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# COPING WITH FINANCIAL FRAGILITY: DUTCH HOUSEHOLDS IN THE GREAT DEPRESSION\*

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## Abstract

We analyze the financial behavior of Dutch households during the Great Depression with household level data on income and expenditure from contemporary budget surveys. We find that five years into the Great Depression most Dutch households still managed to cope financially. This was even true for people who temporarily lost their jobs. They received social benefits, scaled back consumption, and used previously created financial buffers to absorb the income shock. Very low levels of household debt shielded them from bigger financial problems. Only the long-term unemployed—six per cent of all households in 1937—could not make ends meet and fell into poverty.

## 1 Introduction

The Wall Street crash of 1929 triggered a deep depression across the world wreaking havoc on the lives of ordinary people, who lost their jobs, homes, and businesses. Central governments responded to the crisis with large-scale employment programs, increased social spending, and emergency credit schemes. This public intervention was a key breakthrough in the emergence of the modern welfare state (Lindert, 2004; Fishback and Wallis, 2013; Van Leeuwen, 2016; Boyer, 2019). Yet, social historians maintain that this public effort was limited in scope and left many households in miserable living conditions with hardly enough to eat, threadbare clothes, rent arrears, repeated removals, and mounting debts (Potts et al., 2006; MacKinnon, 1990; O’Connell, 2009). To resolve this paradox we have to look at the differences that existed between households. Instead of studying a specific social group or a particular kind of coping mechanism, we

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must consider the population at large and the full range of solutions they could use to overcome the financial consequences of the Great Depression.

In this paper we analyze how households in The Netherlands coped with the crisis. Like elsewhere, there is a rich literature on the macro-economic circumstances during the Depression, including detailed reconstructions of total unemployment and local and central government policies (de Rooij, 1979; Kloosterman, 1985; Drukker, 1990; Van Zanden, 1998; den Bakker, 2019). The country was hit hard with over fifteen per cent of its workforce unemployed between 1931 and 1938 (Figure 1, Panel A). There was a social safety net in place with unemployment funds governed by the trade unions but they only provided for their members for a period of up to twelve months. After that unemployed workers had to do right from the start (Berger, 1936; Nijhof and Schrage, 1984; van Gerwen and van Leeuwen, 2000; Wals et al., 2001; Maas, 2021).<sup>1</sup> As the crisis continued a growing number of people fell under this regime. By 1937 more than half of the unemployed had been without a job for more than 2 years, a quarter of the unemployed for more than four years (Centraal Bureau voor de Statistiek, 1937).

[Figure 1 about here]

Obviously, the financial situation of the long-term unemployed and their families was very problematic. Their income declined, they lived on meagre diets, wore threadbare clothes, and increasingly showed symptoms of poor health (Huberts, 1940; de Rooij, 1979; de Regt, 1984; Leydesdorff, 1987; Heerma van Voss, 1992; Tammes, 2012). But what about workers who retained their work or faced unemployment for a limited period only? Did these families struggle as well or did they have financial reserves to fall back on? Figure 1 (Panel B) shows that rising labor productivity had pushed up real wages since 1910 and this trend continued several years into the Depression as a result of declining retail prices (Keesing, 1947; van Ark and De Jong, 1996). The disposable income of blue and white collar workers increased (Figure 1, Panel C) and so did the average balance of people's savings (Figure 1, Panel D). Were these improvements enough to help households that did not face long-term unemployment to pull through the crisis?

To find out which households were financially vulnerable in The Netherlands in the 1930s and how they coped with this situation we analyze a series of local and national budget surveys carried out between 1932 and 1937.<sup>2</sup> Four local surveys looked at unemployed breadwinners in The Hague, Amsterdam, and Utrecht between 1932 and 1937. Two national surveys considered the households of employed and unemployed breadwinners in the rest of the country in 1936 and 1937. Each survey recorded all incoming and outgoing cash flows, with more or less detailed specifications of home production, gifts, savings, loans, and insurance. We use these data to measure people's use of a wide range of coping strategies: mutual insurance, social benefits, the distribution of food, fuel, and clothing, by-employment, help received from relatives and friends,

<sup>1</sup>In 1934 the government responded to falling consumer prices and reduced the weekly benefits with ten per cent, and in 1936 the cities stopped paying housing benefits. On the other hand, the government started paying extra to petty farmers and agricultural labourers to keep them from abandoning their homes in search of work elsewhere (Hendriks and Gelderblom, 2022)

<sup>2</sup>The replication data for our analysis can be found here: <https://doi.org/10.34934/DVN/SHRQFN>.

reduced consumption, shop-credit and installment loans, and withdrawals of financial reserves built up before the crisis.

The paper is organized as follows. In Section 2 we develop our analytic framework. Section 3 introduces the crisis surveys. Section 4 analyzes the income and expenditure of the unemployed in the big cities between 1932 and 1935, section 5 that of the unemployed in the rest of the country in 1936 and 1937. Section 6 describes, for 1936 and 1937, income, consumption, and financial behavior of households that did not face long-term unemployment. Section 7 compares the composition of income and expenditure between more and less vulnerable households. Section 8 concludes.

## 2 Coping Mechanisms

To analyze how households cope with financial insecurity we build on insights from modern household finance, development economics and social history. From this literature it is clear that making ends meet requires a constant adjustment of income to expenditure, reducing or postponing consumption, working additional jobs, taking out loans, and drawing upon whatever savings or insurance policies there may be (Hufton, 1976; Dercon, 2002; Collins et al., 2010; Banerjee and Duflo, 2011; Morduch and Schneider, 2017; Guiso and Sodini, 2013; Tufano, 2009).<sup>3</sup> Households with higher and more stable incomes may be less concerned about their primary expenses but they will have to decide how much money they want to save, whether they want to borrow in anticipation of future income, or take out insurance to cope with unexpected costs or loss of income (Morduch and Schneider, 2017; Morduch, 1995).

In theory, households can choose to organize their finances all by themselves, making cash payments only and hoarding whatever surpluses they have to deal with unexpected future expenses. In practice, however, people often rely on others to organize at least part of their payments, loans, savings, and insurance. In OECD countries these services are mostly provided by either financial intermediaries or the government but there is a very important third channel: the financial dealings people have with relatives, neighbors, shopkeepers, employers, church communities, or private charities (Figure 2).

[Figure 2 about here]

In the first half of the twentieth century the form and function of each of these arrangements differed strongly between countries. Take, for instance, the organization of social security. In England poor relief was organized at the local level (Boyer, 2019); in Prussia the central state offered a national pension scheme (Lehmann-Hasemeyer and Streb, 2018); in France, Belgium, and The Netherlands social welfare was left in the hands of employers, trade unions, and the church (van Gerwen and van Leeuwen, 2000; Wals et al., 2001; Dutton, 2002; Nijhof, 2009). When the Great Depression hit, national governments everywhere stepped up their support for households in distress, but important differences remained. The New Deal in the US amounted to a greatly expanded federal effort to support people financially, employ, and educate them (Baicker and Katz, 1998; Fishback and Wallis, 2013); in Australia separate states and

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<sup>3</sup>In addition to these measures aimed at the adjustment of cash flows, households also benefited (or suffered) from the choices they made with regard to education, employment, marriage, residence, and family planning. Cf. (Morduch, 1995).

the federal government became involved (Fishback, 2012); in Canada and Europe most relief and work programs were grafted on existing social structures (de Rooij, 1979; Nijhof and Schrage, 1984; MacKinnon, 1990; Dutton, 2002; Boyer, 2019).

The supply of financial services to households also differed between countries. In the US, for instance, commercial finance was already important at an early stage (Prasad, 2012; Fishback, 2020). In the late nineteenth century blue collar workers turned in large numbers towards private insurance companies for financial support in case of illness, disability, and death, while salaried employees took out payday loans to smooth consumption (Easterly, 2009; Levy, 2012). In the 1920s this financialization intensified when broad shifts of society starting buying consumer goods on credit (Olney, 1999; Hyman, 2012; Calder, 1999). Then, when Wall Street crashed in 1929 and many people lost their jobs in subsequent years, numerous households defaulted on their loans and commercial credit dried up (Mishkin, 1978; Romer, 1990; Olney, 1999; Gärtner et al., 2013). At that point the US government stepped in with a system of loan guarantees to stimulate commercial banks to keep lending, while many households chose to deposit their money with the US Postal Savings Bank. (Hyman, 2012; Schuster et al., 2020)

Financial sector use was different in Europe (Eichengreen and Mitchener, 2004). New forms of consumer credit did appear in the second half of the nineteenth century but most governments took active steps to shield poor households from over-indebtedness. They kept the centuries old system of closely monitored public and private pawn shops in place, and everywhere savings banks were created by either philanthropic associations, rural cooperatives, or the national postal services (Dankers et al., 2001; Lehmann-Hasemeyer and Streb, 2018; Colvin, 2017). There was room in Europe for commercial companies to sell funeral and life insurance to households, but burial costs in particular were often insured by mutual societies (Van Leeuwen, 2016; Berg, 2018). Indeed, the grafting of financial services on social networks was a dominant feature in European household finance before World War II (Guinnane, 2001; O'Connell, 2009; Deneweth et al., 2014).

