Consumption at retirement**

1. Introduction

At retirement, individual consumption is bound to change as retiring from work implies a dramatic change in individual's lifestyle along many dimensions. According to the standard life-cycle model, there should be no drop in individual consumption at retirement because individuals may save to smooth consumption if they can anticipate their future pension income. Nonetheless, a wealth of empirical evidence contradicts the standard predictions of the life-cycle consumption model. As Hurd and Rohwedder (2013) explain, 'because the mechanisms underlying this observed drop in consumption at retirement are not well understood, it has been referred to as the retirement-consumption puzzle' (p. 1).

Recent research has allowed a better comprehension of household expenditure patterns at retirement age. Firstly, it is possible that households behave optimally and maximise their welfare by opting for a lower consumption level after retirement, while consuming more while still in the workforce (e.g., Laitner and Silverman, 2005; Skinner, 2007; Blau, 2008). The fall in consumption at retirement may also be partially explained by increased home production and reduced work-related expenditure (eg., Aguiar and Hurst, 2005, 2007; Hurd and Rohwedder, 2007, 2008; Hurst, 2008; Stancanelli and Van Soest, 2012, Moreau and Stancanelli, 2015), and possibly by the impact of adult children leaving the parental home (Battistin et al., 2009). Health shocks and involuntary retirement may also explain the drop in consumption.

This Chapter aims at providing an overview of the literature on consumption at retirement. This survey of existing studies is not meant to be exhaustive but rather the aim is to provide an overview of the main issuers raised in this diverse literature.

2. A look at aggregated data on elderly consumption

At retirement individual income declines mechanically, as most pension systems entail a replacement rate of earnings to pension income well below 100%. The ratio of pension income to previous earnings falls roughly in the range of 50% to 80% in most OECD countries, varying substantially across countries, employment sectors, job types, and seniority levels. The replacement rate of pension income to past earnings is the highest for individuals with continuous life-long employment, who are also those most likely to save for retirement. In contrast, individuals with interrupted/shorter/precarious work spells -such as often the lesser educated, migrants, lone parents- may well end up in poverty at old age, being unable to save much earlier on. According to OECD statistics, in 2020 the poverty rate (defined as the percentage of the population with income of less than 50% of the median equivalised household disposable income) was much higher for people aged above 65 years than for the average person population, and this was especially true for older women in the (http://www.oecd.org/social/income-distribution-database.htm).

In particular, in 2019, close to one third (31.4 %) of all EU-27 households were unable to face unexpected financial expenses (see Eurostat, 2020, Ageing Europe statistics). A larger share (39.6 %) of households with one adult aged 65 years or more living alone in the EU-27 were

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unable to face unexpected financial expenses, while households composed of two adults (at least one of which was aged 65 years or more) were less likely to experience such difficulties (23.6 %) (see Eurostat, 2020, Ageing Europe statistics). A relatively high share of the EU population towards the end of their working lives (aged 55-64 years) faces various forms of inwork poverty, deprivation and exclusion. The inability of people to afford to spend a small amount of money on themselves each week (examples include being able to go to the cinema, to buy a magazine or an ice cream; Eurostat, 2020, Ageing Europe statistics) applied to 17.6 % of people aged 55-64 years in the EU-27 in 2015, while just 10.7 % of very old people aged 85 years or more were unable to afford to spend a small amount of money on themselves. Material deprivation was systematically more prevalent among older women (than men) for each of the age groups (Eurostat, 2020, Ageing Europe statistics). Mortality rates may also differ for individuals with different levels of income and consumption, so that compositional effects also come into play.

Overall, households where the reference person is retired spent, on average, 81.2% of the average level of expenditure across all households in Europe (see Eurostat, 2020, Ageing Europe statistics). Figure 1 illustrates consumption categories for which older households (defined as those in which the reference person is aged above 60) spent more, on average, than younger households (defined as households in which the reference person is aged below 60) for a selected group of European countries. Older households spent proportionally more of their expenditure on health (42 % higher than the average share for all households), on housing (including utilities and other fuel payments; 14 % higher), on food and non-alcoholic beverages (7 % higher) or on furnishings, household equipment and routine maintenance (4 % higher). By contrast, older households spent a lower proportion of their total expenditure on clothing and footwear (27 % less than the average for all households), on restaurants and hotels (26 % less), on transport (23 % less) and on communications (13 % less).

The picture may be quite different in the short run, immediately after retiring from work, than later on at different old-ages. To gain deeper insights into the relation between income and consumption after retirement from work, microstudies are enlightening.



Figure 1. Older household higher expenditure items, relative to younger household.

