# Health Shocks and Household Finance

Javier Vásquez

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**Abstract**

This paper investigates the dynamic effects of health shocks on household financial behavior in Chile, leveraging Coarsened Exact Matching (CEM) and an event-study design. Using nationally representative panel data from 2004 to 2024, we track the financial responses of households following a new diagnosis of chronic or acute health conditions. We find that household income falls by up to 109 USD per month in the year following the shock, accompanied by significant reductions in essential consumption—such as food (–11 USD), clothing (–5.4 USD), utilities (–4.6 USD), and transportation (–4.9 USD)—and a parallel increase in health-related expenditures (+4.6 USD). Financial coping strategies include a 3.6 percentage point increase in formal debt use and a 2.7 point rise in formal savings instruments immediately after diagnosis. Heterogeneity analysis reveals that households without GES coverage face significantly greater increases in formal short-term debt, whereas those with GES rely more on liquid savings in later periods. These findings highlight the economic vulnerability induced by health shocks and the critical role of financial instruments in consumption smoothing under health-related stress.

# 1 Introduction

Health shocks are a widespread phenomenon with significant implications for household well-being. In 2013, fewer than 5% of people globally were free of health problems, underscoring the prevalence and magnitude of health-related conditions (Vos et al., 2015). A large body of evidence shows that unexpected health events reduce labor supply, income, and consumption, while increasing out-of-pocket (OOP) medical spending (Alam & Mahal, 2014; Lindelow & Wagstaff, 2005; Wang et al., 2023).

These financial burdens are particularly acute in low- and middle-income countries (LMICs), where limited insurance coverage and weaker health systems leave households more exposed (Kankeu et al., 2013). Noncommunicable diseases (NCDs)—including cardiovascular conditions, diabetes, cancer, and mental health disorders—are major drivers of these costs. Among them, cardiovascular and mental health conditions are leading contributors to the global economic burden of disease (Bloom et al., 2011).

The economic consequences of NCDs are wide-ranging: they reduce household income, increase OOP health expenditures, and raise the risk of catastrophic spending, especially among poorer households (Gertler & Gruber, 2002; Bocoum et al., 2018). Many households are unable to smooth consumption and must resort to costly coping strategies—such as borrowing, selling assets, or cutting back on essential spending (Bocoum et al., 2018; Adhikari et al., 2009). Some responses include withdrawing children from school or reducing spending on food and education (Murphy et al., 2019).

While the literature has documented these responses extensively, less is known about the types of financial instruments households use to cope. This distinction is particularly relevant in LMICs, where access to formal credit is often limited or segmented. For example, poorer households are more likely to rely on high-interest informal loans (Adhikari et al., 2009). It remains unclear to what extent health shocks shift households toward formal (e.g., bank credit) versus informal (e.g., family loans) financial tools.

A second gap in the literature concerns the role of health coverage schemes. Although health insurance is often assumed to offer financial protection, prior studies suggest it provides limited shielding from health shocks (Kankeu et al., 2013; Lindelow & Wagstaff, 2005). Few studies examine whether the type of health coverage affects the financial consequences of illness.

This paper addresses these gaps by studying the financial effects of health shocks—defined as first-time diagnoses of diseases—on household finances in Chile. We estimate their impact on household income, consumption, medical spending, and the use of financial tools. We pay particular attention to whether households rely on formal or

informal financial mechanisms to absorb the economic impact of health conditions.

Our second contribution is to examine whether these effects vary with access to guaranteed health coverage under Chile's AUGE/GES program. Unlike general insurance, GES provides explicit guarantees for a list of high-priority conditions. This institutional feature allows us to assess whether public health guarantees mitigate the economic burden of disease.

Finally, we provide detailed evidence on how households adjust their consumption patterns. We disaggregate spending into essential and non-essential categories to better understand which areas of household budgets are most affected.

To carry out this analysis, we use five waves of the Chilean Social Protection Survey (EPS): 2004, 2009, 2015, 2019, and 2024. We construct an unbalanced panel that follows individuals over time. The treatment group includes individuals who received a first-time diagnosis of a selected NCDs between 2005 and 2024; the control group includes those who were never diagnosed with any of these conditions.

Our empirical strategy combines Coarsened Exact Matching (CEM) with an event-study framework. CEM ensures comparability between treated and control groups based on pre-treatment characteristics. The event-study approach allows us to trace the evolution of financial outcomes—such as income, consumption, medical spending, and use of financial tools—before and after the health shock. This dynamic setting also allows us to explore heterogeneity by type of illness (catastrophic vs. non-catastrophic) and health coverage status (GES vs. non-GES).

The rest of the paper proceeds as follows. Section 2 provides institutional background on Chile's health system and the GES program. Section 3 describes the data and sample construction. Section 4 outlines the empirical strategy. Section 5 presents the main results and heterogeneity analysis. Section 6 discusses potential mechanisms. Section 7 concludes.

# 2 Background

## 2.1 Health Shocks, the Chilean Health System, and the GES Program

We define health shocks as the first-time diagnosis of serious or chronic conditions, including asthma, depression, diabetes, hypertension, heart disease, cancer, arthritis or osteoarthritis, kidney disease, stroke, mental illness, and HIV/AIDS. Many of these conditions rank among the leading contributors to the global burden of disease (Vos et al., 2020).

Chile's health system is structured around two main insurance schemes: the National

Health Fund (Fondo Nacional de Salud, Fonasa) and the Private Health Insurance Institutions (Instituciones de Salud Previsional, Isapres). Fonasa is the public insurer, covering formal-sector workers who contribute 7% of their gross monthly income, along with their legal dependents and individuals without income, who are financed through fiscal transfers. Enrollment in Fonasa is automatic for formal employees, and beneficiaries are classified into income-based groups that determine their level of co-payment. In contrast, Isapres are private insurers that also receive the mandatory 7% contribution but offer individually negotiated contracts. These contracts are subject to medical underwriting, which may restrict coverage for pre-existing conditions or deny enrollment altogether. As of late 2024, Fonasa covered approximately 16.8 million individuals—about 80% of the Chilean population (Fonasa, 2024).

