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The finances of Chilean households during the pandemic: an assessment from the 2021 Household Financial Survey*

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Abstract

The policies adopted in Chile to mitigate the impact of the Covid-19 pandemic stand out for their magnitude: they implied an increase in the liquidity of the household sector of 29% of the 2019 GDP in an interval of 18 months. We use the 2021 Chilean Household Financial Survey to assess the impact of the pandemic and the massive liquidity shock generated by the policy response on financial decisions and the financial situation of Chilean households. We find that households used the additional liquidity to recover their consumption levels, reduce debt, and accumulate liquid assets. Once the support measures were phased out, households retained buffers, allowing them to maintain a high level of expenditure despite unfavorable macroeconomic changes. Finally, we document that the ultimate effect of the implemented policies was a deterioration in households' financial conditions, particularly for those with lower incomes.

Resumen

Las políticas adoptadas en Chile para mitigar los efectos de la pandemia de Covid-19 destacan por su magnitud: implicaron un aumento en la liquidez del sector hogares por un 29% del PIB de 2019, en un intervalo de 18 meses. Usamos la Encuesta Financiera de Hogares chilena en su ronda 2021 para evaluar el impacto de la pandemia, y del sustancial shock de liquidez generado por la respuesta de política, sobre las decisiones y la situación financiera de los hogares chilenos. Encontramos que los hogares usaron la liquidez adicional para restablecer sus niveles de consumo, reducir su deuda, y acumular activos líquidos. Una vez que las medidas se agotaron, los hogares retuvieron reservas que les permitieron mantener altos niveles de gasto, a pesar de cambios macroeconómicos desfavorables. Finalmente, documentamos que el efecto global de las políticas implementadas fue un deterioro de las condiciones financieras de los hogares, en particular para aquellos de menores ingreso.

*Central Bank of Chile. We thank the comments and suggestions of Rosario Celedón and Rodrigo Alfaro. The views expressed are those of the authors and do not necessarily represent the views of the Central Bank of Chile or its board members. This study was developed within the scope of the research agenda conducted by the Central Bank of Chile (CBC) in economic and financial affairs of its competence. The CBC has access to anonymized information from various public and private entities, by virtue of collaboration agreements signed with these institutions. To secure the privacy of workers and firms, the CBC mandates that the development, extraction and publication of the results should not allow the identification, directly or indirectly, of natural or legal persons. Officials of the Central Bank of Chile processed the disaggregated data. All the analysis was implemented by the authors and did not involve nor compromise the Pension Supervisor.

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I. Introduction

The Covid-19 pandemic represented a simultaneous shock in consumption and employment for many households around the world. The policies adopted in Chile to mitigate the impact of these shocks on employment and household income were similar in nature to those of other advanced economies, mainly employment retention schemes and direct transfers. However, their magnitude and relative importance stand out. Taking into account direct government transfersand universal pension savings withdrawals, the household sector experimented with a liquidity shock equivalent to 29% of the 2019 GDP in an interval of 18 months. Thus, the Chilean case provides a unique opportunity to understand the financial reaction of households to a massive liquidity shock.

In this document, we analyze the impact of the pandemic and the measures aimed at supporting households on their financial decisions and situation. We focus on microlevel changes in the composition of assets, indebtedness, and financial ratios to assess their financial fragility during the pandemic and its links with macro-outcomes in the aftermath. To do this, we use the Household Financial Survey (*Encuesta Financiera de* Hogares, EFH) of the Central Bank of Chile, whose last wave, corresponding to 2021, provides rich information on the financial situation during this period.[2] We complement this information with administrative records from different sources and data from the National Accounts.

To a great extent, the structure of the financial balance sheet of households determines their ability to cope with negative income shocks (Du Caju, 2013; Sierminska and Medgyesi, 2013; Slacalek et al., 2020). Household surveys are the most important sources for studying the financial balance sheet of households and considering their heterogeneity. This type of survey collects detailed information about the assets and debts of households and, unlike administrative records, provides an extensive socioeconomic characterization of households, in addition to information regarding financial decisions or behaviors. Therefore, we start with a brief characterization of the balance sheet before the pandemic using the EFH.

Before the wake of the pandemic, shorter-term debt classes, such as credit cards and credit lines, and to a lesser extent, installment loans, had a more significant weight for lower-income quintiles. This implies that these households were more exposed to refinancing risks due to a sudden increase in interest rates, which would increase their financial burden. However, for higher-income households, mortgage debt constituted 80% of their total debt (including primary residences and other properties). Therefore, these households were more vulnerable to declines in housing prices or rental rates (Córdova and Toledo, 2023).

The first of these scenarios materialized in the pandemic and the health measures taken to contain it, causing an increase in unemployment and a decrease in labor income that disproportionately affected lower-income households (Barrero et al., 2020). Direct transfers were the main tool in the policy response in Chile. The Emergency Family Income in its various forms was equivalent to 9.8% of the 2019 GDP. In addition to direct transfers, Chilean households had access to a portion of their mandatory pension savings. Pension withdrawals were equivalent to 19.1% of the 2019 GDP.

The EFH and National Accounts data suggest that Chilean households used the additional liquidity to recover their pre-pandemic consumption levels and reduce non-mortgage debt, with a special focus on more expensive debt, such as revolving credit of non-bank institutions. On the asset side of their

[2] All waves of the EFH are publicly available at https://www.bcentral.cl/web/banco-central/areas/encuestas-economicas/encuesta-financiera-de-hogares.

balance sheet, consistent with higher levels of uncertainty and precautionary motives, households accumulated liquid assets, resulting in a shift toward a more liquid portfolio across the income distribution. In general, this evidence points to the rational financial behavior of households during the pandemic. As a consequence of lower consumer debt levels and a higher share of liquid assets, towards the last quarter of 2021, financial resilience improved. Debt-to-income ratios and leverage decreased for many households, and historical default rates on consumption loans hit a minimum (Central Bank of Chile, 2023).

However, due to macroeconomic imbalances aggravated by the same liquidity shock, the improved financial resilience was only transitory. A higher inflation rate, fueled by higher consumption levels sustained by liquid funds, and the surge of financial costs, rapidly eroded the liquid assets and increased the financial burden of short-term debt. Households in the lowest income quintiles were more affected by these imbalances and have gradually returned to pre-pandemic levels of indebtedness and arrears since the extraordinary provision of liquidity ceased.

Furthermore, the pension withdrawals allowed during the pandemic had significant costs. In addition to the immediate fiscal cost of direct transfers, early liquidation of a sizable share of households' pension funds will reduce future expected pensions. Furthermore, a higher fraction of households is likely to rely on non-contributory pension benefits than before the pandemic, creating an additional fiscal burden in the future.

II. Portfolio of Chilean households before the pandemic

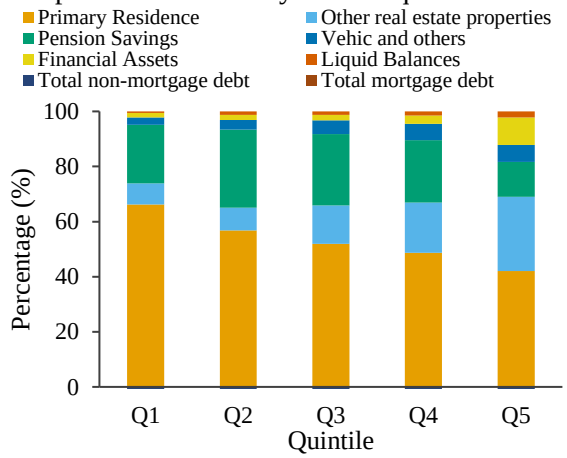
The EFH allows us to study the heterogeneity that exists among households and, consequently, their different capacities to cope with adverse shocks. We consider the heterogeneity in family income to analyze the portfolio structure across income quintiles before the pandemic.[3] Several important facts emerge when analyzing the EFH 2017.[4]

First, the portfolio structure of Chilean households was similar to that of other economies with similar income levels. However, some differences are worth noting.[5] In particular, Chilean households had a high level of non-mortgage ownership, similar only to that in the United States and Mexico. In turn, considering that short-term debt is associated with higher interest rates, the financial burden was high relative to their level of debt (Section B of the Appendix).

Second, the structure of the balance sheet was heterogeneous across income quintiles (Figures II.1 and II.2), which implied that the financial resilience of households varied greatly according to their income. Thus, economic shocks could have affected families heterogeneously. At the aggregate level, lower-income households had relatively fewer financial assets (2%) compared to households in the fifth quintile (10%), while having similar levels of short-term debt (2% and 3%, respectively). In fact, while the debt-over-asset ratio was lower for poorer households, the difference with respect to households in the fifth quintile was almost completely explained by access to mortgage debt, with 2% and 14% in 2017, respectively.

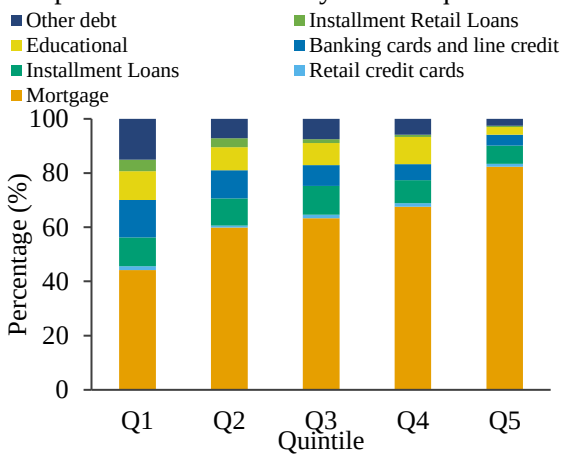
[3] These quintiles are defined based on the disposable income of families in each wave of the EFH.
[4] As shown in the section A of the Appendix, changes in the balance sheet of Chilean households are gradual in time, specially before the pandemic. Thus, the EFH 2017 provides a good approximation of the financial situation of families just before the pandemic.
[5] For more details about the international comparison see Appendix B.

FIGURE II.1.
Composition of assets by income quintile



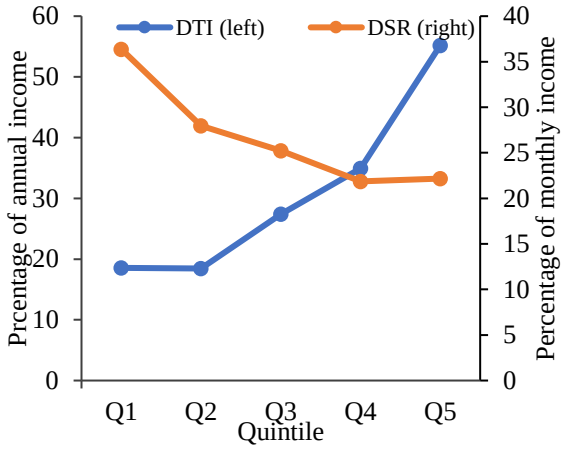
Source: Central Bank of Chile based on information from EFH 2017. Note: Quintiles according to EFH household income.

