Government support in times of crisis: Evidence from Chile's road to socialism[*]

Felipe González   Mounu Prem

Abstract

We show that transfers help governments to retain political support in times of crisis. Our context is one of the largest infant nutrition programs in the world, implemented by Salvador Allende and his left-wing coalition in Chile (1970-1973) as part of an increase in public spending that led to hyperinflation and scarcity of basic goods. We find that the delivery of three cups of milk per day to all children in the country contributed to lower infant mortality and helped to sustain the government's popularity, particularly among women who were perceived as key for the success of the program. In the following decades, individuals with greater exposure to the infant nutrition program exhibit lower mortality rates and higher levels of college enrollment.

Keywords: government support, transfers, hyperinflation, socialism.

---

1 Introduction

Economic performance is key for government support. Production, unemployment, wages, and inflation are constantly under scrutiny as measures of government performance.[1] Yet incumbents regularly gather robust electoral support, or even win elections, in the presence of an economic crisis. When do struggling economies fail to decrease government support? We argue that direct transfers to households are key to maintain the incumbent's popularity in times of crisis, particularly when people have noisy signals about the drivers of such crisis. Transfers are important to improve household finances, and to collect political support, during 'external' crises (e.g. pandemics). It is less clear whether transfers can help electorally when crises are perceived to be generated by domestic policy. Standard political economy models argue that voters should hold politicians accountable for choosing policies that lead to a crisis (Persson and Tabellini, 2002). But politicians can offer transfers to alleviate the economic problems partially created by themselves.

We show that in-kind transfers to households can help to sustain the popularity of a government during a crisis partially generated by the same government. Our context is one of the largest infant nutrition program ever implemented. Led by socialist Salvador Allende, the Popular Unity (UP) government in Chile (1970-1973) implemented a *universal* nutrition program offering three cups of milk per day to all children. The program reached a take-up rate of 80% and it is considered responsible for successfully decreasing infant mortality. Yet the increased spending promoted by the UP also triggered an economic crisis, with three-digit inflation and plummeting real wages by late 1972 (Dornbusch and Edwards, 1990).[2] Surveys reveal that half of the population blamed the government for the crisis, and half to other factors. In that context, the congress election in March 1973 served as referendum of the strength of the incumbent coalition. Surprisingly for many, the UP coalition retained robust support, preventing the opposition to impeach the president. The poor economic performance failed to transform into lower government support, puzzling contemporary onlookers and contradicting academic and popular wisdom. Shortly after the election, president Salvador Allende was deposed by a military coup which led to a seventeen-year dictatorship.

The empirical analysis is divided in three parts. The first part shows that the distribution of milk under the UP was driven by the location of eligible beneficiaries, it was unrelated to prevailing political preferences, and it decreased infant mortality. To empirically study the implementation of

---

[1]The "economic voting" literature is immense and spans many topics related to political preferences. The early empirical literature related macroeconomic trends with voting behavior (Kramer, 1971; Fair, 1978). We focus on the role of large public policies in driving electoral preferences. Campbell (2012) provides a review of that literature.

[2]According to the World Development Indicators of the World Bank, the 1973 inflation (growth) rate in Chile ranks in the 99th (5th) percentile of the inflation (GDP growth) distribution across countries in the 1970-2019 period.

the program, we digitized annual administrative data for all hospitals in the country, places where the state delivered milk to preschoolers. We show that the amount of milk distributed through hospitals is only statistically explained by the presence of eligible beneficiaries locally. Vote shares by party in 1970, rurality, remoteness, and income-related variables, among others, are all unrelated to the amount of milk distributed. Using hospital-level data spanning the UP years, we show that the distribution of milk is strongly associated to lower hospital infant mortality, even after accounting for hospital fixed effects, year fixed effects, and hours worked by physicians. We support a causal interpretation of this empirical relationship by exploiting the non-linear contribution of state-sponsored milk to infant nutrition derived from both the high prevalence of breastfeeding among newborns and the decreasing nutritional importance of milk as children get older. We calculate that the milk program explains 23% of the declined in infant mortality during this period.

The second part shows that the milk program generated political support for the UP government. Our empirical strategy is grounded on a difference-in-differences strategy using a panel dataset of hundreds of municipalities observed during four congress elections (1961-1973). At the time, Chile held the healthiest democratic elections in the region, offering universal voting, secret ballot, and relatively high electoral participation. We begin by documenting a strong correlation between milk beneficiaries and UP vote share in 1973 and a lack of correlation with turnout in the same year. Crucially, the share of milk beneficiaries is unrelated to vote shares and turnout in preceding years, which motivates the use of a difference-in-differences design. In our preferred specification, we find that a one standard deviation in milk beneficiaries locally is associated with 2-3 percentage points higher UP vote share. The 80 percent take-up rate of the program implies that the distribution of milk explains 4 percentage points of the UP vote share in 1973. We provide suggestive evidence of a stronger political effect in places more heavily impacted by the crisis.

The relationship between milk beneficiaries and government support during an economic crisis is robust to a wide range of alternative explanations and estimation methods. The results are similar when controlling for the spatial dependence of municipalities, the presence of the state or connectivity, and the age structure of the adult population, among others. More importantly, the results are also similar when accounting for the local exposure to other public policies such as, for example, trade protection and a large land reform program. Still, the non-random location of beneficiaries prevents us from a causal interpretation. Importantly, we find similar results when using five matching estimators embedded in the difference-in-differences research design. We construct some matching estimators to account for policies specifically targeting women. Moreover, we exploit a large family planning program in Chile, funded by the Rockefeller foundation since 1966, as a source of exogenous variation in fertility decisions and find similar results. The latter results are consistent with the medical literature (Viel, 1969) and further support a causal relation.

The third part shows the key role of women in driving the higher government support and the long-run effects of the program. We begin by noting that the UP government explicitly targeted women in information campaigns about the milk program. Mothers were perceived as the key link between the state and infant nutrition. We verify the effectiveness of these campaigns by using repeated representative surveys from the 1960s and 1970s. In open questions about preferred policies, we find respondents mentioned the milk program disproportionally in the 1970-73 period. Moreover, women mentioned the program 30 percent more than men, and women who mentioned the milk program planned to vote significantly more for the UP government in 1973. These responses motivated us to repeat our main analysis but now using a panel dataset of votes by gender. At the time, men and women voted in separate booths, allowing us to explore the gender dimension of our main results. The higher political support arising from the milk program is almost entirely explained by women. Moreover, we leverage variation across and within cohorts born around the early 1970s to estimate long-run effects and find that individuals more exposed to the milk program exhibit lower mortality rates when adults and are more likely to enroll in higher education.

We contribute to a large literature arguing that economic factors are key drivers of voting behavior. The question of whether public policies affect electoral politics has a long tradition in the social sciences (Schattschneider, 1935). The original "economic voting" literature related macroeconomic trends and voting behavior (Kramer, 1971; Fair, 1978; Nordhaus, 1989; Brender and Drazen, 2008) and finds poor performance leads to lower support. Those ideas remain popular and form a common framework used by analysts to evaluate incumbent governments. More recent empirical studies show that political support can arise from cash transfers (Manacorda et al., 2011; Pop-Eleches and Pop-Eleches, 2012; De La O, 2013; Labonne, 2013), redistributive policies (e.g. Caprettini et al. 2022), program enforcement (Brollo et al., 2020), infrastructure projects (Voigtländer and Voth, 2022), or from policies specifically designed to face natural disasters and pandemics (Healy and Malhotra, 2009; Campbell, 2012; Bol et al., 2021).[3] Yet whether government-sponsored transfer can lead to higher support during an economic crisis remains an open question. If some policies have this political power, then governments might increase spending to generate support, further deteriorating fiscal balances but allowing them to stay in power.

Our contribution to the economic voting literature is twofold. First, we study whether a large public health policy can increase government support. Recent studies have shown increased political engagement among eligible beneficiaries after the expansion of Medicaid in the U.S. (Haselswerdt, 2017; Clinton and Sances, 2018; Baicker and Finkelstein, 2019). Yet public health policies

---

[3]Related literatures focus on the strategic allocation of government spending with the purpose of increasing political support (Levitt and Snyder, 1995; Hodler and Raschky, 2014; Corvalan et al., 2018) and how electoral incentives shape the design and implementation of policies (Besley and Case, 1995; Lizzeri and Persico, 2001).

have been mostly ignored as a source of increased government support, and particularly so during times of crisis. Health is a common and persistent concern among the population, regardless of party affiliation. As such, successful public health policies have the potential to generate a much stronger government. Second, we provide evidence of the interaction between macroeconomic conditions and government policies alleviating the associated economic problems. Our context is particularly well-suited to study the relation between the micro- and the macro-economy as both the crisis and the in-kind transfers are among the largest in the world. In contrast to previous literature, the economic downturn in our case was precisely generated by the higher spending.[4]

We also contribute to the evaluation of nationwide and universal policies. Rigorous evaluations based on experimental or quasi-experimental designs have become an important part of economics in recent decades (Angrist and Pischke, 2010). Yet technical and managerial difficulties in scaling-up policies, together with sometimes difficult-to-predict general equilibrium effects (Muralidharan and Niehaus, 2017), have led researchers to perform experiments at scale (e.g. Egger et al. 2022; Banerjee et al. 2023) and to evaluations that do not rely on the use of experimental variation (e.g. Cengiz et al. 2019). We contribute to this literature by quasi-experimentally evaluating the direct and indirect political effects of a nationwide and universal program in a developing-country context. Documenting how a policy impacts outcomes explicitly related to its goals, together with how the political equilibrium changes at the same time, is important but rare.[5] As politically profitable policies are more likely to be implemented (Finan and Mazzocoo, 2021), it is crucial to know which ones have political returns and if these are effective in sustaining a government. Incumbent parties might push for politically profitable policies with welfare-decreasing general equilibrium effects which are hard to perceive by the general public (Dal Bó et al., 2018). Opposition parties can prevent welfare-improving universal policies to be implemented to avoid lagging behind in the political competition. Our study exemplifies the strength of these forces in general, and how expensive but successful health policies can sustain government support in particular.

Health policies are particularly relevant in current worldwide debates. Diverse policies have been proposed to control population growth, improve nutrition, decrease the price of pharmaceuticals, reduce drug addictions, and improve mental health, among others (The Lancet, 2022; Atal et al., 2024). Our contribution is to evaluate a universal health policy battling a leading concern in public health during the twentieth century. Previous research studying the decline in infant

---

[4]The analysis of policies benefitting the population and subsequent changes in voting behavior is also related to the literature on clientelism (Hicken, 2011). Voters could have supported the UP government to reciprocate for the transfers received (Finan and Schechter, 2012), particularly the most vulnerable (Bobonis et al., 2022). However, the policy we study is universal rather than targeted, and we show that it is unaffected by existing political preferences.

[5]An exception is Atal et al. (2024), who show the impacts that newly opened public pharmacies have on local pharmaceutical markets, together with the political effects on incumbent mayors running for reelection.

mortality over the same period has shown the importance of water and sewerage infrastructure, improvements in health services, and information campaigns, among others (Alsan and Goldin, 2019; Anderson et al., 2020; Altindag et al., 2023). Nutrition programs are recognized as important for mortality, but there is less emphasis on *infant* nutrition policies sponsored by the state.[6] We also contribute to the literature studying the long-run effects of nutrition programs (e.g. Lundborg et al. 2022) by showing the long-run benefits of milk early in life in a developing country context.

2   The Chilean Road to Socialism

Salvador Allende was elected president of Chile in September 1970 with 36.6% of the vote. It was the fourth attempt of the prominent figure from the Socialist Party to become country leader. His victory took place in a context of growing demands for redistribution and was made possible by the support of a broad left-wing coalition named Popular Unity (UP). The left's policy platform was crafted to satisfy the redistributive demands arising from a growing middle class, explicitly planning to transition towards a socialist state (Popular Unity, 1969). The democratic plan for the transition stood in stark contrast to other armed processes in the continent, paving the way to what became known as "la via chilena" or the "chilean way." The socialist experience was, however, short-lived. After little more than one thousand days in office, Chile's road to socialism came to an end after a military coup in September of 1973 that lead to a seventeen-year dictatorship.

2.1   Economic policy during the socialist years

The economic policy of the UP was designed by technocrats based on a diagnosis about the state of the economy in the 1960s. The proposed policies that followed were expected to improve the lives of the working class and support a transition towards socialism. When studying the leading companies and markets, left-wing economists argued for widespread "excess capacity" in the economy—i.e. firms produced less than their potential—which they explained by the prevalence of monopolistic industries and an unequal income distribution.[7] This diagnosis incentivized the development of an economic strategy based on higher spending and price controls to prevent in-

---

[6]In Chile, researchers have explained the decline in infant mortality with common factors (e.g. access to clean water) and also with the milk program as a successful infant nutrition program (Castañeda, 1996; Llorca-Jaña et al., 2021). Earlier evaluations used crude trend breaks or comparisons across large administrative units (i.e. regions).

[7]More details about the technical diagnosis, excess capacity, and the macroeconomic policy of the 1970-1973 years can be found in Dornbusch and Edwards (1990), Larrain and Meller (1991), and Edwards (2023a).

flation.[8] The higher spending allowed the UP to increase land expropriations in the context of the agrarian reform, to acquire control of banks and firms in strategic industries, and to create and expand social programs that benefited the low-income working class. Importantly, the higher spending was largely financed with an increase in the money supply and domestic credit.

As a consequence of the UP's economic policy, the first year of the Salvador Allende government was characterized by high real wages and increased economic activity. Panels A-C in Figure 1 show that gross domestic product, industrial activity, and real wages increased markedly in 1971, even when compared to the previous Christian Democrat government (1964-70). Inflation was initially low, but the economy struggled to keep up with the increase in the aggregate demand and inflation began to rapidly increase, reaching three-digit levels in late 1972 (Edwards, 2023b). Economic growth, industrial activity, and real wages all declined steeply from 1972 until September 1973. The government attempted but failed to correct its policies and the associated negative consequences. Long daily queues to acquire basic products and black markets spread throughout the country in the second half of 1972. Figure 1-D uses the Hamuy surveys to show that most people experienced the scarcity of basic goods in late 1972 (Appendix A.2 describes the data). Heated discussions accompanied the poor economic performance. On the one hand, the opposition blamed left-wing policies and radicals. On the other hand, the incumbent government pointed to the lack of cooperation by the opposition and anti-government actions financed by foreign nations.[9]

Many factors contributed to making the Salvador Allende government to be arguably the most polarized years in the country's history, and scholars have long debated about the causes (Nef, 1983; Oppenheim, 1989). Among the many factors discussed, we find the controversial nationalization program, the deteriorating economic conditions, conflicts within the left-wing coalition, the institutional constraints that regulated non-majority governments, and foreign interventions in the context of the Cold War (Sigmund, 1977; Boorstein, 1977; Valenzuela, 1979; Haslam, 2005).[10] Although the effect of foreign interventions remains debated (Sigmund, 1974; Aldunate et al., 2022), the relationship between a worsening economy and conflict is well documented around the world (Ray and Esteban, 2017). Protests, strikes, and discontent became more common, particularly among conservative groups (Power, 2002) but also among workers (Mansuy, 2023). The

---

[8]The nationalization of banks and firms also required legislative work. The Congress unanimously approved a reform in 1971 that allowed the government to nationalize large copper mines. The legislation used to acquire control of firms was from previous decades, much more controversial, and the opposition actively tried to limit this process.

[9]The US provided seven million dollars to opposition parties in Chile to explicitly decrease government support (U.S. Senate, 1975). The impact of US funding in Allende's Chile is a source of debate among scholars.

[10]Recent evidence shows how pressures from left-wing radicals increases the intensity of land expropriations in the context of the agrarian reform and contributed to conflict in the countryside (González and Vial, 2021). In a visit to Chile, Fidel Castro also complained about "Allende's reluctance to become more radical" (Davis, 1985, p. 44).

government appointed military officers as state secretaries in an attempt to control the discontent. Yet polarization, social tensions, and poor economic conditions never left the scene.

2.2 The 1973 election

The UP government faced two national elections. Electoral results reveal that government support remained strong. Local elections in April 1971 were held during the economic boom caused by the initial higher spending. Candidates running under parties which formed the UP coalition obtained close to 50% of the vote. The congress election was held in March 1973 when the economy was crumbling and most people were experiencing scarcity of basic goods and decreases in purchasing power. The government competed against the opposition coalition Confederation for Democracy (CODE). Surprisingly for many, the UP obtained a robust 44% of the vote, preventing the opposition to impeach Salvador Allende (Fermandois, 2013, p. 598). Although support was robust, the Hamuy surveys reveal an increase in disapproval from 19 to 31%. Panel E in Figure 1 aggregates all elections and large political surveys to show that, despite the changing economic conditions, the support for the left-wing government remained strong throughout the 1970-1973 period.

Politicians of the time recognized how crucial the 1973 election was, as it was widely perceived as a referendum about the UP government. Eduardo Frei Montalva, former president and leader of the opposition, claimed before the vote that "This election will define Chile's destiny for many years [...] This election is a plebiscite" (Dooner, 1985, p. 135). The front-page headline of a popular newspaper read: "Chile: A Big Referendum / Citizens evaluate the Marxist government." Historians also emphasize the importance of this election: "[The] congressional elections were widely considered as having the power to decide whether Chile's future would be shaped by democracy, dictatorship (on the left or the right), or a civil war." (Harmer, 2011, p. 202). The CODE expected high political support, with one of their leaders predicting they would get "more than 70 percent of the vote" (Amoros, 2013, p. 218).[11] The electoral result felt like a victory as "Allende and his government retained significant popular support" (Mansuy, 2023).

How did the UP government remain popular despite their poor economic performance? The most common explanation resorts to political ideology (and thus preferences) as being stable and unlikely to respond to prevailing economic conditions.[12] In contrast to previous work, we contend

---

[11]International observers were more cautious: "The CIA pessimistically saw 'little prospect of a conclusive [election] outcome,' suggesting instead that the UP would probably win 38 percent. U.S. officials were therefore shocked and 'disappointed' when the UP won 43-39 percent of the vote..." (Harmer, 2011, p. 205). Moreover, U.S. onlookers were surprised by "the relative insignificance that Chile's economic difficulties had on the election results" (Harmer, 2011, p.218) and "the U.S. Government re-assessed its objectives" (U.S. Senate, 1975, p. 30).

[12]"Despite the economic crisis in Chile, the [1973] election also demonstrated that ideology and class rather than

that social programs benefiting the working class were key to maintain government support. Observers of the time had already emphasized the importance of material conditions of low-income households: "[Ambassador Davis] wrote to Washington that the poorest half of the population was 'materially better off' under the UP" (Harmer, 2011, p. 205). Beatriz Allende, the president's daughter and advisor, reflected that the support was explained because "[Chileans] know about the most simple and quotidian facts, so vital for Chilean families such as...[receiving] half a litre of milk daily" (Harmer, 2020, p. 178). Some historians also suggest that social benefits were important: "[benefits delivered to the working class] were an important component of the UP support" (Fermandois, 2013, p. 735). We examine one of the most important social programs of the time.

2.3 The Milk Program

We study Salvador Allende's milk program, one of the most salient and important policies of the UP government (Frens-String, 2021).[13] The chilean state began to deliver free milk to infants, preschoolers, and pregnant women in 1954 under the National Complementary Food Program (PNAC). Women from the elite delivered free milk in low-income neighborhoods since at least the 1910s (Ministry of Health, 2010). The decrease in infant mortality among the populations targeted by the private programs motivated the state to institutionalize the delivery of free milk (González and Infante, 1980; Illanes, 2007). The first public efforts in 1924 were limited, as free milk was delivered only to infants of insured working mothers. The coverage extended in 1937 to spouses of insured workers, but beneficiaries remained few relative to the population. After the creation of the National Health Service in 1952, the program officially expanded to include preschool children and began to receive more funding from social security (Hakim and Solimano, 1976).