A central pillar of Chilean health policy is the Explicit Health Guarantees program (Garantías Explícitas en Salud, GES), formerly known as AUGE. Launched in 2005, GES mandates legally guaranteed coverage for 87 specific health conditions across both public (Fonasa) and private (Isapres) insurers. The program rests on four core guarantees: access, timeliness, financial protection, and quality. These guarantees ensure that beneficiaries receive care within regulated maximum waiting periods and with capped out-of-pocket costs.

GES covers the full range of services for each condition, including medical consultations, diagnostics, hospitalizations, medications, and follow-up care. For Fonasa affiliates, GES is included without additional premiums. Isapre members, by contrast, must pay a minimum monthly premium per beneficiary. Importantly, access to GES does not require prior authorization or complex administrative procedures—a confirmed diagnosis of a covered condition is sufficient to trigger eligibility.

## 2.2 The Financial System and Household Access

Chile's financial system is modern and relatively well-developed, encompassing commercial banks, credit unions, pension fund administrators (AFPs), insurance companies, and other financial intermediaries. These institutions are regulated by entities such as the Comisión para el Mercado Financiero (CMF) and the Central Bank of Chile (BCCh), contributing to high levels of formal financial inclusion compared to other Latin American countries.

According to the 2021 Encuesta Financiera de Hogares (EFH), 30.4% of households reported holding a checking account, 24.7% had savings accounts, and 11.3% invested in variable-income instruments such as mutual funds (BCCh, 2022). On the liability side, 43% of households held consumer debt and 19% had mortgage loans, although the latter

accounts for the largest share of total household debt (BCCh, 2022; CMF, 2023). Moreover, 47.6% of formal debtors held bank credit cards, and 22% used retail store cards (CMF, 2023), illustrating the widespread use of consumer credit instruments.

Despite this relatively high level of financial development, access to and use of financial tools varies markedly by socioeconomic status. In 2021, only 28.1% of households in the lowest income quintile reported having saved during the previous year, compared to 60% in the highest quintile. Furthermore, the median amount saved by high-income households was over six times that of their low-income counterparts (BCCh, 2022).

In credit markets, wealthier households are more likely to access formal loans under favorable terms, while lower-income groups tend to rely on retail credit or small-scale loans with higher interest rates and limited repayment flexibility. Although informal credit mechanisms—such as family loans, store credit, or pawnshops—represent only 5.4% of total reported debt, they are disproportionately used by the most vulnerable households (BCCh, 2022).

These disparities in financial access not only constrain wealth accumulation and financial resilience but also reduce the capacity of households to absorb economic shocks, such as severe illness or job loss. As a result, financial exclusion amplifies the economic burden of health shocks and contributes to deeper vulnerability among low-income families.

# 3 Data

## 3.1 Source

We use data from the Encuesta de Protección Social (EPS), a nationally representative longitudinal survey administered by Chile's Subsecretaría de Previsión Social. The EPS collects detailed individual- and household-level information across multiple domains, including labor history, income, wealth, health status, and demographics. Our analysis draws on five survey waves: 2004, 2009, 2015, 2019, and 2024.

We construct our dataset using several core EPS modules: the health module; the individual and household income modules; the household and individual wealth modules; and the labor history module. We also incorporate demographic and socioeconomic variables from the main individual questionnaire. These components allow us to follow individuals over time and analyze the financial consequences of health shocks.

## 3.2 Variables

### Health Shocks

Health shocks are identified from self-reported diagnoses in the EPS health module. Respondents indicate whether they have ever been diagnosed with a set of chronic or serious conditions: asthma, depression, diabetes, hypertension, heart disease, cancer, arthritis or osteoarthritis, kidney disease, stroke, mental illness, and HIV/AIDS. We also observe the year of diagnosis, whether the condition limits normal daily activities (at home or at work), and whether the individual received treatment under the GES/AUGE program.

Our focus is on first-time diagnoses. We use data from the 2015 and 2024 waves to identify the earliest reported diagnosis. If a respondent reports multiple diagnoses across waves (e.g., cancer in 2005 in the 2015 wave and again in 2018 in the 2024 wave), we retain the earliest date. In cases where multiple conditions are diagnosed in the same year, we randomly select one as the index health shock.

### Financial Outcomes

To measure household financial outcomes, we combine data from the income and wealth modules across all five waves. Total household income is calculated as the sum of five sources: labor income, business income, property income, transfer income, and other income.

Since total consumption is not directly measured in the EPS, we approximate it using monthly household expenditures. We include reported spending on food, clothing, transportation, utilities (water, electricity, gas), domestic services, and medications. These are grouped into three categories: essential consumption, non-essential consumption, and health-related expenditures.

In addition, the EPS collects information on the use of financial instruments. On the savings side, we observe holdings in housing savings accounts, voluntary pension savings (APV), AFP secondary savings accounts (Cuenta 2), bank savings accounts, time deposits (DAP), mutual funds, equity investments, and informal lending (loans made to others). On the debt side, we consider use of bank credit cards, lines of credit, consumer loans from banks or finance companies, auto loans, student loans, retail store credit cards, loans from Cajas de Compensación (CCAF), informal loans from relatives or friends, and loans from informal lenders.

Based on this information, we construct binary indicators for the use of formal and informal financial instruments, separately for savings and debt. Formal instruments include

**Table 1:** Balance Table

| | Treated (1) | Obs. (2) | Control (3) | Obs. (4) | $p$-value (5) |
|---|---|---|---|---|---|
| Age | 50.78 | 3,067 | 50.194 | 9,927 | 0.054 |
| Female | 0.579 | 3,067 | 0.583 | 9,927 | 0.721 |
| College | 0.17 | 3,066 | 0.175 | 9,926 | 0.527 |
| Married | 0.552 | 3,067 | 0.545 | 9,927 | 0.539 |
| Has children under 18 | 0.424 | 3,067 | 0.421 | 9,927 | 0.847 |
| Employment rate | 0.557 | 3,067 | 0.56 | 9,927 | 0.731 |
| Monthly wage | 336.65 | 3,060 | 337.181 | 9,919 | 0.962 |
| House | 0.965 | 3,067 | 0.964 | 9,927 | 0.712 |
| Apartment | 0.018 | 3,067 | 0.018 | 9,927 | 0.931 |
| Room/informal | 0.017 | 3,067 | 0.018 | 9,927 | 0.663 |
| Owns car | 0.21 | 3,067 | 0.211 | 9,927 | 0.949 |
| Cem auto score | 2.344 | 3,067 | 2.336 | 9,927 | 0.555 |