FIGURE II.2.
Composition of liabilities by income quintile



Source: Central Bank of Chile based on information from EFH 2017. Note: Quintiles according to EFH household income.

FIGURE II.3.
Debt ratios by income quintile (medians)



Source: Central Bank of Chile based on information from EFH 2017. Note: Quintiles according to EFH household income. DSR: The debt service-to-income ratio corresponds to the percentage of monthly income that a household allocates to meet its financial obligations. DTI: the debt-to-income ratio, corresponds to the fraction of the annual income required to fully settle household debts.

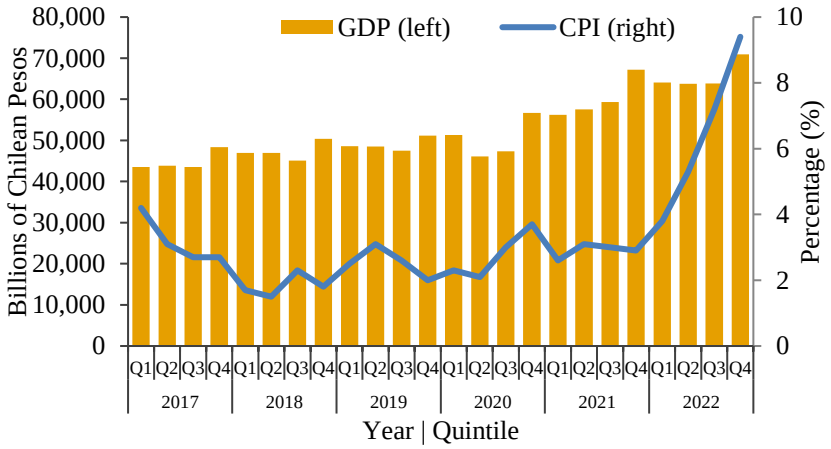
The heterogeneous debt structure implied that the exposure to different financial risks varied between income levels. In fact, as reflected in the last Financial Stability Report of December 2019 (Central Bank of Chile, 2019), before the social unrest of 2019 and the pandemic outbreak, there were two groups of households with some degree of vulnerability to specific shocks. First, a group of low-income households carried a high financial burden as a proportion of their income (Figure II.3), creating credit risk in the event of severe deterioration in the labor market. However, a subset of medium and high-income households had invested in real estate other than their primary residence through the intensive use of mortgage debt, exposing them to the risk of a decline in real rental prices or an increase in the vacancy rate (Central Bank of Chile, 2019).

III. The pandemic shock and the policy response

The Covid-19 pandemic represented an unprecedented shock to the global economy.[6] The health response to the pandemic restricted economic activity, especially in sectors where in-person interaction is inevitable. In Chile, these measures led to a reduction of 14.8% in the GDP and 22.9% in household consumption in the second quarter of 2020 (Figure III.1 and III.2). This contraction in GDP was accompanied by an increase in the unemployment rate, which reached 13.1% in the same period, the highest rate in the last decades in Chile (see Figure III.3).

The pandemic, as a global phenomenon, had some common characteristics in most countries, including Chile. As an economic shock, the pandemic and the health response to it had two components. First, it was a very specific consumption shock, and second, it was a conventional employment shock for workers in contact-intensive sectors.

FIGURE III.1.
Evolution of GDP and inflation

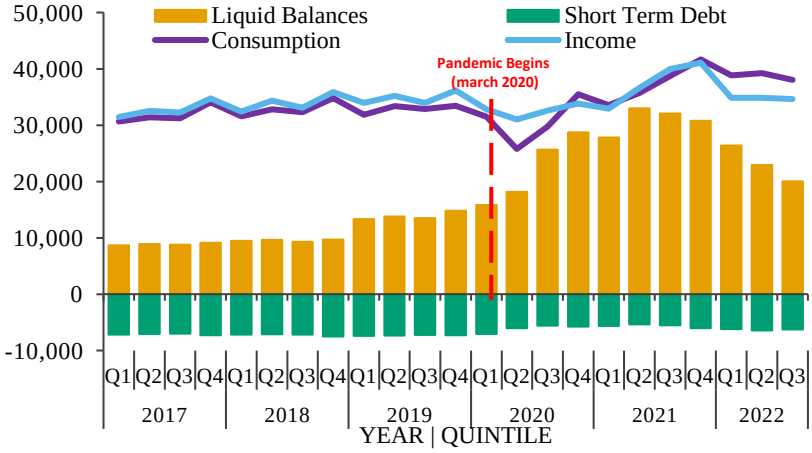


Note: This figure shows the main aggregates for the Chilean economy. The amounts are in thousands of millions of Chilean pesos as of December 2023, inflation is in percentage. Source: Central Bank of Chile, based on National Accounts and the National Institute of Statistics (INE).

Regarding the consumption shock component, fear of contagion and mobility restrictions reduced spending in sectors where in-person interaction is inevitable (Chetty et al., 2022). Figure III.2 shows the evolution of various aggregates of the household sector during the pandemic. It shows a reduction in consumption during the first two quarters of 2020, with a particularly significant decline in the second quarter.

[6] For a description of the initial impact of the shock in Chile see García (2021).

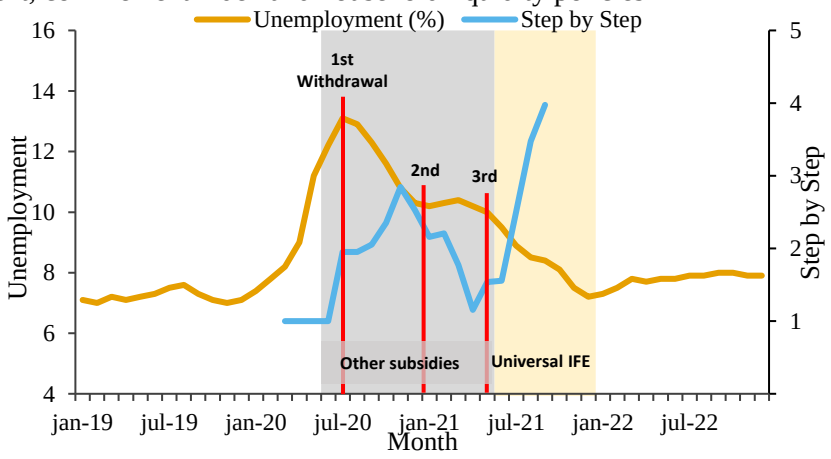
FIGURE III.2.
Main aggregates for the household sector



Note: This figure shows the main aggregates for the household sector and inflation. The amounts are in thousands of millions of Chilean pesos as of December 2021; inflation is in percentage. Source: Central Bank of Chile, based on national accounts and the National Institute of Statistics (INE).

Regarding the employment shock, the contraction of activity in contact-intensive sectors decreased the number of workers in those sectors. Through general equilibrium effects, the shock propagated to workers in other sectors of the economy. Figure III.3 shows the increase in the unemployment rate, from 8.2% in March 2020 to a peak of 13.1% in July of the same year, coinciding with the introduction of the 'Step-by-Step' plan (*Plan Paso a Paso*) for the gradual reopening of the economy. This employment shock disproportionately affected lower-income households (Barrero et al., 2020; Crossley et al., 2021).

FIGURE III.3.
Unemployment, confinement index and household liquidity policies



Note: This figure shows the unemployment, confinement index, and household liquidity policies. The Step-by-step index is a population weighted average of the phase in which each *comuna* was at each moment in time, with 1 being the strictest confinement and 5 being the maximum openness. 1 is attributed to the months between the first confinement and the launch of the Step-by-step plan (March-June 2020). The data was obtained from the Central Bank of Chile, based on the National Institute of Statistics (INE) and the Center for Mathematical Modeling of the University of Chile.

The governments took several measures to mitigate the impact on employment and household income. The initial policy response to the pandemic from different governments was based on a similar view of the shock as a transitory disruption in economic activity. In this perspective, the priority was to prevent inefficient job destruction and preserve the productive structure until the relaxation of the lockdown measures, progress in vaccination campaigns, and a reduction in the saturation of healthcare service could be achieved (IMF, 2021; FSB, 2022). Consequently, along with other measures to support businesses and increase credit supply, actions were taken to protect employment. Direct transfers were used as a complementary approach to reach self-employed or informal workers, with variations in the relative importance of each type of measure between different countries. (FSB, 2020; IMF, 2021; Atuesta and Van Hemelryck, 2022).

When comparing the policies implemented in different countries, Chile stands out for the magnitude of the transfers provided to households, which are significantly higher than in other jurisdictions. Table III.1 shows the total amounts allocated by each country for employment protection measures and direct transfers to households, as well as the amounts of early pension withdrawals, expressed as a percentage of the GDP of 2019, the last year before the pandemic. Transfers to households in Chile more than double those provided in the United States. Most of these transfers (87.5%) are accounted for by the Emergency Family Income (*Ingreso Familiar de Emergencia*, IFE) in its various forms, with the Universal Emergency Family Income (Universal IFE) being the most substantial, accounting for 66.7% of the total IFE transfers (Ministerio de Hacienda, 2021).

TABLE III.1.
Scale of economic measures to support households as GDP percentage (international comparison)

	Employment protection	Direct transfers	Pension withdrawal
Chile	1,1	9,8	19,1
Brazil	0,3	3,0	-
Peru	-	1,4	7,7
USA	0,1	4,0	-
Belgium	1,3	1,8	-
Spain	1,7	0,6	-
UK	3,3	1,3	-

Note: This table provides an international comparison of the scale of economic measures to support households as a percentage of their 2019 GDP. It accounts for the total cost of employment protection programs, direct transfers, and pension saving withdrawals allowed in the context of the pandemic. Source: Central Bank of Chile, based on public information. Chile: Ministry of Finance and Pension Supervisor. Brazil: Ministry of Economics. Perú: Ministry of Finance and Economics. USA: Internal Revenue Service. Belgium: National Bank of Belgium. Spain: Ministry of Inclusion, Social Security, and Migrations. UK: HM Revenue and Customs.