The milk program was embraced by all candidates in the 1970 presidential election and featured prominently in many of Salvador Allende's speeches.[14] After his victory, Allende placed the scheme at the heart of his social platform, made it a top priority, and rebranded it as "Half Litre of Milk" to be explicit about the goal of giving *all* children half litre of milk per day. The first important change under Allende was that the program was no longer restricted to beneficiaries of the National Health Service. Second, the government invested significantly more resources in the

economic factors shaped political loyalties." (Harmer, 2020, p. 200). See also Navia and Osorio (2015b), who reaches a similar conclusion using the Hamuy surveys to study vote intention in a multivariate regression analysis.

[13]Nutrition and infant mortality were top priorities at the time. Panel (a) in Figure A.2 uses data from the United Nations to track the relative performance of Chile in terms of infant mortality. Between 1960 and 1980, Chile was able to close the gap with the United States, reaching less than 40 deaths per 1,000 births in 1980.

[14]Dr. Fernando Mönckeberg, founder of the Institute for Nutrition and Food Technology in Chile, recalls that his team approached all three candidates to convince them to explicitly include and promote a milk program. He states that "Allende understood it better [. . .] I think he was elected because of it." (Goldsmith Weil, 2019, p. 114)

implementation of the program. Resources were allocated to develop the milk industry and buy domestically. And third, informational campaigns increased in intensity to persuade mothers about the nutritional benefits of milk. Pamphlets were massively distributed and nurses from local hospitals actively engaged in door-to-door recruitment of beneficiaries (Goldsmith Weil, 2019).[15] In all, approximately 1500 million litres of milk were consumed in Chile in 1971, 900 of which were produced locally and 600 imported. The program continued being implemented after 1973 in a similar fashion regardless of the remarkably different political conditions (Goldsmith Weil, 2018).

Empirical evaluations of the milk program consistently find it to be a successful policy. Most evidence comes from surveys and compare recipients and non-recipients. Three conclusions are worth mentioning for the purposes of this study. First, the initial goal was to reach more than 85% of eligible beneficiaries, a number that was reached in 1972 among low- and middle-income families (Hakim and Solimano, 1976, p. 194). Recipients came disproportionately from low-income families, precisely where malnutrition was more prevalent (Torche 1985, Figure A.1).[16] Second, the milk that parents collected at the hospital was consumed by infants and preschoolers, not sold in a secondary market. Multivariate regression analysis using data from the early 1970s reveal that protein intake increased during breakfast among 5-23 month old infant recipients when compared to same-age non-recipients (Harbert and Scandizzo, 1985, p. 227).[17] And third, milk distribution is unlikely to have crowded out breastfeeding. Breastfeeding rates were high before the first month (Mardones-Santander, 1979, p. 6), but weaning was widespread afterwards, a common practice since at least the 1940s (Hakim and Solimano, 1976, p. 197). Figure A.3 shows breastfeeding rates per child age in 1970s Chile. As mothers usually preferred breastfeeding when possible, we expect the milk program to have higher benefits for children older than 6 months.

3 Data Construction

This section describes the data sources used in the empirical analysis and provides descriptive statistics. During the period we study, Chile was administratively divided into 335 municipalities, each located in one of 25 provinces and governed by democratically elected local leaders.

---

[15]The milk program also expanded to include 7-14 year old children. However, the delivery of milk to this population was not through the hospitals we study but rather at schools through a state educational institution (JUNAEB).

[16]Evaluations of the milk program supervised by the University of Chile show that by 1971 the take-up rate among low-income families was higher than 95% and persistent in the city capital (Harbert and Scandizzo, 1985, p. 221).

[17]Their analysis is based on data from the National Nutrition Survey, conducted in 1974 by the Nutrition Division of the National Health Service. The sample of 1,600 families is representative of urban and rural areas in the country.

3.1 Milk distribution and mortality

The National Health Service (NHS), institution operating under the umbrella of the Ministry of Public Health, was in charge of implementing health policies in the 1960s and during the UP years. The NHS worked in cooperation with local health facilities to reach beneficiaries spread throughout the country. The country was divided into 55 health areas which operated 247 hospitals and 947 health centers in 1970 (INE, 1970, p.197). Hospitals promoted and protected people's health by providing medical care to individuals. Other health facilities provided more specialized healthcare and had fewer resources, but also helped to distribute milk throughout the country.

We can quantitatively track the delivery of state-sponsored milk using administrative data published by the National Statistics Bureau (INE). Two annual reports are particularly useful, both part of the annual Health Statistics volume produced in collaboration with the National Health Service. These volumes report data at three levels of aggregation: province, area, and health facility. The first report is known as "Resources and Health Care" (Tomo I) and tracks the number of health care visits by type of healthcare worker (e.g. nurse) and patient (e.g. adult), the total number of workers (e.g. physicians), the number of hours worked by type of worker, the number of households with access to clean water (by area) and, crucially, the amount of powdered milk distributed (in kilograms). These data was published every year since 1965. We digitized the hospital-level data for the 1968-1975 period. The second report is known as "Hospital Discharges" (Tomo II) and reports the total number of discharges, including deaths, by hospital and year. Importantly, deaths are reported in the following age brackets: less than 28 days alive, 28 days to 11 months, 1-4 years old, 5-9, 10-14, and older brackets. We digitized these data for the same 1968-1975 period. We can connect both reports using hospital-level information, which gives us a total of approximately 140 hospitals with information on milk distribution and deaths per year between 1968 and 1975.

Panels A and B in Table 1 present summary statistics for the main variables used in our analysis. The former describes the 55 health areas and the latter 132 hospitals in the final dataset for 1971. The average health area distributed 351 tons of powdered milk (3 million litres) in 1971, a significant increase from the 231 tons (1.8 million litres) distributed in 1970. Hospitals distributed an average of 90 tons of powdered milk and there were three hospitals per area. The hospital mortality rate of 0-4 year old was 1.3 per 1,000 total discharges. Physicians worked a total of 90.6 hours a day in the average hospital, i.e. the equivalent of 10 physicians working 9.6 hours per day.

3.2 Vote shares, enfranchisement, and coalitions

We collected and harmonized voting data collected by the Electoral Service, Chile's official state agency in charge of elections. In particular, we collected electoral outcomes by municipality and political party for all elections from 1961 until 1973: Congress (1961, 1965, 1969, and 1973), Local (1963, 1967, 1971), and Presidential (1964, 1970). This information is currently stored in physical books in the state office in the country's capital, and we digitized it for the purposes of the study. Our main interest is on the vote share of the UP, coalition officially formed in December of 1969 and led by the Communist Party (PC) and the Socialist Party (PS). Other left-wing parties joined the coalition in the same year but leave it before 1973, and some smaller parties joined in 1971. To avoid confounding the dynamic nature of the coalition, we always study the vote shares of the Communist and Socialist parties and refer to this variable as "Left-wing vote share."

Everyone who was at least 21 years old and literate was eligible to vote in the 1960s. Registration was voluntary but turnout was mandatory conditional on registration, which implies that registration and turnout are almost perfectly correlated. Women were given the right to vote in local elections in 1935, in congress elections in 1951, and presidential elections 1952. Secret ballot was introduced in 1958 (Baland and Robinson, 2008) and since then elections were free and competitive until 1973. Although few electoral changes took place in the 1960s, one enfranchisement law was enacted in January 1970 by the centre government of Eduardo Frei (1964-170). The law made voting universal as it allowed illiterate people (11 percent of the population) and those who were 18-20 years old (3 percent of the population) to vote for the first time. Our empirical analysis assesses and accounts for the role of these changes in driving turnout and UP political support.[18]

The main dataset we use is a panel dataset with municipality-level information on vote shares and turnout. After accounting for some changes in the number of municipalities over time, we are able to track 301 municipalities in every election year from 1961 until 1973. To construct turnout by election and municipality, we divide the total number of valid votes in the corresponding year by the adult population revealed by the 1970 census.[19] Panel C in Table 1 presents descriptive statistics for main variables of interest. We present the mean, median, and standard deviation. Importantly, the vote shares of the UP in 1971 and 1973, together with Salvador Allende's vote share in 1970, show that we are able to capture that main political trends of this period. In particular, we observe an increase in the political support for the left-wing between 1970 and 1971 during the economic

---

[18]Another change took place in December of 1969 which allowed blind people to vote for the first time. However, this change enfranchised a significantly smaller part of the population and is unlikely to affect our analysis.

[19]We purposely avoid variation in the denominator to capture changes in the number of adults who decided to vote instead of within country migration patterns. We assess the role of internal migration in section 5.2.

boom, and a smaller decrease in political support between 1971 and 1973. Similarly, we capture the increase in turnout from 1969 (46 percent) to 1970 (55) to 1973 (68). The former is driven by the enfranchisement of 18-20 years old and the latter by the vote of illiterates who could only exert their right to vote after the procedure was detailed in early 1972 (Law 17626).

3.3 Milk beneficiaries and the local population

According to the 1970 Housing and Population Census, Chile had close to 9 million inhabitants in 1970, 75% living in urban areas and 25% in rural areas. Although the individual-level data for this census is not available, the National Statistics Bureau published several volumes with municipality-level information, all originally constructed from the individual-level data. We digitized information from these volumes to characterize the 301 municipalities in our dataset.

The 1970 census was conducted in April and it allows us to track the location of milk beneficiaries immediately before Allende rose to power.[20] We can also track the adult population who is eligible to vote. We measure the exposure of a municipality to the milk program by the share of the population younger than 4 years old and call this variable "Eligible beneficiaries." The universality of the program allows us to use the census to track beneficiaries. Although older children were also eligible, the variation we capture is precisely what we are after because children younger than 4 years old acquired the milk in hospitals. In contrast, children older than 4 years old were likely to be enrolled in primary school and thus accessed the program through schools. Table 1 shows that the average municipality had 13% of beneficiaries. We proxy for adults who can vote in the municipality by subtracting the population younger than 15 years old to the total population. Almost two-thirds of the average local population (15,000 of 25,000) were adults.

4 The Milk Program Under the UP Government

This section describes quantitatively the milk program under the UP government. We present two findings that highlight the scale, importance, and non-partisan aspect of this policy. First, the distribution of milk followed eligible beneficiaries closely and was not distorted by existing political support for the UP government. Second, the milk distributed helped to decrease children hospital mortality significantly, particularly among children between 1 month and 1 year of age.

---

[20]Comprehensive data on milk *recipients* is unavailable. We can recover the share of beneficiaries who received milk (i.e. recipients) per municipality by assuming how the milk distributed in a given hospital serves the surrounding municipalities. The result is likely to be imperfect as there are no geographic restrictions to the use of health facilities.

4.1 Program implementation

Two pillars of our analysis are the increase in milk distributed after the UP rose to power and the absence of a partisan distribution. This is, we argue that milk was distributed to satisfy the nutritional needs of children and *not* to benefit UP supporters or persuade opposition voters. Although the increase in milk distributed has been previously documented (e.g. Hakim and Solimano 1976), there is a lack of systematic evidence testing how partisan the actual distribution was. Some contemporaneous perceptions expressed in unstructured interviews give rise to the hypothesis that milk disproportionally benefited certain groups. Indeed, Goldsmith Weil (2019, p. 115) documents that beneficiaries refused the milk because it was "Allende's milk," "communist milk," "milk from the CIA," "poor people's milk," and some claimed that "[The milk] was not distributed to everyone, [it reached] left-wing supports." We show that political preferences were unrelated to distribution.

Table 1 shows that the total amount of milk distributed from 1970 to 1971 increased by more than 50 percent. Importantly, this increase is strictly based on distribution through hospitals, and it does not cover the increase in distribution through schools. Figure A.4 shows the amount of milk distributed through hospitals to 0-4 year old children. Based on the policy description (SNS, 1972), we know that the government's goal was to deliver 3 kilos of powdered milk each month to children younger than 6 months old (5 cups per day), 2 kilos to children between 6 months and 2 years old (3.3 cups per day), and 1.5 kilos to children between 2 and 6 years old (2.5 cups). Combining the number of children between 0 and 4 years old and the amount of kilos distributed, we calculate that the program delivered 21 kilos per child per year (2.9 cups per day). Given that most children consumed powdered milk, the program can be interpreted as a subsidy to household income for new recipients. In fact, the in-kind transfer was equivalent to 26 USD monthly today, 5 percent of the minimum wage, or approximately a 10 percent increase in household per capita income for the average family in 1970 (Harbert and Scandizzo, 1985, p. 232). Based on fiscal accounts and cost estimates by Hakim and Solimano (1976), we calculate that the milk program contributed to increase the fiscal deficit by 13 percent (0.6 percentage points) in 1972 (Table A.1).

To study milk distribution, we use our hospital-level dataset. Table 2 shows that milk followed beneficiaries and was orthogonal to existing political preferences as measured by vote shares in the 1970 presidential election. Panel A shows the results from cross-sectional regression using as dependent the amount of milk distributed in 1971 in each of the 55 health areas across the country. As predictors, we use the total number of milk beneficiaries in the same area, Salvador Allende's vote share in 1970, and the following covariates measured in 1970: percentage of people living in rural areas, (log) distance to regional capital, number of houses per capita, illiteracy, percentage of the population with more than 8 years of education, and (log) population. We find that the number

14

of milk beneficiaries locally is by far the best predictor of distribution, except for the expected case of 5-14 years old (column 5) who received milk at schools. The table also presents *p*-values that reject the joint statistical significance of all predictors different from beneficiaries. Panel B repeats the prediction exercise but now using the 178 municipalities with a hospital, showing results with (even columns) and without (odd) fixed effects by area. The estimated coefficients again reveal that the only strong predictor of distribution is the location of beneficiaries.

4.2   Infant mortality

The milk program has been hypothesized to have decreased infant mortality (e.g. Castañeda 1996).[21] Given the importance of other factors such as vaccination and sanitation (Fielding, 1999), it is a priori unclear how large its contribution is. We begin by showing that the distribution of milk is robustly correlated with lower mortality of 0-4 year old children. We use panel data of hospitals observed between 1968 and 1975. Data for 1972 and 1974 is unavailable, thus we rely on data for 154 hospitals in 6 years for more than 800 observations. Econometrically, we estimate:

$$y_{jkt} \;\; = \;\; \beta m_{jt} + \delta x_{jt} + \xi_j + \xi_t + \nu_{jkt} \tag{1}$$

where y_{jkt} is the hyperbolic sine transformation of the total number of 0-4 year old children who died in the hospital over 1,000 consultations in hospital j located in area k in year t, i.e. children hospital mortality rate. The main right-hand side variable of interest is m_{jt}, the (log) total amount of milk distributed by hospital and year. In addition, x_{jt} controls for hospital inputs using the number of hours worked by physicians, and (ξ_j, ξ_t) are hospital and year fixed effects. We allow the error term to be arbitrarily correlated within hospitals over time. The main parameter of interest is β, which captures the elasticity of hospital children mortality to the amount of milk distributed.

Table 3 presents estimates of equation (1). Column 1 in panel A reveals a statistically significant elasticity of −0.06. We obtain similar results in column 2 when replacing the year fixed effects ξ_t by the more granular area-by-year fixed effects ξ_{kt}. The estimate is also unchanged in column 3 after accounting for a proxy of hospital inputs. These results are similar when using the amount of milk distributed per child (panel B) and with or without the use of weights to account for hospital size (Table A.2). Importantly, we do *not* observe this negative correlation with deaths of older children, when milk is distributed through schools and the nutritional contribution of the program is lower. We provide evidence of causality by exploiting the non-linear impact of milk on infant

---

[21]However, researchers recognized the difficulty of carrying out a rigorous evaluation. As noted by Hakim and Solimano (1976, p. 197): "the contribution of the milk program to that decline cannot be identified or separated from the effects of improved health and sanitation conditions, increased per capita income, better educational levels, etc. "

mortality. The share of protein requirements covered by the program (s_i) at age i can be written as:

$$s_i \equiv (1 - b_i)\frac{m_i}{p_i} \tag{2}$$

where b_i is the breastfeeding rate, m_i the proteins given by the milk program, and p_i the protein requirements of child age i. Breastfeeding declined rapidly with age, as Figure A.3 shows.[22] The amount of milk given by the program decreased slightly with age and protein requirements increase with age. Therefore, the program covers the higher amount of protein requirements among children who are older than 1 month old and younger than four years old, as panel (a) in Figure 2 shows. Consistent with the nutritional value of the program across different ages, panel (b) shows that the distribution of milk decreases mortality the most precisely in the group that benefits the most. The results are similar using per capita measures and with our without using weights (Figure A.5).

We calculate that the milk program was responsible for 23% of the decline in infant mortality between 1970 and 1973. We combine the estimates in panel B of Figure 2 with synthetic control estimates in Figure A.2. The latter shows that infant mortality in Chile declined from 81 to 68 per 1,000 births, while the synthetic control declined from 81 to 78. Thus, the Allende government contributed with 10 fewer deaths per 1,000 births. If there were to be 10,000 infant deaths in a given year, the UP government prevented 1,300 deaths (10/78 = 13%). Using the estimated elasticity of −0.06, noting that hospital infant mortality is 50% of total infant mortality according to estimates by the United Nations for Chile, and assuming the absence of spillovers, we calculate that the distribution of milk decreased infant deaths from 5,000 to 4,700 per year. This is, 300 of the 1,300 fewer deaths (23%) during the UP years can be attributed to the milk program.

5 Political Support in the 1973 Election

This section shows that the milk program increased government support in 1973. A strong correlation between the share of milk beneficiaries in the local population and left-wing vote share in 1973, together with the lack of a correlation in previous years, motivate us to use a difference-in-differences design. To support a causal interpretation, we use robustness checks that control for threats and alternative explanations. We also use two alternative estimation strategies, one based on matching and another exploiting plausibly exogenous variation from a family planning program.

---

[22]Despite leading to lower infant mortality (Plank and Milanesi, 1973), breastfeeding rates were low *and* declining. Mardones-Santander (1979) argues that these patterns are explained by urbanization, improved socioeconomic status, greater work opportunities for women, widespread knowledge about artificial feeding methods, the role of mass media in promoting artificial formulas, and the poor nutrition of pregnant mothers which reduces adequate lactation.

Milk beneficiaries and government support are strongly and robustly correlated in 1973 but *not* before. Panel A in Table 4 presents cross-sectional evidence showing that the share of milk beneficiaries is a strong predictor of political support for the left-wing in 1973. More precisely, a one standard deviation increase in the share of milk beneficiaries (600 children) is associated with two percentage points higher support for the government (200 votes, columns 1-5) but it is unrelated to local participation in the election (column 6). This correlation remains after controlling for vote shares in the 1970 election, after including fixed effects by province (25) or health areas (55), and after accounting for a wide range of local socioeconomic characteristics and geographic differences. Panel B further shows that the share of milk beneficiaries is unrelated to vote shares and turnout in all elections between 1965 and 1971 when the program was smaller. Why are places with more milk beneficiaries voting significantly more for the left-wing coalition only in 1973 and not before? We argue empirically that the milk program and the economic crisis were key.