*Notes:* This table displays mean values of baseline demographic and labor market characteristics for individuals who experienced a health shock (treated group) and their matched counterparts who did not experience any health shock (control group). All variables are measured at wave $\tau = -1$ before illness onset unless otherwise indicated. Monthly wage are measured in 2024 USD. The matched control groups are constructed using CEM based on pre-disability characteristics. Columns 1 and 3 show group means for treated and control individuals, respectively; Columns 2 and 4 indicate the number of observations; and Column 5 displays the $p$-value from a test of equality of means.

all transactions with regulated financial institutions, while informal mechanisms comprise unregulated or interpersonal arrangements.

## 3.3 Descriptive Statistics

Table 1 summarizes baseline characteristics for individuals who experienced a health shock (treated group) and for matched individuals who did not (control group). The analytic sample consists of adults (aged 20 to 89), and includes 3,067 treated individuals matched to 9,927 controls using Coarsened Exact Matching (CEM) based on pre-shock covariates. The table displays mean values for demographic and labor market variables measured in the wave prior to the health shock ($\tau = -1$). On average, both groups are similar across all dimensions, including age, gender, educational attainment, marital status, presence of children, housing type, and baseline earnings. The final column reports p-values from tests of equality of means, none of which are statistically significant at conventional levels. This indicates that the matching procedure achieved good covariate balance between treated and control units, mitigating potential selection bias in subsequent analysis.

# 4 Empirical Strategy

## 4.1 Coarsened Exact Matching

A major challenge in estimating the causal effects of health shocks on household financial outcomes is the potential for selection bias. Individuals who experience a health shock may differ systematically from those who do not, even prior to the shock. These pre-existing differences may jointly influence both the probability of experiencing a health shock and subsequent financial behavior, thereby threatening the internal validity of any comparison between treated and untreated groups.

To address this concern, we implement a Coarsened Exact Matching (CEM) strategy. CEM is a monotonic imbalance-reducing matching method that directly improves covariate balance between treated and control groups by temporarily coarsening the data and exactly matching observations within strata defined by the coarsened variables. Unlike Propensity Score Matching (PSM), which relies on an estimated propensity score and its correct function-form specification (King & Nielsen, 2019); and may still leave residual imbalance. In contrast, CEM offers more transparent and robust control over imbalance and sample composition.

We begin by dividing treated individuals into four cohorts based on the timing of their first health shock: 2005–2009, 2010–2015, 2016–2019, and 2020–2024. The control group for each cohort consists of individuals who never report a diagnosis of any of the selected health conditions during the study period. For both treated and control individuals, we measure pre-treatment covariates using a single wave prior to the cohort's treatment window (e.g., 2004 for the 2005–2009 cohort, 2009 for the 2010–2015 cohort, and so on).

The covariates included in the CEM procedure are motivated by Andersen's Behavioral Model of Health Services Utilization (Andersen, 1995), which emphasizes three key domains: predisposing factors, enabling factors, and health-related need. Predisposing factors include gender, age (coarsened into age groups), educational attainment (an indicator for having at least some college education), marital status (a married dummy), and the presence of children under 18 in the household. Enabling factors include prior employment intensity (categorized into 0, 0.5, and 1 based on months worked in the last year), wage quintiles, home characteristics (dummies for housing type), and asset ownership (car ownership). Health-related need is proxied by a coarsened indicator of self-reported health status prior to the shock, categorized into "excellent/very good," "good," and "regular or worse."

We implement CEM separately within each cohort using these coarsened covariates and define matched strata where at least one treated and one control observation coexist.

This approach retains transparency in the matching process and avoids extrapolation from sparse regions of the covariate distribution. Following matching, we restrict our analysis to the matched sample and reweight observations according to the strata sizes to ensure comparability between groups.

## 4.2 Event-Study Model

To assess the dynamic effects of health shocks on financial outcomes, we employ an event-study design, following the approach of Wang et al. (2023). Specifically, we estimate the following specification:

$$y_{it} = \alpha_i + \lambda_t + \sum_{\tau=-3,\ \tau\neq-1}^{2} \beta^{\tau} HS_{it}^{\tau} + \varepsilon_{it} \tag{1}$$

In this model, $y_{it}$ represents the financial outcome of interest for individual $i$ at time $t$. The variable $HS_{it}^{\tau}$ is an indicator equal to one if the observation corresponds to $\tau$ periods (measured in survey waves) from the onset of the first health shock, and zero otherwise. We define $\tau = 0$ as the first wave after the shock is reported, with negative values corresponding to pre-shock waves and positive values to post-shock waves. The coefficient $\beta^{\tau}$ captures the difference in outcomes between treated and matched control individuals at each relative period $\tau$, using $\tau = -1$ as the reference category.

This setup allows us to examine both the anticipatory trends and the dynamic post-shock effects. In particular, the coefficients for periods prior to the shock ($\tau < 0$) serve as a test of the parallel trends assumption, a critical requirement for causal inference in this framework. The inclusion of individual fixed effects $\alpha_i$ accounts for time-invariant unobserved heterogeneity across individuals, while survey wave fixed effects $\lambda_i$ control for aggregate shocks or policy changes common to all individuals in a given wave. Standard errors are clustered at the individual level to correct for serial correlation in repeated observations.

This two-step strategy—combining CEM with an event-study model—provides a robust framework to estimate the causal and dynamic effects of health shocks on financial outcomes, while explicitly accounting for differences in pre-treatment characteristics and temporal variation.

# 5 Results

## 5.1 Household Income and Consumption Effects

We begin by examining the dynamic impact of health shocks on household financial well-being, focusing on monthly income and consumption categories. Figure 1 presents the estimated event-study coefficients for total household income.