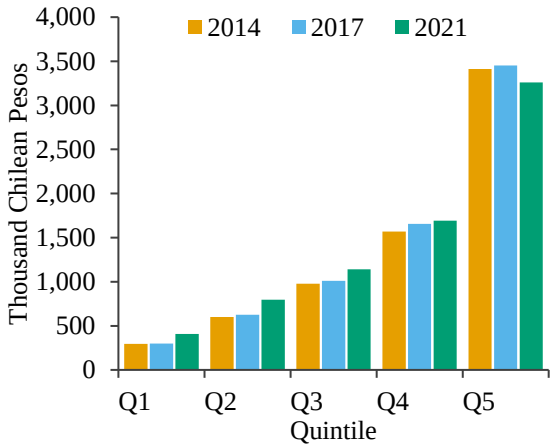
In addition to direct transfers, Chilean households had access to a portion of their mandatory pension savings, a measure comparable only to what was observed in Peru. This allowed the release of nearly twice the liquid funds provided by direct transfers. Taken together, the measures adopted in Chile represented a unique experience of providing households with massive amounts of liquid resources for their free disposal.

A significant portion of this liquidity reached households during the final phase of the pandemic. In particular, the third pension withdrawal (late April 2021) and the Universal IFE program (June to November 2021) took place amid a recovery in the level of employment and the reopening of

economic activity. Figure III.3 illustrates the intensity of mobility and economic activity restrictions using the Step-by-step index constructed by the Center for Mathematical Modeling at the University of Chile. This index reflects the phase of the current gradual reopening program "Step-by-step" on average, at each moment in time. It can be observed from Figure III.3 that the economy reopened rapidly from mid-2021, with the unemployment rate continuously declining to its pre-pandemic level, coinciding with the approval of the third pension withdrawal and the implementation of the Universal IFE. Taking into account all the different forms of the IFE, 85.6% of the IFE expenditure was disbursed during 2021. On the other hand, the third pension withdrawal represented 30.4% of the pension assets withdrawn by households since the beginning of the pandemic.

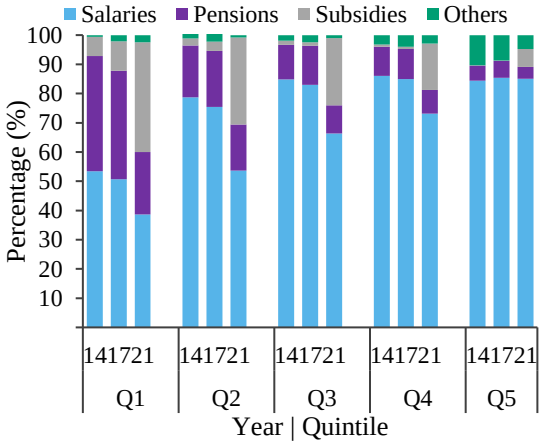
Due to the substantial volume of resources and the design of the measures, the provision of liquidity reached most households, regardless of their exposure to the pandemic shock. Transfers introduced during the pandemic had some progressivity. They reached a higher proportion of low-income households and proportionally increased their incomes by more. However, the IFE reached even almost half of the households in the highest income quintile (Figure III.8). Pension withdrawals had the opposite effect, providing more resources to higher-income households. This pattern became more marked as additional withdrawals were granted (Inzunza and Madeira, 2023).

FIGURE III.4.
Household median income by income quintile



Note: Household median income by income quintile. Data were retrieved from the Central Bank of Chile, based on the Household Financial Survey for the 2014, 2017 and 2021 waves.

FIGURE III.5.
Percentage composition of income, by quintile



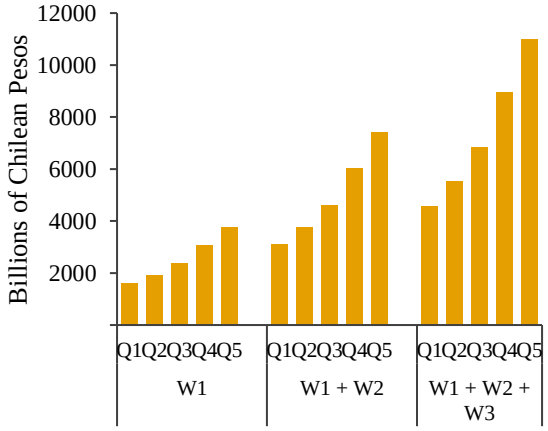
Note: This figure shows the percentage composition of income, by income quintile. Labor: income from paid activities for someone else or self. Pensions: income from self-financed and solidarity pensions (does not include pension withdrawals). Subsidies: direct monetary transfers received by the household. Others: capital income, leases, settlements, tax refunds, self-consumption, and other income not linked to occupation. Data were retrieved from the Central Bank of Chile, based on the Household Financial Survey for the 2014, 2017 and 2021 waves.

The flow of transfers to households was sufficient to more than compensate for the loss of labor income for most households towards the second half of 2021. Figure III.4 shows that only the median disposable income of the highest quintile of the distribution was lower than that of 2017 in real terms

(-5.6%). For quintiles 1 to 4, median income grew in real terms by 37.1%, 27.2%, 12.8% and 2.2%, respectively. Substituting labor income with transfers resulted in a change in the composition of household income, which was more pronounced for lower income households. Figure III.5 illustrates that the share of labor income in total income decreased for 80% of households, while the weight of subsidies increased significantly, particularly for the lower quintiles.

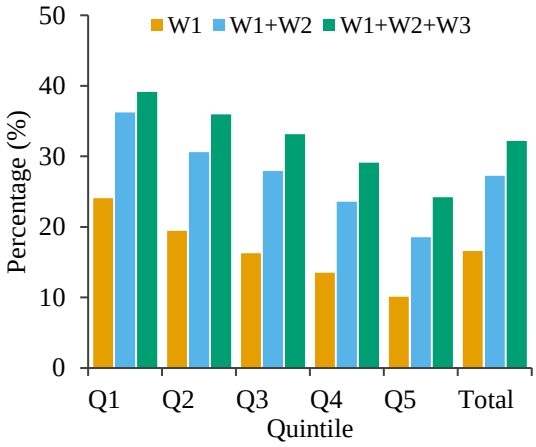
To gain a comprehensive understanding of how all the liquidity aimed at households was distributed, Inzunza and Madeira (2023) performed an imputation of pension withdrawals for members of the Pension Fund Administrator (AFP) system in the EFH, based on administrative records from the Superintendence of Pensions (Figure III.6). This exercise allows us to estimate the amounts withdrawn by each quintile of the income distribution, revealing that pension withdrawals had an opposite focus to transfers: households with higher incomes withdrew higher amounts, while households with lower incomes liquidated a higher proportion of their pension funds (Figure III.7).

FIGURE III.6.
Withdrawn amounts by quintile



Note: This figure shows the pension savings early withdrawn amount in billions of Chilean pesos by income quintile. W1, W2 y W3 stand for first, second and third withdrawal. The graph was retrieved from Inzunza and Madeira (2023), and based on the Household Financial Survey for the 2021 wave and withdrawal information from the Pension Supervisor.

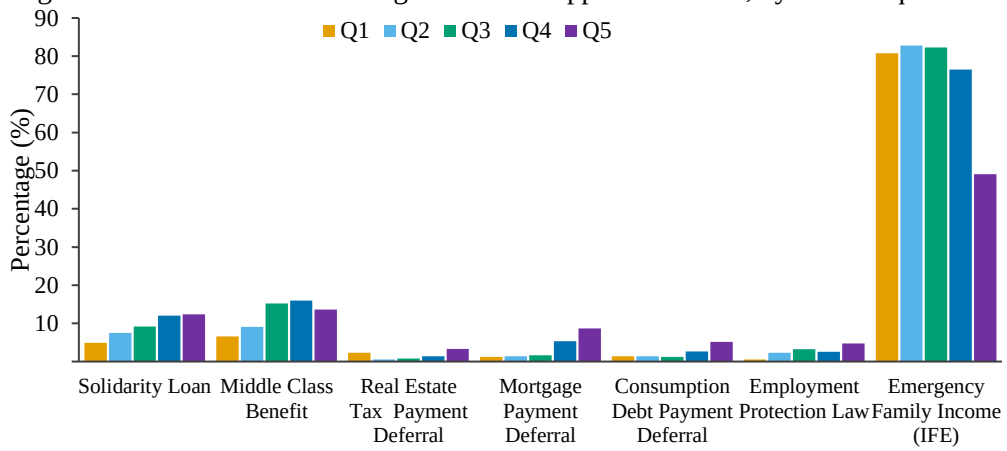
FIGURE III.7.
Withdrawals as percentage of pension savings, by quintile



Note: This figure shows the pension savings early withdrawn amount as percentage of total pension savings by income quintile. W1, W2 y W3 stand for first, second and third withdrawal. The graph was retrieved from Inzunza and Madeira (2023), and based on the Household Financial Survey for the 2021 wave and withdrawal information from the Pension Supervisor.

Pension withdrawals entailed multiple costs. In the absence of an increase in long-term savings to offset withdrawals made in 2020 and 2021, current affiliates will receive lower contributory pensions. This reduction will be partially offset by increases in solidarity (noncontributory) pensions, with a negative impact on the fiscal deficit. Additionally, this fiscal cost could materialize in a context of lower private savings due to the expected transition from contributory pensions to solidarity pensions as a result of the withdrawals. A more detailed analysis of the direct and indirect costs of households' early liquidation of pension assets can be found in Madeira (2022) and Inzunza and Madeira (2023)

FIGURE III.8.
Percentage of household that accessed government support measures, by income quintile



Note: This figure shows the percentage impact of household support measures by income quintile. Data were retrieved from the Central Bank of Chile, based on the Household Financial Survey for the 2021 wave.

IV. The household response to the shock and the policy measures

a. Aggregate household response

In the previous section, we showed a significant reduction in household consumption spending as an immediate consequence of the pandemic and the health response. This initial reduction in spending occurred earlier and more pronounced than the reduction in household income, leading to an increase in savings. This increase was more pronounced for higher income households because lower-income households allocate a higher share of their expenditure to essential goods, which are more inelastic (Inzunza and Romero, 2023b); therefore, lower income households reduced their spending less and recovered their spending levels sooner (Crossley et al., 2022; Stantcheva, 2022). Figure III.2 illustrates that the decrease in real consumer spending between the fourth quarter of 2019 and the second quarter of 2020 (22.9%) far exceeds the reduction in income (14.2%) during the same period. This was reflected in a slight increase in households' checking account balances and a reduction in their short-term debt.