5.1 Difference-in-differences results

Cross-sectional evidence is subject to omitted variable bias and it is thus hard to interpret causally. However, the strong and robust correlation between milk beneficiaries and support in 1973 (and not before) motivates a difference-in-differences strategy. To exploit within municipality variation over time, we focus on Congress Elections held in 1961, 1965, 1969, and 1973. The advantage of this design is that it allows us to control for unobservables which are fixed over time by using municipality fixed effects. We estimate the following econometric specification:

$$V_{it} \quad = \quad \sum_{k=1961}^{1973} \beta_k \left[D_k \times T_i \right] + \phi_i + \phi_t + \eta_{it} \tag{3}$$

where V_{it} is the left-wing vote share in municipality i in election t. The indicators D_k take the value of one for each election year ($k = 1961, \ldots, 1973$) using $k = 1969$ as the comparison year, and T_i is again the share of milk beneficiaries in the population. We include both municipality (ϕ_i) and election (ϕ_t) fixed effects, allowing standard errors η_{it} to be correlated within municipality over time.[23] We estimate this equation using the size of the local population in 1970 as weights. To facilitate the interpretation of estimates, we always standardize T_i. In addition, the dependent variable needs a left-wing coalition that is stable over time. To avoid imposing unnecessary political structure, we use insights from the historical context and employ the share of votes obtained by the socialist and communist parties, the core of the UP coalition, as our main dependent variable.

---

[23]All results are statistically similar when using standard errors clustered by province, area, or when allowing errors to be spatially correlated (Conley, 1999). For simplicity, we only present standard errors clustered by municipality.

To interpret β_{1973} as the causal effect of exposure to the milk program, we require a parallel trends assumption. In particular, we need to assume the absence of other programs implemented between 1970 and 1973 that (i) targeted populations correlated with the universe of children and (ii) increased government support. If this assumption is met, then $\widehat{\beta}_{1973}$ can be interpreted as the intention-to-treat (ITT) of the milk program. To recover the average treatment effect (ATE) of the program, we need to scale $\widehat{\beta}_{1973}$ by the average take-up rate of the program.[24] Previous research suggests that the average take-up rate was close to 80 percent (Harbert and Scandizzo, 1985). We provide a battery of empirical evidence suggesting that the identification assumptions hold.

Panel (a) in Figure 3 presents estimates of equation (3). The estimated coefficients confirm that the share of milk beneficiaries locally was unrelated to changes in vote shares for the socialist and communist parties before the UP government. The absence of a trend in left-wing vote shares between 1961 and 1969 in municipalities with different exposure to the program, provides some support for the parallel trends assumption. The estimate for 1973 reveals again that a one standard deviation increase in the share of milk beneficiaries is associated with 2-3 percentage points higher vote share. Panel (b) in the same figure confirms these patterns by including the vote shares form the three previous *local* elections. The positive but marginally insignificant estimate for 1971 is consistent with the beginning of the rollout of the milk program under Salvador Allende.

Table 5 presents parametric estimates of equation (3) and estimates controlling for time-varying unobserved heterogeneity with the inclusion of province-by-year (column 2) and area-by-year (column 3) fixed effects. Fixed effects by year also allow to control for other policies at the province or area levels. We also verify results after controlling for the interaction between local characteristics—population, distance to province capital, rurality, education—and an indicator for the 1973 election (column 4). Overall, we find the same increase in government support and null association with turnout (column 5). Two exercises help to understand these results better. Table A.3 shows that estimates are, if anything, larger when we use as dependent variable the UP vote share (column 1).[25] In fact, estimates are primarily driven by candidates from the socialist party, Salvador Allende's political house for decades.[26] Table A.4 shows that results are similar across places with different income levels, as measured by education and houses per capita (columns

---

[24]To identify the ATE in our difference-in-differences model with a continuous treatment, we require a strong parallel trends assumption (Callaway et al., 2021): the average change in outcomes for all units after treatment when assigned an intensity d has to be the same as the change in outcomes for units that actually experienced intensity d.

[25]The UP coalition was created after the 1969 election and was primarily composed by the socialist, communist, and radical parties. The Radical Party left the UP before the 1973 election. We reconstruct this coalition in previous years by adding the votes of candidates affiliated with the socialist, communist, and radical parties.

[26]The lack of an empirical association between milk beneficiaries and the vote share of the Christian Democratic Party (PDC) is important because the party joined right-wing parties in an opposition coalition to compete in the 1973 election. The null relationship shows that the evolving position of the PDC is *not* confounding our results.

1-4), which is consistent with the program being universal and lower-income households relying relatively more on breastfeeding (Mardones-Santander, 1979). We also fail to find heterogeneous results by distance to the closest hospital, which could be explained by the active role of nurses engaging beneficiaries or the relatively high take-up rate of the program (Goldsmith Weil, 2019).

The results presented in previous exhibits are suggestive of the importance of the milk program in generating political support for the UP government in 1973. However, the non-random location of milk beneficiaries across the country complicates a causal interpretation. The main concern is the correlation between milk beneficiaries with other observable variables. Although estimates are robust to the inclusion of several important covariates (e.g. rurality), unobservables correlated with the milk program and generating support for the UP coalition still threaten our interpretation. The following section contributes to be more confident in interpreting results as causal.

5.2 Robustness checks

The link between milk beneficiaries and the left-wing vote share in 1973 is robust to specification decisions, estimation techniques, and deviations from the identification assumption. Table A.5 shows that results are similar when using a two-period panel with the average of elections before 1970 (column 1), when using the local *adult* population as weights (column 2), or without using population weights (column 3). Potential spatial dependency across municipalities is also unlikely to confound our results: columns 4-6 in the same table include additional geographic controls capturing a possible influence of geography and, reassuringly, results remain unchanged. Another concern relates to our (arguably arbitrary) selection of controls. Reassuringly, column 7 shows that our estimates are, if anything, larger when we use a computational routine to select covariates (Belloni et al., 2014). Figure A.7 shows that results are *not* driven by specific provinces, areas, or groups of municipalities with particularly large populations or rural areas. We also selected the empirical methodology, and the context allows to follow alternative methods. Table A.6 shows similar results using five matching procedures embedded in the difference-in-differences framework. Our main interpretation also relies on the well-known parallel trends assumption. Figure A.8 uses recent techniques that allow deviations from this assumption (Dette and Schumann, 2022; Roth, 2022; Rambachan and Roth, 2023) and shows that our conclusion remain the same.

The causal interpretation of our results is threatened by potential omitted variables. We worry about variables correlated with beneficiaries and vote shares during the UP period. Two concerns are particularly important to discuss. First, state and non-state capacity might differ in remote locations, affecting vote shares and the UP implementation of the milk program. Historians suggest that this is unlikely to be a concern because the milk program entailed a tremendous state effort

to reach beneficiaries regardless of their location: "[the milk program was] effectively the first extension of the modern state, only later followed by infrastructure" (Goldsmith Weil, 2017, p. 94). Consistent with these documented efforts from the state, Table A.7 shows that results are similar when controlling for proxies of state and non-state capacity (columns 1-3) and measures of remoteness (columns 4-7). Second, the share of milk beneficiaries is likely to be correlated with the age structure of the local population. In particular, municipalities with younger adults are likely to have more children *and* perhaps also different political preferences. Fortunately, Figure A.6 shows that our findings remain remarkably similar when controlling for different definitions of the share of young adults (e.g. 25-30 years) in the local population and also other age groups.

Another threat is the existence of public policies which correlate with the milk program and change political preferences. In Table 6, we control for key policies and results remain robust. To facilitate the comparison of magnitudes, we standardized all policy-related variables. Column 1 uses the universe of plots expropriated by the UP to account for land reform intensity, which increased markedly after 1970 (González and Vial, 2021). Column 2 uses the mix of agricultural production, as revealed by the 1965 agricultural census, combined with national tariffs to create a measure of local protection (Cuesta et al., 2015). Columns 3-4 control for the share of workers in mining and agriculture. By controlling for the local intensity of the most relevant industries, we capture both the local effect of policies targeting these sectors and income-effects arising from movements in international prices.[27] Column 5 adds the distance to the closest university campus to control for the college expansion during the socialist years (Bautista et al., 2023a). Column 6 includes the share of illiterate adults in the analysis to capture their enfranchisement after 1972. Local illiteracy is positive correlated with UP support, but the coefficient is small and statistically insignificant. Lastly, column 7 uses the local change in local rurality between 1960 and 1970 to capture the rural-urban migration process that took place over these years (Cousiño, 2001).

Finally, an instrumental variables estimation exploiting a large family planning program further supports a causal interpretation. Fertility programs were seen as key to fight population growth and illegal abortions, the latter considered "the most prevalent method of birth control" by the country's medical profession (Viel, 1967, p. 286).[28] Given our interest in 1970, we exploit the part of the program that was funded by the Rockefeller foundation since 1966. During this period, intrauterine devices (IUD) were inserted at hospitals before discharge (Viel, 1969) and the number of devices delivered increased markedly both in the capital and elsewhere (Requena et al., 1968, p. 195). By

---

[27]State revenues in Chile are heavily dependant on the international price of copper, particularly during the second half of the twentieth century. The price of copper was high during the 1960s but it collapsed in 1971.

[28]Family planning programs were a collaboration between the Chilean Association for Family Protection and the National Health Service. Initial funds came from the Population Division of Harvard University (Viel, 1967, p. 289).

1967 more than 230,000 women—15% of women in fertile age—accessed IUDs free of charge. We use the distance to the nearest hospital delivering IUDs as a source of plausibly exogenous variation in access to free contraceptives. Column 1 in Table 7 shows the strong positive relationships between distance to the nearest hospital delivering IUDs and the share of milk beneficiaries in 1970. Proximity to these hospitals decreases the number of children in 1970, even after controlling by distance to other health facilities.[29] The remaining columns present two-stage estimates. We find that all estimates are similar to the ones we obtained using the difference-in-differences design. In particular, columns 2-4 show a positive relation between milk beneficiaries and left-wing support in 1973, and columns 5-7 show that beneficiaries are unrelated to turnout.

5.3 The local experience of the crisis

How do transfers interact with the economic crisis? There are at least three possibilities. First, citizens perceive the crisis as unrelated to government performance. Under this view, the political power of transfers is likely to be larger in places where the crisis was more severe, as these help to alleviate 'exogenous' problems. Second, the population believes the government is to blame for the crisis. In this case, transfers are likely to be less effective because they simply mitigate 'endogenous' problems. Third, there is uncertainty about multiple sources of the crisis, the government being one of many. Our context likely falls in the latter category. In addition, previous work suggests that voters exhibit systematic attribution errors (Bagues and Esteve-Bolart, 2016), and thus probably fail to comprehend the source behind the crisis. Therefore, it is ultimately an empirical question whether the power of transfers varies systematically with crisis depth.

We provide some suggestive evidence on the relationship between the crisis and the power of transfers using local measures of the UP crisis. In areas that were hit the hardest by the crisis in 1972, local organizations were created to ration products covering basic needs (e.g. oil and sugar). These organizations, created in April of 1972 and popularly known as JAP (*Juntas de Abastecimiento y Control de Precios*), operated under the umbrella of the state and their primarily goal was to face the poor economic conditions. Long queues to purchase basic products at these JAPs led the opposition to believe that they would function as breeding ground for opposition support (Fermandois, 2013, p. 586). We argue that in provinces with more JAPs per inhabitant, the economic crisis hit the hardest. Contemporary press revealed the number of organizations in each one of the 25 provinces in the country. Figure 4 shows that, if anything, the milk program seems to have increased government support by more in places where the crisis hit the hardest.

---

[29]Hospitals delivering IUDs were a subset of all health facilities (hospitals, clinics, and others) delivering milk. These fertility results are consistent with contemporaneous medical studies showing that this family planning program decreased both fertility and illegal abortions. See Requena et al. (1968) and Viel (1969), among others.

6 Women and the Long-run

This section uses surveys and official votes by gender to show that women can explain most of the impact of the milk program on support for the left-wing coalition in 1973. We also show that the program decreased mortality and increase the likelihood on enrolling in higher education among adults observed in the 1990s and 2000s who were highly exposed to the milk program early in life.

6.1 The vote of women

Surveys conducted in the 1960s and early 1970s reveal that the milk program became significantly more important under the UP government, particularly among women. The surveys conducted by Eduardo Hamuy offer an unusually rich view of how Chileans perceived politics and policies almost in real time. Panels (a) and (b) in Figure 5 show the three most popular policies before and after Allende rose to power. The question was identical, the answer was open, and the surveys were conducted in early 1970 and late 1972 respectively. The milk program went from zero mentions to being mentioned by 11 percent of respondents. Two factors can explain the higher popularity of the program. First, infant nutrition and the milk program featured prominently in speeches during the 1970 presidential election. Milk became a cornerstone of the UP program and was featured high in the list of the "First 40 measures of the Popular government."[30] Second, the government deployed a large information campaign communicating the importance of milk. Booklets ("Why half litre of milk: Open letter to chilean mothers") were distributed for free to inform about the importance of infant nutrition. Posters of children drinking milk next to mothers featured prominently in the National Lottery advertising campaign, reaching most people in the country (Ayala, 2020; Neves, 2021). Figure A.9 show reproductions of the information campaign supporting the program.

The booklets and posters distributed under Allende exemplify the key role that women were perceived to have. Women were targeted in visual imagery because they were seen as the critical link between the infant nutrition program and children. Perhaps as a consequence of this targeting, the 1972 survey shows that women mentioned the milk program 63 percent more than men (13 vs 8%; see panel (c) in Figure 5).[31] The same survey also asked about vote intention in the upcoming congress elections. Of the 1,800 respondents, 46% said that they planned to vote for UP candidates, 38% for opposition (CODE) candidates, and 16% for others (or did not know). Panel (d) in

---

[30]Infant nutrition never ceased to be important, as evidenced by Allende's speech in late 1972: "If children do not receive the necessary protein for their development, they will develop differently than the children who did get it."

[31]Two alternative explanations are plausible. First, women were targeted more broadly in political campaigns because they had been catching up with men in terms of political participation and were perceived as crucial swing voters in elections. Second, women might be more responsive than men to policies affecting children.

Figure 5 shows UP support by gender and preferred policy. Men who mentioned the milk program intended to support the UP government slightly less than other men (44 vs 49%). However, women who mentioned the milk program planned to support UP candidates significantly more than other women (54 vs 42%). This suggestive evidence of the importance of the milk program in shaping women's political preferences motivates us to more rigorously analyze votes by gender.

The political behavior of women before and during the UP government has been previously studied by historians (Townsend, 1993; Power, 2002; Franceschet, 2005). In contrast to the gender differences observed in the U.S. and other developed countries, chilean women were significantly more conservative than men in the 1970s.[32] Existing literature about women's votes during the UP mostly agrees in that women played an important *opposition* role to the Allende government. The historically low left-wing vote share among women, their high opposition vote share in 1973, and detailed accounts of the importance of anti-UP women-led protests such as the "March of the Empty Pots" in December of 1971 (and weekly after that), are popular supporting evidence.

We evaluate the relationship between the milk program and voting patterns by gender using the same difference-in-differences design than in section 5, but now exploiting unique data with information on votes by gender. Women and men voted in separate booths before 1973, which allows us to observe vote shares by gender in each municipality in the country. We collected and digitized municipality-by-gender voting data in both the 1969 and 1973 congress election from the archives of the Electoral Service. We use votes for the communist and socialist parties in the 1969 election as the baseline and UP vote shares in 1973 as the main outcome of interest. We also examine turnout by gender. For simplicity, we estimate equation (3) separately for men and women. Nevertheless, triple differences in a joint estimation lead us to similar results.

Panel A in Table 8 presents results. Columns 1 and 2 show estimates using men's votes as dependent variable, columns 3-4 using women's votes, and odd (even) columns examine UP vote shares (turnout). The main finding is that the share of beneficiaries per municipality only predicts UP vote share significantly when we study votes in women's booths. Column 3 shows that a one standard deviation increase in the share of beneficiaries locally is associated with an increase support for the UP coalition of 3.1 percentage points, 10 percent over the sample mean. As expected, the point estimate is higher than in Table 5 because women represented little less than half of votes in our data. Importantly, the share of beneficiaries is unrelated with turnout for both men and women. To improve our understanding of these results, Table A.9 expands the main specification to include a triple interaction with an indicator for municipalities with low female vote shares for socialist and communists in 1969. The effect of interest was slightly stronger in these locations,

---

[32]Traditional explanations for the relatively conservative vote of women in Chile blame the organizational structure of left-wing parties, which were predominantly led by men with general inattention to women (Klimpel, 1962).

suggesting that the UP government likely persuaded some women who supported non-left parties.

Gender-specific results are threatened by policies correlated with the milk program which benefited women. Although all 1970 candidates promised to improve women's lives, the UP program added (unsuccessfully) the introduction of divorce, which would have disproportionally affected localities with more married women. Moreover, when in power the left-wing government increased college seats for women and extended maternity leave rights, among other policies targeting women (Townsend 1993, p. 48; Harmer 2020, p.187). To assess the potential confounding role of these policies, panel B in Table 8 repeats the estimation in panel A but now coupled with a matching strategy. Operationally, we use the share of women and the share of married women to predict an indicator for being above the median of milk beneficiaries in the cross-section of municipalities. Then, we include the predicted probability as a flexible control in the difference-in-differences strategy. Reassuringly, results are unaffected using this econometric strategy, suggesting that other policies affecting women or married women are unlikely to affect our estimates. Table A.8 shows that results are similar when using other four alternative matching estimators.

6.2 The long-run effects of the UP infant nutrition program

The large scale of the UP milk program raises the question of whether individuals were affected in the long-run. Although a variety of policies and events have been shown to have enduring impacts when experienced early in life (Currie and Vogl, 2013), the evidence for the specific case of nutrition programs is more scarce. Recent research by Lundborg et al. (2022) in Sweden shows that improved childhood nutrition in the form of free school lunches improves educational attainment and health, without long-run effects on mortality rates. We revisit this question in a developing country with a large nutrition program targeting children before their school years.

We estimate the long-run impact of the UP milk program on mortality rates using individual mortality files in the 1994-2017 period from the Ministry of Health. Motivated by recent evidence on the mortality effects of a higher education shock in the same context (González et al., 2024), we use cohort-municipality cells observed annually in the 1994-2017 period as the unit of observation, where cohort denotes the year of birth. Econometrically, we estimate the following regression:

$$Y_{cmt} = \sum_{k \in \{1961,1975\}} \beta_k \left(D_k \times H_m \right) + \phi_{mt} + \phi_{j(c,t)} + \phi_c + \varepsilon_{cmt}$$

where Y_{cmt} is the total number of deaths per 1,000 inhabitants in cohort c, in municipality m, in year t. Importantly, we iteratively adjust the denominator each year by deaths as is common in the literature (Clark and Royer, 2013). The indicator D_k is a full set of indicators that take the value

of 1 for individuals born each year between 1961 and 1975, thus including who were 0-4 years during the UP government, with 1966 as the omitted category. The treatment variable H_m is our measure of exposure to the milk program: an indicator for municipalities with a hospital delivering milk or the (log) distance to the closest of these hospitals. Crucially, we control for unobservable heterogeneity in mortality rates with fixed effects by municipality-year ϕ_{mt}, age $\phi_{j(c,t)}$, and cohort ϕ_c. We allow the error term ε_{cmt} to be correlated within municipalities. Our interest is on β, which captures the differential age-adjusted mortality rates of cohorts more exposed to the milk program.

Panel A in Figure 6 presents estimates of equation (4) using an indicator for the presence of a milk hospital and panel B using the (log) distance to the closest of these hospitals. Two patterns emerge that are consistent with a positive long-run effect of milk in early years. First, cohorts more exposed to the program under the UP exhibit lower mortality rates in the 1994-2017 period. Second, the impact of the milk program is larger for people exposed at a younger age, i.e. $\left|\widehat{\beta_t}\right| > \left|\widehat{\beta_{t'}}\right| \forall t > t' > 1967$. In terms of economic magnitude, given the average mortality of 2.1 per 1,000 people in this period, the estimates correspond to 5-10% lower mortality rate. The magnitude of estimates is similar when using the indicator or the distance to the closest milk hospital.