We find a substantial and statistically significant decline in total household income following the onset of a health shock. Specifically, income falls by approximately USD 68 in the first wave post-shock ($\tau = 0$), USD 109 at $\tau = 1$, and USD 66 at $\tau = 2$, with significance at the 10 percent level across all periods. These results point to persistent labor market disruptions or reductions in economic activity attributable to the health shock. When income is measured on a per-capita basis, however, the coefficients are no longer statistically significant and even change direction at $\tau = 2$,[1] suggesting that intra-household adjustments, such as shifts in household composition or resource sharing, may mitigate the per-person impact of the shock.

Turning to household expenditures (Figure 2), we observe meaningful reductions in several essential categories. Monthly food spending decreases by approximately USD 10 in $\tau = 1$ and USD 11 in $\tau = 2$. Clothing expenditures fall by USD 6.2 and USD 5.4 in the same periods, respectively. Basic services (electricity, water, and gas) experience a reduction of USD 4.6 in $\tau = 1$, while transportation spending declines by USD 5.4 and USD 4.9 in $\tau = 1$ and $\tau = 2$, respectively. In contrast, household spending on medications increases immediately after the shock, rising by USD 2.7 in t=0 and USD 4.6 in $\tau = 1$ (Figure 3). We find no statistically significant changes in spending on domestic services.[2]

Taken together, these findings suggest that households attempt to absorb the economic burden of a health shock by reducing discretionary and semi-essential consumption, while reallocating resources toward healthcare needs. The lack of significant change in other expenditure categories points to a deliberate reprioritization of spending.

## 5.2 Use of Financial Instruments

Next, we examine changes in the use of financial instruments as coping mechanisms following health shocks. We analyze both debt- and savings-related responses, and further distinguish by the type of instrument (formal vs. informal) and health system coverage (GES vs. non-GES).

[1] See Figure A.1 in Appendix A.
[2] See Figure A.2 in Appendix A.

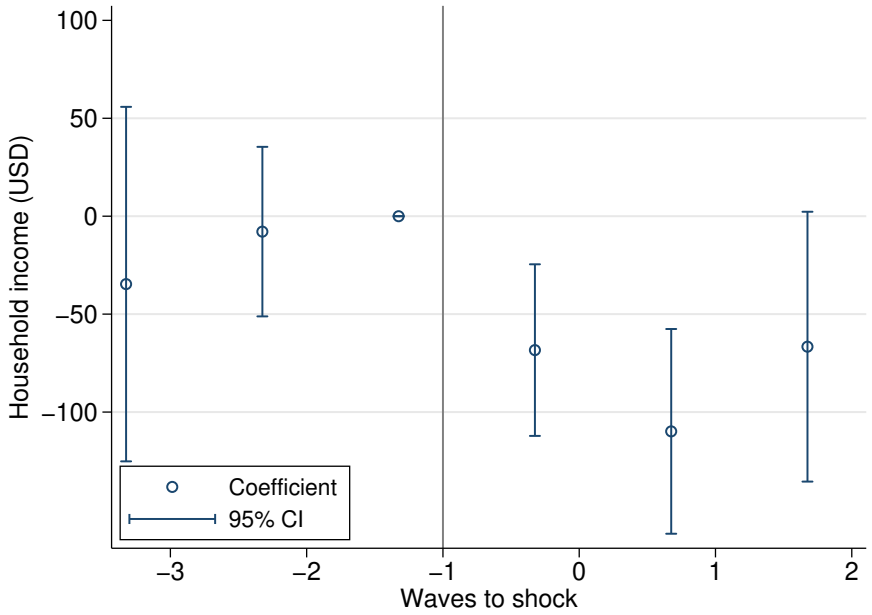


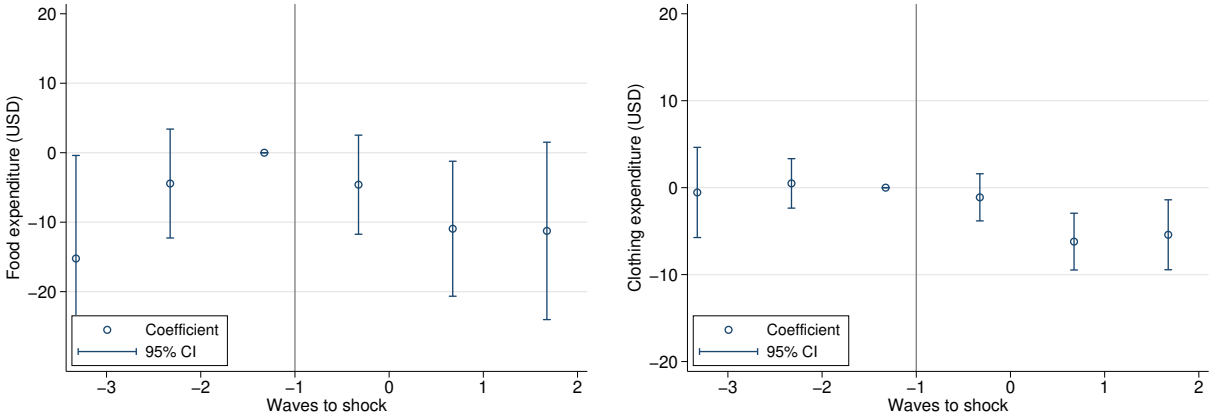

**Figure 1:** Effects of Health Shocks on Household Income

Figure 4 summarizes the dynamic effects on the use of debt instruments. In the general sample, we find an increase of 3.6 percentage points (pp) in the probability of holding formal debt at $\tau = 0$, alongside a smaller but significant 0.7pp increase in informal debt. The probability of using short-term debt instruments rises by 2.7pp at $\tau = 0$, while medium-term debt increases by 1.5pp at $\tau = 0$ and remains elevated at 1.2pp in $\tau = 1$ (Figure 5).

Figure 6 presents results for savings instruments. We find a 2.7pp increase in the use of formal savings at $\tau = 0$, which rises further to 3.2pp at $\tau = 2$. Liquid savings (e.g., savings accounts, demand deposits) rise by 1.8pp at $\tau = 2$, while less liquid savings (e.g., housing savings accounts, APV, AFP Cuenta 2) increase by 2.1pp at $\tau = 0$ and 2pp at $\tau = 2$ (Figure 7). In sum, health shocks trigger both debt and savings adjustments. Households prioritize short-term formal credit to cover immediate needs. They also use formal and illiquid savings seeing like precautionary savings after suffering a health condition.