We know much less about households' use of social networks proper. There is ample evidence that local shopkeepers allowed customers to pay their bills only once a week or month, but whether this type of credit became more or less common during the crisis is unknown (Gelderblom et al., 2021). The same is true for rent payments. Under normal circumstances landlords were willing to accept some arrears, but historians have found evidence that during the Depression poor households kept moving from one place to the next to escape rent payments (Kok, 1999; Kok et al., 2005; Fishback et al., 2006; Potts et al., 2006). Indeed, the Depression may have accelerated the breakdown of social networks that accompanied industrialization. In the US looking for jobs elsewhere limited people's ability to receive help from family and friends. (Fishback et al., 2006; Boustan et al., 2010). On the other hand, in Canada and England financial support from relatives was often the only means to survive because poor relief was means tested and not provided if the family could help (MacKinnon, 1990; Boyer, 2019). This raises the question to what extent financially vulnerable households were thrown upon themselves?

### 3 The Data: Crisis Surveys

Between 1931 and 1935 three of the four major cities in The Netherlands commissioned budget surveys to monitor the living conditions of the unemployed. The municipalities of The Hague (1932, 1935), Amsterdam (1934), and Utrecht (1935) wanted to find out about the food intake and health condition of people without jobs (cf. figure 3).<sup>4</sup> The surveys were small, covering anywhere between 70 and 130 households, and they dealt with very specific groups. The Hague's first survey was limited to trade union members who had exhausted their drawing rights on the union's mutual unemployment fund after one year of unemployment. Two years later Amsterdam recruited from the recipients of the city's local relief fund both union members and unorganized workers who had been unemployed for more than one year. In 1935 Utrecht considered only syndicated workers who had been without a job for at least one year, while The Hague looked at the short-term and long-term unemployed among union members and unorganized workers, plus a third group of disabled men, widows, and divorced women who had never had a job.

[Figure 3 about here]

To put the results into perspective, Amsterdam, The Hague and Utrecht looked at each other's outcomes and they compared the living standards of the unemployed with those of blue and white collar workers whose budgets had been surveyed in previous years. The evident value of such benchmarking led the central government to commission a nationwide budget survey in the spring of 1935. The national bureau of statistics CBS set about measuring the living conditions of 598 households which had not been confronted with long-term unemployment. The CBS sample did contain 66 households who had experienced unemployment for shorter periods of time (23 weeks on average), plus thirteen households whose breadwinner was employed in a public work programme.

While the preparations for this first national survey got underway Dutch parliament requested a second investigation of the living conditions of the long-term unemployed. Early in 1936 the Ministry of Social Affairs appointed a special committee to examine the nutrition, health condition, and financial situation of 700 households whose breadwinner had been unemployed during the past two years and for at least six months without interruption during the actual survey. The latter requirement proved too strict, especially for rural households whose breadwinners often found temporary farming work in the summer months. Hence the results show households earning some wages besides the state support that made up the bulk of their income.

Both national surveys aimed to investigate a broad group of households. CBS included labourers and civil servants like the urban surveys but also added

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<sup>4</sup>The Dutch attempts to monitor the living conditions of people who had lost their jobs was not unique. Vanthemsche (2019) has documented the conduct of budget surveys among the unemployed in Austria, Belgium, Poland, Czechoslovakia, Britain, France, and Italy between 1931 and 1936; In 1993 Robert Margo pointed to the Study of Consumer Purchases, a survey among 300,000 (!) households carried out in 1935 and 1936 by the US Department of Labor. Hausman (2016) has used this survey to analyze the financial behavior of war veterans. Rosentiel (2010) used a set of 21 US wide opinion polls held by the American Institute of Public Opinion with answers from 63,052 people about their wellbeing in 1936 and 1937. Roberts (2016) documents the existence of two Depression surveys in Canada among a much larger number of regular surveys.

small business owners, free professionals, farmers and farmhands. The Ministry aimed for a mix of municipalities with varying economic structures which also belonged to eight different classes of maximum benefits paid to individual households. In both cases this resulted in a wide geographical spread of the households investigated (figure 4). The densely populated west is relatively under-represented in both national samples, especially compared to the earlier local surveys of The Hague, Amsterdam and Utrecht. Several medium-sized cities do feature the surveys, with 42 per cent of the 598 households living in the municipalities of Groningen, Eindhoven, Heerlen, Tilburg, and Enschede, and 31 per cent of the 700 unemployed living in or nearby Groningen, Eindhoven, Leiden, Heerlen, Dordrecht, and Amersfoort.

[Figure 4 about here]

To further gauge the representativeness of the two surveys we can compare the distribution of income to national figures derived from tax records. Table 1 reports the income distribution among the 598 and 700 households surveyed and the national income distribution. Middle income groups are slightly over-represented in the sample of the 598, while lower income groups are clearly underrepresented, with 31 per cent against 46 per cent for the Netherlands as a whole. We cannot really compare the annual income of the 700 unemployed to the population at large because more than half of them received less than 800 guilders – a category for which we do not have national data. On the other hand, among the unemployed earning 800 guilders or more there were only 17 with incomes over 1,400 guilders per year. Clearly, the survey conducted by the Ministry of Social Affairs captured the lowest ranking households in the national income distribution.

[Table 1 about here]

We have to reckon with several other biases in the crisis surveys. For one thing, the investigators aimed to recruit responsible respondents whom they could trust with the careful completion of their weekly accounts (van Braam, 1958). For another, the two surveys mainly considered married couples, most of them with children. Single households were almost completely absent among the 598 and 700, while they made up fifteen per cent of all Dutch households. A similar bias existed in the age distribution. The elderly account for one per cent of the households in the two national samples against nine per cent for the entire country (CBS, 1938). Since the two categories – old and single – partially overlapped, the two national surveys likely relate to 80 per cent of the households outside the big cities.

Keeping in mind the limitations of the crisis surveys, they do allow us to measure the relative importance of several coping strategies, notably the ones related to cash flow management.<sup>5</sup> We can observe self-reliance through reduced consumption of the basic necessities food, shelter and clothing, through home production and room and board offered to lodgers. The surveys also give information on financial buffers in the form of home ownership and the use of savings. Government support is captured by the social benefits received by the unemployed. Aid from social networks appears in the form of gifts from relatives

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<sup>5</sup>Budget surveys are less suitable for the study of longer term, life-cycle strategies, such as marital choice, education, (self-)employment, or migration. But more can be done: Kok et al. (2005) show how population registers, poor relief records, and pension fund data can be used to reconstruct such behavior. For the US, Fishback et al. (2006) and Boustan et al. (2010) use census data to analyze the displacement of households.

and the church, although some surveys also subsumed food and fuel provided by the government under this heading.<sup>6</sup> Financial services provided by third parties are captured by households' use of various types of loans, insurance and pensions.

## 4 The Urban Surveys

The Hague, Amsterdam and Utrecht surveyed the budgets of households who depended on social benefits to sustain their livelihood – most of them with a breadwinner who had lost his job more than a year ago. Weekly payments from their municipal boards of assistance, *Maatschappelijk Hulpbetoon*, made up 75 to 85 percent of the household income (see table 2). Incidental wages earned by individual family members, either in temporary jobs or in local or national work programs, added between five and twenty per cent to the household budget. The families also received gifts from relatives or the church but these were incidental extra's that never amount to more than a few per cent of the household income. Surely, some income will have gone unnoticed, but home visits by the interviewers and the careful reviewing of accounts submitted made it virtually impossible to conceal large sums. Unsurprisingly, the families did not report the use of any savings, which – if they had not been exhausted already – would have disqualified families from receiving benefits (Regt, 1985). Still, the investigators noticed that sometimes households managed to set aside small amounts to pay the rent or electricity bill (*Statistisch Bureau der Gemeente 's-Gravenhage*, 1934).