Relative consumption expenditure of households with a reference person aged ≥60

Note: the figure is ranked on the relative consumption expenditure for health. The four consumption items shown are those where households in the EU with a reference person aged ≥60 years spent a disproportionally high share of their total expenditure (when compared with all households). Source: Eurostat (online data codes: hbs_str_1225 and hbs_str_1211)

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3. The Retirement Consumption Puzzle

Seminal studies conclude that consumption declines dramatically at retirement for the United States and the United Kingdom (e.g., Hamermesh, 1984; Banks et al., 1998; Bernheim et al., 2001). This empirical evidence appears to contradict the standard model of life-cycle consumption according to which households use savings to smooth the effects on consumption of predictable income discontinuities.

In an influential paper, Aguiar and Hurst (2005) study food diary on U.S. data. They show that while food expenditures and eat away from home expenditures fall at retirement, food consumption does not. According to their estimates, retired households spend more time shopping for food (17 percentage points more per week) and preparing it (18 more minutes per day). Aguiar and Hurst (2007) exploit scanner food purchase data and time diaries to show that households substitute time for money, through shopping and home production. They find substantial heterogeneity in prices paid for identical goods for the same area and time, with older households shopping the most and paying the lowest prices. The observed life-cycle time allocation implies a consumption series that differs markedly from expenditures. Hurst (2008) argues that "the standard model of lifecycle consumption augmented with home production and uncertain health shocks does well in explaining the consumption patterns of most households as they transition into retirement" (p.1).

Using data respectively for France, Spain, Australia, and Germany, Stancanelli and Van Soest (2012), Luengo-Prado and Sevilla (2013), Atalay et al. (2020), and Bosang and Van Soest (2020) also find evidence that home production raises significantly with retirement. The striking result in Aguiar and Hurst (2005) is that they find no evidence for food intake to deteriorate upon retirement. When the quantity of food rather than food expenditures is studied, the food consumption puzzle at retirement vanishes. However, recent work by Stephens and Tooley (2024) challenges this conclusion. Using seven cross-sectional datasets over a forty-year period, including the two databases studied by Aguiar and Hurst (2005), they find that the quantity of caloric and nutrient intakes decreases significantly at retirement for almost all databases, except for the two datasets considered by Aguiar and Hurst (2005). The absence of significant effects in Aguiar and Hurst (2005) could be due to data quality problems specific to the datasets used therein. Stephens and Tooley (2024) also run complimentary estimations on panel data for a sample of men. The results still exhibit a drop in food intake at retirement. The reasons for this decrease are difficult to disentangle. Like the drop in food spending, it could be due to insufficient planning for the drop in income that likely occur at retirement, or to a change in diet upon retirement. In the same vein, Allais et al. (2020) analyses detailed home-scan data on purchased food items from a representative panel of French households. They report a fall in food expenditures at retirement together with a drop in food consumption itself, especially for products of animal origin.

Empirical work has challenged the existence of a drop in consumption at retirement with different data sets and for many countries, including China, Denmark, Germany, France, Great Britain, Greece, Iceland, Italy, Japan, The Netherlands, Singapore, Spain, and The United States. It turns out that the drop in consumption at retirement is not universal, nor does it concern all categories of household expenditures. For instance, Olafsson and Pagel (2024) document a 21.6 percent drop in total expenditure upon retirement on Icelandic data whereas Stephens and Unayama (2012) only find a fall in consumption for low-income Japanese households that is concentrated in food and work-related expenditures. In Bernheim et al. (2001), the drop in

consumption for the top wealth quartile is only half of the drop in consumption for the bottom wealth quartile. Using Chinese data, Li et al. (2015) find a significant 19.5 percent decrease in nondurable expenditures and a significant 33.1 percent decrease in work-related expenditures while the decrease in expenditures on food at home is less pronounced. Based on Italian data, Battistin et al (2009) find a 9.8 percent decrease in nondurable expenditure together with a 14.1 percent decrease in food expenditure. For Spain, Luengo-Prado and Sevilla (2013) find a significant drop in food expenditure (though only for the second period of their survey). More recently, Been and Goudswaard (2023) do not find evidence for a drop in nondurable expenditure at retirement in the Netherlands. Instead, they document a rise in leisure-related expenditures.