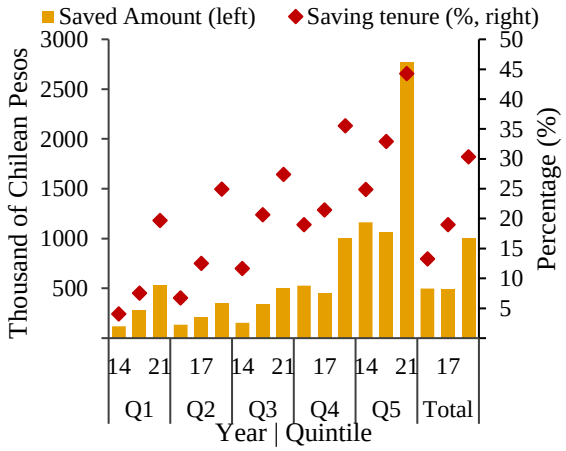
Since the first pension withdrawal and the implementation of the IFE, consumption recovered more quickly than income, surpassing it by the end of 2020. Short-term debt contracted even further, and the accumulation of balances in liquid accounts accelerated (see Figure III.2).

Throughout 2021, the recovery of employment and the introduction of the Universal IFE accelerated the growth of household income, but consumption continued to grow in parallel. In the second half of the year, short-term household debt increased again and the previously accumulated liquid balances started to decrease, despite the approval of the third pension withdrawal in May 2021. During this period, there was a significant increase in the inflation rate (see Figure III.1).

After most of the measures that injected liquidity into households were discontinued or expired, consumption remained higher than income throughout 2022, financed with consumer debt and a

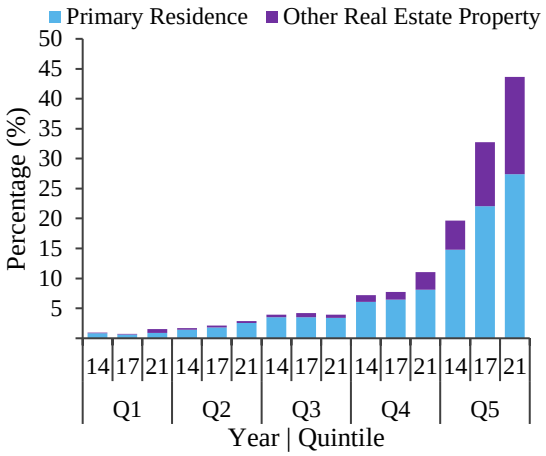
reduction in the previously accumulated liquid balances. By the end of 2022, households had depleted a significant portion of the buffers built up from the liquidity provision measures adopted during the pandemic. However, they still had more liquidity than before the pandemic, implying a greater capacity to sustain their level of consumption expenditures in the face of unfavorable events.

FIGURE IV.1.
Saving percentage holding and amounts in liquid balances with saving motive



Note: This figure shows the percentual saving tenure and median amounts in current accounts with saving motive by income quintile. The amounts are in thousands of Chilean pesos as of December 2021, and the savings participation rate is the percentage of households that state saving in their checking account or debit account. Data were retrieved from the Central Bank of Chile, based on the Household Financial Survey for the 2014, 2017 and 2021 waves.

FIGURE IV.2.
Liquid assets to income ratio, as percentage of annual income



Note: This figure shows the liquid assets to annual income ratio, by income quintile. Liquid assets: savings accounts and balances held as savings in checking/sight accounts. APV: Voluntary pension savings. Other financial assets: shares, mutual funds, fixed income assets, derivatives, and participation in companies. Data were retrieved from the Central Bank of Chile, based on the Household Financial Survey for the 2014, 2017 and 2021 waves.

In the following subsections, the EFH 2021 is used to characterize the response of households across the income distribution. This more detailed analysis allows for an evaluation of the situation at the end of the liquidity provision measures for those groups that were more at risk before the pandemic and others who may have accumulated vulnerabilities during it. Moreover, conducting this characterization at the beginning of 2022 is helpful to understand the reaction of households to the increase in inflation and the subsequent monetary contraction, particularly the resilience of the consumption expenditure level.

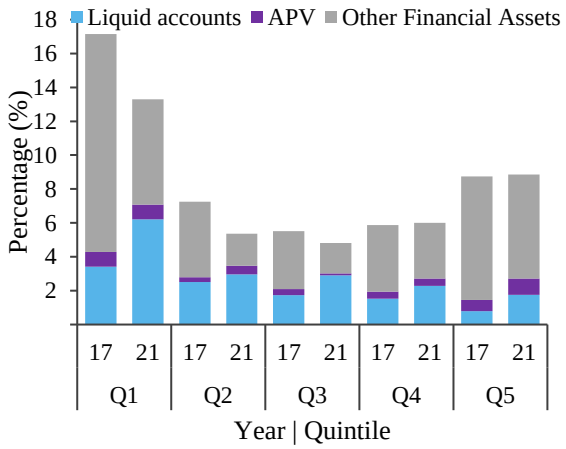
b. Liquid asset accumulation

During 2020 and 2021, households accumulated a significant amount of liquid assets. The decision to keep most of these liquidity injections in liquid assets is explained by two reasons: an intertemporal motive and a precautionary motive. The intertemporal motive consists in financing higher expenditure

flows beyond the period in which the liquidity was received, considering the temporary nature of the transfers introduced during the pandemic and the nature of pension withdrawals (single, large payouts). Such behavior is consistent with economic theory (Friedman, 1957) and existing empirical evidence (Gourinchas y Parker, 2002). Furthermore, among households that reported saving in the EFH 2021, caution against unexpected expenses was the main reason reported for saving (Central Bank of Chile, 2022b). The emphasis on precautionary motives is consistent with the existing uncertainty with respect to the duration of the pandemic and the economic prospects afterward, as documented for other economies (see, e.g., Christelis et al., 2020).

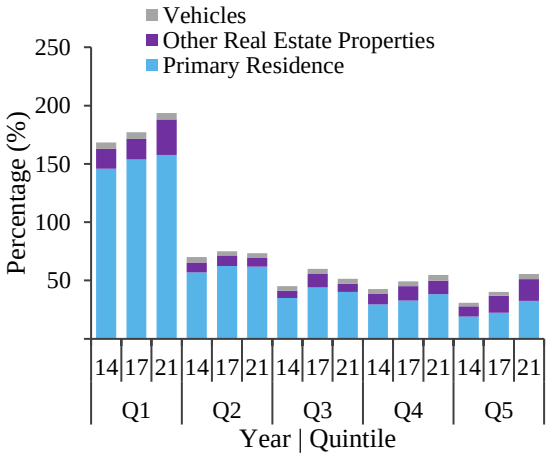
The increase in liquid balances occurred across the entire income distribution. Figure IV.1 shows the fraction of households that reported maintaining some balance in a checking or current account as savings in the last three rounds of the EFH. Therefore, the accumulated balances in these accounts are particularly indicative of households' overall liquidity accumulation. As observed in Figure IV.1, the ownership of savings in checking or current accounts in 2021 was much higher compared to previous rounds, especially in the lower income quintiles. However, it is evident that the median balance, given positive ownership, increased more for high-income households. Taken together, these two results imply an accumulation of liquidity in all income quintiles but with a greater emphasis on the extensive margin for lower-income households and the intensive margin for higher-income households.

FIGURE IV.3.
Financial assets to income ratio, as percentage of annual income



Note: This figure shows the liquid assets to annual income ratio, by income quintile. Liquid assets: savings accounts and balances held as savings in checking/sight accounts. APV: Voluntary pension savings. Other financial assets: shares, mutual funds, fixed income assets, derivatives, and participation in companies. Data were retrieved from the Central Bank of Chile, based on the Household Financial Survey for the 2014, 2017 and 2021 waves.

FIGURE IV.4.
Real assets to income ratio, as percentage of annual income



Note: This figure shows the real assets to annual income ratio, by income quintile. Data were retrieved from the Central Bank of Chile, based on the Household Financial Survey for the 2014, 2017 and 2021 waves.

The intensive use of liquid assets to manage the resources provided to households had an impact on their balance sheet. The weight of liquid assets (savings accounts plus checking account balances held

as savings) within financial assets increased for all quintiles and particularly for the 60% of households with lower income (Figure IV.2). It should be noted that the EFH reflects voluntary financial assets, but does not capture balances in mandatory pension accounts. However, the accumulation of liquid assets coincides with the liquidation of pension assets prompted by the three approved withdrawals. Therefore, as shown in Appendix A, by including the balances in pension accounts within the financial assets of households, it is possible to observe a sharp change in the composition of households' balance sheets towards more liquid financial assets.

Liquid assets also increased as a proportion of the annual income. Figure IV.3 shows a particularly significant increase for the first quintile of the income distribution, indicating that lower income households had a greater short-term capacity to respond to adverse shocks after the pandemic. This result is consistent with the estimates of Inzunza and Romero (2023a), who document a reduction in the fraction of households facing liquidity constraints according to various indicators. The ability to absorb shocks provided by these liquid balances at the beginning of 2022 gradually diminished as households spent more than their income, and inflation accelerated, due to these balances being nominal.

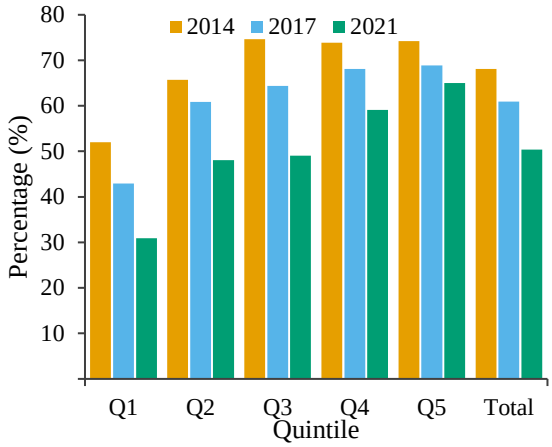
Real assets, which are less liquid and better suited for medium- or long-term investments, do not show a similar increase. Figure IV.4 shows the amounts of real assets held by households as a percentage of their annual income. The trend toward higher investment in secondary real estate properties seems to continue in 2021, especially at the extremes of the distribution, but there are no movements to suggest that a substantial share of the liquidity provided to households was channeled into this type of asset.

c. Reduction of consumer debt and household indebtedness

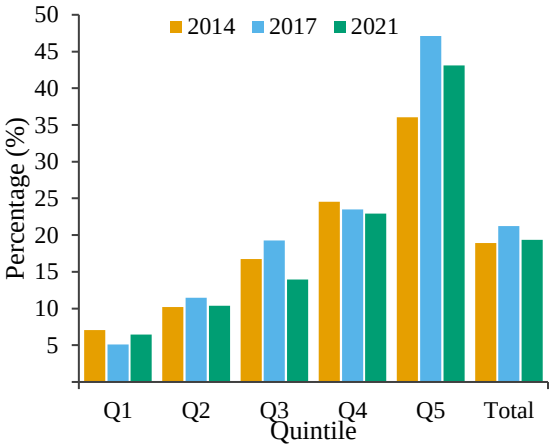
The household balance sheet also reflects some effects of the pandemic and the policy response on the liability side. The reduction in household consumer debt observed in the aggregate (Figure III.2) is mainly explained by a decrease in the fraction of households holding this type of debt (extensive margin), especially among low-income households (Figure IV.5). On the contrary, there are no changes in the holding of mortgage debt, consistent with the stability in real asset holdings in the last rounds of the EFH documented in Appendix A.