[Table 2 about here]

The financial fragility of the urban households is immediately apparent from the composition of their expenditure. Table 3 shows that three quarters of their consumption consisted of food, shelter and clothing. If we include fuel and electricity primary consumption amounts to 85 per cent of the budget (*Commissie tot onderzoek van den gezondheids- en voedingstoestand der werkloozen*, 1940). Funeral and health insurance premiums added another 3.4 to 7.7 per cent to the expenses.<sup>7</sup> Food was the single most important category with 38 to 43 per cent of total expenses. The hardship behind these percentages becomes clear when we consider the food consumption of employed labourers in Amsterdam in 1934 – documented in a separate survey of the budgets of 184 of blue and white collar workers. These labourers also spent one third of their income on food but the actual amount was 250 guilders higher than that of the unemployed, which meant more meat, dairy, vegetables, and fruit, and far fewer potatoes and stale bread. Compared to labourers with work, the unemployed also spent less on clothes and footwear.

[Table 3 about here]

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<sup>6</sup>Purchases at reduced value were valued by taking the difference between the market price and the price that was actually paid by the household.

<sup>7</sup>In The Hague in 1932 85 out of 90 households paid for funeral insurance, and 79 contributed to a health insurance fund (*ziekenfonds*) (*Statistisch Bureau der Gemeente 's-Gravenhage*, 1934). In Amsterdam in 1934 72 out of 78 households paid for funeral (64) or life insurance (8) while 31 households also paid premiums on other policies, mostly for medical costs (21). Two households had health insurance only (*Bureau van Statistiek der Gemeente Amsterdam*, 1937). In 1935 in The Hague 60 out of 63 households paid for funeral insurance and 34 households had health insurance (*Statistisch Bureau der Gemeente 's-Gravenhage*, 1934).



Housing also burdened the unemployed with rent costing them up to 30 per cent of their income. This was not because housing as such was expensive. For instance, Amsterdam's vacancy rate went up during the crisis and rents even declined somewhat (Korevaar, 2021; Statistisch Bureau der Gemeente 's-Gravenhage, 1934; Commissie tot onderzoek van den gezondheids- en voedingstoestand der werklozen, 1940). The problem was that the unemployed could not or did not want to move because removals were costly, both financially and in terms of the weakening of social ties (Kok et al., 2005). Instead they chose to spend less on food, clothing, and other items, rented out rooms, took in lodgers, and sometimes ran up rent arrears (Commissie tot onderzoek van den gezondheids- en voedingstoestand der werklozen, 1940). The government offered additional support with housing benefits of up to 1.50 guilders per week – a supplement two thirds of the unemployed in Amsterdam received in 1934 (Bureau van Statistiek der Gemeente Amsterdam, 1937). Even so, removal could not always be avoided, and in some cases families that had run up rent arrears were actually forced to move to more expensive housing (Bureau van Statistiek der Gemeente Amsterdam, 1937).

In their reports the statistical bureaus of The Hague and Amsterdam used insurance payments to illustrate the financial retrenchment of the long-term unemployed. In The Hague in 1932 they observed only a few terminations, mostly of fire- and accident insurance. Two years later one third of the unemployed in Amsterdam had stopped paying for health insurance while in The Hague in 1935 the share of households with health insurance had fallen to 54 per cent, against 88 per cent in the sample of 1932 (Statistisch bureau der gemeente 's-Gravenhage, 1940; Bureau van Statistiek der Gemeente Amsterdam, 1937). Investigators also found several people who liquidated a life insurance policy, made it free of premiums, or pledged it as collateral for an emergency loan.<sup>8</sup> Payments for funeral insurance continued, however, to ensure the family's respectability. One unemployed dock worker in Amsterdam declared that he was paying for his mother-in-law's policy to avoid the indignity of a poor man's burial (Bureau van Statistiek der Gemeente Amsterdam, 1937).

Well aware of the very tight budgets the researchers also inquired about the use of credit to make ends meet. This was a delicate question to ask, and the interviewers were instructed not to insist during their home visits (Bureau van Statistiek der Gemeente Amsterdam, 1937). However, sifting through the completed accounts allowed the cities' statisticians to trace two types of credit: installment loans and shop credit and cash loans received or repaid (Bureau van Statistiek der Gemeente Amsterdam, 1937; Statistisch Bureau der Gemeente 's-Gravenhage, 1934). These data, summarized in Table 4, show that between 30 to 65 per cent of the unemployed either used one or both forms of credit. The amounts were very small, however, never more than 0.3 to 2.3 per cent of the household's annual budget.

[Table 4 about here]

This apparent contradiction—frequent use but very small amounts—stemmed from the specific role of credit in people's finances. Most loans were bills outstanding, often for food, or small amounts borrowed from relatives to avoid indebtedness with the baker, grocer or milkman. Credit was an instrument for

<sup>8</sup>Bureau van Statistiek der Gemeente Amsterdam (1937); cf. also Fruin (1943) for the use of pension claims as loan collateral.

cash flow management, not a means to substantially increase one's disposable income (Bureau van Statistiek der Gemeente Amsterdam, 1937; Statistisch Bureau der Gemeente 's-Gravenhage, 1934). To be sure, installment credit was used to anticipate future earnings but in the surveyed budgets these debts often dated from before the breadwinner's unemployment. In a few cases they paid for a bicycle or a sewing machine, purchases that may have helped them to generate some additional income. The few instances in which households ran up larger debts typically coincided with aggravating circumstances like long-term illness of one of the family members (Bureau van Statistiek der Gemeente Amsterdam, 1937).

## 5 The Long-Term Unemployed

The picture that emerges from the urban surveys is one of households living from hand to mouth because they had lost their principal source of income. As the crisis continued the number of people in this situation increased both within and outside the cities. By the beginning of 1937 probably some six per cent of all breadwinners had been unemployed for at least two years.<sup>9</sup> The national survey of the Ministry of Social Affairs in 1937 revealed a financial situation for the long-term unemployed as tight as that of the urban unemployed a few years earlier. The mean disposable income of these 700 households was 850 guilders (table 5). That was even lower than in the cities because the maximum amount of Steun families were entitled to varied with the size of their municipality. Otherwise, the composition of the budgets was very similar. Social benefits made up 75 per cent of income on average Wages earned in public work programs and other incidental earnings by family members amounted to 16 per cent on average. Many households received gifts but the amounts involved were very small, just like the food stocks families drew on. Spending was limited to a bare bone basket of life necessities. Food consumed half of their budget, housing 32 percent, and clothes and footwear another 8 per cent. If we follow the Ministry's decision to include insurance in these basic expenses, the share of life necessities stood at 95 per cent, which meant that social benefits secured a minimum level of subsistence, nothing more.<sup>10</sup>

[Table 5 about here]

The budgets of the unemployed were so tight that the average consumption of the 700 households exceeded their average income by 39 guilders. Some households still managed to run a surplus but two thirds of them spent more than they received over the course of the survey period. These families entered a vicious circle of cash and credit, in which they used the benefits they received to pay off the baker, the grocer, and other shopkeepers, only to buy their new supplies on tick again. Most debts remained small, however, as households tried very hard to make ends meet (cf. *infra*). During their home visits the interview-

<sup>9</sup>In January 1937 the national bureau of statistics estimated that about half the unemployed men aged 25 years and over had been without work for at least two years (Centraal Bureau voor de Statistiek, 1937; Graaf, 1987). According to Bakker den Bakker (2019, 430) total unemployment dropped from 17.5 per cent in 1936 to slightly below 15 per cent in 1937, with 69 per cent of the unemployed being breadwinners.