Joint retirement and the retirement consumption puzzle

The bulk of the literature on consumption at retirement studies the effect of retirement of the head of the household, usually the male partner, on household consumption. This contrasts with the fact that the vast majority of older workers are part of a couple and most couples are dualearners. Household's income and consumption are likely to vary when either or both partners have retired from work. Ignoring this fact, may lead to biased and wrong conclusions on household consumption at retirement. In particular, the literature on partners' joint retirement decisions, points to externalities in leisure as one of the main determinants of joint retirement (for example; Michael Hurd, 1990; Alan Gustman and Thomas Steinmeier, 2000 and 2009; Stancanelli, 2017; Michaud, Van Soest, and Bissonnette (2020). Joint retirement makes it possible to derive utility from joint leisure activities that exceeds the utility from leisure activities without the partner. Joint retirement may affect household consumption or home production.

In seminal work, Stancanelli and Van Soest (2012) study older partners' time uses when either partner retires. Using monthly age data and a cross-sectional time use survey for France, the study analyzes the effect of retirement of both partners on various home production activities, including shopping, cooking, gardening, and, more generally, doing household chores, and caring for adults and children. The study concludes that retirement leads to a significant increase in hours of home production, of more than three hours per day for men, and two hours and forty minutes for women. Moreover, the wife's retirement leads to a significant reduction of the husband's hours of home production of almost two hours per day, while her house work does not respond significantly to his retirement -possibly because of the age difference, he is the first to retire while she is still at work.

In a companion paper, Stancanelli and Van Soest (2016) investigate changes in leisure consumption of partners at retirement. The authors distinguish leisure time spent together from leisure time separate from the partner, by exploiting the fact that the time use diary was collected for both partners on the same day (chosen by the interviewer) and also asked additional questions on 'with whom' and 'where' the activity was carried out. A robust finding is that the husband's retirement leads to a dramatic increase in the husband's leisure time spent separately from the wife, by more than three hours per day. This may be explained by the fact that the husband is often the first to retire as he is usually older than the wife. Remarkably, the rise in the husband's house work upon his retirement is even larger than the increase in his separate leisure time, though part of this effect disappears when the wife also retires. The wife's retirement increases her separate leisure hours by a large amount (three or more hours per day) and increases joint leisure hours. Couples in which the wife is a "housewife" see their joint leisure increase by almost an hour per day when the husband retires. Moreau and Stancanelli (2015) investigate changes in household consumption patterns at retirement of either partners, using 2001 consumption budget survey data for France, which collected two-week expenditure diaries. The authors conclude for a significant and sizeable drop in food and clothing expenditure after the retirement of the male partner. However, when excluding couples in which the female partner is a housewife, the effect of the husband's retirement on food consumption becomes statistically insignificant. This suggests that the labour supply of the female partner matters when it comes to assessing the effects of retirement on household consumption. By contrast, the decline in clothing expenditure is significant after the husband's retirement for the entire sample of couples, which is likely to be explained by the reduced expenditure on work-related clothing. Interestingly, clothing expenditure does not fall with the female partner's retirement. These findings indicate that only considering retirement of household heads or men leads to a blurred picture of household consumption at retirement.

Empirical strategies to estimate the causal effect of retirement on consumption

While many countries have introduced a statutory retirement age, workers can still often anticipate or postpone their retirement according to country-specific financial arrangements that usually penalize early retirements and reward delayed ones. The decision to retire prior to or after the statutory age stems in part from a cost-benefit analysis specific to each worker that may well depend on unobserved factors which also influence their consumption choices. Retirement age is possibly not exogenous to characteristics that determine consumption which complicates the evaluation of the causal effect of retirement.

Many empirical studies address the endogeneity of retirement with instrumental variables. As the probability of retirement naturally increases with age for certain age groups, age is often used as an instrument either directly (Aguiar and Hurst, 2005; Bernheim et al, 2001), or through a dummy variable equal to 1 if age is above the statutory retirement age (Allais et al., 2020; Li et al., 2015, Stephens and Tooley, 2024), or implicitly in the form of past employment status, which can be considered a function of age (Banks et al., 1998). However, as Haider and Stephens (2007) point out, age is an inappropriate instrument if, regardless of employment status, the marginal utility of consumption depends on age. Instead of age, they use workers' subjective beliefs about their retirement dates as an instrument for retirement.

Another solution to the problem raised by Haider and Stephens (2007) is to restrict the sample to workers and retirees with a very little age difference around the statutory retirement age. Individuals close to the age threshold but on different sides can be compared to estimate the causal effect of retirement on consumption. This setting, known is the literature as the Regression Discontinuity Design, was used by several authors to measure the effect of retirement on consumption. Examples include Battistin et al. (2009), Been and Goudswaard (2023), Chen et al. (2017), Eibich (2015), Laliotis et al. (2022), Moreau and Stancanelli (2015), Stancanelli and Van Soest (2012 and 2016), or Zhang et al. (2018). Other researchers have employed instruments not directly related to age but to particular institutional contexts. For instance, Perdrix (2022) exploits the 1993 French pension reform that increased the required number of quarters required to benefit from a full pension. She uses the number of additional quarters required as the instrument for retirement. In a similar vein, Frimmel and Pruckner (2020) use as instrument the increase in the eligibility age for early retirement resulting from the 2000 and 2003 pension reforms in Austria.