Panels C and D presents analogue results showing that individuals more exposed to a hospital delivering milk for infants exhibit higher rates of college enrollment in the following decades. To estimate the educational effects of the milk program, we follow a similar econometric strategy than in equation (4), but now use individual-level data from 1992-2017 National Characterization Survey. When pooling all surveys, we can analyze more than 530,000 observations. As dependent variable, we use an indicator for having enrolled in higher education, and we account for unobserved heterogeneity by using fixed effects by municipality-gender, age-gender, and cohort-gender. Individuals in municipalities with a milk hospital during the UP government have close to 1 percentage point higher probability of enrolling in higher education (panel C). The effect is similar when using the distance to the closest milk hospital (panel D). From an average of 8% of enrollment in higher education in this period, the estimate represents an increase of 13%.

7 Conclusion

Government-sponsored transfers are a powerful device to gain electoral popularity, even in times of an economic crisis disrupting daily activities of the population. In the context of the Salvador Allende government in Chile (1970-1973), we have shown that plummeting real wages and scarcity of basic goods were insufficient to decrease the political power of in-kind transfers. These transfers took the form of free milk distributed through hospitals to all children in the country, a successful public health intervention that decreased infant mortality but also partially contributed to the eco-

nomic downturn by increasing spending. Women were targeted by the policy campaign to increase take-up of the program, and they responded with additional support for the government.

Despite of the many advantages of the context we study, including the scale of the transfers and the crisis, our study has at least two limitations that are worth clarifying. First, the milk program contributed to the higher spending that triggered the crisis, but it was only one of many policies and not the main driver. The nationalization of banks and strategic firms, for example, was significantly more expensive. How much of the crisis did people attribute to the UP policies? The lack of a clear answer inevitably complicates the interpretation of our study. The population might reciprocate less with political support if they clearly link policies to a crisis. Second, the blurry tension between the benefits (infant health) and the costs (fiscal deficit) of the policy are important to stress. The large monetary costs of the policy were realized immediately, but benefits were harder to calculate and spread over the short- and long-run. By decreasing infant mortality, the program likely had immense benefits that are hard or impossible to calculate. It was also probably hard for the population to perceive all the benefits of the program. The immediate monetary value of the in-kind transfers were presumably an important part of the political power of the program.

Finally, our work opens many questions for future research studying universal policies, government support, and economic crisis. Let us sketch three sets of questions that we think are important moving forward. First, do incumbent politicians know about the political returns of different types of policies? Do politicians prioritize policies based on their cost or political effectiveness? Second, are people able to distinguish the main drivers behind an economic crisis? When a crisis hit, can people distinguish well between domestic and international drivers of a crisis? Can they ponder the role of government policies? Third, how can universal policies be designed to prevent politicians to be tempted to prioritize policies with high political returns? Careful answers to these questions would allow us to improve both public policies and the functioning of democracies.

References

Abadie, A. (2005). Semiparametric difference-in-differences estimators. *Review of Economic Studies*, 72(1):1–19.

Aldunate, F., González, F., and Prem, M. (2022). The limits of hegemony: Banks, covert actions, and foreign firms. *Working Paper*.

Alsan, M. and Goldin, C. (2019). Watersheds in child mortality: The role of effective water and sewerage infrastructure, 1880-1920. *Journal of Political Economy*, 127(2):586–638.

Altindag, O., Greve, J., and Tekin, E. (2023). Public health policy at scale: Impact of government-

sponsored information campaign on infant mortality in Denmark. *Review of Economics and Statistics*.

Amoros, M. (2013). *Allende: La Biografía*. Ediciones B.

Anderson, D. M., Brown, R., Charles, K. K., and Rees, D. I. (2020). Occupational licensing and maternal health: Evidence from early midwifery laws. *Journal of Political Economy*, 128(11):4337–4383.

Angrist, J. D. and Pischke, J.-S. (2010). The credibility revolution in empirical economics: How better research design is taking the con out of econometrics. *Journal of Economic Perspectives*, 24(2):3–30.

Atal, J. P., Cuesta, J. I., González, F., and Otero, C. (2024). The economics of the public option: Evidence from local pharmaceutical markets. *American Economic Review*.

Ayala, M. (2020). Children and print visual culture during the chilean Popular Unity government. *Journal of Latin American Cultural Studies*, 29(1):35–61.

Bader, M. B. (1976). Breast-feeding: The role of multinational corporations in Latin America. *International Journal of Health Services*, 6(4):609–626.

Bagues, M. and Esteve-Bolart, B. (2016). Politicians' luck of the draw: Evidence from the Spanish christmas lottery. *Journal of Political Economy*, 124(5):1269–1294.

Baicker, K. and Finkelstein, A. (2019). The impact of medicaid expansion on voter participation: Evidence from the Oregon health insurance experiment. *Quarterly Journal of Political Science*, 14(4):383–400.

Baland, J.-M. and Robinson, J. (2008). Land and power: Theory and evidence from Chile. *American Economic Review*, 98(5):1737–65.

Banerjee, A., Hanna, R., Olken, B. A., Satriawan, E., and Sumarto, S. (2023). Electronic food vouchers: Evidence from an at-scale experiment in Indonesia. *American Economic Review*, 113(2):514–547.

Bautista, M. A., González, F., Martínez, L., Muñoz, P., and Prem, M. (2023a). Dictatorship, higher education and social mobility. *Working Paper*.

Bautista, M. A., González, F., Martínez, L., noz, P. M., and Prem, M. (2023b). The geography of repression and opposition to autocracy. *American Journal of Political Science*, 67(1):101–118.

Belloni, A., Chernozhukov, V., and Hansen, C. (2014). Inference on treatment effects after selection among high-dimensional controls. *Review of Economic Studies*, 81:608–650.

Besley, T. and Case, A. (1995). Does electoral accountability affect economic policy choices? Evidence from gubernatorial term limits. *Quarterly Journal of Economics*, 110(3):769–798.

Bobonis, G. J., Gertler, P. J., Gonzalez-Navarro, M., and Nichter, S. (2022). Vulnerability and clientelism. *American Economic Review*, 112(11):3627–3659.

Bol, D., Giani, M., Blais, A., and Loewen, P. J. (2021). The effect of COVID-19 lockdowns on political support: Some good news for democracy? *European Journal of Political Research*, 60:497–505.

Boorstein, E. (1977). *Allende's Chile: An Inside View*. International Publishers, New York.

Brender, A. and Drazen, A. (2008). How do budget deficits and economic growth affect reelection prospects? Evidence from a large panel of countries. *American Economic Review*, 98(5):2203–2220.

Brollo, F., Kaufmann, K., and Ferrara, E. L. (2020). The political economy of program enforcement: Evidence from Brazil. *Journal of the European Economic Association*, 18(2):750–791.

Callaway, B., Goodman-Bacon, A., and Sant'Anna, P. H. C. (2021). Difference-in-differences with a continuous treatment. *Working Paper*.

Campbell, A. L. (2012). Policy makes mass politics. *Annual Review of Political Science*, 15:333–351.

Caprettini, B., Casaburi, L., and Venturini, M. (2022). Redistribution, voting and clientelism: Evidence from the Italian land reform. *Working Paper*.

Castañeda, T. (1996). Contexto socioeconómico y causas del descenso de la mortalidad infantil en Chile. *Estudios Públicos*, 64:1–49.

Cengiz, D., Dube, A., Lindner, A., and Zipperer, B. (2019). The effect of minimum wages on low-wage jobs. *Quarterly Journal of Economics*, 134(3):1405–1454.

Clark, D. and Royer, H. (2013). The effect of education on adult mortality and health: Evidence from Britain. *American Economic Review*, 103(6):2087–2120.

Clinton, J. D. and Sances, M. W. (2018). The politics of policy: The initial mass political effects of Medicaid expansion in the States. *American Political Science Review*, 112(1):167–185.

Conley, T. (1999). GMM estimation with cross sectional dependence. *Journal of Econometrics*, 91(1):1–45.

Corvalan, A., Cox, P., and Osorio, R. (2018). Indirect political budget cycles: Evidence from chilean municipalities. *Journal of Development Economics*, 133:1–14.

Cousiño, C. (2001). Populismo y radicalismo político durante el gobierno de la Unidad Popular. *Estudios Públicos*, 82:189–202.

Crump, R. K., Hotz, V. J., Imbens, G. W., and Mitnik, O. A. (2009). Dealing with limited overlap in estimation of average treatment effects. *Biometrika*, 96(1):187–199.

Cuesta, J. I., Gallego, F., and González, F. (2015). Local impacts of trade liberalization: Evidence from the chilean agricultural sector. In Caballero, R. and Schmidt-Hebbel, K., editors, *Economic Policy in Emerging-Market Economies*. Central Bank of Chile.

Currie, J. and Vogl, T. (2013). Early-life health and adult circumstance in developing countries. *Annual Review of Economics*, 5:1–36.

Dal Bó, E., Dal Bó, P., and Eyster, E. (2018). The demand for bad policy when voters underappreciate equilibrium effects. *Review of Economic Studies*, 85(2):964–998.

Davis, N. (1985). *The Last Two Years of Salvador Allende*. Cornell University Press: Ithaca.

De La O, A. L. (2013). Do conditional cash transfers affect electoral behavior? Evidence from a randomized experiment in Mexico. *American Journal of Political Science*, 57(1):1–14.

Dette, H. and Schumann, M. (2022). Testing for equivalence of pre-trends in difference-in-differences estimation.

Díaz, J., Lüders, R., and Wagner, G. (2016). *La República en Cifras. Chile 1810-2010. Historical Statistics*. Ediciones UC.

Dooner, P. (1985). *Crónica de una democracia cansada*. Santiago: Instituto Chileno de Estudios Humanísticos.

Dornbusch, R. and Edwards, S. (1990). Macroeconomic populism. *Journal of Development Economics*, 32:247–277.

Edwards, S. (2023a). *The Chile Project: The Story of the Chicago Boys and the Downfall of Neoliberalism*. Princeton University Press.

Edwards, S. (2023b). The debauchery of currency and inflation: Chile, 1970-1973. *NBER Working Paper N. 31890*.

Egger, D., Haushofer, J., Miguel, E., Niehaus, P., and Walker, M. (2022). General equilibrium effects of cash transfers: Experimental evidence from Kenya. *Econometrica*, 90(6):2603–2643.

Fair, R. C. (1978). The effect of economic events on votes for president. *Review of Economics and Statistics*, 60(2):159–173.

Fermandois, J. (2013). *La revolución inconclusa: La izquiera chilena y el gobierno de la Unidad Popular*. Centro de Estudios Públicos.

Fielding, J. E. (1999). Public health in the twentieth century: Advances and challenges. *Annual Review of Public Health*, 20:xiii–xxx.

Finan, F. and Mazzocoo, M. (2021). Electoral incentives and the allocation of public funds. *Journal of the European Economic Association*, 19(5):2467–2512.

Finan, F. and Schechter, L. (2012). Vote-buying and reciprocity. *Econometrica*, 80(2):863–881.

Franceschet, S. (2005). *Women and Politics in Chile*. Lynne Rienner Publishers.

Frens-String, J. (2021). *Hungry for revolution: The politics of food and the making of modern Chile*. University of California Press.

Goldsmith Weil, J. (2017). Milk makes state: The extension and implementation of Chile's state milk programs, 1901-1971. *Historia*, I:79–104.

Goldsmith Weil, J. (2018). Facing the state: Everyday interactions throughout regime change: Chile's state milk 1954-2010. *Social Science History*, 42:469–494.

Goldsmith Weil, J. (2019). Ciudadanas de leche: Una primera línea del Estado social chileno, 1954-2019. *Economía y Política*, 6(2):101–132.

González, F., Martínez, L., Prem, M., and Muñoz, P. (2024). Higher education and mortality: Legacies of an authoritarian college contraction. *Journal of the European Economic Association*.

González, F. and Vial, F. (2021). Collective action and policy implementation: Evidence from Salvador Allende's expropriations. *Journal of Economic History*, 81(2):405–440.

González, N. and Infante, A. (1980). Programas de alimentación complementaria del sector salud en Chile. *Boletin de la Oficina Sanitaria Panamericana*, 89(6):563–571.

Hakim, P. and Solimano, G. (1976). Supplemental feeding as a nutritional intervention: The Chilean experience in the distribution of milk. *Journal of Tropical Pediatrics*, 22(4):185–202.

Hamuy, E., Salcedo, D., and Sepúlveda, O. (1958). *El primer satélite artificial: Sus efectos en la opinión pública*. Santiago: Instituto de Sociología y Editorial Universitaria.

Harbert, L. and Scandizzo, P. (1985). Distribución de alimentos e intervención en la nutrición: El caso de Chile. *Cuadernos de Economía*, 22(66):215–246.

Harmer, T. (2011). *Allende's Chile and the Inter-American Cold War*. The University of North Carolina Press.

Harmer, T. (2020). *Beatriz Allende: A Revolutionary Life in Cold War Latin America*. The University of North Carolina Press.

Haselswerdt, J. (2017). Expanding Medicaid, expanding the electorate: The Affordable Care Act's short-term impact on political participation. *Journal of Health Politics, Policy, and Law*, 42(4):667–695.

Haslam, J. (2005). *The Nixon Administration and the Death of Allende's Chile: A Case of Assisted Suicide*. Verso Books: New York.

Healy, A. and Malhotra, N. (2009). Myopic voters and natural disaster policy. *American Political Science Review*, 103(3):387–406.

Hicken, A. (2011). Clientelism. *Annual Review of Political Science*, 14(1):289–310.

Hodler, R. and Raschky, P. A. (2014). Regional favoritism. *Quarterly Journal of Economics*, 129:995–1033.

Illanes, M. A. (2007). *Cuerpo y sangre de la política: La construcción histórica de las visitadoras sociales (1887-1940)*. LOM Ediciones.

INE (1970). Estadísticas de salud. tomo i – recursos y atenciones. Technical report, Instituto Nacional de Estadísticas.

Klimpel, F. (1962). *La Mujer Chilena: El Aporte Femenino al Progreso de Chile*. Santiago: Editorial Andrés Bello.

Kramer, G. H. (1971). Short-term fluctuations in U.S. voting behavior, 1896-1964. *American Political Science Review*, 65(1):131–143.

Labonne, J. (2013). The local electoral impacts of conditional cash transfers: Evidence from a field experiment. *Journal of Development Economics*, 104:73–88.

Larrain, F. and Meller, P. (1991). The socialist-populist Chilean experience, 1970-1973. In Dornbusch, R. and Edwards, S., editors, *The Macroeconomics of Populism in Latin America*. University of Chicago Press.

Levitt, S. D. and Snyder, J. M. (1995). Political parties and the distribution of federal outlays. *American Journal of Political Science*, 39:958–980.

Lizzeri, A. and Persico, N. (2001). The provision of public goods under alternative electoral incentives. *American Economic Review*, 91(1):225–239.

Llorca-Jaña, M., Rivero-Cantillano, R., Rivas, J., and Allende, M. (2021). Mortalidad general e infantil en Chile en el largo plazo, 1909-2017. *Revista Médica de Chile*, 149:1047–1057.

Lundborg, P., Rooth, D.-O., and Alex-Petersen, J. (2022). Long-term effects of childhood nutrition: Evidence from a school lunch reform. *Review of Economic Studies*, 89(2):876–908.

Manacorda, M., Miguel, E., and Vigorito, A. (2011). Government transfers and political support. *American Economic Journal: Applied Economics*, 3:1–28.

Mansuy, D. (2023). *Salvador Allende. La izquierda chilena y la Unidad Popular*. Taurus.

Mardones-Santander, F. (1979). History of breas-feeding in chile. *Food and Nutrition Bulletin*, 1(4):1–9.

Ministry of Health (2010). *Nutrición Para el Desarrollo: Claves del Éxito del Modelo de Chile*. LOM Ediciones.

Muralidharan, K. and Niehaus, P. (2017). Experimentation at scale. *Journal of Economic Perspectives*, 31(4):103–124.

Navia, P. and Osorio, R. (2015a). Las encuestas de opinión pública en Chile antes de 1973. *Latin American Research Review*, 50(1):117–139.

Navia, P. and Osorio, R. (2015b). 'make the economy scream'? Economic, ideological and social determinants of support for salvador allende in chile, 1970–3. *Journal of Latin American Studies*, 49(4):771–797.

Nef, J. (1983). The revolution that never was: Perspectives on democracy, socialism, and reaction in chile. *Latin American Research Review*, 18(1):228–245.

Neves, C. (2021). Colectividades y madres a la vanguardia: La campaña del medio litro de leche como una representación del imaginario de cambio social durante el gobierno de la Unidad Popular. *Izquierdas*, (50):1–18.

Nordhaus, W. D. (1989). Alternative approaches to the political business cycle. *Brookings Papers on Economic Activity*, 2:1–68.

Oppenheim, L. H. (1989). The chilean road to socialism revisited. *Latin American Research Review*, 24(1):155–183.

Persson, T. and Tabellini, G. (2002). *Political Economics*. The MIT Press.

Plank, S. J. and Milanesi, M. L. (1973). Infant feeding and infant mortality in rural chile. *Bulletin of the World Health Organization*, 48(2):203–210.

Pop-Eleches, C. and Pop-Eleches, G. (2012). Targeted government spending and political preferences. *Quarterly Journal of Political Science*, 7:285–320.

Popular Unity (1969). Programa básico de gobierno de la Unidad Popular: Candidatura presidencial de Salvador Allende.

Power, M. (2002). *Right-wing women in Chile*. The Pennsylvania State University Press.

Rambachan, A. and Roth, J. (2023). A more credible approach to parallel trends. *Review of Economic Studies*, 90(5):2555–2591.

Ray, D. and Esteban, J. (2017). Conflict and development. *Annual Review of Economics*, 9:263–293.

Requena, M., Monreal, T., and Bogue, D. J. (1968). Evaluation of induced abortion control and family planning programs in Chile. *The Milbank Memorial Fund Quarterly*, 46(3):191–222.

Roth, J. (2022). Pretest with caution: Event-study estimates after testing for parallel trends. *American Economic Review: Insights*, 4(3):305–22.

Sant'Anna, P. H. and Zhao, J. (2020). Doubly robust difference-in-differences estimators. *Journal of Econometrics*, 219(1):101–122.

Schattschneider, E. E. (1935). *Politics, Pressures, and the Tariff*. New York: Prentice-Hall Inc.

Sigmund, P. E. (1974). The "invisible blockade" and the overthrow of Allende. *Foreign Affairs*, 52(2):322–340.

Sigmund, P. E. (1977). *The Overthrow of Allende and the Politics of Chile, 1964-1976*. University of Pittsburgh Press.

SNS (1972). Programa nacional de leche: Instructivo para personas que participen en labores educativas. *Servicio Nacional de Salud*.

The Lancet (2022). Opioid overdose crisis: time for a radical rethink. *The Lancet: Public Health*, 7(3):E195.

Torche, A. (1985). Una evaluación económica del programa nacional de alimentación complementaria (PNAC). *Cuadernos de Economía*, 22(66):175–193.

Townsend, C. (1993). Refusing to travel *la via chilena*: Working-class women in Allende's Chile. *Journal of Women's History*, 4(3):43–63.

U.S. Senate (1975). *Covert Action in Chile, 1963-73: Staff Report of the Select Committee to Study Governmental Operations with Respect to Intelligence Activities*. Washington, DC: Government Printing Office.