<sup>10</sup>A similar situation existed in England, where households receiving poor relief saw their disposable income rise to subsistence level, but not beyond (Boyer, 2019; Hatton and Bailey, 1998).

ers also noticed that parents and children were wearing down their clothes and shoes (Commissie tot onderzoek van den gezondheids- en voedingstoestand der werkloozen, 1940). Sometimes this forced them to buy new items on credit but mending, altering, and passing on clothes from one family member to the next were the more common option, while several women enrolled in sewing courses to learn how to make repairs (Commissie tot onderzoek van den gezondheids- en voedingstoestand der werkloozen, 1940; Tanis, 2021)

The threadbare clothes and shoes of the long-term unemployed and their families became the subject of yet another survey initiated by the Socialist Party (SDAP) (NVV and SDAP, 1935). The scientific bureau of the SDAP engaged the party's local clubs of social-democratic women to investigate the clothes, shoes, and other household effects owned by low-income households. In September and October of the same year the women visited the homes of 3,796 families in 102 municipalities. In sixty per cent of these households the breadwinner was unemployed.<sup>11</sup> The survey revealed serious shortages. Up to forty per cent of the housewives interviewed reported they did not have enough underwear, outerwear, shoes, blankets, and towels. Asked about the first three things they would buy if they had money again, they invariably responded: clothes, footwear, and bedding (Inv, 1937).

The Socialists also drew attention to another problem that is at the heart of our current investigation: the growing number of families running up debts. The most important ones (43 per cent of the sum total of all households) were overdue insurance premiums and doctor's bills. In and by itself this was not unusual. Insurance companies used local agents to go door-to-door in their own neighborhood to collect the often very small, weekly premiums. The agents worked on a commission basis and to prevent policies from becoming void, they covered for clients who fell behind on their contributions (Deneweth et al., 2014; Moerman, 2012). Other debts entailed a similar accumulation of arrears with shopkeepers for foodstuffs, clothing and bedding (34 per cent) and for household items like radio's, vacuum cleaners, or sewing machines (22 per cent). The interviewers also asked about the use of more impersonal pawnshop tickets, but these only accounted for 1.5 per cent of debts outstanding.<sup>12</sup>

The Socialist committee also reported the distribution of these debts across different parts of the country and across different income groups (see Table 6). Two things stand out. On the one hand, most households had very little debt. The average arrears of households earning 25 guilders or more – a group with less than 20 per cent unemployment – did not amount to more than a week's wage. Only families with a weekly income of less than ten guilders – 80 per cent of whom were unemployed – had debts worth a month's wages or more. On the other, indebtedness was higher in the countryside than in the cities. The reason was, according to the investigators, that shopkeepers in rural communities continued to allow their customers to buy on credit, while urban retailers were cutting back on shop credit – an explanation consistent with what we know about payment conventions in the countryside as well as

<sup>11</sup>The survey was based on a stratified sample based on people's residence and their weekly income. 80 per cent of the households in the sample earned less than 25 guilders per week (or 1,300 guilders per year) and half of this group even less than 15 guilders per week (Inv, 1937)

<sup>12</sup>Not included were contributions to various associations and rent arrears. Mortgage payments were not included either as they substituted for rent payments. All amounts are lower bound estimates as some families were reluctant to answer questions about loans (Inv, 1937).

the financial difficulties faced by small businesses during the Great Depression (Peeters, 2021).

[Table 6 about here]

## 6 The Survey of 598 Households

To measure the livings standards of households that did not face long-term unemployment, CBS copied the basic set-up of the surveys conducted in The Hague and Amsterdam but added several elements to probe deeper into their financial situation. Besides standard questions about income and expenditure on food, rent, clothing, and other consumer goods, CBS asked about home grown food, gifts in kind, rent received from lodgers, the use of savings and loans, and the various types of insurance they paid. The summary statistics of the 598 households show that they were much better off financially (table 7). The average income was 2,255 guilders and food, shelter, and clothing amounted to only 61.5 per cent of their consumption.<sup>13</sup> Contrary to the long-term unemployed, the average household with work, could spend more than a third of its income on leisure, travel, healthcare, insurance, taxes, subscriptions and contributions to the church and other organizations.

[Table 7 about here]

The data CBS collected on various types of income in kind adds further relief to the financial situation of the 598 households. Home grown food in particular was very common. Leaving aside the production of 72 farmers which CBS also subsumed under this heading, 38 per cent of the 525 households cultivated tiny plots of land to add an average 13 guilders worth of food to the family income (see table 7). Even more substantial was the implicit rent earned by 116 home owners in the sample.<sup>14</sup> Net of interest payments, taxes, insurance and maintenance costs, the average home owner earned an implicit rent of 131 guilders per year. Even if this net benefit was smaller for households who were still repaying their mortgage loan, it is clear that homeownership was an important buffer in times of crisis.<sup>15</sup>

A unique feature of the survey of 598 households is the very detailed reporting on savings and loans. At first sight these cash flows may seem rather insignificant. The overall balance of savings and loans in the sample (excluding the farmers) stood at only 57 guilders (table 7).<sup>16</sup> However, if we look at the individual households in the sample 79 per cent used short-term credit in the

<sup>13</sup>The food category include bread, beans, rice and flower, potatoes, vegetables, fruit, drinks, sugar, tea, coffee, chocolate, jam, spices, vegetable fat and oil, animal fat and oil, meat, fish, milk, cheese, eggs and bar visits. Shelter include rent, water, maintenance of the home, furniture, gas, electricity and fuels and cleaning. Clothing includes clothes, shoes, and bedding. Leisure includes relaxation and smoking. Other includes expenses on domestic aid, plants and animals, physical care, healthcare, development, church, political organizations, travel, insurance, gifts, taxes and a residual category.

<sup>14</sup>In 1947 the share of owner-occupied housing was 28 percent (Haffner et al., 2009). In our sample it is 22 percent among the 525 households.

<sup>15</sup>In its report CBS subsumed mortgage payments under the more general heading of 'loans repaid'. If we follow Gelderblom et al. (2021) in the assumption that rounded figures typically refer to installments on loans, 39 per cent of the households in the sample were still making payments on their mortgages.

<sup>16</sup>The positive figure on net savings denotes an increase in the stock of savings, the negative figure on net credit an increase in the stock of debt.

form of weekly or monthly payments of their bills with shopkeepers and other suppliers. This was the kind of cash flow management we also observed among the unemployed, but for families receiving regular wages it was simply a matter of convenience not necessity.<sup>17</sup> Also, almost 95 per cent of the households either saved small sums of money or used past savings to cover some of their current expenses. Overall the amounts involved were small. For 72 per cent of all households the net balance of savings and loans – positive or negative – did not exceed one month worth of wages. For another 18.1 per cent it was no more than two months.

The financial buffers of most households were not limited to savings. Nine out of ten households also took out insurance to cover a broad range of risks, including funeral costs, medical expenses, and the loss of income as a result of accidents, old age, or death. CBS did not specify which type of insurance each individual household bought but it did report the average premiums paid for various insurance types across seven income classes. These data (table 8) show that households with incomes below 1,400 guilders strongly favored funeral and life-insurance, with health and accident insurance a distant second. As households became richer, the relative share of these two types of insurance declined, and payments for pensions and old-age insurance increased. The richest households with incomes of 5,000 guilders and higher also insured themselves against damage to their property (fire insurance). The total amount of premiums paid by households increased with the size of their income, with small earners spending between four and six per cent of their income on insurance and big earners between six and ten per cent.<sup>18</sup>

[Table 8 about here]

With the cash flows reported by CBS we can estimate the net present value of people's insurance policies and pension schemes and compare these to the value of their homes and the land they used (Table 9).<sup>19</sup> The size and distribution of these different types of financial buffers differed markedly. The average value of funeral- and life insurance policies was small but virtually every household (93 per cent) used them. Pensions, on the other hand, only appeared in 42 per cent of the households, mostly those of white collar workers, with an average value of 1,169 guilder for those that owned a policy. A similar share of the households had land at their disposal with an average value of 104 guilders. Finally, home ownership was also concentrated with only 155 households owning properties worth 8,851 guilders on average. In brief, a very broad group of Dutch households was protected against the financial consequences of a family member dying, while many rural households were able to grow some of their own food. Financial provisions for old age were largely limited to white collar workers in the cities, in the form of home ownership and pension schemes.

[Table 9 about here]

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<sup>17</sup>Loans other than deferred payments to suppliers were much less common: only 36 households (6.9 per cent) contracted cash loans, and 84 households (16per cent) repaid earlier loans (including 45 payments of rounded sums that may imply mortgage loans).

<sup>18</sup>Note that these figures exclude farmers because of the, according to the CBS, disconnect between income and expenses. See Appendix 1 for our estimation procedure.

<sup>19</sup>We exclude farmers for the different nature of their household operations.