An important limitation of instrumental variable methods is that the causal effect of retirement can only be identified on the compliant subpopulation of individuals whose retirement decisions are driven by the instrument. These methods only estimate local average treatment effects that may not apply generally, especially when the percentage of compliers in the population is low. Besides, the results are specific to the choice of instruments used. With the regression discontinuity design, the estimated causal effect is even "doubly" local since it only applies in the neighbourhood of the statutory retirement age. Fé (2019) follows a different estimation strategy and relies on alternative hypothesis about consumption and retirement to identify bounds for the average treatment effect in the whole population. An appealing assumption is to impose that domestic expenditure does not increase with retirement. Other assumptions relate to the process of selection into retirement.

An alternative estimation strategy that partly tackles the endogeneity of retirement is to use fixed effects in regressions with panel data. These so-called fixed effects are used to control for all unobserved time constant factors supposed to influence retirement and consumption alike. Endogeneity of retirement is only partially accounted for, as unobserved time-varying factors involved in both the decision to retire and consumption choices are not controlled for. Luengo-Prado and Almudena Sevilla (2013), Smed et al. (2022), Smith (2006), and Olafsson and Pagel (2024) have followed this approach. Other studies combine fixed effects with instrumental variables. Examples are Frimmel and Pruckner (2020), Kuusi et al. (2020), and Lucifora and Vigani (2018). Finally, a bunch of studies does not control for the possible endogeneity of the decision to retire and simply estimates the effect of retirement on consumption by ordinary least squares, or compares estimated consumption profiles for retirees and workers. Examples are Aguila et al. (2011), Barrett and Brzozowski (2012), Borella et al. (2014), Fisher and Marchand (2014), Hurd and Rohwedder (2013), Laitner and Silverman (2005), and Miniaci et al. (2010). With fixed effects or ordinary least squares, the estimate of retirement on consumption is still meaningful but not causal.

4 Savings for Retirement

Using data from the U.S. National Financial Capability Study, Lusardi (2011) documents that people plan rather late in their working lives, if at all. Only 51 percent of respondents aged 45 to 59 and not yet retired have tried to calculate how much they should save for retirement. Loewenstein et al. (1999) report that retired or close to retirement U.S. citizens often express regret at not having "thought" of retirement earlier. More recently, Yin et al. (2023) find that 47 percent of all U.S households at the age of 65 will not have enough retirement income to maintain their pre-retirement standard of living. Also, there is empirical evidence for people having self-control problems that can lead to overconsumption, self-control problems being smaller for older people (Americks et al., 2007).

Huang and Caliendo (2011) assume lifespan planning but optimal consumption-savings plans are costly to implement. These costs account for all types of resources needed to implement the optimal plan, like time, effort, calculation, or monitoring. When the costs of processing are moderate, individuals may decide at some point in their working life to implement an optimal consumption-savings plan. Instead, when these costs are too high, people ignore relevant information and choose to live hand-to-mouth, which generates a drop in consumption upon retirement because individuals never save. In the model of Reis (2006), the extent of inattention is also determined endogenously by the size of the implementation costs, and individuals may rationally choose to update their information only intermittently. Between updates, they remain inattentive. The longer the periods of inattention, the less they save, which causes a sharper drop in consumption at retirement. In the model of Gabaix (2017), individuals' consumption depends on a degree of attention to retirement also solved endogenously from the costs and benefits of attention. In this setting, perfectly rational agents acquire information at no cost, and moderately attentive agents only start saving as they approach retirement. This lack of accumulated wealth generates a drop in consumption at retirement.

Using aggregated data for the U.S, Campbell and Mankiw (1989) find evidence that half of the consumers live hand-to-mouth, and accordingly, develop a model with a representative agent assumed to follow the "rule of thumb" of consuming entirely their current income. Another

example of bounded rationality which constitutes an intermediate case between perfect foresight and the hand-to-mouth model is the model of Caliendo and Aadland (2007). Drawing on empirical evidence that a large majority of households consider a planning horizon of less than 10 years for their spending and savings decisions, Caliendo and Aadland (2007) assume shortterm planning. Consequently, individuals may not save enough to compensate the income drop at retirement, which generates a drop in consumption.