## 5.3 Heterogeneous Effects

We now explore whether the financial responses to health shocks differ across population subgroups. In particular, we focus on heterogeneity along health coverage through the GES (Explicit Health Guarantees) system. This analysis provides insight into the differential vulnerability and coping strategies of households depending on institutional factors.




**(a)** Food

**(b)** Clothing

**(c)** Utilities

**(d)** Transportation

**Figure 2:** Effects of Health Shocks on Essential Consumption

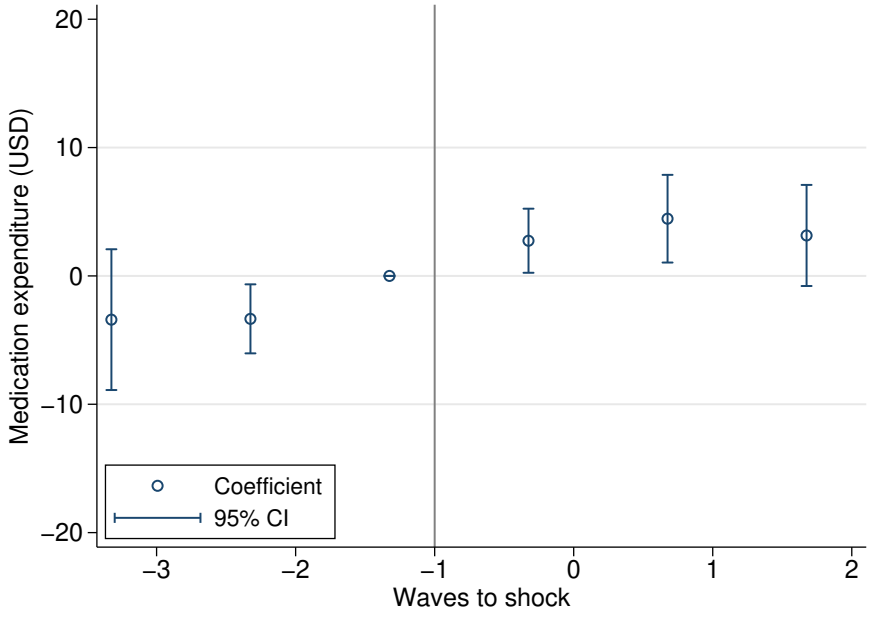
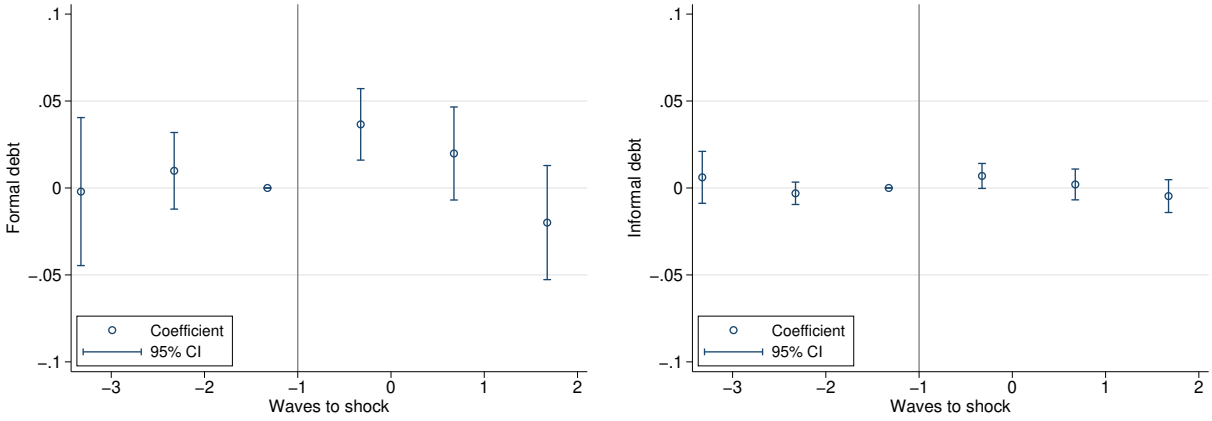
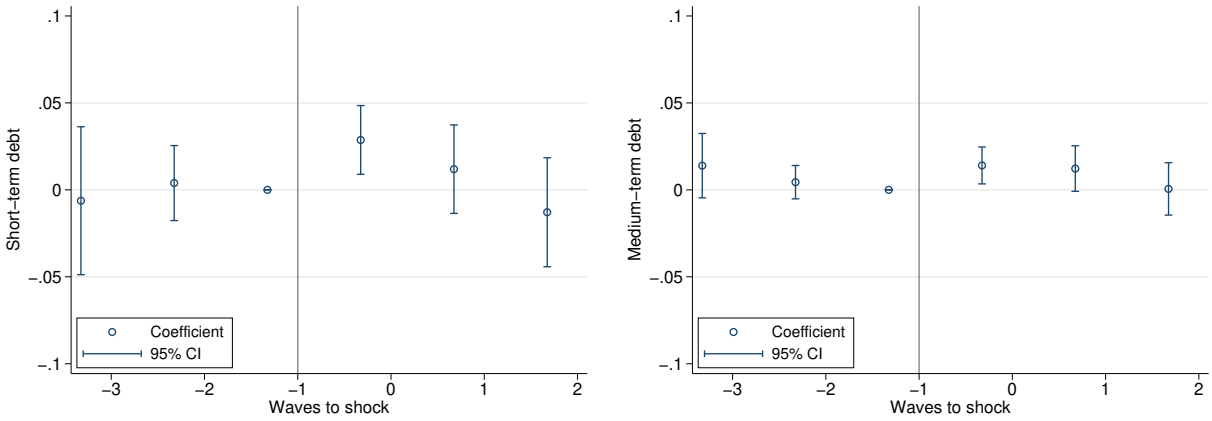