The reduction in non-mortgage indebtedness was concentrated in the more expensive debts, which generate a higher financial burden per unit of debt, as shown in Appendix A. Figures IV.7 and IV.8 show the holding of revolving debt (credit cards and credit lines) and installment loans, respectively. Both figures indicate a decrease in the fraction of households reporting having the respective type of debt. However, the reduction in the holding of revolving credits, associated with higher interest rates and shorter horizons, in 2021 is much more pronounced, especially among the lower-income quintiles. For these households, the reduction in the holding of installment loans was not as sharp, although they showed lower holdings before the pandemic.

FIGURE IV.5.	**FIGURE IV.6.**
Consumer debt holdings	Mortgage debt holdings

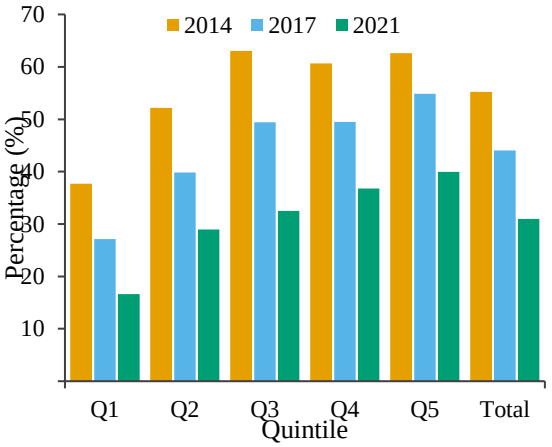


Note: This figure shows the fraction of households with consumption debt holdings, by income quintile. Data were retrieved from the Central Bank of Chile, based on the Household Financial Survey for the 2014, 2017 and 2021 waves.



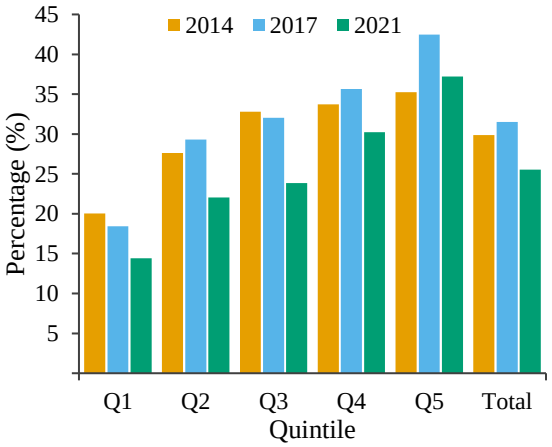
Note: This figure shows the fraction of households with mortgage holdings, by income quintile. Data were retrieved from the Central Bank of Chile, based on the Household Financial Survey for the 2014, 2017 and 2021 waves.

FIGURE IV.7.
Holdings of revolving credit



Note: This figure shows the fraction of households with revolving credit, by income quintile. Considers bank credit cards, bank credit lines and retail credit cards. Data were retrieved from the Central Bank of Chile, based on the Household Financial Survey for the 2014, 2017 and 2021 waves.

FIGURE IV.8.
Holdings of installment loans

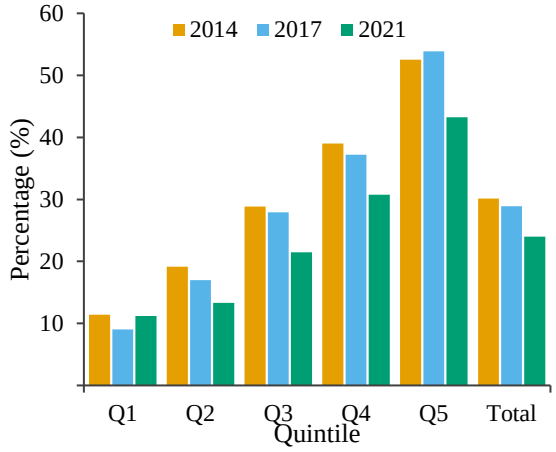


Note: This figure shows the fraction of households with installment loans, by income quintile. Considers bank consumer loans, retail loans and cooperatives. Data were retrieved from the Central Bank of Chile, based on the Household Financial Survey for the 2014, 2017 and 2021 waves.

Considering the type of debt provider, the reduction in the percentage of indebted households was more pronounced for non-bank debt. This difference is more significant for households in the first quintile of the income distribution, as they did not reduce their holding of bank debt (Figure IV.9). On the other hand, the holding of non-bank debt decreased by almost half since 2014 for this group (Figure IV.10). It is worth noting that access to bank debt is more limited for low-income households, making non-bank debt much more prevalent for this group. The reduction in debt holdings during the pandemic has narrowed that gap.

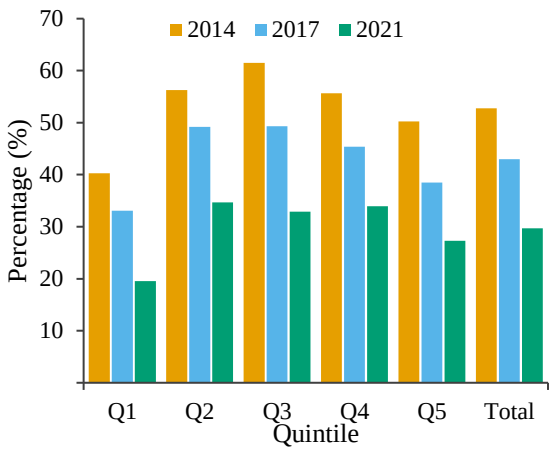
The composition of total non-mortgage debt by quintiles (Figure IV.11) shows the net effect of changes in the extensive and intensive margins. Revolving debts accounted for a lower share of non-mortgage debt, while the total volume of non-mortgage debt decreased for most quintiles. The decline in total amounts observed in 2021 is less drastic than in holdings (Figure IV.5), suggesting that a portion of the reduction in holdings occurred due to debt repayment by households with low debt.

FIGURE IV.9.
Bank debt percentage holdings



Note: This figure shows the fraction of banking debt holdings, by income quintile. Data were retrieved from the Central Bank of Chile, based on the Household Financial Survey for the 2014, 2017 and 2021 waves.

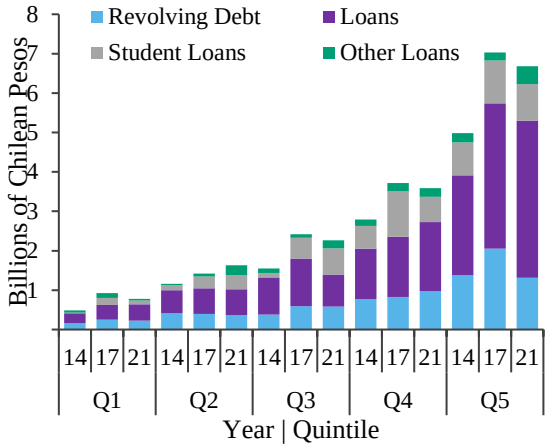
FIGURE IV.10.
Non-bank debt percentage holdings



Note: This figure shows the fraction of non-bank debt holdings, by income quintile. Data were retrieved from the Central Bank of Chile, based on the Household Financial Survey for the 2014, 2017 and 2021 waves.

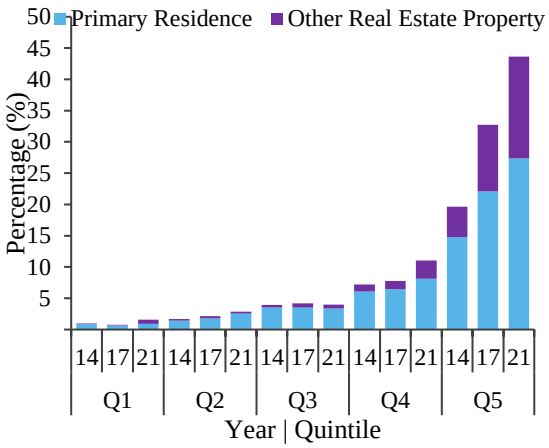
Mortgage debt increased for higher-income households despite no changes in the fraction of households holding this type of debt. The change is mainly due to those households borrowing to invest in secondary properties that had higher amounts of mortgage debt in 2021 compared to previous rounds of the EFH. This increased indebtedness among real estate investors was primarily seen in the upper quintile of the distribution, without leading to a deterioration in risk indicators for this group. The perceived level of financial risk among households after the end of the liquidity provision measures is discussed in more detail in the following subsection.The decline in non-mortgage household indebtedness is due to two factors: a reduction in consumer credit demand by households (Central Bank of Chile, 2022a), and the use of part of the liquidity received to repay existing debts (Cerletti et al., 2023).

FIGURE IV.11.
Total consumption debt



Note: The figure shows total consumption debt in billions of Chilean pesos as of December 2021, by income quintile. Revolving debt refers to credit cards and lines. Data were retrieved from the Central Bank of Chile, based on the Household Financial Survey for the 2014, 2017 and 2021 waves.

FIGURE IV.12.
Total mortgage debt



Note: The figure shows total mortgage debt in billions of Chilean pesos as of December 2021, by income quintile. Data were retrieved from the Central Bank of Chile, based on the Household Financial Survey for the 2014, 2017 and 2021 waves.