## 7 Coping with the Crisis

To draw direct comparisons between the different surveys we can use a common metric of modern household finance, the financial margin. It captures the difference between income and consumption that captures their ability to build up savings. A negative financial margin is unsustainable in the long run (see Vatne, 2006; Johansson and Persson, 2006; Zajączkowski and Żochowski, 2006; Holló and Papp, 2007). Here we define financial margin as the difference between net income and expenses on food, shelter and clothing, that is the money that was left after consumption of life's necessities. In our view this offers an adequate representation of a household's financial breathing room. We disregard alternative measures of financial fragility such as the savings quote and the debt-service to income ratio because these potentially capture both financial fragility as well as coping mechanisms.<sup>20</sup>

Table 10 displays summary statistics for our measure of financial fragility for the crisis surveys of The Hague and Amsterdam, and the national surveys of 525 ordinary households and 700 unemployed households, respectively. In the cities the financial margin of the unemployed was very low, leaving the median households with a sum between -6 and 26 guilders after expenses on food, housing, and clothing. At 18 guilders, the average financial margin of unemployed families in the big cities in 1934 and 1935 was also lower than that of households without work in the rest of the country in 1937. Households that did not face long-term unemployment fared much better. In the survey of the 598 households the average financial margin was just over 822 guilders. There was considerable variation within the sample, however, with a margin of 214 guilders at the first quartile and 837 guilders at the third.<sup>21</sup>

[Table 10 about here]

We can use the variation in the financial margins of the 525 households to analyze the financial behavior of more and less fragile households. To do so we compare households in the top ( $ff = 0$ ) and bottom ( $ff = 1$ ) tercile of the financial margin. To find out more about the determinants of their greater or lesser fragility we run a series of regressions that consider socio-economic characteristics of the household and other household specific conditions: death of a family member, the arrival of a newborn, healthcare expenses and unemployment. We exclude farmers from this analysis for their different income patterns compared to households with regular employment. Table 11 displays the regression results with robust standard errors.

[Table 11 about here]

In model (1) we first include a range of household characteristics to explain the variation in the financial margin. We find a positive relationship with the average age of the household head(s), which may relate to higher income or wealth over the life-time, where the negative coefficient on household size seems to reflect the extra money spent on feeding and clothing children growing up. The Hisclass variables are both economically and statistically significant The

<sup>20</sup>Other self-reported measures of financial fragility, such as the capacity of an individual to come up with a certain sum of money within 30 days (Lusardi et al., 2011; Wiersma et al., 2019), naturally cannot be constructed.

<sup>21</sup>Appendix 2 presents a scatter plot of the financial margin for the national data on the employed and the unemployed, as well as a measure of the share of the household budget spent on subsistence, derived from Moatsos et al. (2020).

coefficients for medium and lower skilled workers (HC3) and unskilled workers (HC5) appear highly similar, while lower managers and professional (HC2) are relatively better off. The gap with the elite (HC1), however, is considerable for all other classes.

In model (2) we add location dummies for municipalities that are 1) more densely occupied and 2) industrial in nature, as opposed to more rural areas, the reference category. Here we find a small positive effect for the municipalities that contain the larger towns, which points at a higher overall level of income and wealth. Indeed, the positive and marginally significant effect of larger municipalities disappears as soon as we include measures of wealth in model (3). Similarly, the effect of the Hisclass dummies halves across the board upon the inclusion of our wealth variables, pointing at significant variation within these Hisclass groups conditional on wealth. Housing wealth shows a positive and significant effect on the financial margin, which indicates reduced housing costs because of (partial) ownership of a premise and greater financial resilience as a consequence. The effect of land wealth, on the other hand, is negative, which may partially capture the illiquidity of the asset. Life-insurance wealth does show a large and significant effect and corresponds to an insurance against a large and unanticipated household-level shock making the household more resilient. Conversely, pension wealth allows households to smooth consumption in the long run but does absorb liquidity in the short-run which may make these households relatively more vulnerable.

As a final step we add a series of household conditions in model (4). We define a health shock dummy that takes the value of one in case healthcare expenditure is part of the top tercile and zero otherwise. We find a sizeable negative effect for a healthcare shock which may be due to both increased (healthcare) expenditure and reduced income due to an inability to work.. The arrival of a newborn and the death of a family member have no significant effect on the financial situation of the household. The (continuous) unemployment variable (number of weeks unemployed) does not render any significant effect either, which is consistent with the ability of households to cope with a temporary loss of labor income.

To determine which strategies more and less vulnerable households used to cope with financial difficulties we compare the income and consumption in the top ( $ff = 0$ ) and bottom ( $ff = 1$ ) tercile of the financial margin. Following the original set-up of the survey, we break up savings and credit into outflows which build up wealth and inflows which finance consumption (see Table 12). All financial flows are expressed as a percentage of total consumption and add up to one (except for a rounding error). The t- and p-values in the third and fourth column correspond to the null hypothesis that the consumption shares are equal for both groups.

[Table 12 about here]

Net income financed a much smaller share of consumption for those who were fragile. Support in kind (food and fuel) and home production made statistically significant but small contributions to the budgets of these households. Savings played a bigger role: non-fragile households built up more savings (outflow) and used fewer savings to finance their consumption (inflow). The use of credit hardly differed between more or less fragile households: it involved small amounts of money only, consistent with the widespread and upproblematic use of short-term suppliers credit to manage weekly cash flows.

[Table 13 about here]

On the expense side, food consumption in particular amounted to a much larger share of total consumption for fragile households, with non-essential goods and services taking up a large share for the non-fragile (see Table 13). This is consistent with the strong rise in real wages in the previous decade which may have allowed fragile households in the mid-1930s to scale back non-essential consumption to overcome the crisis – although we cannot be sure because we only make observations in the cross-section.<sup>22</sup>

## 8 Conclusion

Five years into the Great Depression most Dutch households still managed to cope financially. Their incomes were high enough to reduce consumption without immediately falling into poverty. Households also benefited from previously created financial buffers, not just the money they had put in one of the country's many savings banks, but also the homes they bought and the small plots of land they owned or rented. People's savings were not big enough to substitute for wages lost, but they did help to bridge short-term cash shortages. Likewise, people who owned or rented a piece of land could use it to supplement the groceries they bought in shops, while home owners paid less for housing. In combination with the short-term unemployment benefits from mutual funds, these financial buffers allowed households to cope with temporary unemployment. This financial resilience was a structural feature of the Dutch economy, that is, a direct result of the rising labor productivity in previous decades, which had pushed up wages and stimulated private savings. Exactly how important wage labor was to prevent financial problems in the 1930s becomes clear when we consider the long-term unemployed.

By 1937 six per cent all Dutch breadwinners had been unemployed for two years or more. The union members among them had exhausted their drawing rights on their mutual unemployment funds, and now depended on the social benefits paid by their municipal government. As these benefits were reduced over time, the unemployed eventually used up to 90 per cent of their budget to pay for food, clothing, and housing. The quality of their food was declining, however, as was the quality of their clothes and shoes. The crisis survey shows that these households tried to make ends meet with temporary employment in government work programs, with food- and fuel stamps, and with gifts from relatives and the church, but the amounts were generally small. The end result was that a growing number of the long-term unemployed and their families started to run up debts with their local suppliers, their doctors, and the insurance companies who had sold them policies to ensure a decent funeral.

The fact that these 'economies of makeshift' were largely limited to the long-term unemployed, points to a fundamental change in Dutch society. Since the late nineteenth century an ever larger part of the population lived well above the poverty line.<sup>23</sup> They no longer needed their social network to cope financially. When these workers lost their job in the 1930s mutual insurance

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<sup>22</sup>Cf. Costa (1999) who demonstrated that the purchasing power of lower income households in the US grew so strongly between 1919 and 1935 that they had been able to increase spending on recreational goods.

<sup>23</sup>Moatsos (2021) estimates that in 1930 some 10 per cent of the Dutch population survived on a bare bone basket, dropping to slightly over five per cent in 1940.



only absorbed the first blow. Instead of turning to their social network, they exhausted their financial buffers and reduced consumption to a bare minimum. After that the government stepped in to ensure their livelihood. The new public welfare arrangements therefore did not replace the informal mutual aid that had been customary for centuries among the poor, they were a direct response to the impending loss of income of the people who had already escaped poverty.