**Figure 3:** Effects of Health Shocks on Medication Expenditure




**(a)** Formal **(b)** Informal

**Figure 4:** Effects of Health Shocks on Formal and Informal Debt




**(a)** Formal **(b)** Informal

**Figure 5:** Effects of Health Shocks on Short- and Medium-term Debt

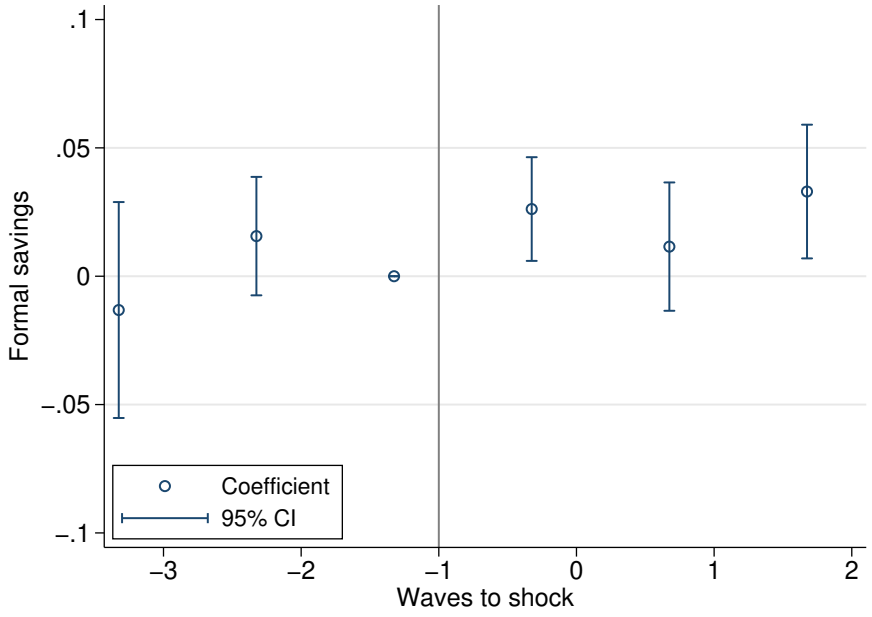
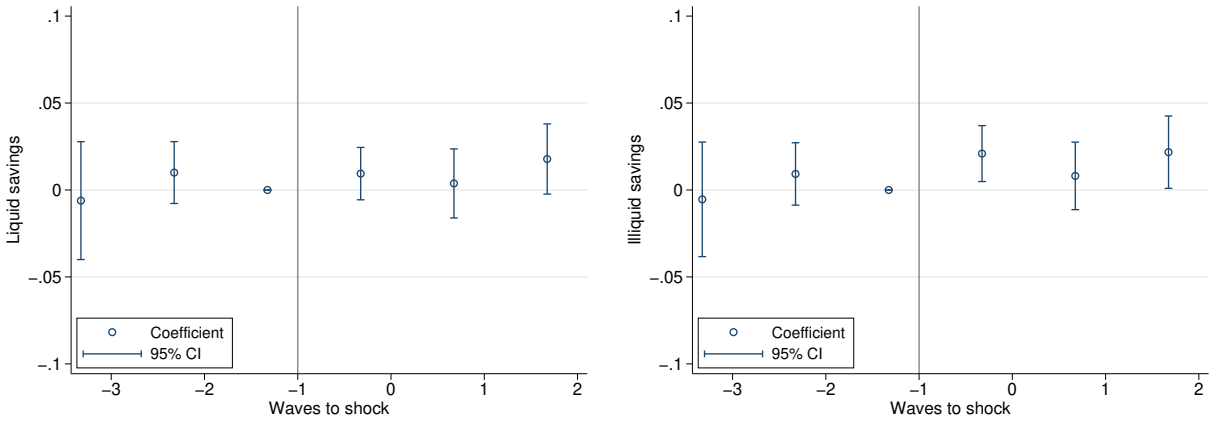



**Figure 6:** Effects of Health Shocks on Formal Savings




**(a)** Liquidity **(b)** Illiquidity

**Figure 7:** Effects of Health Shocks on Liquid and Illiquid Savings

### 5.3.1 By GES Coverage

We first examine how access to GES-covered treatment affects the use of financial instruments. Among individuals diagnosed with GES-covered conditions, we observe a 3.5 percentage point (pp) increase in formal debt (Figure 8) at $\tau = 0$, with no significant change in informal debt. These households rely more on medium-term formal credit instruments, suggesting that GES coverage may alleviate the need for short-term, high-frequency borrowing. Additionally, we observe a delayed increase in liquid savings instruments at $\tau = 2$ (2.6pp), possibly reflecting a recovery phase or precautionary behavior post-treatment (Figure 10).

In contrast, those facing non-GES conditions exhibit a markedly more precarious financial response. Formal debt increases by 6.5pp in $\tau = 0$ and remains elevated at 4.7pp in $\tau = 1$ (Figure 8), with short-term instruments accounting for most of the change (Figure 9). These households show no significant increase in savings and instead rely heavily on credit, likely due to insufficient financial protection. These findings reinforce the mitigating role of health coverage in shielding households from the financial consequences of illness.

# 6 Conclusion

This paper investigates the dynamic effects of health shocks on household financial behavior and outcomes in Chile, using a combined strategy of Coarsened Exact Matching (CEM) and an event-study framework. The analysis draws on rich panel data from five national