Valenzuela, A. (1979). Chile. In Linz, J. J. and Stepan, A., editors, *The Breakdown of Democratic Regimes*. Johns Hopkins University Press.

Viel, B. (1967). Family planning in Chile. *Journal of Sex Research*, 3(4):284–291.

Viel, B. (1969). Results of a family planning program in the western area of the city of Santiago. *American Journal of Public Health*, 59(10):1898–1909.

Voigtländer, N. and Voth, H.-J. (2022). Highway to Hitler. *American Economic Journal: Applied Economics*.

World Health Organization (2002). Protein and amino acid requirements in human nutrition. *WHO Technical Report Series*.

Yang, S. and Ding, P. (2018). Asymptotic inference of causal effects with observational studies trimmed by the estimated propensity scores. *Biometrika*, 105(2):487–493.

Figure 1: Macroeconomic conditions and political support in Chile, 1967-1973

(a)

(b)

(c)

(d) Experience of crisis in late 1972

(e) Left-wing political support
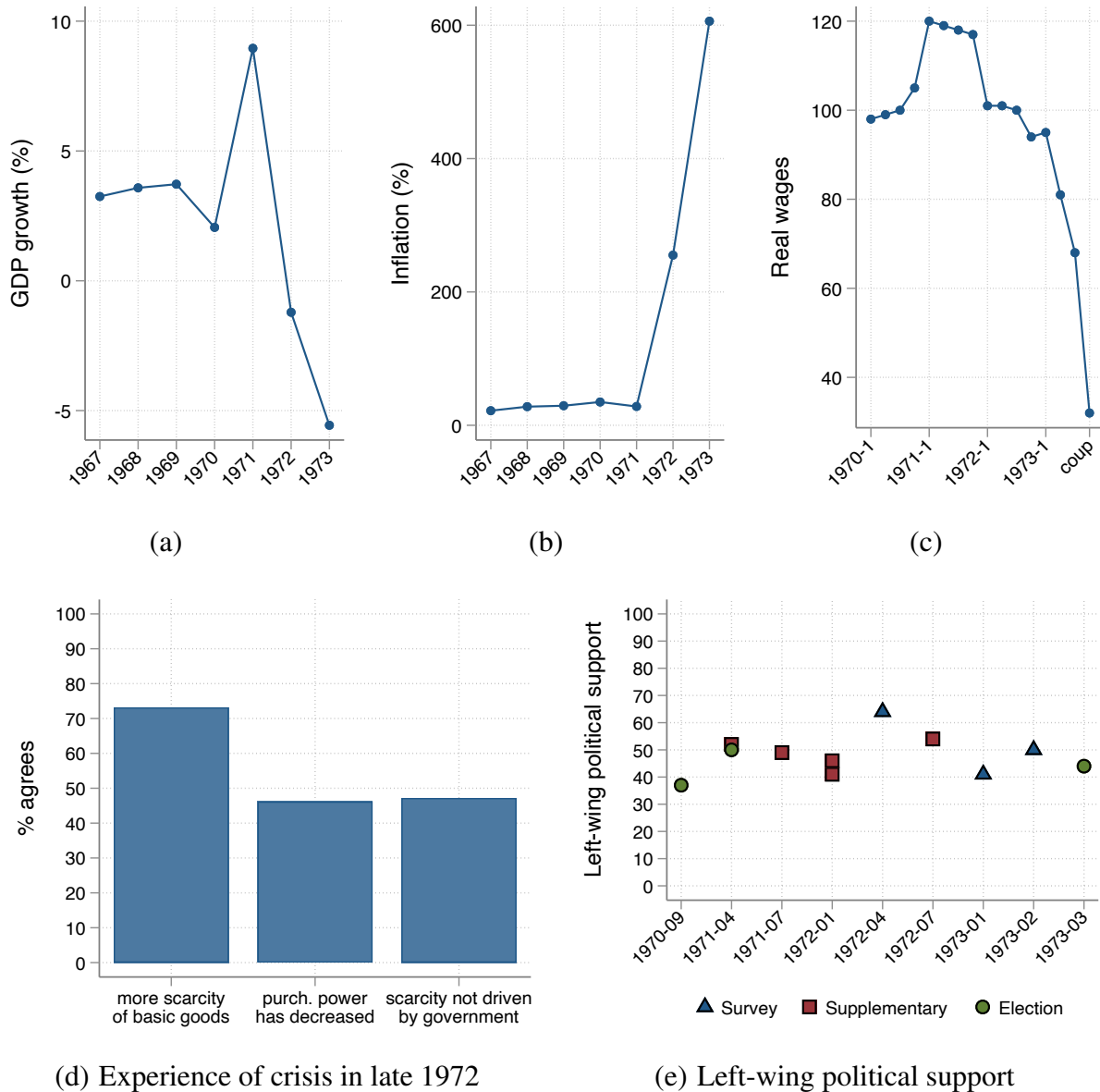
Notes. Time series of macroeconomic variables in panels (a) and (b) are own construction using data from Díaz et al. (2016). Data for real wages in panel (c) comes from Dornbusch and Edwards (1990). The experience of the economic crisis in panel (d) are responses to questions in the Hamuy surveys of late 1972, with 1,955 survey respondents in the three largest cities of the country where more than half of the population lives. Left-wing political support (vote shares or vote intention) in panel (e) is own construction using data from Fermandois (2013) and Navia and Osorio (2015a).

Figure 2: Protein requirements, milk distribution, and hospital mortality

(a) Protein requirements

(b) Impact of milk distribution on hospital mortality by age
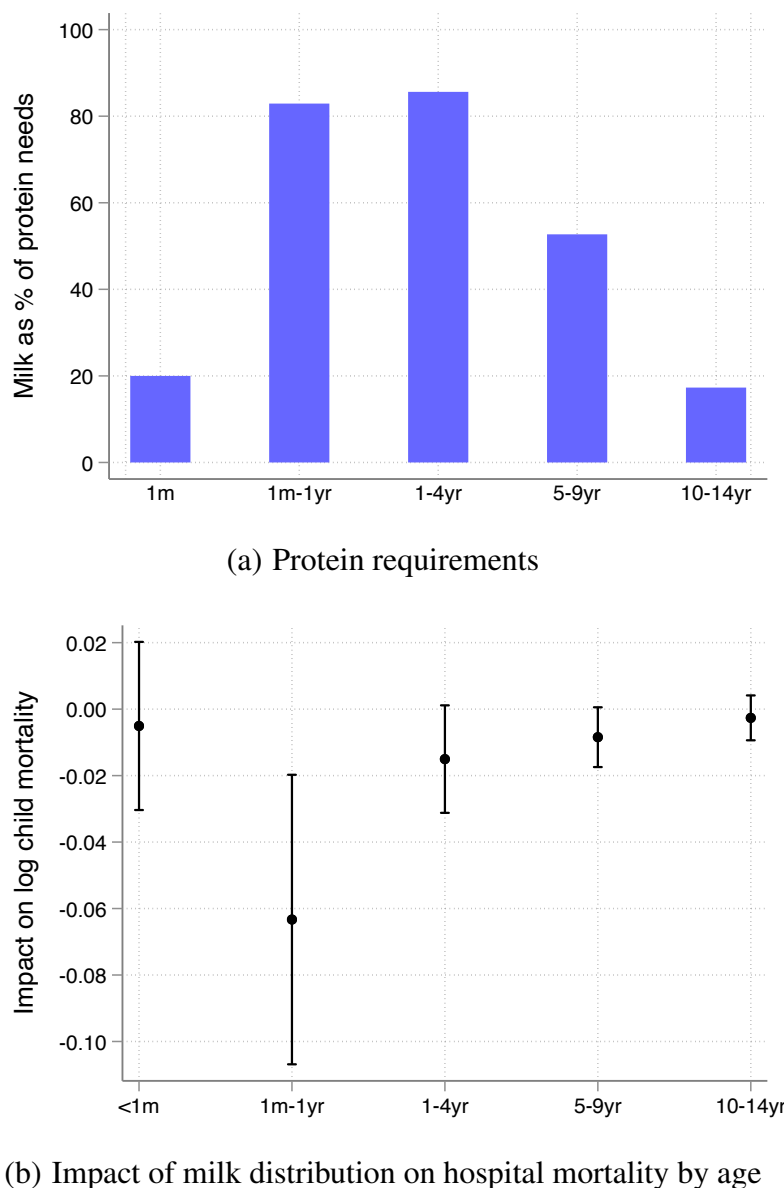
Notes. Panel (a) shows the share of protein requirements that were covered by the milk program across children of different ages. We use the same five age brackets that we observe in the hospital-level data. The milk program only partially covers the requirements of children younger than 1 month because most of them are being breastfed (Plank and Milanesi, 1973; Bader, 1976; Mardones-Santander, 1979). The decreasing role of the milk program for children older than 1 year is explained by the fading out of the program and the higher protein needs of older children. Protein requirements by age comes from World Health Organization (2002). Panel (b) shows five panel data estimates of the impact of (log) milk distribution on (log) infant mortality by age bracket, controlling by hospital and year unobservables with the use of fixed effects. The black dot represents the estimates and the vertical black line the 95 percent confidence interval.

Figure 3: Difference-in-differences estimates
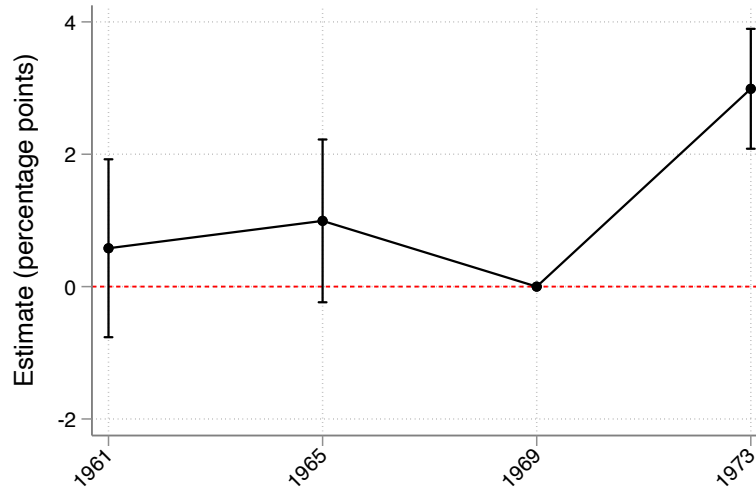
(a) Left-wing support in congress elections
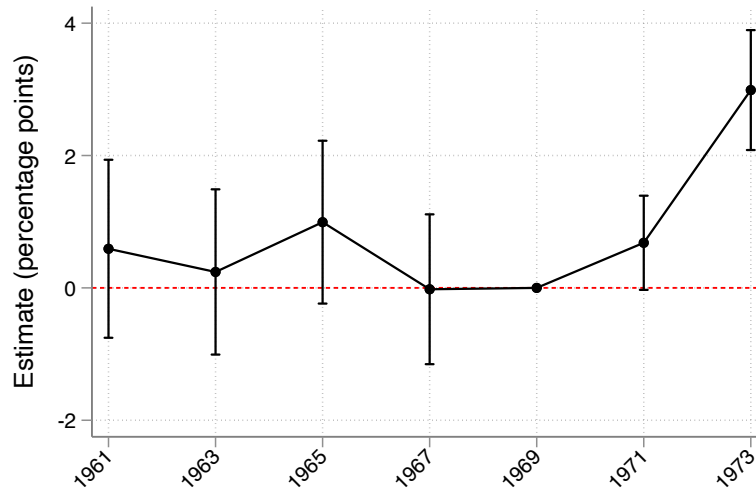
(b) Left-wing support in congress and local elections

Notes. These figures present our difference-in-difference estimates for the change in support for the left-wing coalition (*y*-axis) between 1961 and 1973. Black dots represent point estimates and vertical lines the 95 confidence interval. The estimates are differences in voting patterns predicted by an increase of one standard deviation in the share of milk beneficiaries in 1970, as compared to 1969 (the omitted category). All regression specifications include municipality and year fixed effects. Standard errors are always clustered at the municipality level. Panel (a) uses as dependent variable the vote share of candidates affiliated to the communist and socialist parties in congress elections (1961, 1965, 1969, and 1973). Panel (b) uses the vote share of candidates affiliated to the communist and socialist parties in all congress and local elections (1963, 1967, 1971).

Figure 4: Local experience of the economic crisis

(a) Government support in 1973

(b) Participation in the 1973 election
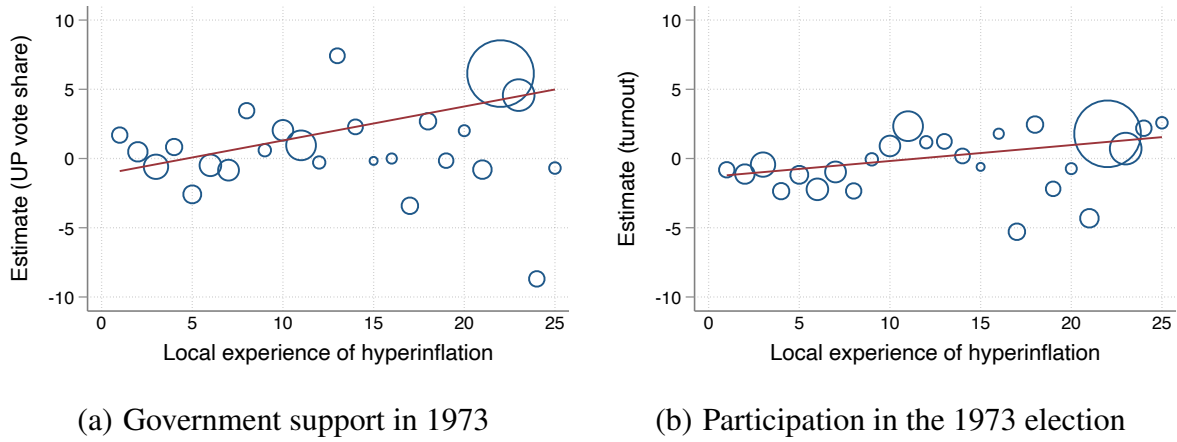
Notes. These figures present correlates between the increase in government support coming from the milk program (*y*-axis) and the local experience of the economic crisis (*x*-axis) across all of the 25 provinces in Chile. We estimate the 25 estimates in the *y*-axis using municipality-level panel regressions restricting attention to each one of the 25 provinces. We measure the local experience of the crisis in the *x*-axis by ranking provinces by the number of JAPs per inhabitant. JAPs were local organizations promoted by the state to face the scarcity of products with rationing. The higher the rank (25 is the highest) the hardest the crisis hit. Panel (a) uses province-specific estimates for UP vote shares in 1973 and panel (b) uses province-specific estimates for turnout in 1973.

Figure 5: Salience of the milk program

(a) Preferred policies in 1964-1970

(b) Preferred policies in 1970-1973

(c) Milk is preferred policy (late 1972)

(d) Plans to vote UP (late 1972)
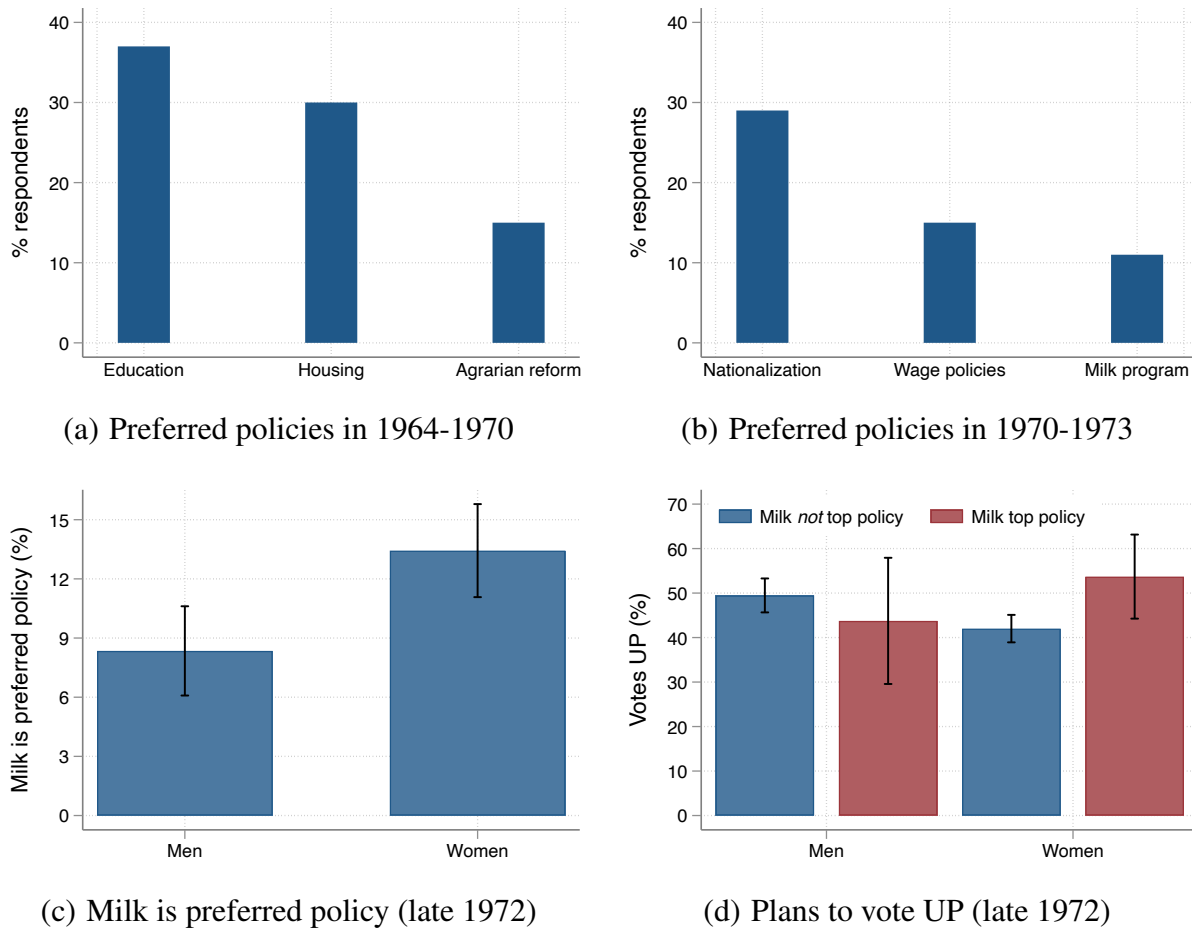
Notes. All figures are own construction based on surveys conducted by Eduardo Hamuy in the 1960s and 1970s. Panels (a) and (b) show the top three policies mentioned by respondents as answers to the open question "which one is your preferred policy implemented by the government?." The same question was asked both during the Eduardo Frei government (1964-1970) and during the Salvador Allende government (1970-1973). Panel (c) shows the percentage of men and women who mentioned the milk program as their preferred policy in 1972. The vertical black line represents the 95 percent confidence interval of the mean. Panel (d) shows the UP vote intention in 1972 in four different groups: men who mentioned the milk program as their preferred policy, women who also mentioned it, and the same two groups but who did not mention the milk program as preferred. Vertical black lines represent again the 95 percent confidence interval.