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## Figures

Figure 1: Income, Expenditure, Savings, and Employment of Dutch Households, 1900-1940)



Source: Source: Real Wages: DeZwart et al. 2015; Primary Expenses: Sociaal Democratische Studie-Club 1912: 13, 15; Koninklijke Nederlandsche Landbouwwereeniging 1913; Directie van den Arbeid 1919; Statistische mededelingen, p. 40; Uitgaven 1923, pp. 99-101; Statistische mededelingen, p. 29, 32; Den Haag 1927, p. 3-4; Onderzoek naar Den Haag 1927 (27 hh), p. 30-31; Uitkomsten, p. vi; Onderzoek 1928, p. 3, 25; Statistische mededelingen nr 96; 598 huishoudens; Onderzoek (1940), pp. 8-9, 12; Household Savings: CBS Jaarcijfers van Nederland 1900: 91; 1910: 115; 1930: 135; 1916: 137; 1920: 127; 1927: 125; 1939: 155; 1948: 328; Population figures from CBS, Population; Unemployment: (den Bakker, 2019, pp. 347-350)



Figure 2: Schematic overview of the way in which households organize their finances

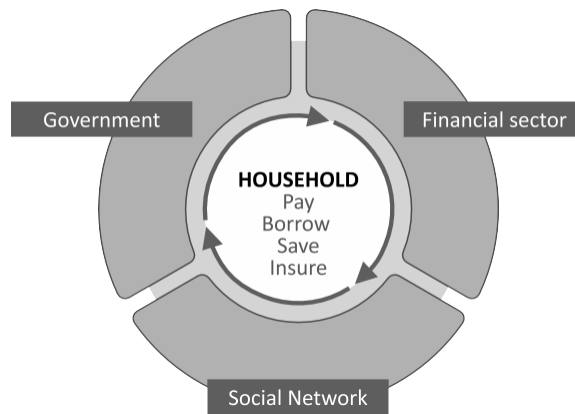


Figure 3: Budget surveys

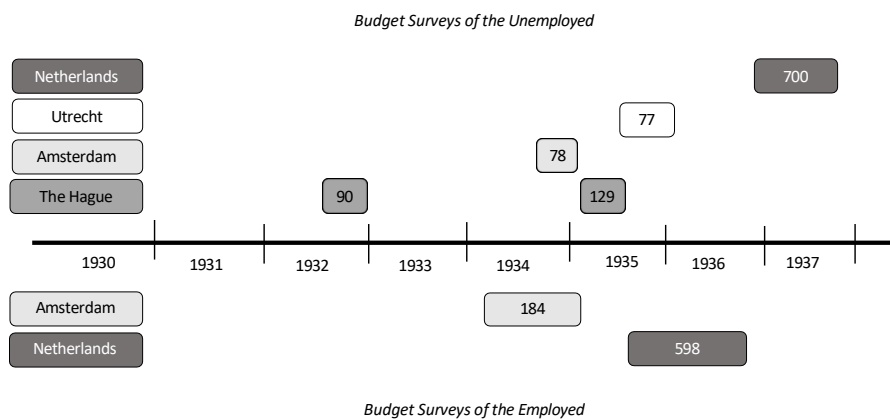
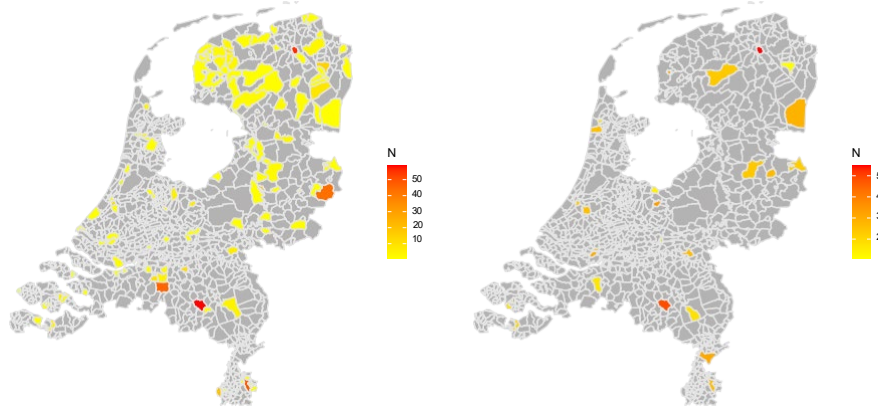


Figure 4: Geographical distribution households

(a) 598 employed

(b) 700 unemployed



Note: GIS file from Boonstra (2007).

## Tables

Table 1: The Income Distribution of the Crisis Surveys Compared to the National Income Distribution

range	NL		Survey 598 CBS		Survey 700 CBS	
	N	share	N	share	N	share
800-1,400	595,384	0.46	154	0.31	382	0.96
1,400-2,000	349,502	0.27	162	0.32	16	0.04
2,000-3,000	180,867	0.14	102	0.20	1	0.00
3,000-5,000	97,444	0.08	55	0.11	0	0.00
5,000-10,000	43,846	0.03	22	0.04	0	0.00
10,000-20,000	12,492	0.01	6	0.01	0	0.00
20,000-30,000	2,730	0.00	0	0.00	0	0.00
30,000-100,000	2,084	0.00	0	0.00	0	0.00
>100,000	207	0.00	0	0.00	0	0.00

Note: this table displays the income distribution of households in the entirety of the Netherlands (NL) based on income taxation records (CBS, 1940) and the national surveys. Note that no information is available for households with an income below 800 guilders for the entirety of the Netherlands. For sake of comparison we therefore do not display figures below the 800 guilder mark for the two surveys as well.

Table 2: The Income of Households of Unemployed Workers in Amsterdam, The Hague and Utrecht, 1932-1935

	N	Mean Income	Benefits	Wages	Gifts	Other
The Hague (1932)	90	1,103	86,7%	5,1%	4,9%	3,2%
A'dam (1934)	78	977	82,0%	12,1%	3,9%	2,0%
The Hague (1935)	129	935	85,5%	9,3%	2,3%	2,9%
Utrecht (1935)	90	939	76,0%	20,8%	1,8%	1,5%

*Source:* (Commissie tot onderzoek van den gezondheids- en voedingstoestand der werklozen, 1940; Statistisch Bureau der Gemeente 's-Gravenhage, 1934; Bureau van Statistiek der Gemeente Amsterdam, 1937; Statistisch bureau der gemeente 's-Gravenhage, 1940)

Table 3: Budget Share of Life Necessities Purchased by Households of Employed and Unemployed Workers in Amsterdam, The Hague and Utrecht, 1932-1935

	N	Mean Expenses	Food	Housing	Clothing	Other
<b>Employed</b>						
A'dam (1934)	75	1,895	34.6%	17.5%	8.3%	39.5%
<b>Unemployed</b>						
The Hague (1932)	90	1,077	38.2%	24.5%	8.1%	29.2%
A'dam (1934)	78	1,004	40.3%	42.2%	4.5%	12,9%
The Hague (1935)	129	893	41.9%	29.8%	5.3%	23.1%
Utrecht (1935)	90	937	43.3%	26.8%	3.5%	26.4%

*Source:* (Commissie tot onderzoek van den gezondheids- en voedingstoestand der werklozen, 1940; Statistisch Bureau der Gemeente 's-Gravenhage, 1934; Bureau van Statistiek der Gemeente Amsterdam, 1937; Statistisch bureau der gemeente 's-Gravenhage, 1940)

Table 4: Installments Paid and Loans Contracted by Households of Unemployed Workers in Amsterdam, The Hague and Utrecht, 1932-1935

	% Households with loans		Loans as % of Expenses	
	Installments	Cash loans	Installments	Cash loans
The Hague (1932)	52.2%	42.2%	0.3%	1.5%
Amsterdam 1934)	29.8%	57.9%	0.3%	1.1%
The Hague (1935)	45.0%	64.3%	0.4%	0.8%
Utrecht (1935)	50.6%	n.a.	2.3%	0.7%

*Source:* (Commissie tot onderzoek van den gezondheids- en voedingstoestand der werklozen, 1940; Statistisch Bureau der Gemeente 's-Gravenhage, 1934; Bureau van Statistiek der Gemeente Amsterdam, 1937; Statistisch bureau der gemeente 's-Gravenhage, 1940)

Table 5: Income and Consumption of Unemployed Households in The Netherlands (1937) (N =700)