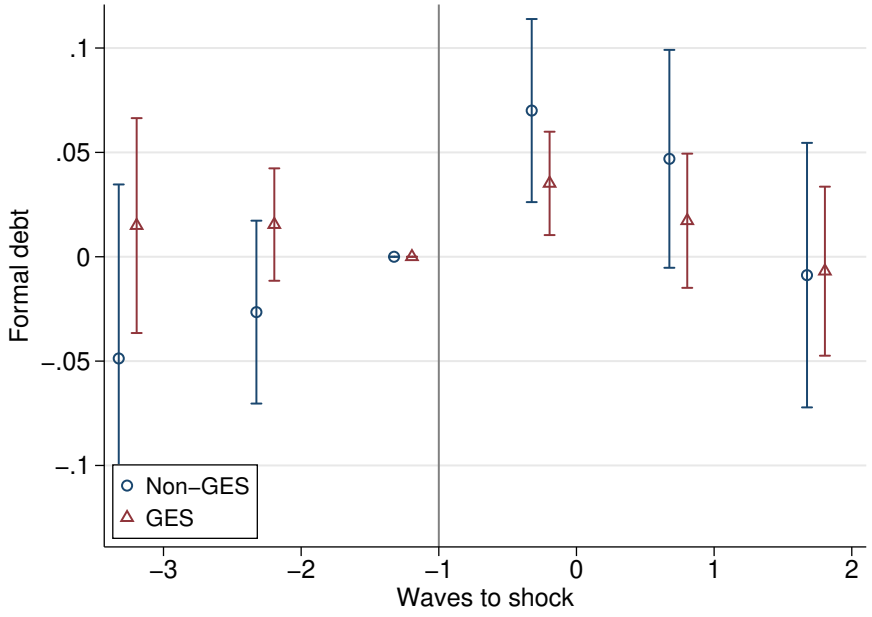



**Figure 8:** Effects of Health Shocks on Formal Debt by GES Coverage

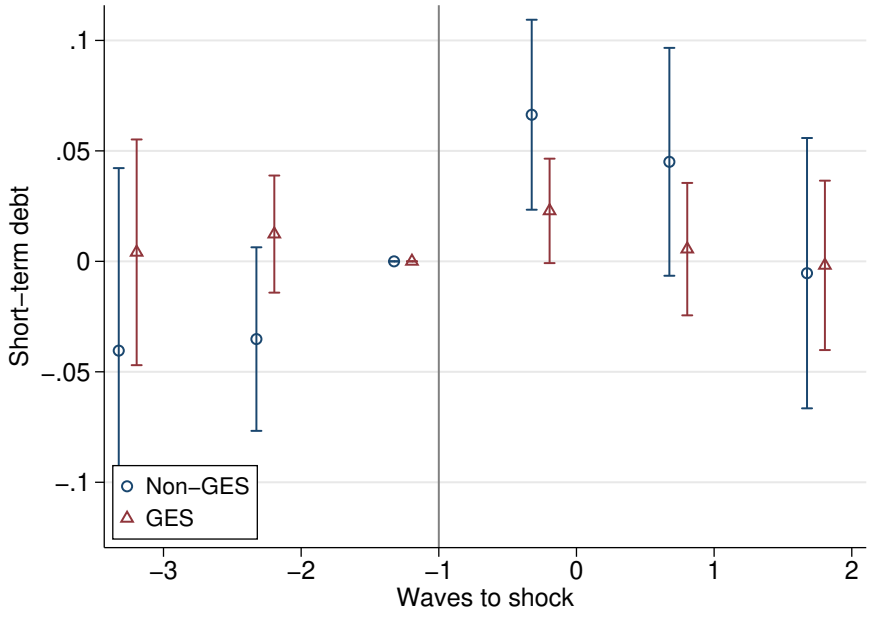



**Figure 9:** Effects of Health Shocks on Short-term Debt by GES Coverage

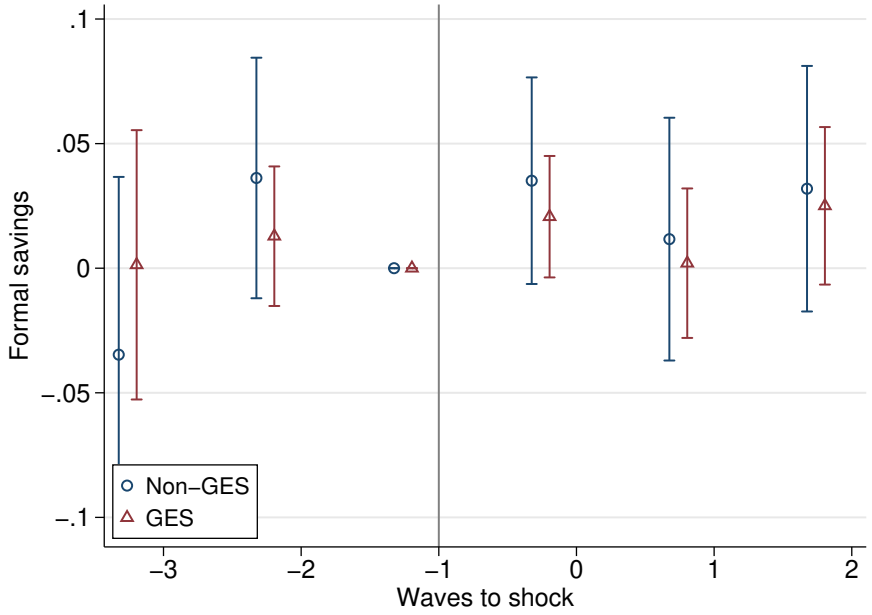



**Figure 10:** Effects of Health Shocks on Formal Savings by GES Coverage

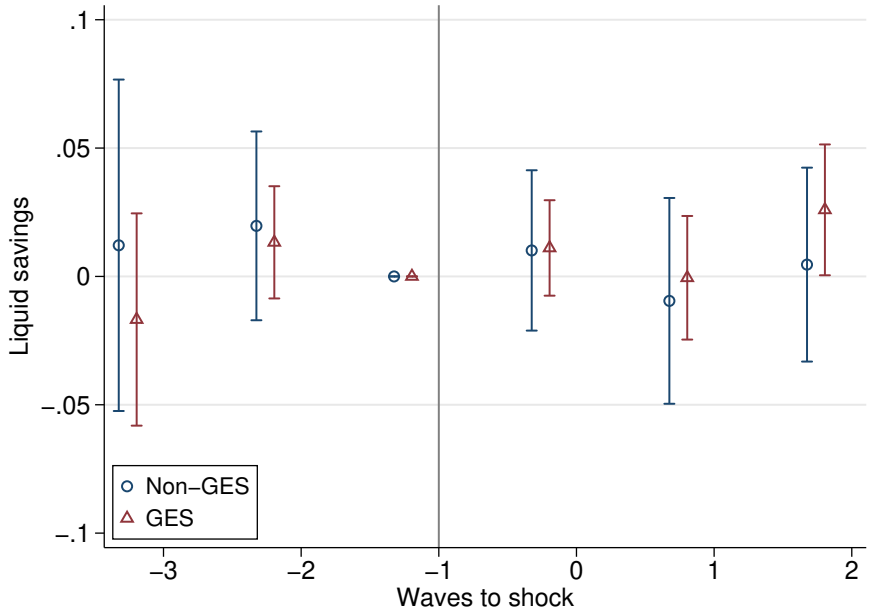



**Figure 11:** Effects of Health Shocks on Liquid Savings by GES Coverage

household surveys spanning two decades, identifying the timing of new health diagnoses and their subsequent impact on income, consumption, and financial coping strategies.

