Essays on the economics of household finance and social insurance

Koopmans, P.L.

Chapter 1

Introduction

The life cycle model has been extensively studied (Ando and Modigliani (1963); Heckman (1976); Modigliani and Brumberg (1954)). According to this model, individuals smooth consumption over time. In case the life cycle model holds, any shock that affects income and spending behavior is either anticipated and smoothed over the life cycle, or smoothed over the rest of the life cycle if unanticipated.

Empirical studies, however, repeatedly find deviations from the life cycle model (Bikker et al. (2012); J. R. Brown et al. (2008); Deaton (1986); White (1978)). These deviations have various implications for household finance over the life cycle, often manifesting in intertemporal consumption behavior characterized by significant heterogeneity and short-term planning. Departures from the life cycle model have important implications for household finance.

Individuals face many risks and events throughout the life cycle that impact household finance. These include but are not limited to disability, retirement, unemployment, and childbirth. Risks and events impact income and expenditure may justify policies that assist individuals in smoothing their life cycle consumption.

The Netherlands is characterized by a strong degree of social insurance and employment protection to cover the aforementioned risks (OECD (2021)). These policies are designed to provide safety nets and help households smooth their consumption over time. In particular, retirement benefits help smooth and maintain consumption in old age, maternity leave and childcare subsidies provide income and return-to-work options for taking care of children, and insurance covers disability risk. Understanding whether these social insurance schemes have the intended effect is key to informing policy.

This dissertation empirically investigates the impact of retirement, childbirth, and disability insurance on household income, spending, and time use. This involves assessing how the availability and utilization of social insurance shape individuals' decisions regarding income, expenditure, savings behavior, time use, employment and labor force engagement. To investigate these effects, this dissertation uses various types of microdata, ranging from survey data to bank transactions. Notably, the bank transactions are almost unique in the literature. The analyses aim to contribute to a more comprehensive understanding of how social safety nets shape individuals' economic behavior and outcomes. Additionally, this research endeavors to inform policy discussions and decision-making processes in this field.

Four chapters of this dissertation address various issues related to retirement, childbirth, and disability insurance. After an introduction in chapter 1, the second chapter examines the willingness-to-pay among self-employed individuals for retirement products offering early withdrawal options and reduced fiscal reporting requirements. The third chapter delves into the causal effects of retirement on financial outcomes. The fourth chapter focuses on understanding the phenomenon of child penalties in the Netherlands and investigates the role of household time allocation in explaining these penalties. The fifth chapter assesses whether private disability insurance facilitates the transition back to work, shedding light on its impact on workforce participation. The thesis concludes with discussing its findings and appropriate policy options in chapter 6.

1.1 Retirement savings of self-employed workers: The role of withdrawal flexibility and administrative burden

In the Netherlands, significant disparities exist in the retirement savings of self-employed workers, with about 40% of self-employed workers retaining less than 70% of their pre-retirement income after retirement (Knoef et al. (2017)). These lower savings of self-employed can be explained by the fact that they do not accumulate occupational pensions and do not accumulate enough private pension savings to compensate for this.

This paper investigates how to encourage self-employed workers to save for retirement. Specifically, this paper examines whether reducing administrative burden and offering early withdrawal options can encourage greater savings for retirement.

Using a stated choice experiment, this paper presents hypothetical retirement products featuring varying post-retirement benefits, early withdrawal options, and administrative simplifications. Through this approach, the analysis assesses the Willingness-to-Pay (WTP), expressed as a percentage of the post-retirement benefit, for reduced administrative burden and early withdrawal options. The survey, administered to approximately 800 self-employed workers and 800 employees, allows us to estimate the WTP separately for each group.

In the experiment, participants are initially presented with a series of eight questions, each of which presents a choice between two hypothetical retirement products. Then they are asked to assign choice probabilities to each option. Subsequently, in a set of eight questions, participants are shown a single hypothetical retirement product and are requested to indicate their probability of purchasing that product. Additionally, this paper collects data on individual characteristics, including but not limited to, time preference, age, life expectancy, anticipated income fluctuations, the impact of COVID[1], and risk preference.

We find demand for both reduced administrative burden and early money withdrawals. These results indicate that offering the aforementioned options may assist self-employed workers in saving more for retirement.

1.2 The effect of retirement on household finances: Causal evidence from transaction data

The literature has extensively studied how retirement affects personal finances. Findings include mixed evidence as to whether expenditure drops (Agarwal et al. (2015); Aguila et al. (2011); Banks et al. (1998a); Battistin et al. (2009); Been and Goudswaard (2020); Bernheim et al. (2001); Luengo-Prado and Sevilla (2013a); Lührmann (2010); Luengo-Prado and Sevilla (2013b)) and long-run wealth accumulation (Kieren and Weber (2022); Love et al. (2009); Olafsson and Pagel (2018); Poterba et al. (2011)) that contradict the predictions of the life cycle model. These deviations from the life-cycle model have been attributed to factors such as bequest motives (Lockwood (2018a, 2012a)), bounded rationality (Olafsson and Pagel (2018)), and home production (Been and Goudswaard (2020)).

However, existing estimates of retirement on household finances typically rely on yearly administrative datasets or surveys. These data are limited both in the accuracy of the information provided as well as in attenuating short-term dynamics. To address the aforementioned

[1]The survey was administered in 2020

issues, this paper provides causal estimates of how retirement affects net flow balances, end-of-of month balances, and the fraction of individuals with debts using monthly transaction data from ING, a large Dutch bank.