Figure 6: Long-run effects of the milk program on health and education

(a) Mortality rate, indicator milk hospital

(b) Mortality rate, dist. to milk hospital

(c) College enrollment, indicator milk hospital

(d) College enrollment, dist. to milk hospital
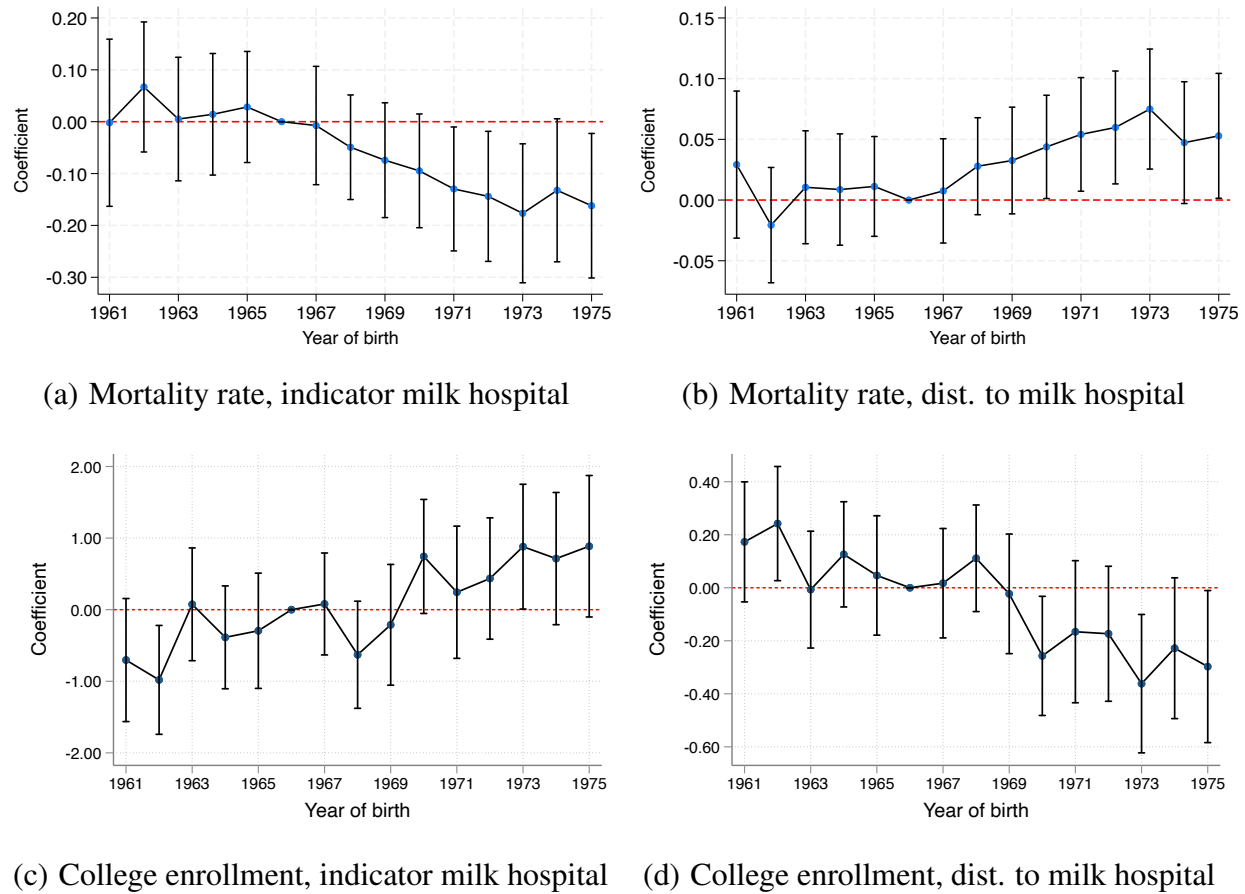
Notes. Cohorts exposed to the UP milk program were born in 1967-1973, i.e., were 0-4 years old in 1971-1973. Panels (a) and (b) present the impact of the milk program on mortality using a cohort analysis in which we compare the mortality rates of cohorts differentially exposed to the milk program in 1971-1973. Data on deaths by cohort-municipality-year comes from the 1994-2017 mortality files and all estimates are from regressions that include fixed effects by municipality-year, cohort, and age. Panel (a) uses as treatment variable the interaction between cohorts who were 0-4 years old in 1971-1973 and an indicator for municipalities with a hospital delivering milk during these years. Panel (b) replaces the latter variable by the (log) distance to the closest hospital delivering milk during the same years. Panels (c) and (d) repeat the estimation but now using more than 530,000 individuals observed in the 1992-2017 National Characterization Surveys (CASEN) and an indicator for college enrollment as dependent variable. The treatment is defined in the same way as in previous panels and estimates come from regressions that include fixed effects by municipality-year, age, and cohort. In all panels circles represent point estimates, vertical black lines the 95 percent confidence interval, and standard errors are clustered by municipality.

Table 1: Descriptive statistics

	Mean	Median	St dev	Observations
Panel A: Area level				
Milk distributed (tons.) in 1973	368	260	306	55
Milk distributed (tons.) in 1971	351	234	295	55
Milk distributed (tons.) in 1970	231	151	220	55
Number of hospitals	2.7	2.3	2.2	55
Panel B: Hospital level in 1971				
Milk distributed (tons.)	89.7	51.2	146.6	132
Hospital mortality rate (0-4 yr old)	1.3	1.2	1.1	132
Hours worked by physicians (daily avg.)	90.6	21.5	238.5	132
Panel C: Municipality level				
Politics				
Allende vote share 1970	36.5	34.8	11.3	301
UP vote share 1971	48.8	49.8	11.1	301
UP vote share 1973	44.4	44.5	10.8	301
Turnout 1969	46.5	43.8	19.1	300
Turnout 1970	54.8	51.2	20.8	301
Turnout 1973	67.7	66.0	19.4	301
Socioeconomics in 1970				
Total population	25,244	12,486	36,850	301
Total adult population	15,369	7,085	24,570	301
% eligible beneficiaries	12.5	12.8	2.3	301
% with more 8 years of education	17.8	15.9	12.1	301
% illiterate	12.1	9.4	11.1	301
% rural	28.5	16.2	29.8	301
% workers in mining	3.8	0.3	10.3	301
% workers in agriculture	14.2	6.6	22.5	301

Notes. This table presents descriptive statistics for the main variables used in the empirical analysis. We present statistics and the number of observations for three different types of units. Panel (a) uses administrative data from the Ministry of Public Health and presents descriptives for the 55 health areas in the country. Panel (b) also uses administrative data from the Ministry of Public Health but now for each one of the 132 hospitals observed in 1971. In addition to the amount of milk distributed per hospital, we also observe mortality by age bracket, and the amount of hours worked by all physicians. Panel (c) uses our municipality-level dataset to describe key variables measuring political preferences (vote shares and turnout) and the socioeconomic context locally. The latter panel always presents descriptive statistics weighted by the 1970 population. The source for panel (c) is the 1970 population census and administrative data from the Electoral Service.

Table 2: What drives the distribution of milk at the local level?

	Dependent variable: Milk distribution					
	1971	1973				
	All	All	Infant	2-4yr	5-14yr	Pregnant
Panel A: By area	(1)	(2)	(3)	(4)	(5)	(6)
Milk beneficiaries	210***	233***	99***	121***	-6	20***
	(47)	(52)	(18)	(28)	(11)	(4)
Allende vote share in 1970	21	9	1	5	4	-1
	(29)	(31)	(12)	(14)	(8)	(3)
Observations	55	55	55	55	55	55
R-squared	0.74	0.75	0.79	0.78	0.15	0.77
Controls	Y	Y	Y	Y	Y	Y
Avg. dependent variable	351	555	138	168	33	30
p-value *not* beneficiaries	0.60	0.67	0.44	0.71	0.23	0.09

	Dependent variable: Milk distribution in 1971					
Panel B: By municipality	All		0-1yr		2-4yr	
Milk beneficiaries	59***	67***	20***	23***	31***	35***
	(12)	(12)	(4)	(4)	(7)	(7)
Allende vote share in 1970	4	4	1	1	3	3
	(5)	(11)	(2)	(3)	(3)	(6)
Observations	178	178	178	178	178	178
R-squared	0.55	0.67	0.58	0.69	0.48	0.64
Controls	Y	Y	Y	Y	Y	Y
Area fixed effects	N	Y	N	Y	N	Y
Avg. dependent variable	86	86	29	29	46	46
p-value *not* beneficiaries	0.20	0.08	0.28	0.22	0.27	0.11

Notes. Estimates from cross-sectional regressions at the area (panel A) or municipality (panel B) level. Regression specifications include the following set of predictors, all measured before the UP government took power: share of rural population, logarithm of population, illiteracy rate, share of population with more than 8 years of schooling, log distance to the regional capital, and houses per capita. Milk beneficiaries is the (standardized) share of the population eligible for free milk at hospitals (0-4 years old). The "p-value *not* beneficiaries" is the result of joint test of statistical significance for the coefficients of all predictors except "Milk beneficiaries." Robust standard errors in parenthesis. Significance level: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 3: Milk distribution and children hospital mortality, 1968-1975

	0-4 yrs old			5-9 yrs	10-14 yrs
Dep. variable: Log children deaths over 1,000 consultations					
	(1)	(2)	(3)	(4)	(5)
Panel A					
Log milk distributed	-0.064***	-0.069**	-0.074**	0.000	-0.001
	(0.024)	(0.028)	(0.032)	(0.007)	(0.006)
Panel B					
Log milk distributed per child	-0.059**	-0.063**	-0.064**	0.000	-0.003
	(0.023)	(0.027)	(0.031)	(0.007)	(0.005)
Observations	805	805	805	805	805
Hospitals	154	154	154	154	154
Hospital fixed effects	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	N	N	N
Hours physicians	N	Y	Y	Y	Y
Area-year fixed effects	N	N	Y	Y	Y
Avg. dependent variable	0.991	0.991	0.991	0.050	0.039

Notes. This table presents our estimates for the effect of milk distribution on children mortality. All regressions include hospital and year (or area-by-year) fixed effects. Standard errors in parenthesis are clustered by hospital. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table 4: Milk eligibility and voting patterns, cross-sectional evidence

Panel A	Dependent variable: Left-wing vote share in 1973					Turnout 1973
	(1)	(2)	(3)	(4)	(5)	(6)
Milk beneficiaries	2.22**	2.07***	2.21***	2.37***	2.35***	0.82
	(0.90)	(0.40)	(0.44)	(0.71)	(0.85)	(1.19)
Municipalities	301	301	301	301	301	301
R-squared	0.045	0.622	0.814	0.850	0.857	0.893
Province fixed effects	N	N	Y	N	N	N
Area fixed effects	N	N	N	Y	Y	Y
1970 election	N	Y	Y	Y	Y	Y
Other controls	N	N	N	N	Y	Y
Avg. dep. variable	34.82	34.82	34.82	34.69	34.69	68.25

Panel B	Dependent variable: Left-wing vote share				Turnout	
	1971 Municipal	1969 Congress	1967 Municipal	1965 Congress	1971 Municipal	1969 Congress
	(1)	(2)	(3)	(4)	(5)	(6)
Milk beneficiaries	0.39	-0.51	-1.39	-0.72	-0.29	-0.17
	(0.95)	(1.39)	(0.88)	(0.91)	(1.26)	(1.22)
Observations	301	300	301	300	301	301
R-squared	0.845	0.808	0.875	0.847	0.943	0.961
Area fixed effects	Y	Y	Y	Y	Y	Y
All controls	Y	Y	Y	Y	Y	Y
Avg. dep. variable	38.49	27.99	28.06	22.59	54.11	46.46

Notes. This table presents cross-sectional estimates of the relationship between the share of the local population who are milk beneficiaries and left-wing support. Milk beneficiaries is the (standardized) share of the population eligible for free milk at hospitals (0-4 years old). Panel A shows the empirical relationship with vote shares and turnout in 1973. The '1970 election' controls include vote shares for the left-wing (Allende) and the right-wing (Alessandri) candidates. 'Other controls' include: (log) population, (log) distance to the province capital, share of the population living in rural areas, and share of the population with more than 8 years of education. Panel B shows the same empirical relationship in the preceding years. 'All controls' include the same 'Other controls' as in panel A plus vote shares in the corresponding previous election (e.g. 1967 vote shares for column 1, 1965 vote shares in column 2, etc.). Significance level: *** p<0.01, ** p<0.05, * p<0.1. Standard errors in parenthesis are clustered by municipality. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table 5: Milk and voting patterns, difference-in-differences evidence

	Dependent variable:				
	Left-wing vote share				Turnout
	(1)	(2)	(3)	(4)	(5)
Panel A: Congress elections					
Milk beneficiaries × 1973	2.46***	2.15***	2.20***	1.95**	0.32
	(0.39)	(0.44)	(0.71)	(0.95)	(2.30)
Observations	1201	1201	1201	1201	1201
R-squared	0.84	0.92	0.94	0.94	0.94
Avg. dependent variable	26.97	26.97	26.78	26.78	47.34
Panel B: Congress and local elections					
Milk beneficiaries × 1973	2.57***	2.44***	2.67***	2.16**	-1.57
	(0.34)	(0.38)	(0.72)	(0.92)	(2.31)
Observations	2102	2102	2102	2102	2107
R-squared	0.84	0.91	0.93	0.93	0.95
Avg. dependent variable	28.22	28.22	28.06	28.06	40.79
Municipality fixed effects	Y	Y	Y	Y	Y
Election year fixed effects	Y	N	N	N	N
Province-by-year fixed effects	N	Y	N	N	N
Area-by-year fixed effects	N	N	Y	Y	Y
Controls × year fixed effects	N	N	N	Y	Y

Notes. This table presents difference-in-differences estimates for the relationship between milk beneficiaries and 1973 electoral results. We observe 301 municipalities in four congress elections (1961, 1965, 1969, and 1973) and three local elections (1963, 1967, and 1971). 'Left-wing vote share' is defined as votes for communist and socialist candidates over the total number of votes in that election. Milk beneficiaries is the (standardized) share of the population eligible for free milk at hospitals (0-4 years old). 'Controls' include (log) population, (log) distance to the province capital, share of the population living in rural areas, and share of the population with more than 8 years of education. There are 25 provinces and 55 areas in the country. Standard errors in parenthesis are clustered by municipality. Significance level: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 6: The role of other policies implemented by the UP government

Policy:	Land reform	Trade protection	Share mining workers	Share agricultural workers	Distance closest university	Illiteracy rate	Rural-urban migration
	Dependent variable: Left-wing vote share						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Milk beneficiaries × 1973	1.59**	2.09***	2.21***	2.34***	2.45***	2.08***	2.25***
	(0.73)	(0.71)	(0.71)	(0.71)	(0.84)	(0.73)	(0.77)
Policy × 1973	1.37**	-1.72	-0.16	-0.54	-0.30	0.34	-0.07
	(0.60)	(1.11)	(0.80)	(0.66)	(0.68)	(0.47)	(0.75)
Observations	1201	1201	1201	1201	1201	1201	1201
Municipality fixed effects	Y	Y	Y	Y	Y	Y	Y
Area-by-year fixed effects	Y	Y	Y	Y	Y	Y	Y
Avg. dependent variable	26.78	26.78	26.78	26.78	26.78	26.78	26.78

Notes. Each column presents a difference-in-differences estimate using 301 municipalities observed in four congress elections (1961, 1965, 1969, and 1973). The only difference across columns is the inclusion of a different 'Policy' variable, interacted by an indicator for 1973, to control for the local impact of an important public policy implemented in 1970-1973. 'Milk beneficiaries' and all 'Policy' variables have been standardized to facilitate the comparison of magnitudes. Milk beneficiaries is the (standardized) share of the population eligible for free milk at hospitals (0-4 years old). Column 1 measures land reform as the share of land expropriated by Salvador Allende in the context of the land reform program. Column 2 controls for trade protection using existing tariffs interacted with the mix of local agricultural production as measured by the 1965 agricultural census. Columns 3 and 4 use the share of the labor force working in the mining and agricultural sectors respectively. Column 5 control for the distance to the closest university campus to account for the expansion of tertiary education. Column 6 controls for illiteracy to account for the enfranchisement of illiterates in 1972. Finally, column 7 controls for the change in rurality between 1960 and 1970 to account for urban migration. Standard errors in parenthesis are clustered by municipality. Significance level: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 7: Instrumental variables estimates based on family planning program

Dependent variable:	First-stage		Two-stage least squares					
	Milk beneficiaries		Left-wing vote share			Turnout		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log distance closest IUDs × 1973	0.26***	0.20***						
	(0.05)	(0.03)						
Milk beneficiaries × 1973			4.75***	3.48***	4.15***	2.28	0.12	1.86
			(1.41)	(1.14)	(1.37)	(1.95)	(1.95)	(2.50)
Observations	1201	1201	1201	1201	1201	1201	1201	1201
Municipality fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	N	Y	N	N	Y	N	N
Area-by-year fixed effects	N	Y	N	Y	Y	N	Y	Y
Distance nearest health center	N	Y	N	N	Y	N	N	Y
Avg. dependent variable			27.0	26.8	26.8	47.0	47.3	47.3
F-test excluded instrument			22.8	85.2	46.6	22.8	85.2	46.6

Notes. This table presents the first (columns 1-2) and second (columns 3-8) stages of an instrumental variables estimation. We use panel data for 301 municipalities observed in four congress elections (1961, 1965, 1969, and 1973). The excluded instrument is the (log) distance to the closest hospital delivering contraceptives (IUDs) for free after 1966. The family planning program was funded by the Rockefeller foundation to control population growth. Milk beneficiaries is the (standardized) share of the population eligible for free milk at hospitals (0-4 years old). All regressions control for the distance to the closest health center delivering free milk. Standard errors in parenthesis are clustered by municipality. Significance level: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 8: Milk beneficiaries and votes by gender

	Dependent variable:			
	in *male* voting booths		in *female* voting booths	
	UP vote share	Turnout	UP vote share	Turnout
Panel A: Difference-in-differences	(1)	(2)	(3)	(4)
Milk beneficiaries × 1973	0.13	1.43	3.14***	0.29
	(1.89)	(1.33)	(0.59)	(1.70)
Panel B: Combined with matching				
Milk beneficiaries × 1973	-0.85	-0.19	3.01***	0.78
	(2.72)	(1.79)	(0.65)	(1.41)
Observations	594	594	594	594
Municipality fixed effects	Y	Y	Y	Y
Election fixed effects	Y	Y	Y	Y
Avg. dependent variable	37.14	46.73	31.16	43.10

Notes. This table presents difference-in-differences estimates for the effect of milk beneficiaries on 1973 electoral outcomes by gender. We observe male and female votes separately in 297 municipalities and two congress elections (1969 and 1973). 'Milk beneficiaries' is the (standardized) share of the population eligible for free milk at hospitals (0-4 years old). Panel A presents simple difference-in-differences estimates. Panel B adds a matching estimator in which we first predict the share of milk beneficiaries with observables variables, and we then control for the predicted value of milk beneficiaries interacted with a 1973 indicator. Standard errors in parenthesis are clustered by municipality. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

ONLINE APPENDIX

Government support in times of crisis:
Evidence from Chile's road to socialism

Felipe González   Mounu Prem

List of Figures

List of Tables

A   Data Appendix

A.1   Municipality-level data

We measure the socioeconomic characteristics of municipalities using census variables. Although the census does not ask for income, the number of houses per capita and the average years of education are likely to be strongly correlated with it. To measure the local economic structure, we use the share of workers in the agricultural sector and the mining industry—the most important economic activities—and the share who was economically active. To track the newly enfranchised in the 1970s, we use local illiteracy rates. Other important variables describing the local population include the share of women (49%) and the percentage of people living in rural areas (28%). We use the 1960 census in a similar way when we need to track changes in these variables. When we need some variable that is not reported in these volumes but we know it is available in the census, we use the 10 percent individual-level sample published by IPUMS International. Besides differences in the census, municipalities also differed in their infrastructure and how connected they were to the rest of the country. We geo-coded the centroid of each municipality, together with the location of existing airports, maritime ports, military bases, and churches before 1970 (Bautista et al., 2023b). Euclidean distances from municipalities to critical infrastructure allow us to incorporate the geographic dimension into our analysis.

