	0.8	0.00	0.00, 0.00	0.3
HOMBRES	-0.11	-2.8, 2.6	>0.9	0.90	-1.2, 3.0	0.4	0.36	-2.0, 2.7	0.7	0.69	-1.7, 3.1	0.5
MUJERES	-0.54	-2.3, 1.2	0.5	0.49	-0.83, 1.8	0.4	-0.49	-2.0, 1.0	0.5	0.77	-0.78, 2.3	0.3
P65MAS	1.7	-2.8, 6.2	0.4	0.33	-3.1, 3.8	0.8	2.6	-1.4, 6.5	0.2	-0.75	-4.8, 3.3	0.7
EDAD	0.11	-0.11, 0.34	0.3	-0.04	-0.21, 0.13	0.6	0.10	-0.09, 0.30	0.3	0.01	-0.19, 0.21	>0.9
N_OCUP	-0.34	-3.4, 2.7	0.8	-0.94	-3.3, 1.4	0.4	-0.41	-3.1, 2.2	0.7	-0.19	-2.9, 2.5	0.9
TRANSFER	-1.0	-4.3, 2.2	0.5	-0.10	-2.6, 2.4	>0.9	-2.0	-4.8, 0.84	0.2	-0.27	-3.2, 2.6	0.8
hijos06	0.52	-4.0, 5.0	0.8	-0.60	-4.0, 2.8	0.7	2.9	-1.0, 6.8	0.13	1.4	-2.7, 5.4	0.5
hijas06	0.82	-3.7, 5.4	0.7	0.04	-3.4, 3.5	>0.9	0.82	-3.1, 4.8	0.7	0.62	-3.4, 4.7	0.7
hijos15	-0.43	-3.5, 2.6	0.8	-2.3	-4.6, 0.08	0.057	-1.0	-3.7, 1.7	0.4	-1.6	-4.4, 1.1	0.2
hijas15	2.2	-0.62, 5.0	0.12	-0.14	-2.3, 2.0	0.9	1.5	-0.98, 3.9	0.2	0.56	-2.0, 3.1	0.6
p15ymase	-0.94	-17, 16	>0.9	-1.7	-14, 11	0.8	15	0.72, 29	0.041	-1.5	-16, 13	0.8
graproes	-1.5	-4.6, 1.5	0.3	-0.84	-3.2, 1.5	0.4	0.93	-1.7, 3.6	0.5	-1.0	-3.7, 1.7	0.4
p5ymahli	-52	-173, 70	0.4	-34	-126, 59	0.4	-39	-144, 67	0.4	0.31	-109, 109	>0.9
hogar_jm	39	-26, 103	0.2	8.4	-41, 58	0.7	47	-9.2, 104	0.093	23	-35, 81	0.4

## ...continued

vph_pidt	9.6	-21, 40	0.5	24	0.90, 47	0.043	21	-5.2, 47	0.11	32	4.6, 59	0.026
vph_nade	-6.1	-73, 60	0.8	37	-14, 88	0.14	26	-32, 84	0.3	37	-23, 96	0.2
nivel1	-11	-23, 1.6	0.082	-1.8	-11, 7.6	0.7	-11	-22, -0.65	0.039	4.5	-6.5, 16	0.4
nivel2	-13	-26, -0.57	0.042	-0.85	-11, 8.8	0.9	-9.5	-20, 1.5	0.085	3.7	-7.6, 15	0.5
nivel3	-11	-22, 0.78	0.065	2.6	-6.1, 11	0.5	-9.7	-20, 0.23	0.055	4.4	-5.8, 15	0.4
nivel4	-11	-23, 1.9	0.088	-2.0	-12, 7.6	0.7	-11	-22, 0.34	0.056	2.7	-8.6, 14	0.6
estado1												
estado6	-10	-25, 4.0	0.14	-15	-26, -3.9	0.012	-7.8	-20, 4.8	0.2	-9.8	-23, 3.1	0.12
estado11	-2.8	-21, 15	0.7	-2.9	-16, 11	0.7	-0.33	-16, 15	>0.9	-11	-27, 5.2	0.2
estado14	-1.6	-22, 19	0.9	-10	-26, 5.4	0.2	-9.0	-27, 8.8	0.3	-15	-33, 3.8	0.11
estado15	-9.4	-24, 5.3	0.2	-8.2	-19, 3.0	0.14	-3.2	-16, 9.6	0.6	-10	-23, 3.0	0.12
estado19	-17	-32, -0.91	0.040	-16	-28, -3.9	0.014	-16	-29, -2.0	0.028	-9.2	-23, 4.8	0.2
estado21	-10	-27, 6.1	0.2	-10	-23, 2.6	0.11	-10	-25, 4.3	0.2	-10	-25, 4.7	0.2
estado22	-7.4	-23, 8.6	0.3	-12	-24, 0.54	0.059	-6.2	-20, 7.7	0.4	-12	-27, 2.0	0.085
estado27	-13	-31, 5.3	0.15	-18	-32, -4.1	0.015	-7.9	-24, 7.9	0.3	-11	-27, 5.0	0.2
estado28												
estado29	-9.4	-24, 5.2	0.2	-9.4	-21, 1.7	0.090	-14	-26, -1.1	0.036	-11	-24, 2.4	0.10
estado30	-14	-28, 0.79	0.062	-11	-23, -0.25	0.046	-3.9	-17, 8.8	0.5	-7.7	-21, 5.4	0.2
estado31	-10	-29, 8.9	0.3	-9.2	-24, 5.2	0.2	-16	-32, 0.79	0.060	-13	-30, 3.7	0.12

<sup>†</sup> CI = Confidence Interval

Source: Author's calculations from survey data.