In the Netherlands, most individuals are eligible to receive both state pensions and occupational pensions. The former is provided to all Dutch citizens after reaching a specified age threshold, determined by their birth year. Conversely, occupational pensions are accrued throughout one's employment history. Occupational pensions can be initiated at any time, although payouts are lower (higher) if initiated earlier (later). Since the state pension age is determined by one's cohort, and the data includes multiple cohorts, this paper utilizes the state pension age as an instrumental variable for occupational pensions. This allows us to present causal estimates of the income and expenditure effects of retirement.

The dataset, after applying sample selection criteria, comprises approximately 12,000 individuals who have received occupational pensions at some point within the sample period, allowing us to observe their financial behavior both before and after receiving these pensions. Furthermore, the dataset includes details on cash flows, account balances, and a concise set of demographic characteristics for each individual.

We estimate Fuzzy Instrumented Regression Discontinuity (RD) and Instrumented Difference-in-Difference (DiD) models to obtain causal effects. In the first stage, the analysis uses the state retirement age and the change in the state retirement age as instruments for occupational pension, respectively. In the second stage, the analysis estimates financial outcomes based on the predicted occupational pension recipiency. This approach allows us to obtain causal estimates of the impact of occupational pensions on spending behavior.

We find modest end-of-month balance effects as a result of retirement. For low-income and low-wealth groups, however, we discover strong short-run liquidity effects, both with respect to end-of-month balances and the percentage of individuals in debt. Overall, our findings indicate that retirement alleviates liquidity constraints at the bottom of the income- and wealth distribution.

1.3 Child penalties and the role of household time allocation

The earnings gap between men and women decreased over the past decades, but persists to this day (Cortés and Pan (2020)). International literature extensively studies these differences, and finds that they are primarily the result of childbirth (Andresen and Nix (2019); Cortés and Pan (2020); De Quinto et al. (2020); Kleven, Landais and Søgaard (2019); Kuziemko et al. (2018); Lundborg et al. (2017); Meurs and Pora (2019); Rabaté and Rellstab (2021); Sieppi and Pehkonen (2019)): prior to childbirth, earnings profiles are relatively equal. After childbirth, however, a divergence appears: women reduce labor market activity on both the intensive and the extensive margin, and never recover from this activity reduction even years after childbirth. This phenomenon is known as the child penalty.

The child penalty is typically attributed to gender norms (Bedi et al. (2018); Kleven, Landais, Posch et al. (2019); Kleven (2022); Rabaté and Rellstab (2021); Rellstab (2023)) and time allocation in the household (Blau and Kahn (2017); Casarico and Lattanzio (2023)). However, only one paper thus far directly links time use in the household with the (short-run) child penalty. Chapter 4 provides the first long-run evidence of how child penalties can be explained by time use in the household.

To estimate child penalties in the Netherlands, this paper implements an event study design as laid out in Kleven, Landais and Søgaard (2019). This design involves estimating the effects on both labor market outcomes and household time use, focusing on the years before, during, and after childbirth.

Using the LISS-panel survey, from 2008 to 2021, this paper estimates how childbirth in the Netherlands affects both labor market outcomes and time use in the household for parents who have children at some point in the sample. Specifically, this paper investigates how childbirth affects participation rates, (un)conditional earnings, hours worked, and hours spent on household activity.

We find that household time allocation mirrors the decrease in labor market activity for women after the arrival of children. This mirrored effect indicates intra-household substitution as opposed to a decrease in time use for women.

1.4 Non-public disability insurance and outflow to work

In the Netherlands, firms can opt out of public disability insurance (McVicar et al. (2022)). By choosing this option, firms are exempted from paying public partial disability (WIA) premiums. However, by opting out, they take on the responsibility for reintegrating workers who become disabled and for providing individual benefits to those workers.

The process of firms themselves re-integrating workers may create additional outflow channels. Specifically, firms have the option to request re-assessments for disabled workers, which serves as a means of reintegration not available to the Dutch Employee Insurance Agency (UWV), and these re-assessments are prioritized by UWV (Lammers et al. (2018)). To delve deeper into this phenomenon, my objective is to estimate whether non-publicly insured firms exhibit a higher rate of outflow from disability insurance, particularly in terms of outflow to work.

Outflow from disability insurance impacts the financial positions of disabled workers. If cessation of disability insurance results in work resumption, it can benefit workers by increasing their income and aid in consumption smoothing. However, terminating disability insurance benefits can worsen the financial challenges faced by disabled workers if they do not resume work. Balancing reintegration efforts with the need for long-term financial stability is crucial for preserving the consumption-smoothing effects of disability insurance.

The analysis uses administrative records from UWV spanning from 2006 to 2021. These records contain single-failure disability insurance (DI) admissions and re-assessments. Chapter 5 estimates duration models of outflow rates on the basis of insurance status, and additionally estimates - using (semi-)parametric duration models - whether re-assessments are more prevalent among non-publicly insured firms. The analysis estimates DI outflow rates by outflow reason while accounting for cumulative incidence.

We do not find differences in outflow to work on the basis of employer-insurance type. However, we do discover substantially higher outflow to full DI and slightly higher outflow out of DI, contrasted by lower outflow for reasons such as retirement. Overall, our findings indicate that although non-publicly insured firms generate more outflow from DI, they do not reintegrate workers more effectively than publicly insured firms.