The decline in consumer credit demand by households can be explained by the evolution of household spending and income over time, as well as the impact of pension withdrawals. The contraction in spending at the beginning of the pandemic mechanically led to a lower demand for consumer debt. The recovery in spending occurred simultaneously with the increase in direct transfers to households and the approval of early pension withdrawals. This liquidity allowed households to finance their renewed consumption spending without resorting to credit, keeping short-term debt suppressed. Furthermore, according to the EFH 2021, the fraction of households that did not apply for loans was larger than in 2017, and among these, a higher proportion stated that they did not need them. The Bank Credit Survey also shows a reduction in demand for consumer debt (Central Bank of Chile, 2022a).

Regarding the repayment of existing consumer debt, Cerletti et al. (2023) find a causal effect of pension withdrawals on the reduction of consumer debt. This study exploits the existence of inflection points in the rule that determined the amount an affiliate could withdraw based on their accumulated pension fund balance in each of the three pension withdrawals. Specifically, the authors find that around the inflection point that marked the maximum balance enabling a withdrawal of 100% of the pension funds, there is a causal effect of liquidating an additional unit of funds on the reduction of the affiliate's revolving credit amount.

d. Household financial risks after the end of liquidity measures

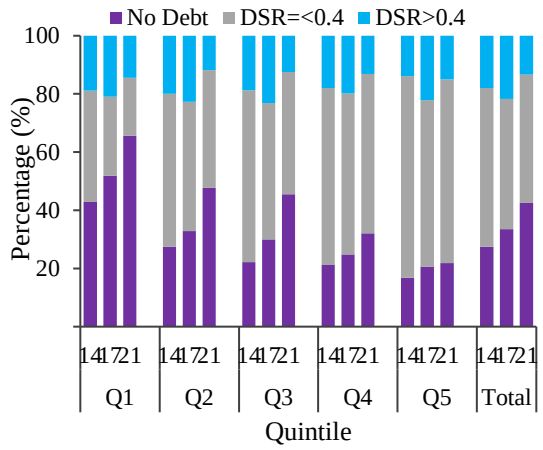
In this subsection, we conduct a stylized assessment of the households' financial vulnerability at the beginning of 2022, once the main measures that injected liquidity into households during the pandemic have expired. To do this, we characterize households according to their ownership of debt and their debt service to income ratio (DSR), distinguishing three groups: households without debt,

households with low DSR, and households with high DSR. The threshold between low DSR and high DSR is set at 0.4, which means households that allocate at least 40% of their monthly income to debt payments. The purpose of this simple exercise is to help rationalize the improvement in the default indicators for consumer and mortgage portfolios observed from mid-2020 until 2022, using the household as the unit of observation. Therefore, it lacks prospective content. Córdova and Toledo (2023) propose a methodology to perform more detailed household stress tests suitable for quantifying the credit risk of Chilean households.

Figure IV.13 shows the fraction of households in each income quintile that belongs to each of the three groups considered. First, we observe that in the EFH 2021, there is a higher percentage of households without debt, mainly due to the growth of this group in the first to third quintiles. Second, among households with debt, a lower proportion had an excessive financial burden relative to their income, compared to the waves of the EFH collected before the pandemic.

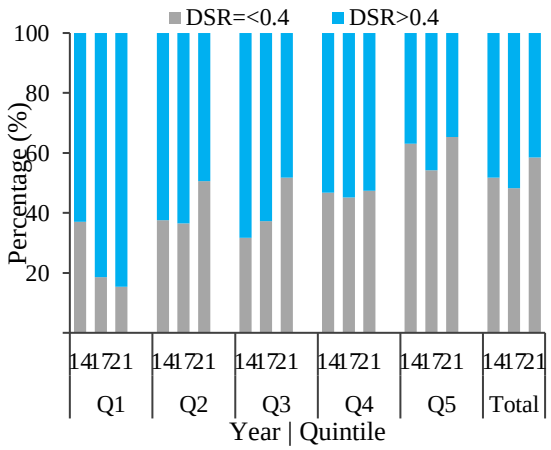
Among indebted households, it is possible to construct a measure of debt at risk based on the percentage of total household debt held by households with a high financial burden. Figure IV.14 shows that debt at risk was lower for all households in 2021 compared to 2017. This reduction in the percentage of debt at risk is also observed within each income quintile, except for the first one: among the lowest-income households, there were fewer households with a high financial burden in 2021, but they amounted to a higher percentage of the debts in that group. However, this does not imply that the absolute value of debts at risk increased due to the smaller number of debtors in the first quintile (Figure IV.13) and the reduction in the total amount of non-mortgage debts (Figure IV.11), which typically implies a higher financial burden.

FIGURE IV.13.
Financial burden by income quintile



Note: This figure shows the fraction of households in each category of DSR, by income quintile. DSR: Debt Service-to-Income Ratio corresponds to the percentage of monthly income that a household allocates to meet its financial obligations. Source: Central Bank of Chile, based on the Household Financial Survey for the 2014, 2017 and 2021 waves.

FIGURE IV.14.
Debt at risk by income quintile



Note: This figure shows the fraction of debt in each category of DSR, by income quintile. DSR: Debt Service-to-Income Ratio corresponds to the percentage of monthly income that a household allocates to meet its financial obligations. Source: Central Bank of Chile, based on the Household Financial Survey for the 2014, 2017 and 2021 waves.

On the other hand, the increase in the amount of mortgage debt associated with secondary properties in the highest income quintile did not result in a higher median financial burden or a significantly higher debt-to-income ratio for that quintile. The risk highlighted in 2019 for real estate investors has not increased significantly. This is consistent with the observation that mortgage debts are more recent in 2021 than they were in 2017, implying longer horizons and higher outstanding debt (Central Bank of Chile, 2022b).

As a word of caution, it should be noted that part of the reduction in the number of households with a high financial burden can be explained by changes in the denominator due to the increase in income recorded between 2017 and 2021 for lower-income quintiles. When using an alternative measure of income that excludes transfers, the debt-to-income ratios and debt-at-risk measures are much more similar between 2017 and 2021. Specifically, the percentage of households with a high financial burden would increase from 13.2% to 18.3% in 2021, reducing the gap between 2017 and 2021 by 4.7 percentage points. Most of the households added to the high-risk group under this alternative belong to the first two quintiles of the income distribution, where the importance of direct transfers in total household income was greater (Figure 3.4). However, this alternative measure does not change the percentage of households without debt.

Since the measures providing liquidity to households came to an end, the short-term debt of households has partially reverted from the reduction observed during the pandemic, and the delinquency rate of consumer portfolios is approaching its pre-pandemic level (Central Bank of Chile, 2022a). On the other hand, the mortgage portfolio, which is more concentrated among high-income debtors, remains at a lower delinquency rate than before the pandemic. These differences suggest that the buffers accumulated by households during the pandemic have been depleted asymmetrically, persisting to a greater extent in the upper part of the income distribution.

V. Conclusion

In this article we analyzed in detail how the Covid-19 pandemic and the policies implemented to mitigate its economic effects impacted the finances of Chilean households.

The pandemic declared at the beginning of 2020 and the sanitary measures adopted to contain it caused a significant disruption in the activity of many economic sectors that rely on the presence for their normal operation. The contraction in spending in the affected sectors quickly translated into a decrease in employment and household labor income. To cope with the economic impact of the pandemic, governments adopted measures aimed at preventing job destruction until the economy could reopen and providing liquidity to households to compensate for the loss of labor income. In Chile, the provision of liquidity to households was of an unprecedented magnitude, both in terms of the scope and number of direct transfers to households and the extraordinary withdrawal of a significant portion of mandatory pension savings from households on three occasions. These measures reached most households and lacked a clear targeting on the households most affected by the economic consequences of the pandemic. In addition, the flow of liquidity to households intensified in the second year of the pandemic.

Households used the received liquidity to recover their consumption levels, reduce their indebtedness, and accumulate liquid assets. The decrease in indebtedness was mainly due to a lower use of revolving

credit and non-bank consumer debt, especially among low-income households. On the other hand, the accumulation of liquid assets allowed households to cushion additional shocks and finance their consumption expenditure beyond the horizon of the measures that provided liquidity. As these measures were phased out, households retained buffers that allowed them to maintain their level of expenditure in the face of unfavorable changes in the macroeconomic environment.

The massive provision of liquidity to households had significant costs. In addition to the contribution of macroeconomic imbalances, the fiscal cost of direct transfers, pension withdrawals incurred direct and indirect costs for households, including lower expected contributory pensions, increased dependence on the solidarity pillar of the pension system with high fiscal cost, and an expected decline in private savings.

By the time the main measures aimed at providing liquidity to households expired, the financial risk of households remained contained, with large segments of the population having no debt or low financial burden relative to their income. However, since then, the gradual erosion of accumulated liquid balances due to persistently high expenditure levels has led to a recovery in consumer debt levels and an increase in credit risk in the consumer portfolio, especially for low-income debtors.

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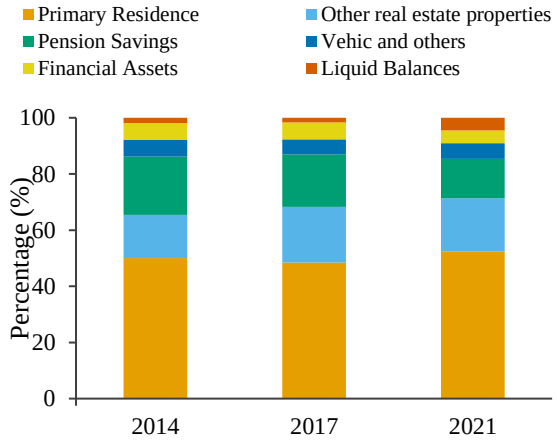
Appendix A: The portfolio of Chilean households and its recent trends

In this section, we characterize the portfolio of Chilean households and examine its evolution using national waves of the EFH conducted in 2014, 2017, and 2021.[7]

The primary residence is the main asset of Chilean families, both at the aggregate and individual levels. In 2021, 62% of households owned a home (Figure A.2), representing 52% of their total assets (Figure A.1). Following the primary residence in importance are mandatory pension savings and other real estate properties. While both types of assets represent, on average, 18% of total assets between 2014 and 2021, households owning other properties reach only 15% in 2021, while 91% of households have at least one member affiliated with the pension fund administrators (AFP system).