Last but not least, municipalities were differentially exposed to other policies implemented during the UP government. We can measure the exposure to mining and agricultural policies by using the share of workers in those sectors. Similarly, the international price of agricultural products and copper created income effects that we can measure with the same variables. Enrollment in tertiary education increased significantly between 1970 and 1973 (Bautista et al., 2023a), which we can track by using the location of university campuses. Finally, protection of local economic activity with the use of tariffs and additional expropriations in the context of the agrarian reform can be measured using data from previous research (Cuesta et al., 2015; González and Vial, 2021).

A.2   Hamuy surveys

Inspired by Professor Paul Lazarsfeld while studying in Columbia, chilean sociologist Eduardo Hamuy conducted the first large-scale surveys using probabilistic sampling in Chile (Hamuy et al., 1958; Navia and Osorio, 2015a). The surveys, conducted by the sociologist Eduardo Hamuy more than two times per year between October 1957 until February of 1973, offer an unusually rich view of how chileans perceived politics and policies almost in real time. The 45 survey waves were conducted in the three largest cities—more than half the population in 1970—and accurately predicted elections during this period, including the one in 1970. Most waves have hundreds of respondents per city, with some reaching more than one thousand respondents. The data is publicly available and can be found in FLACSO and the Roper Center (see Appendix A.2).

Figure 5 uses four surveys conducted by Eduardo Hamuy. Panel (a) uses the 625 responses in survey number 30, conducted in March of 1970 in Santiago. Question 14 asked "Based on your own judgement" which is the best policy implemented by the Eduardo Frei government?" People could only respond one policy. Panel (b) uses the 1,800 responses in surveys number 39, 40, and

41, conducted in 1972 in the cities of Santiago, Valparaiso, and Viña del Mar. We use questions 21 and 22 in which people were asked "Based on your own judgement: which is the best policy implemented by the Salvador Allende government?" Question 21 listed the preferred policy and question 22 listed the second most preferred policy. Panel (c) simply disaggregates the 11 percent who mentioned the milk program during the Salvador Allende government by gender. Panel (c) uses the same 39-40-41 surveys but now examining vote intention (question 54).

Figure A.1: Take-up of the milk program
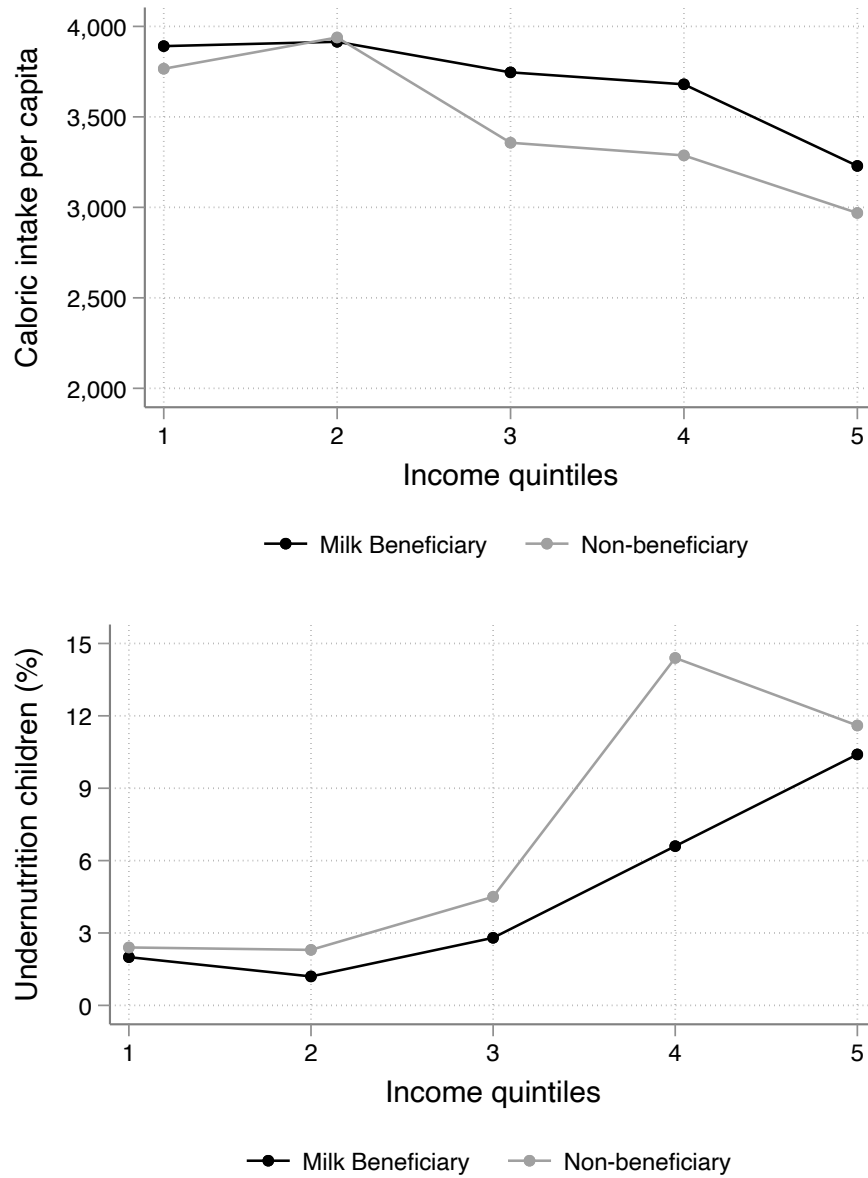
Notes. These figures are own construction using data from Torche (1985). Panel (a) presents the caloric intake across milk beneficiaries and non-beneficiaries by income. The lowest income quintile (1) are children from high-income families, and the largest (5) are children from low-income families. Panel (b) presents undernutrition rates among children.

Figure A.2: Infant mortality in comparative perspective
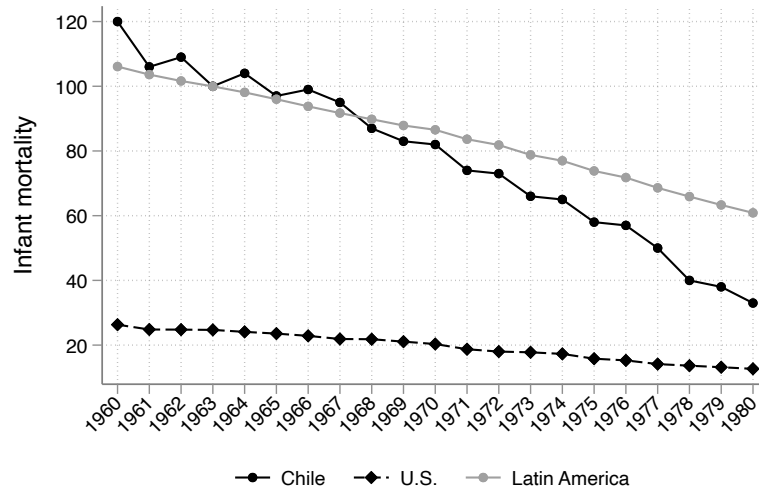
(a)
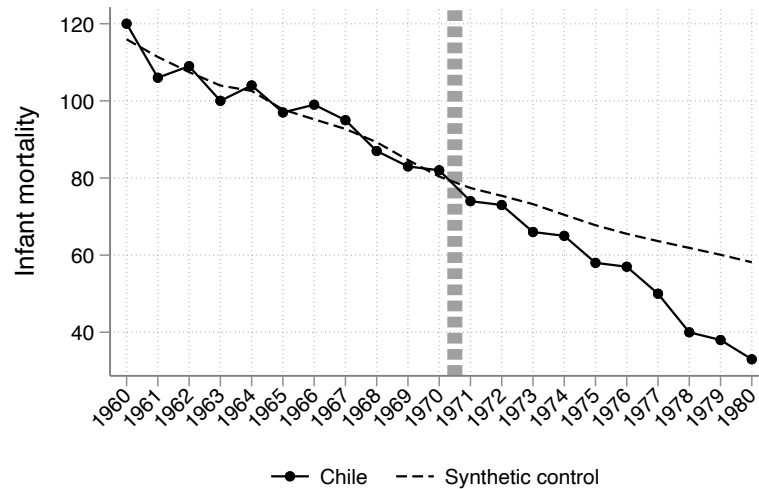
(b)

Notes. Panel (a) presents time series of infant mortality in selected countries using data from UNICEF. Panel (b) shows synthetic control estimates using the subset of the data before 1970 to construct a counterfactual chile after Salvador Allende rose to power in 1970.

Figure A.3: Breastfeeding rates in Chile, 1963-1975
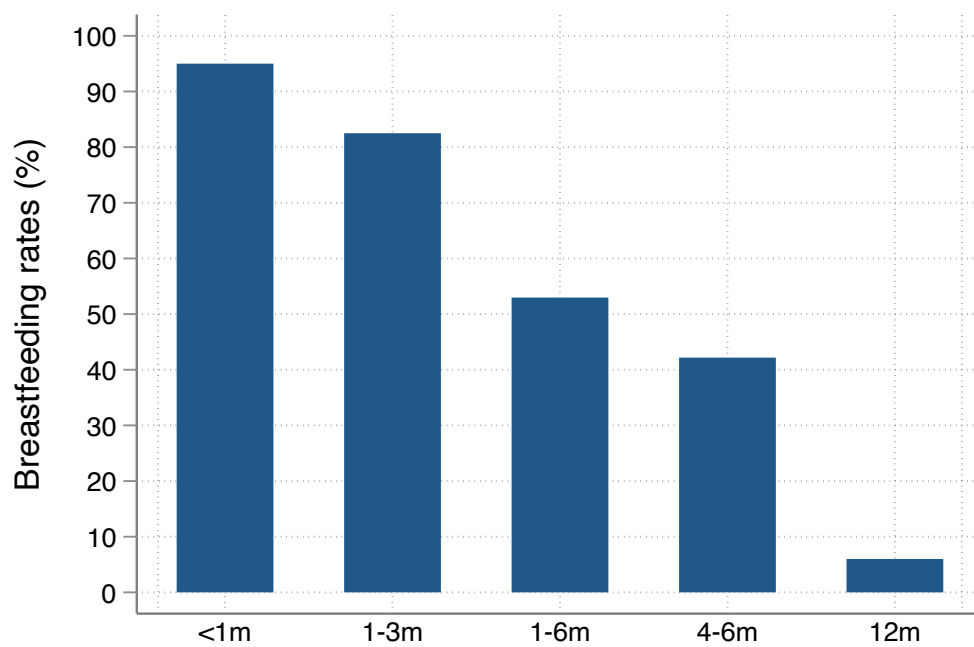
Notes. This figure shows breastfeeding rates in Chile in 1963-1975. Own construction based on survey data from Plank and Milanesi (1973), Bader (1976), and Mardones-Santander (1979).

Figure A.4: Milk distributed through hospitals, 1968-1973
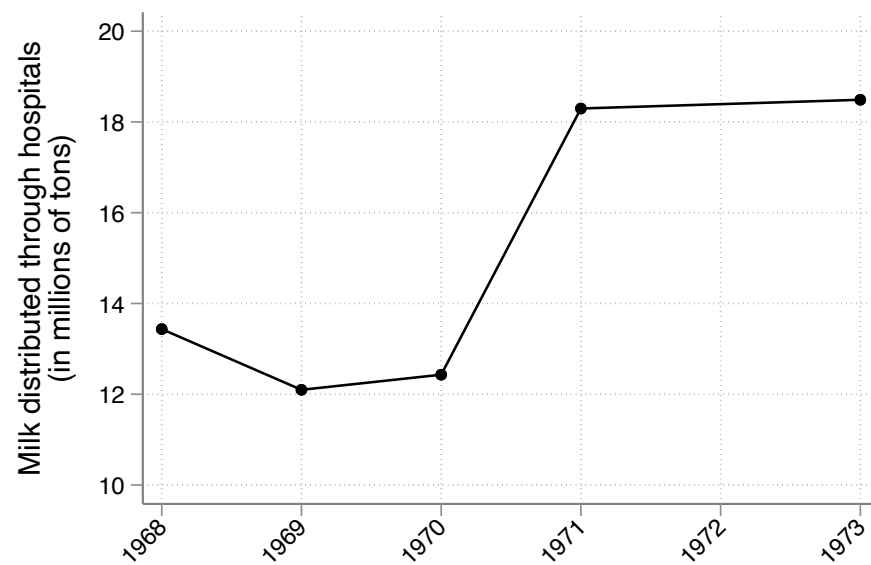
Notes. This figure shows the amount of milk distributed through hospitals in the 1968-1973 period. Own construction using data from the Ministry of Public Health.

Figure A.5: Robustness of child hospital mortality results

(a) Protein requirements

(b) Weighted

(c) Per child, unweighted

(d) Per child, weighted

Notes. Panel (a) shows the share of protein requirements covered by the milk program across children of different ages. We use the same five age brackets that we observe in the hospital-level data. The milk program only partially covers the requirements of children younger than 1 month because most of them are being breastfed (Plank and Milanesi, 1973; Bader, 1976; Mardones-Santander, 1979). The decreasing role of the milk prog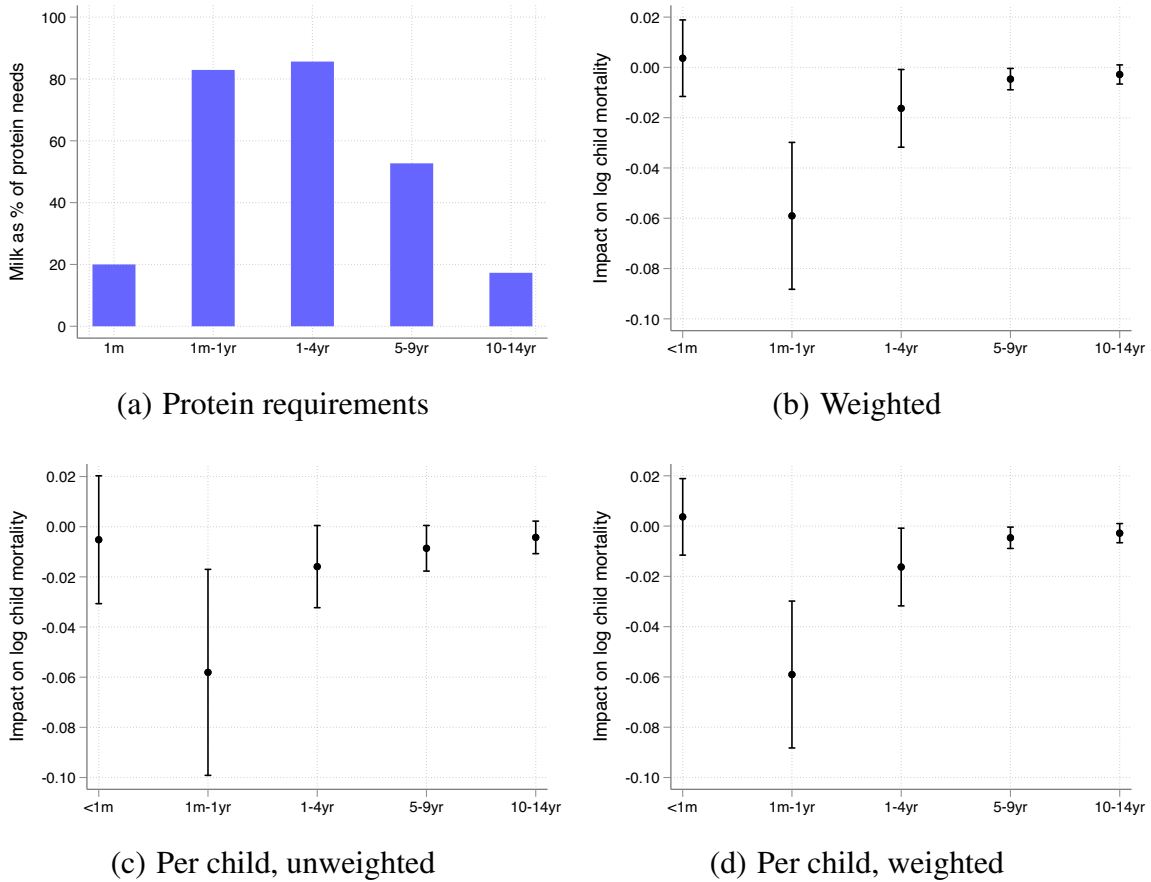ram for children older than 1 year is explained by the fading out of the program and the higher protein needs of older children. Protein requirements by age comes from World Health Organization (2002). Each of the remaining panels show five panel data estimates of the impact of (log) milk distribution on (log) infant mortality by age bracket, controlling by hospital and year unobservables with the use of fixed effects. The black dot represents the estimates and the vertical black line the 95 percent confidence interval.

Figure A.6: Robustness to age composition
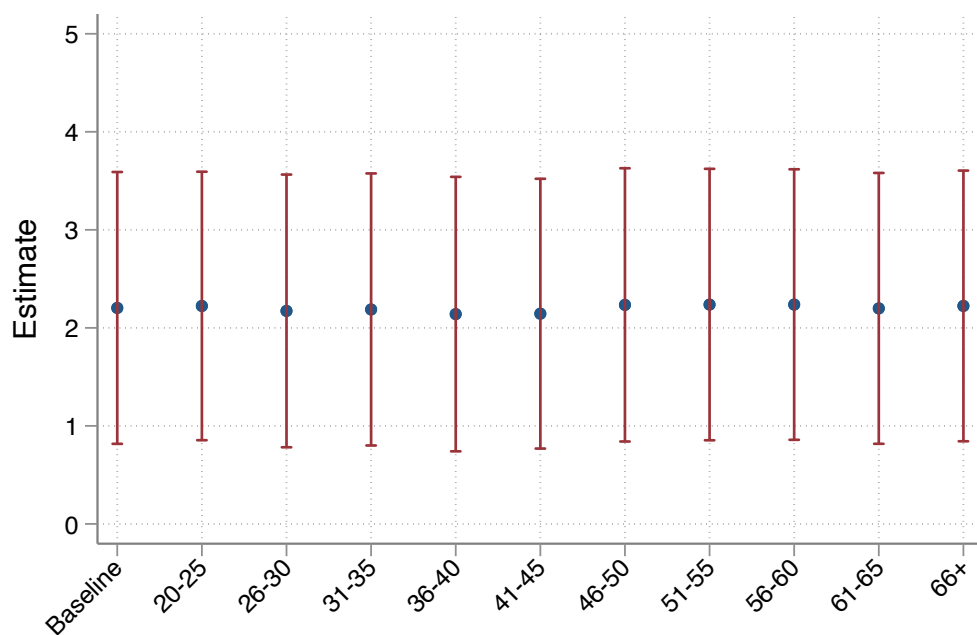
Notes. This figure shows the stability of difference-in-difference estimates to controlling for the share of the population in different age brackets interacted by a 1973 indicator. Each estimate comes from a separate regression that includes municipality and year fixed effects. The dark circle represents the point estimate and the vertical red line the 95 percent confidence interval.