	Share (%)	Mean	Std. Dev.	Min	Max	Median
Income	100	853	223	409	2,049	834
Net income	59	138	206	0	1,382	40
Social sec.	100	646	184	16	1,235	661
Gifts	70	33	48	0	323	12
Stocks	79	35	46	0	250	18
Consumption	100	892	230	391	2,438	857
Food	100	447	145	164	1,348	428
Shelter	100	241	76	46	528	242
Clothing	99	67	51	0	368	54
Insurance	98	58	31	0	172	57
Other	99	78	75	0	1,296	61

Table 6: Debts outstanding of Dutch households in different income groups and geographical locations (1937)

Income per week	Cities (n=1,188)	Towns (n=992)	Countryside (n=1,541)
less than 10	n.a.	47.56	68.23
10-15	20.76	35.32	47.29
15-20	23.36	34.48	46.03
20-25	29.61	28.84	36.27
25-35	22.15	24.12	28.85
35 or more	16.86	28.49	36.18

Source: Inv (1937)

Table 7: Income and Consumption of Employed Households in The Netherlands (1936-37) (N =525)

	Share (%)	Mean	Std. Dev.	Min	Max	Median
Income	100	2,255	1,863	720	19,553	1740
Net income	100	2,176	1,839	575	19,553	1,692
Home prod.	38	13	39	0	566	0
Impl. rent	22	29	80	0	653	0
Inc. (kind)	26	18	56	0	700	0
Sup. (kind)	27	8	20	0	160	0
Lodgers	7	11	99	0	1,554	0
Consumption	100	2,199	1,702	739	19,835	1,728
Food	100	630	211	277	1,651	580
Shelter	100	491	282	119	2,554	423
Clothing	100	232	182	24	1,698	180
Other	100	736	1,042	30	12,256	399
Savings (net)	53	62	433	-1,073	6,164	3
Credit (net)	39	-5	190	-2,454	1,409	0

Table 8: Insurance premiums paid per income class (shares of total)

	<1,400	1,400- 1,800	1,800- 2,300	2,300- 3,000	3,000- 4,000	4,000- 6,000	>6,000
Funeral and life	0.79	0.50	0.35	0.34	0.38	0.37	0.45
Pension and old-age	0.08	0.41	0.61	0.62	0.58	0.60	0.48
Health and accident	0.13	0.09	0.04	0.04	0.03	0.02	0.03
Other	0.00	0.00	0.00	0.00	0.00	0.01	0.04
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Av. guilders per year	43.11	87.67	157.21	227.69	243.23	326.54	666.69

Source: Centraal Bureau voor de Statistiek (1938),19-20

Note: This table displays the distribution of premiums paid across insurance types for different income classes. The bottom row displays the average in premiums paid per income class in guilders per year.

Table 9: The Estimated Wealth of Employed Households (1936-1937) (N = 525)

	Share (%)	Mean	Min	Q25	Median	Q75	Max
Housing wealth	25	2,317	0	0	0	0	30,120
Land wealth	40	104	0	0	0	26	8,148
LI wealth	93	926	0	319	665	1,261	11,176
Pension wealth	93	1,088	0	82	477	1,589	1,2591

Table 10: Financial Margin

	N	Mean	Min	Q25	Q50	Q75	Max
<b>Unemployed</b>							
The Hague (1932)	90	27	-194	-17	8	84	231
Amsterdam 1934)	78	-26	-309	-36	-6	5	105
The Hague (1935)	129	42	-181	-2	26	66	603
NL (1937)	700	62	-374	5	70	121	629
<b>Employed</b>							
NL (1936-7)	525	822	-632	214	464	837	13,649

*Source:* Amsterdam: Bureau van Statistiek der Gemeente Amsterdam (1937); The Hague: Statistisch Bureau der Gemeente 's-Gravenhage (1934) en Statistisch bureau der gemeente 's-Gravenhage (1940); The Netherlands: Centraal Bureau voor de Statistiek (1937) en Commissie tot onderzoek van den gezondheids- en voedingstoestand der werklozen (1940)

Table 11: The Determinants of Financial Fragility of Dutch Households in 1936-37

	(1)	(2)	(3)	(4)
Av. Age	14.65** (7.19)	16.06** (7.57)	33.65*** (7.92)	28.98*** (7.43)
HH size	-41.55* (21.80)	-46.86** (22.85)	-61.26*** (20.63)	-64.61*** (20.80)
HC2 (d)	-1, 766.21*** (350.81)	-1, 769.58*** (348.48)	-920.53*** (260.66)	-920.31*** (254.67)
HC3 (d)	-2, 714.34*** (332.11)	-2, 755.68*** (338.45)	-1, 627.67*** (247.33)	-1, 655.36*** (245.59)
HC5 (d)	-2, 874.74*** (334.48)	-2, 839.64*** (334.49)	-1, 693.98*** (266.61)	-1, 701.76*** (265.40)
Large (d)		273.22* (156.65)	-28.43 (134.71)	-38.34 (133.29)
Industrial (d)		-54.39 (109.01)	-98.25 (111.20)	-104.16 (110.20)
Housing wealth			0.03* (0.02)	0.03** (0.01)
Land wealth			-0.002 (0.04)	-0.02 (0.03)
LI wealth			1.30*** (0.43)	1.37*** (0.43)
Pension wealth			-0.46** (0.22)	-0.53** (0.23)
death (d)				420.94 (307.03)
Newborn (d)				-266.80** (131.31)
Healthcare (d)				-287.50*** (90.75)
Unemployment				-2.59 (3.10)
Constant	2, 672.91*** (416.61)	2, 567.66*** (414.65)	446.29 (515.39)	809.37 (491.54)



Table 12: Cash Flows to Finance the Consumption of Dutch Households in 1936-1937 (N = 525)

	ff2 = 0	ff2 = 1	t	p
Net income	1.03	0.89	11.81	0.00
Income in kind	0.01	0.01	-2.14	0.03
Support in kind	0.00	0.02	-8.55	0.00
Impl. rent (net)	0.01	0.02	-0.68	0.50
Home prod.	0.00	0.02	-5.77	0.00
Lodgers	0.01	0.01	-0.01	0.99
Savings (out)	-0.07	-0.01	-5.66	0.00
Savings (in)	0.02	0.04	-3.53	0.00
Credit (out)	-0.02	-0.01	-2.41	0.02
Credit (in)	0.02	0.02	0.51	0.61

*Note:* this table compares how fragile (ff = 1) and non-fragile households (ff = 0) employ different cash flows to finance total consumption. An inflow of consumption or credit is used to finance consumption, an outflow builds up wealth. t denotes t-value and p denotes p-value of a regular t-test.

Table 13: Consumption shares of Dutch Households in 1936-1937 (N = 525)

	ff = 0	ff = 1	t	p
Food	0.239	0.452	-24.74	0.000
Shelter	0.216	0.245	-5.07	0.000
Clothing	0.108	0.101	2.05	0.041
Leisure	0.051	0.034	5.97	0.000
Other	0.387	0.169	25.67	0.000

*Note:* this table displays a comparison of consumption shares for fragile (ff = 1) and non-fragile households (ff = 0). t denotes t-value and p p-value of a regular t-test.

## Appendix 1: Estimating Private Wealth from Budget Surveys.

Housing wealth can be derived from the net implicit rent. The net implicit rent was calculated by CBS by taking the implicit rent from income taxes and deducting a series of costs associated with the house, including mortgage interest payments, taxes, insurances and maintenance.<sup>24</sup> We treat the net implicit rent as a perpetuity and divide by the going capital market rate of 3.32% in 1936 to arrive at net housing wealth (Jordà et al., 2017; Jorda et al., 2019).<sup>25</sup>

For land we take a somewhat different approach. For each household we have information on the number of hectares land that is used for farming and related purposes. We follow Barten et al. (1962) and link the number of hectares to the average rental value of agricultural land in the various provinces and divide by the capital market rate as before.

Finally, we reconstruct wealth amassed through insurance products. The source contains information on insurance premiums paid, which is the grand total of four main categories: 1) funeral and life-insurance, 2) pension premiums paid by the household (not the employer) and old-age insurance, 3) health and accident insurance, and 4) other insurances. Although the exact distribution of premiums paid across these four categories is not known for each individual households, we do have summary statistics on the distribution across these four main insurance types for seven income classes. See table 8. The average amount spent on insurance premiums in guilders per income class can be found in the bottom table. Note that these figures exclude farmers because of the, according to the CBS, disconnect between income and expenses.