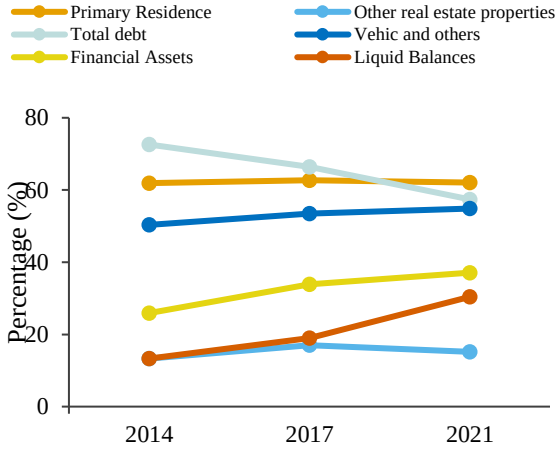
A relatively high proportion of households hold some financial assets, distinct from mandatory pension savings; however, these represent a small fraction of the families' total assets. On the one hand, between 2014 and 2021, the ownership of financial assets increased from 26% to 37%. On the other hand, the importance of these financial assets in the aggregate value of household assets is relatively low and decreased in the last measurement from 6% in 2014-17 to 4.5% in 2021.

FIGURE A.1.
Total assets composition



Source: Household Financial Survey 2007-2021. (*) Other properties include second household, properties for lease, storage units, parking, and any type of real estate other than the main residence.

FIGURE A.2.
Evolution of main holdings



Source: Household Financial Survey 2007-2021. (*) Other properties include second household, properties for lease, storage units, parking, and any type of real estate other than the main residence.

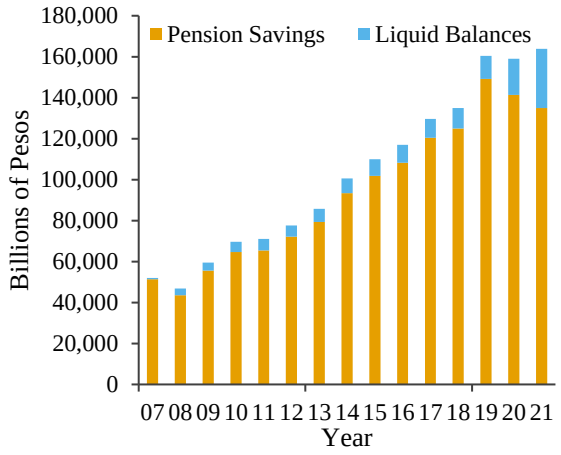
In line with the relevance of the main residence in the asset side of Chilean households' balance sheet, mortgages are the main type of debt at the aggregate level. However, mortgage ownership is low compared to short-term debt. In fact, although aggregate short-term debt is substantially lower than

[7] The EFH does not have pension information for all household members, therefore, we impute administrative data on pension balances from the Superintendencia de Pensiones (Chilean Pensions Supervisor). Additionally, we adjust the reported balances in checking and sight accounts (liquid balances) in the EFH to their administrative counterparts. We do this the survey asks about the balance in liquid assets that is not intended for regular household expenses only. As a result, the EFH does not capture the total balance that households maintain in their liquid balances.

mortgages, its ownership is high, around 68% in 2014. During the last decade, Chilean households have reduced their indebtedness in this type of debt in both extensive and intensive margins. At the individual level, debt ownership declined considerably to 55% in 2021 (see Figure A.2).

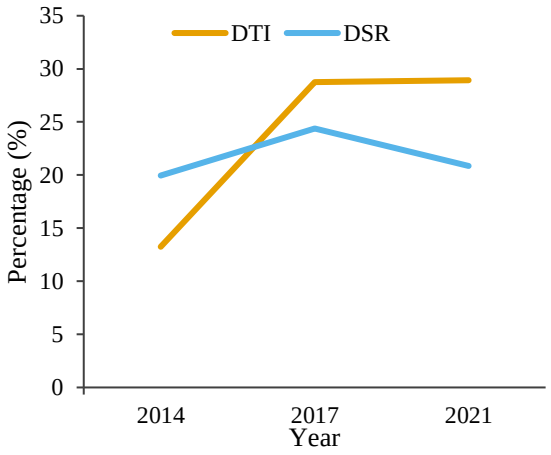
Two financial ratios commonly used in the literature (De Vaney, 1994; D'Alessio e Iezzi 2013; Cifuentes y Martínez, 2020) can be used to quantify the financial burden and leverage of Chilean households. The first ratio is the debt service-to-income ratio (DSR), which indicates the percentage of monthly income that a household allocates to meet its financial obligations. The second ratio is the debt-to-income ratio (DTI), which shows the fraction of the annual income required to fully settle household debts. Figure A.4 shows the evolution of the median DSR and median DTI for households with debt between 2014 and 2021.

FIGURE A.3.
Mandatory pensions and balance in current/vista account



Source: Central Bank of Chile and Superintendence of Pensions

FIGURE A.4.
Evolution of financial ratios



Source: Central Bank of Chile based on information from the EFH 2007-2021. (*) Median of the ratios conditional on having debt. DSR: Debt Service-to-Income Ratio, DTI: Debt-to-Income Ratio.

Starting with the DSR, we observe that in 2021, the median indebted household allocates 21% of its monthly income to meet its financial obligations, barely different from the value observed in 2014. There was an increase in DSR between 2014 and 2017, mainly explained by the more intensive use of revolving debt by households during that period (Banco Central de Chile, 2019). Indeed, between 2017 and 2021, there was a decline in the DSR primarily associated with the reduction in the use of non-mortgage debt. This decline in the DSR indicates that households are allocating a smaller portion of their monthly income to meet their financial obligations, which can be attributed to the lower reliance on non-mortgage debt during this period.

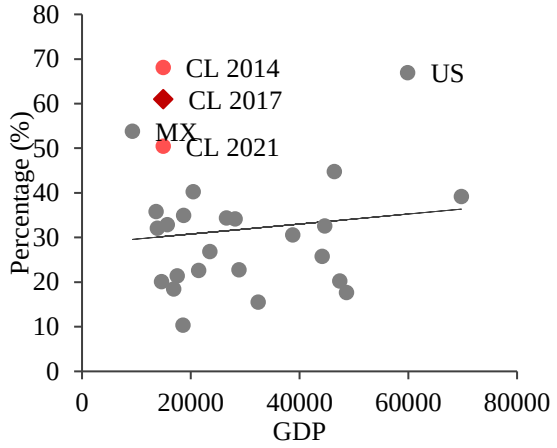
On the other hand, the DTI reached 29% in 2021, indicating that the debt of the median indebted household represents almost one-third of its annual income. Regarding its recent evolution, we see a 15 percentage point increase in the indicator between 2014 and 2017, primarily explained by the increase in mortgage debt, both for the primary residence and other properties. (Banco Central de Chile, 2019). Between 2017 and 2021, the indicator remained stable, consistent with the slowdown

in the mortgage market, both in terms of the fraction of households with mortgages and the volume of mortgage debt relative to assets.

Appendix B: International comparison of the households' portfolio

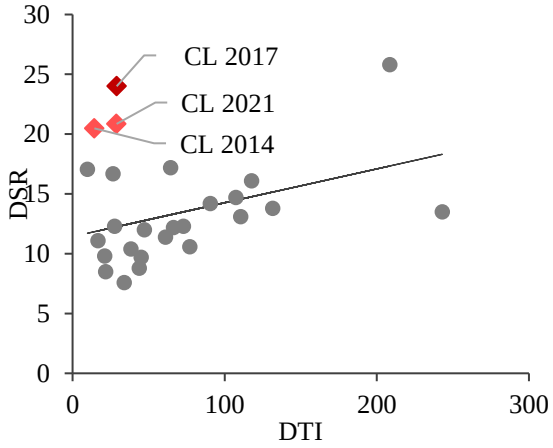
In this appendix, we compare data from the EFH with that obtained from similar surveys in other countries. The objective is to understand the main similarities and differences in the structure of the financial balance between families in Chile and the rest of the world. The surveys considered in the analysis are the SCF of the United States, the HFCS, which contains information for 21 countries in Europe, the ENFIH of Mexico, and the EFHU of Uruguay. For each survey, we used the most recent publicly available data for comparison. The analysis considers the level of development of the countries in the sample, which we approximate with the GDP per capita of each country. It should be noted that most of the countries used for the comparison have a higher level of development than Chile. This is due to the lack of financial surveys in other Latin American countries or countries with a similar level of development.

FIGURE B.1.
Holding of total non-mortgage debt (percentage; US$*)



Source: Central Bank of Chile based on information from EFH 2017, SCF 2016, HFCS 2017, ENFIH 2019, World Bank 2017. (*) GDP per capita 2017 at current prices. (*) Uruguay represents only CONSUMPTION (does not include credit cards, debt with the state, vehicles).

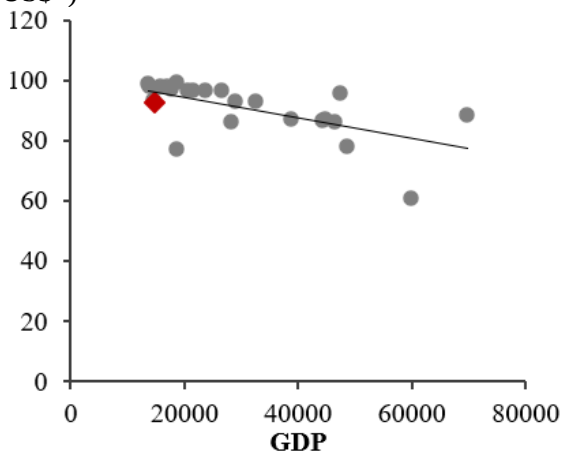
FIGURE B.2.
Financial ratios (percentage*)



Source: Central Bank of Chile based on information from EFH 2017, SCF 2016, HFCS 2017, ENFIH 2019, World Bank 2017. (*) Median.

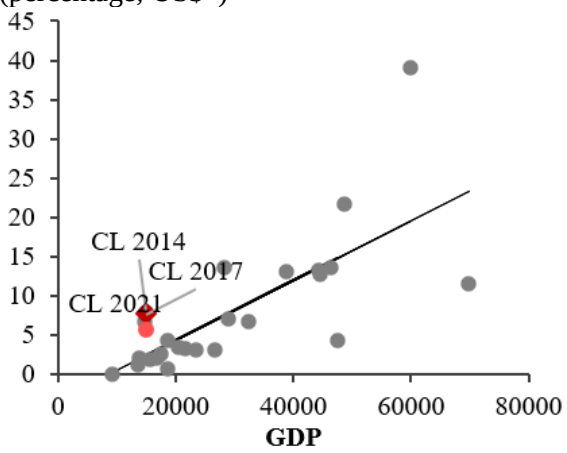
Regarding assets, we observe that for all the countries in the sample, real assets are more important than financial assets as a proportion of total assets (see Figure B.3). However, the importance of financial assets grows with the level of development of the economies (see Figure B.4). This result is consistent with the idea that countries with a higher level of development have deeper financial markets, which, in turn, facilitates households' access to financial instruments other than real estate assets. In the sample of available countries, the weight of financial assets in total assets reaches an average of 8%, but it exceeds 20% for countries such as the United States or the Netherlands. Specifically for Chile, the proportion of financial assets to total assets is 8%, which is around the average of the analyzed countries and above the level shown by economies of a similar level of development.