Figure A.7: Robustness to excluding groups of municipalities

(a) Based on province

(b) Based on area

(c) Based on population

(d) Based on rurality
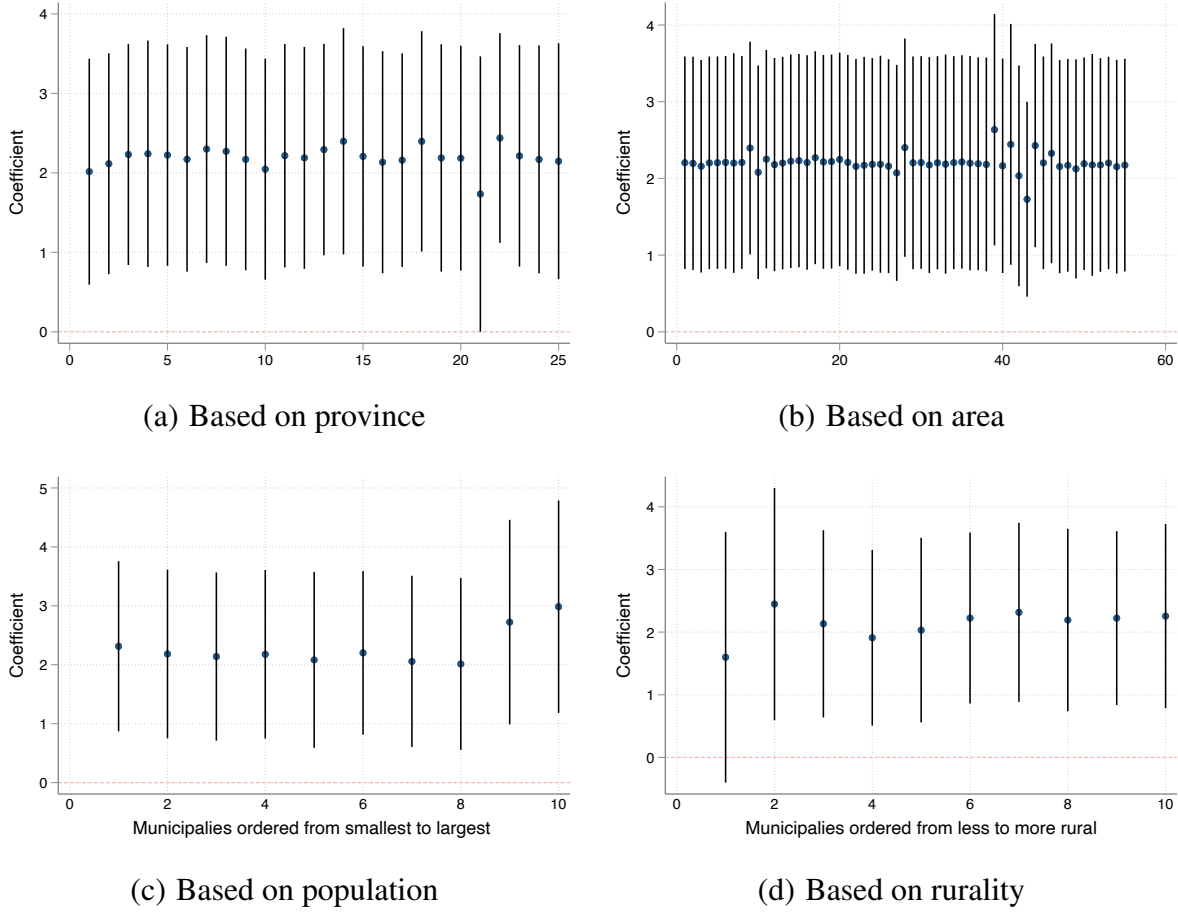
Notes. This figure presents the main regression from Table 5 (panel A, column 4), but excluding groups of municipalities one at the time. In panels (a) and (b) we repeat our main difference-in-differences estimation after dropping all municipalities in a province or area. There are 25 provinces and 55 areas. In panels (c) and (d), we ranked municipalities based on population size and rurality in 1970 and exclude groups of 30 counties one at the time. In both panels lower groups have less population and lower levels of share of rural population.

Figure A.8: Robustness to parallel trends assumption
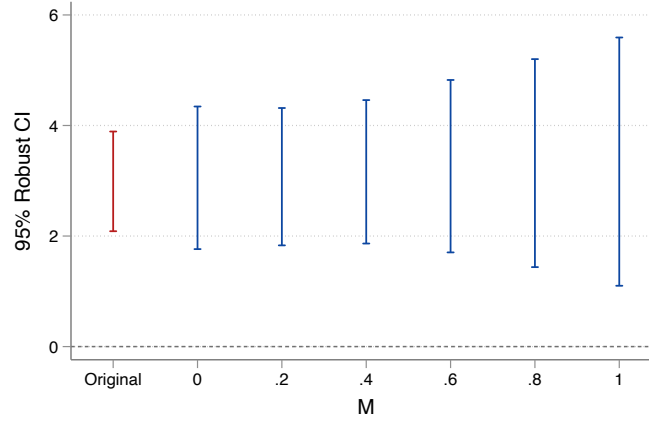
(a) Results using congress elections
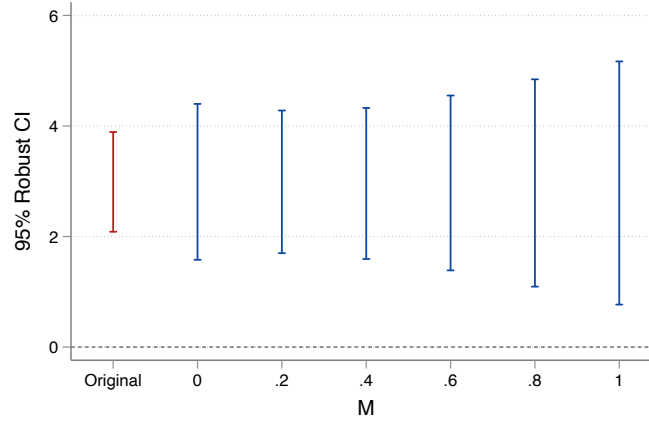
(b) Results using congress and local elections

Notes. These figures present the 95% confidence interval for the method suggested Rambachan and Roth (2023) that allows for linear ($M = 0$) or non-linear deviations ($M > 0$) of the parallel trends assumption. We define the maximum M using the trend that has the 80% against the null hypothesis of no pre-tend following Roth (2022). Moreover, using that pre-trend we compute the bias in the 1973 coefficient. For the sample of only congress elections, the trend is 0.96, which implies a bias 32% and a bias of 45% if we adjust for pre-testing bias, while for the extended sample the trend is 0.47, which implies a bias 31% and a bias of 44% if we adjust for pre-testing bias. Finally, we implement Dette and Schumann (2022) equivalence test by finding the minimal bound that would lead to rejection of the null hypothesis of non-negligible pre-trend differences at 5% (10%). In particular, we use the average of the pre-Allende coefficients to construct the test. We find that the minimal bound is 1.39 (1.18), thus representing a 54% (46%) of the coefficient for the 1973 election.

Figure A.9: Information campaign supporting the milk program

(a) Booklet

(b) National lottery poster

Notes. These figures present some of information and visual imagery deployed to increase the take-up of the milk program. Panel (a) shows the cover of a popular booklet distributed for free and titled "Open letter to chilean mothers" which informed about the nutritional benefits of milk and how to mix powdered milk. Panel (b) presents the example of one of many posters used to promote the national lottery game in which the milk program was prominently featured.

Table A.1: The fiscal cost of the milk program

	1970	1971	1972
Panel A: Fiscal accounts			
Real GDP (US$)	22,554	24,573	24,276
Fiscal revenues (US$)	4,163	4,058	2,438
Fiscal spending (US$)	4,419	5,740	3,835
Fiscal deficit (US$)	256	1,682	1,397
Deficit over GDP (%)	1.1	6.8	5.8
Panel B: Milk program			
Total cost of the program (US$)	–	–	139
Domestic	–	–	*14*
International	–	–	*125*
Deficit without milk program (%)	–	–	5.2

Notes. All data is in millions of 2003 U.S. dollars. Data for real GDP and fiscal accounts was originally constructed by Díaz et al. (2016). "Deficit over GDP" is defined as fiscal revenues minus fiscal spending over GDP of the same year. We use an exchange rate of 650 chilean pesos per dollar. Cost of the milk program in chilean pesos from Hakim and Solimano (1976).

Table A.2: Milk distribution and child hospital mortality, weighted results

	Dep. variable: Log children deaths over 1,000 consultations				
	0-4 yrs old			5-9 yrs	10-14 yrs
	(1)	(2)	(3)	(4)	(5)
Panel A					
Log milk distributed	-0.046***	-0.057***	-0.049*	-0.002	-0.011**
	(0.014)	(0.022)	(0.027)	(0.005)	(0.006)
Panel B					
Log milk distributed per child	-0.046***	-0.057***	-0.049*	-0.002	-0.011**
	(0.014)	(0.022)	(0.027)	(0.005)	(0.006)
Observations	805	805	805	805	805
Hospitals	154	154	154	154	154
Hospital fixed effects	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	N	N	N
Hours physicians	N	Y	Y	Y	Y
Area-year fixed effects	N	N	Y	Y	Y
Avg. dependent variable	1.176	1.176	1.176	0.064	0.049

Notes. This table presents our estimates for the effect of milk distribution on children mortality. All regressions include hospital and year (or area-by-year) fixed effects. Standard errors in parenthesis are clustered by hospital. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table A.3: Political results by political party

Dependent variable:	Vote share of party/coalition				
Party/coalition	Popular Unity	Socialist	Communist	Radical	Christian democracy
	(1)	(2)	(3)	(4)	(5)
Milk beneficiaries × 1973	3.42***	1.43**	0.78	0.91**	0.37
	(0.62)	(0.56)	(0.60)	(0.43)	(0.61)
Observations	1201	1201	1201	1201	1197
R-squared	0.904	0.903	0.935	0.889	0.923
Municipality fixed effects	Y	Y	Y	Y	Y
Area-by-year fixed effects	Y	Y	Y	Y	Y
Avg. dependent variable	42.12	13.01	13.77	13.99	29.25

Notes. This table presents our main difference-in-differences estimates using data for 301 municipalities observed in four congress elections (1961, 1965, 1969, and 1973). Column 5 presents an important check because the Christian Democrats were in the opposition coalition in 1973. 'Milk beneficiaries' is the (standardized) share of the population eligible for free milk at hospitals (0-4 years old). Standard errors in parenthesis are clustered by municipality. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table A.4: Heterogeneous relationship between the milk program and left-wing vote shares

Covariate:	Share of population with more than X years of education			Number of houses per capita in 1970	Distance to closest hospital delivering milk	Above median of household access to clean water
	6	8	12			
	(1)	(2)	(3)	(4)	(5)	(6)
Milk beneficiaries × 1973	2.14**	2.06**	1.86**	2.58***	2.55***	1.97***
	(0.96)	(0.91)	(0.73)	(0.66)	(0.72)	(0.57)
Milk beneficiaries × *Covariate* × 1973	-0.02	-0.07	-0.17	-0.32	0.23	0.48*
	(0.29)	(0.22)	(0.15)	(0.60)	(0.59)	(0.26)
Covariate × 1973 Election	-0.11	-0.30	-0.93	-0.62	-0.50	0.69**
	(0.88)	(0.90)	(0.72)	(0.58)	(0.61)	(0.31)
Observations	1201	1201	1201	1142	1201	1138
R-squared	0.94	0.94	0.94	0.94	0.94	0.84
Municipality fixed effects	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y
Avg. dependent variable	26.78	26.78	26.78	26.59	26.78	27.20

Notes. This table presents difference-in-differences estimates for the heterogeneous impact of the milk program by proxies for income and access to milk. All regressions use data for 301 municipalities observed in four congress elections (1961, 1965, 1969, and 1973). 'Milk beneficiaries' is the (standardized) share of the population eligible for free milk at hospitals (0-4 years old). Standard errors in parenthesis are clustered by municipality. Significance level: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A.5: Specification decisions and spatial controls

	Dependent variable: Left-wing vote share						
Alternative specification:				Additional geographic controls			
	Collapse pre/post	Weighted by adult population	Unweighted	Moran I	Lat-Lon polynomials	Centrality	LASSO selected
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Milk beneficiaries × 1973	2.20***	2.17***	2.45***	2.20***	2.24***	2.22***	3.18***
	(0.71)	(0.71)	(0.67)	(0.73)	(0.72)	(0.71)	(0.88)
Observations	602	1201	1201	1201	1201	1201	1187
R-squared	0.961	0.939	0.916	0.941	0.940	0.938	0.949
Municipality fixed effects	Y	Y	Y	Y	Y	Y	Y
Area-year fixed effects	Y	Y	Y	Y	Y	Y	Y
Avg. dependent variable	29.41	26.78	26.78	26.78	26.78	26.78	26.80

Notes. This table presents difference-in-differences estimates for the impact of the milk program on 1973 electoral outcomes. We use data for 301 municipalities observed in four congress elections (1961, 1965, 1969, and 1973). Each column presents results from a different robustness exercise. 'Milk beneficiaries' is the (standardized) share of the population eligible for free milk at hospitals (0-4 years old). Standard errors in parenthesis are clustered by municipality. Significance level: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A.6: Matching results

	Binary treatment	Control for pscore	Crump et al. (2009)	Yang and Ding (2018)	Abadie (2005)	Sant'Anna and Zhao (2020)
			Dependent variable: Left-wing vote share			
			Matching method:			
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: LASSO						
Milk beneficiaries × 1973	3.26***	2.62***	4.32***	2.84***	2.75**	2.90**
	(1.15)	(0.90)	(0.83)	(0.89)	(1.33)	(1.47)
Observations	1201	1190	1055	1190	1201	1201
R-squared	0.937	0.940	0.933	0.915		
Avg. dependent variable	26.78	26.80	26.90	26.80	26.78	26.78
Panel B: Women						
Milk beneficiaries × 1973	3.26***	1.65**	2.20***	2.45***	5.93**	3.72***
	(1.15)	(0.75)	(0.71)	(0.67)	(2.58)	(1.17)
Observations	1201	1201	1198	1201	1201	1201
R-squared	0.937	0.939	0.938	0.916		
Municipality fixed effects	Y	Y	Y	Y	Y	Y
Area-year fixed effects	Y	Y	Y	Y	N	N
Year fixed effects	N	N	N	N	Y	Y
Avg. dependent variable	26.78	26.78	26.77	26.78	26.78	26.78

Notes. This table presents matching difference-in-differences estimates for the impact of the milk program on 1973 electoral outcomes. We use data for 301 municipalities in four congress elections (1961, 1965, 1969, and 1973). Column 1 uses as treatment a dummy that takes the value one if the share of population eligible for milk is above the median. Based on this dummy we construct a propensity score that in panel A uses as covariates the share of population with more than 12 years of education, a dummy for a military base, and turnouts in the 1967, 1965, and 1963, these set of covariates was chosen using Belloni et al. (2014). Panel B uses the share of women and the share of married women both based on the 1970 Census. Column 2 controls for a set of dummies based on the quintiles of the empirical distribution of the propensity score interacted with year fixed effects. In column 3, we follow Crump et al. (2009) and truncate the sample based on the propensity score using the optimal cut-off which are 11% in panel A and 14% in panel B. In column 4, instead of truncating the sample, we use a decaying function as suggested by Yang and Ding (2018). In columns 5 and 6, we estimate the model suggested by Abadie (2005) and the doubly-robust method proposed Sant'Anna and Zhao (2020). Milk beneficiaries is the (standardized) share of the population eligible for free milk at hospitals (0-4 years old). Standard errors in parenthesis are clustered by municipality. Significance level: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A.7: Robustness to institutional presence and isolation/access

	Dependent variable: Left-wing vote share						
	Institutional presence			Isolation/access			
Additional controls:	Churches per capita	Indicator military base	Social organizations	Airports	Distance to airport	Ports	Distance to port
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Milk beneficiaries × 1973	2.19***	3.13***	2.24***	2.91***	2.12***	2.26***	2.21***
	(0.71)	(0.88)	(0.71)	(0.72)	(0.74)	(0.73)	(0.71)
Observations	1201	1201	1201	1201	1201	1201	1201
R-squared	0.938	0.938	0.938	0.938	0.938	0.938	0.938
Municipality fixed effects	Y	Y	Y	Y	Y	Y	Y
Election fixed effect	Y	Y	Y	Y	Y	Y	Y
Area-year fixed effects	Y	Y	Y	Y	Y	Y	Y
Avg. dependent variable	26.78	26.78	26.78	26.78	26.78	26.78	26.78

Notes. This table presents difference-in-differences estimates for the impact of the milk program on 1973 electoral outcomes. We use data for 301 municipalities observed in four congress elections (1961, 1965, 1969, and 1973). Each column presents results from a different robustness exercise. Milk beneficiaries is the (standardized) share of the population eligible for free milk at hospitals (0-4 years old). Standard errors in parenthesis are clustered by municipality. Significance level: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A.8: Votes by gender, robustness to matching estimators

	Dependent variable:									
	Left-wing vote share					Turnout				
	Binary treatment	Crump et al. (2009)	Yang and Ding (2018)	Abadie (2005)	Sant'Anna and Zhao (2020)	Binary treatment	Crump et al. (2009)	Yang and Ding (2018)	Abadie (2005)	Sant'Anna and Zhao (2020)
Panel A: Women	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Milk beneficiaries × 1973	3.85**	3.14***	1.97**	3.91*	3.17**	1.12	1.43	-0.36	1.27	0.06
	(1/64)	(0.59)	(0.78)	(2.10)	(1.62)	(1.51)	(1.33)	(0.81)	(1.69)	(1.27)
Panel B: Men										
Milk beneficiaries × 1973	-3.05	0.13	1.39	-1.87	-1.64	-0.82	0.29	-1.03	0.51	-0.87
	(4.09)	(1.89)	(1.89)	(3.87)	(3.38)	(1.80)	(1.70)	(0.74)	(1.47)	(0.99)
Observations	598	598	598	598	598	598	598	598	598	598
Avg. dependent variable	37.14	37.14	37.14	37.14	37.14	37.14	37.14	37.14	37.14	37.14
Municipality fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes. This table presents matching difference-in-differences estimates for the impact of the milk program on 1973 electoral outcomes. We use data for 301 municipalities observed in four congress elections (1961, 1965, 1969, and 1973). Each column presents results from a different robustness exercise. Milk beneficiaries is the (standardized) share of the population eligible for free milk at hospitals (0-4 years old). Standard errors in parenthesis are clustered by municipality. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table A.9: Votes by gender, heterogeneity analysis

	Dependent variable:			
	in *male* voting booths		in *female* voting booths	
	UP vote share	Turnout	UP vote share	Turnout
	(1)	(2)	(3)	(4)
Milk beneficiaries × 1973	-1.13	1.76	2.51***	0.72
	(2.02)	(1.39)	(0.73)	(2.07)
Milk beneficiaries × 1973	-1.71	-3.71	2.12*	-1.80
× Low UP support in 1969	(3.33)	(2.84)	(1.10)	(2.09)
Low UP support in 1969 × 1973	26.72***	-1.91	9.05***	-3.70***
	(2.96)	(1.41)	(1.31)	(1.06)
Observations	594	594	594	594
Municipality fixed effects	Y	Y	Y	Y
Election fixed effects	Y	Y	Y	Y
Avg. dependent variable	37.14	46.73	31.16	43.10

Notes. This table presents heterogeneous difference-in-differences estimates for the impact of the milk program on 1973 electoral outcomes. We use data for 297 municipalities observed in two congress elections (1969, 1973). Milk beneficiaries is the (standardized) share of the population eligible for free milk at hospitals (0-4 years old). 'Low UP support in 1969' is an indicator that takes the value one if the UP vote share in 1969 in male booths (columns 1 and 2) or female booths (columns 3 and 4) was in the bottom quartile of the empirical distribution.