From table 8 it becomes clear that low-income households spend a relatively large fraction out of their income on funeral and life-insurance. As households become richer, the relative share of funeral and life-insurance premiums starts to decline, whereas pension and old-age pension premiums become relatively more important. Health and accident insurance also declines as income rises.

For the current paper we focus on the two main ways through which households can amass wealth: funeral and life-insurance and pension and old-age insurance. We disregard health and accident insurance because it does not constitute the building up of wealth. We calculate the net present value (NPV) of the premiums paid as follows:

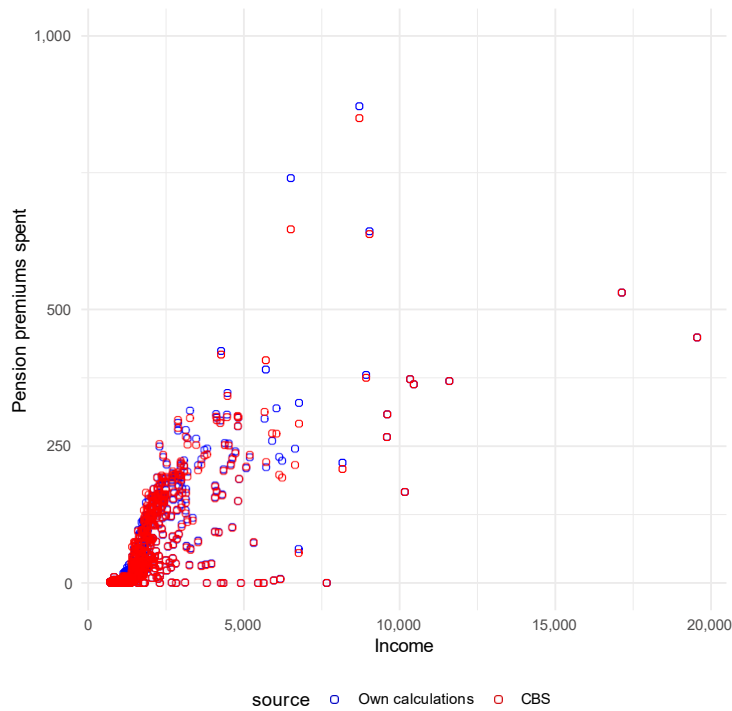
$$NPV_i = \sum_{n=1}^{60-age_i} \frac{f_i * p_i^n}{(1+i)^n}, \quad (1)$$

where 60 is the retirement age, *age<sub>i</sub>* is the age of the household head in household *i*, *f<sub>i</sub>* is the share of premiums paid towards pension and old-age insurance out of total premiums paid *p<sub>i</sub>*, and *i* is the discount rate which is set to 3.32% as before. Because we do not know whether any premiums were paid prior to the survey, this may result in an underestimation of the insurance wealth figures, especially

<sup>24</sup>Costs were not deducted from the net implicit rent if these were generally paid by renters. Mortgage capital repayments are part of the credit outflows.

<sup>25</sup>The capital market rate varied between 3.35% and 3.00% between 1934 and 1938. Where our choice of the discount rate matters for the summary statistics here, it matters less in the later regression analysis since the coefficient will scale accordingly.

Figure 5: Premiums spent and income on pensions and old-age: own calculations vs. CBS shares



for older households. Moreover, pension contributions by the employer are not known to us at this point also hinting at an underestimation.

We estimate  $f_i$  based on the figures from table 8 as follows. We calculate average income for all the income classes. For all households below average income in the bottom income class (<1400) we set the share of premiums at 0.79 and 0.08 for funeral and life insurance and pension and old-age insurance, respectively. We then calculate by how much the share of premiums changes for every additional guilder of income between average income in the bottom two classes. We then linearly interpolate the premium share between 0.79 and 0.50, and 0.08 and 0.41 for both insurance classes, respectively. We repeat this exercise for the second and third income class. For income above average income in the 1800-2300 income class, but below the average of the highest income class, we set the share of premiums to a weighted average of these four income classes. This is because there appears to be relatively little variation in the share of premiums in higher income classes and the number of households gets relatively small. Above average income in the highest income class we set the figure reported by CBS, that is 0.45 and 0.48, respectively. The resulting premiums paid as a function of income can be found in figure 5.

## Appendix 2: Measuring Financial Vulnerability

The financial margin is a common household-level measure of financial vulnerability which can be easily applied to data collected in historical budget surveys. All crisis surveys from the 1930s reported weekly cash flows with a detailed breakdown of different types of income and expenditure. With these data we can calculate, for individual households, the total value of expenditure on life necessities: food, clothing, and housing. The identical set-up of the Dutch crisis surveys allow for easy comparison between them. In the main text of the paper (Table 10) we report summary statistics for the financial margin of employed and unemployed households in The Netherlands and two major cities, Amsterdam and The Hague. Figure 6 above is a graphical representation of the national data. The x-axis shows the annual income in guilders, the y-axis the financial margin, also in guilders. Every dot represents a single household.

Our measurement of the amount of money households spent on food, clothing, and housing does not take into account their particular preferences for certain kinds of goods and services. These preferences may vary strongly, with some people opting for cheap and/or low quality food, clothing, and housing, and others buying more luxury and expensive goods. This has a very direct effect on the calculated financial margins across the income distribution: some low wage earners may have very little money to spare because they buy relatively expensive goods while others may choose to live on a bare bone basket, allowing them to spend money on other items. Conversely, some high wage earners may report very small financial margins, simply because they choose to eat luxury food, wear extensive apparel, and live in big houses.

Back in the 1930s the statistical bureaus were already well aware of this complication and they chose to measure the caloric value of people's food intake to get a better sense of their living conditions. We can do something similar with the extensive price data that survives for this period. Moatsos et al. (2020) use this data to calculate the monetary value of the minimum amount of food men, women, and children needed to survive. We combine their estimates of the monetary value of the bare bone baskets for men, women, and children with the national survey data on the composition of individual (employed) Dutch households and the monetary value of actual consumption.

Figure 7 below reports, on the y-axis, for each of the 598 households, the difference between the sum of all their expenses and their subsistence expenses on food, expressed as a percentage of their net income. On the x-axis we report net income. Each dot represents a single household. These data show that consumption above subsistence level differed strongly between individual households, especially those whose net income was below 2,500 guilders a year. As income increases consumption above subsistence as a percentage of income decreases, which is consistent with Engel's law.

Two households stand out with consumption below subsistence consumption. For one households the absence of two children for several months could offer an explanation. Additionally, the monetary value of subsistence consumption for non-adult children is calculated based on the 50th percentile of which this household has several (Moatsos et al., 2020). For the second household, no explanation is available, unfortunately.

Figure 6: Household net income and financial margin

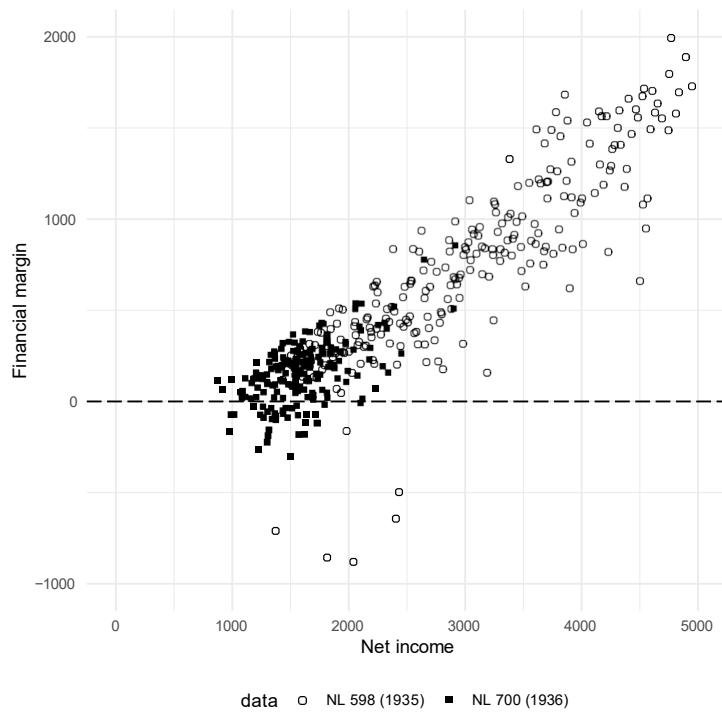


Figure 7: Household net income and consumption above subsistence level