FIGURE B.3.
Real assets as % of total assets (percentage; US$*)



Source: Central Bank of Chile based on information from EFH 2017, SCF 2016, HFCS 2017, ENFIH 2019, World Bank 2017. (*) GDP per capita 2017.

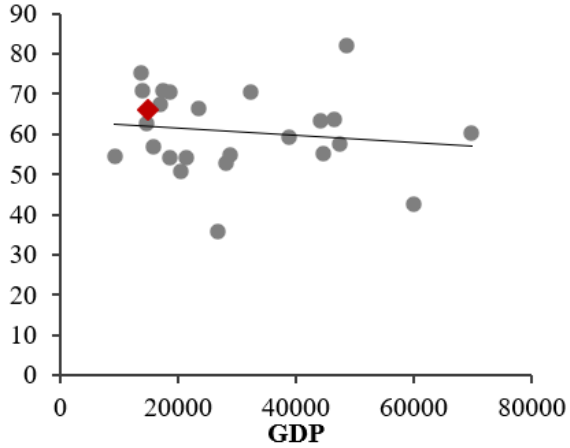
FIGURE B.4.
Financial assets as % of total assets (percentage; US$*)



Source: Central Bank of Chile based on information from EFH 2017, SCF 2016, HFCS 2017, ENFIH 2019, World Bank 2017. (*) GDP per cápita 2017.

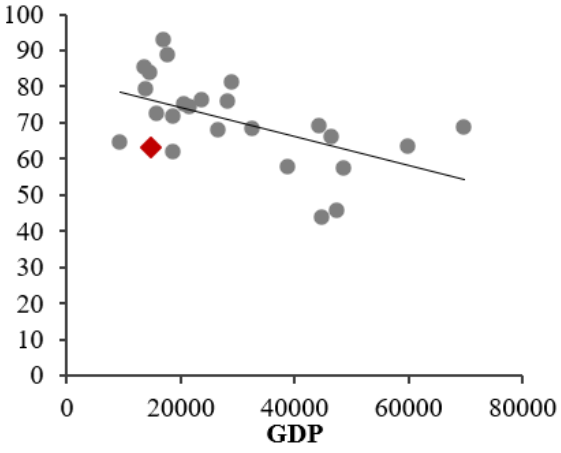
One notable result is that the primary residence is the most important real asset for households in all the countries in the sample, which is consistent with what has been reported by other studies. Badarinza et al. (2016) y Bover et al. (2016) (see figures B.5 and B.6). When looking at the situation in Chile, we see that the homeownership rate is slightly below the average for its level of development, while the opposite happens with the weight of homeownership in real assets.

FIGURE B.5.
Household main residence as % of real assets (percentage; US$*)



Source: Central Bank of Chile based on information from EFH 2017, SCF 2016, HFCS 2017, ENFIH 2019, World Bank 2017. (*) GDP per capita 2017.

FIGURE B.6.
Holding of household main residence (HMR) (percentage; US$*)



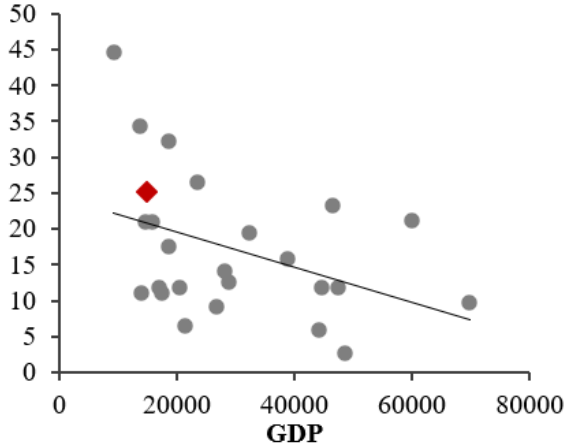
Source: Central Bank of Chile based on information from EFH 2017, SCF 2016, HFCS 2017, ENFIH 2019, World Bank 2017. (*) GDP per capita 2017 at current prices.

However, despite the high possession of non-mortgage debt in Chile, the fraction that it represents of the total debt is slightly above the average of economies with a similar level of development (see Figure B.7). This indicates that while non-mortgage debt is widespread among Chilean households, the amounts associated with it are lower compared to those of mortgage debt.

One consequence of the high percentage of households with non-mortgage debt in Chile is a high financial burden relative to their income level (see Figure B.8). As indicated in the Financial Stability Report for the first semester of 2019 (Banco Central de Chile, 2019), non-mortgage debt is associated with a higher financial burden, even when the amounts related to this type of debt are low. In the sample, the DSR for Chile reaches 21% in 2021, which is higher than the overall average of 14% for the entire sample and close to Mexico's 17% DSR, a country that also exhibits high possession of non-mortgage debt.

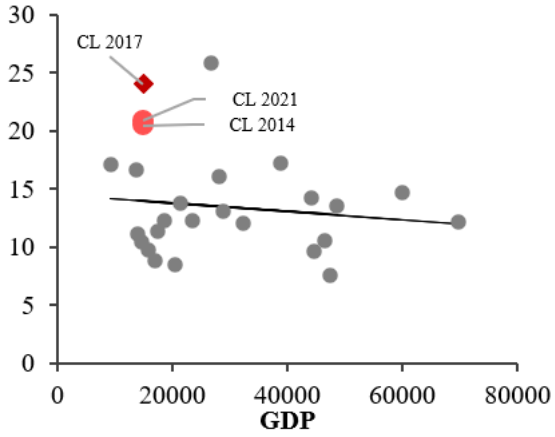
On the other hand, when looking at the relationship between the DTI and GDP the per capita (see figure B.9), we can observe that Chile is slightly below the line. This is mainly explained by a sharp disparity between the fraction of households holding-non mortgage debt (see Figure B.1) and mortgage debt (see Figures B.10 and B.11). This makes non-mortgage debt, which is characterized by low amounts in Chile, relatively more prevalent than mortgage debt compared to other countries (see Figure B.7). In 2021, Chile's DTI reaches 29%, which is similar to the levels shown by countries like Hungary or Slovenia (see Figure B.9) and below the average of countries with a similar level of development.

FIGURE B.7.
Total non-mortgage debt as % of total debt (percentage; US$*)



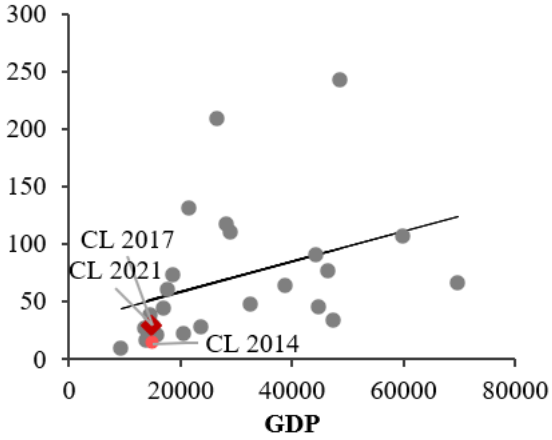
Source: Central Bank of Chile based on information from EFH 2017, SCF 2016, HFCS 2017, ENFIH 2019, World Bank 2017. (*) GDP per capita 2017 at current prices.

FIGURE B.8.
Debt service to income ratio (DSR) (percentage; US$*)



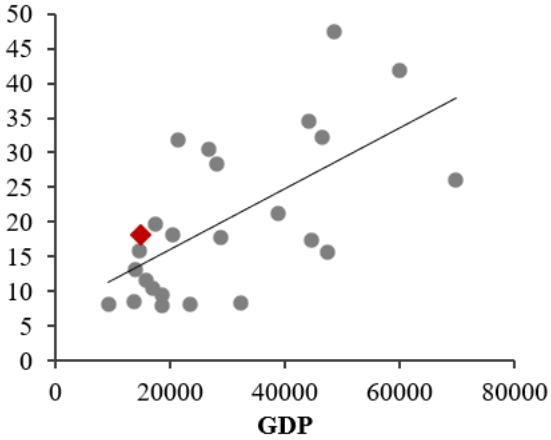
Source: Central Bank of Chile based on information from EFH 2017, SCF 2016, HFCS 2017, ENFIH 2019, World Bank 2017. (*) PTI median, GDP per capita 2017.

FIGURE B.9.
Debt-to-income ratio (DTI) (percentage; US$*)



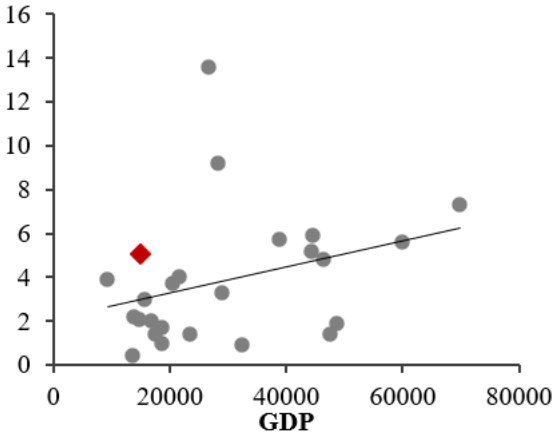
Source: Central Bank of Chile based on information from EFH 2017, SCF 2016, HFCS 2017, ENFIH 2019, World Bank 2017. (*) DTI median, GDP per capita 2017.

FIGURE B.10.
Holding of mortgage debt: household main residence (percentage; US$*)



Source: Central Bank of Chile based on information from EFH 2017, SCF 2016, HFCS 2017, ENFIH 2019, World Bank 2017. (*) GDP per capita 2017 at current prices.

FIGURE B.11.
Holding of mortgage debt: other properties (percentage; US$*)



Source: Central Bank of Chile based on information from EFH 2017, SCF 2016, HFCS 2017, ENFIH 2019, World Bank 2017. (*) GDP per capita 2017 at current prices.

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