We document a clear and sustained decline in household income following the onset of a health shock, with the largest drop occurring in the wave after diagnosis. This income loss is accompanied by reductions in essential expenditures such as food, clothing, basic utilities, and transportation. Simultaneously, health-related spending increases significantly, particularly in the immediate aftermath of the shock. These patterns suggest that households face simultaneous pressure from declining income and rising medical costs, forcing a reallocation of limited resources.

In terms of financial instruments, we find evidence of increased reliance on both debt and savings following health shocks. Households increase their use of formal financial instruments, especially short-term debt such as credit cards and bank credit lines, as well as medium-term formal credit like social loans. Informal debt instruments, such as borrowing from friends or moneylenders, show smaller and less consistent responses. On the savings side, households draw more on liquid savings (e.g., savings accounts and mutual funds), while also increasing participation in less liquid, long-term savings vehicles such as housing savings accounts and APV.

Importantly, we document heterogeneity in these financial responses based on access to public health coverage through the GES (Explicit Health Guarantees) plan. Households without GES coverage experience larger increases in the use of formal and short-term debt instruments, suggesting that out-of-pocket expenditures in the absence of comprehensive coverage impose greater financial stress. Conversely, among those with GES coverage, the financial adjustment appears more muted and includes a delayed increase in the use of liquid savings rather than immediate debt uptake.

Overall, our findings highlight the multifaceted financial consequences of health shocks and the varied coping strategies households adopt, conditioned by both the structure of available financial instruments and the presence (or absence) of health coverage. The results underscore the value of combining quasi-experimental methods and rich panel data to disentangle the causal impact of adverse health events on household financial trajectories.

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# Appendices

## A Figures

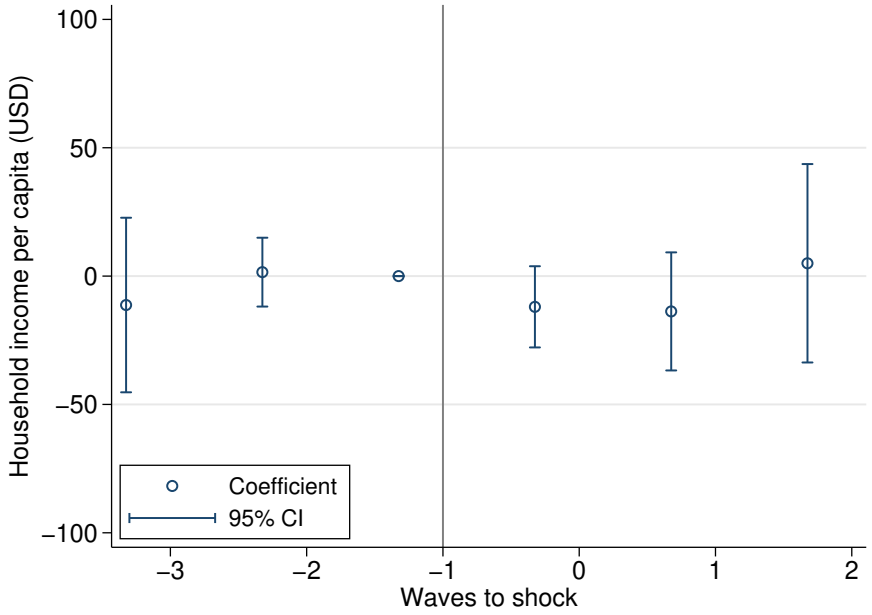



**Figure A.1:** Effects of Health Shocks on Household Income per Capita

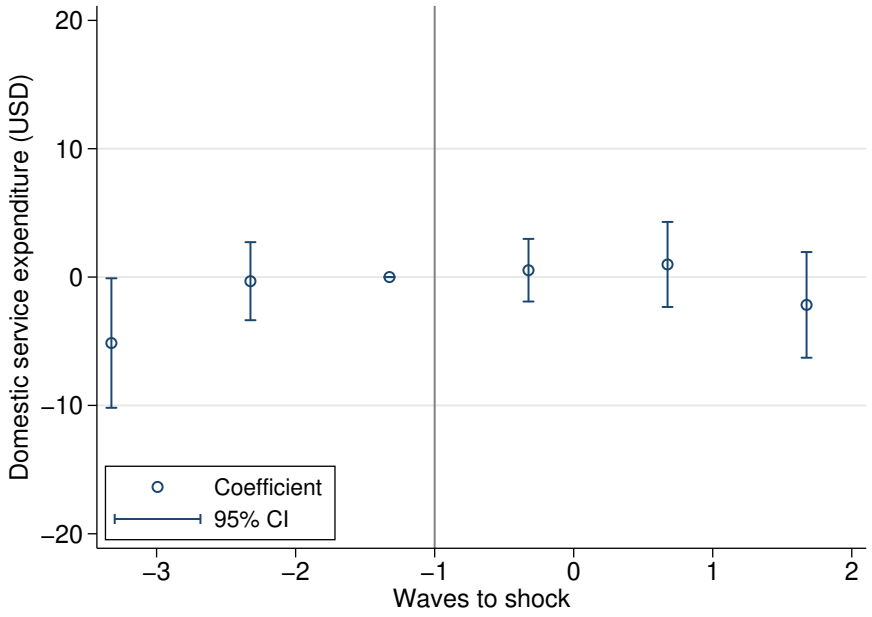



**Figure A.2:** Effects of Health Shocks on Non-Essential Consumption