Sub-optimal saving is also consistent with present-bias preferences characterized by hyperbolic or quasi-hyperbolic discounting preferences (Laibson, 1998) leading to "high discount rates in the short-run and low discount rates in the long-run" (Ericson and Laibson, 2019). Individuals may decide at date t to smooth their future consumption between consecutive dates t+j and t+j+1, but when date t+j comes, they attach more weight to their immediate satisfaction. Individuals then deviate from their initial consumption path to overconsume in t+j. Present-bias preferences generate inconsistent choices, meaning that "the choice between x and y made at date t is different from the choice between x and y at date t"." (Ericson and Laibson, 2019).

In the model of O'Donoghue and Rabin (1999), present bias explains why agents procrastinate and delay the adoption of the efficient saving plan. In the model of Angeletos and al. (2001), individuals know it is difficult to stick to the good resolutions they previously made and choose to protect themselves against overconsumption by investing in illiquid assets. The flip side of this strategy is that agents have little liquid assets to buffer consumption against income fluctuations. Therefore, the income drop at retirement generates a fall in consumption. In the model of Sulka (2023), people may experience poor self-control and postpone their retirement saving plans. Again, this may lead to a drop in consumption at retirement if the liquidity constraint binds.

Kőszeky and Rabin (2009) develop a model with present bias and non-standard preferences that can be helpful to explain the drop in consumption at retirement by overconsumption before retirement. In their model, the person's utility depends not only on consumption per se, but also on comparisons between consumption and expected consumption initially planned. For example, an unforeseen increase in income means that consumption can be higher than expected, providing immediate additional satisfaction. Individuals compare their current consumption to their prior expectations about current consumption, update their beliefs about future consumption, and make new comparisons over the entire stream of future consumption. Utility is relative to reference points, and in all these comparisons, individuals are assumed to be loss averse: the disutility of giving up an object is greater than the utility associated with acquiring it (Kahneman et al., 1991, page 194). Based on the good or bad news they receive, individuals may deviate from their ex-ante optimal consumption path and update their beliefs about the future. Importantly, these deviations can occur even in the absence of uncertainty about individuals' wealth. When individuals increase their current consumption beyond what was expected, they must reduce their future consumption consequently. Due to loss aversion, this should lead individuals to stick to their initial optimal consumption path because the drop in future consumption is more unpleasant than the increase in current consumption is pleasant. However, if individuals care much more about contemporaneous gain-loss utility than about prospective gainloss utility, immediate satisfaction may outweigh future loss aversion and individuals overconsume. With uncertainty, the tendency to overconsume is amplified because current overconsumption is no longer automatically associated with a sure loss in future consumption as good news can occur in the future. As Kőszeky and Rabin (2009) put it out, uncertainty undermines self-control. Pagel (2017) expands on Kőszeky and Rabin (2009) to develop a comprehensive model that accounts for empirical patterns of life-cycle consumption. Prior to retirement, individuals are uncertain about their labor income. During retirement, they earn their permanent income without uncertainty. As a result, individuals tend to overconsume prior to retirement and consume efficiently afterwards, which leads to the drop in consumption at retirement. Using Icelandic transaction-level panel data, Olafsson and Pagel (2024) document a drop in spending upon retirement together with a simultaneous increase in liquid savings and a decrease in consumption debt. They conclude that these empirical findings can be rationalized by present bias and loss averse life cycle planners with reference-dependent preferences.

5 The change in health care consumption at retirement

The vast majority of empirical studies document a fall in health care consumption at retirement. Comprehensive reviews are Filomena and Picchio (2023) and Garrouste and Perdrix (2022). We only present a selection of contributions. Frimmel and Pruckner (2020) give evidence that the number of doctor visits and expenditures related to outpatient medical attendance decrease at retirement for men and women, using administrative data from the province of Upper Austria. Rose (2020), who uses the British Household Panel Survey, finds that reaching the State Pension Age slightly decreases the number of visits to General Practitioners in the previous twelve months for women, but not for men. Nielsen (2019), on Danish administrative data, documents a drop in GP visits at retirement for women only, whereas hospitalization falls for both gender. Birò and Elek (2018), on a sample of women drawn from administrative data for Hungary, find that the probability of having positive outpatient expenditures, inpatient care expenditures, and pharmaceutical expenditures falls upon retirement. Eibich (2015), using German data from the Socio-Economic Panel, finds that the number of doctor visits in the past three months decreases at retirement. Kuusi et al. (2020) give evidence of a decrease in the use of antidepressants upon retirement on Finnish data.

In contrast to previous studies that address the impact of the transition from employment to retirement, Perdrix (2022) evaluates the impact of a deferral of the retirement age on health care consumption. She finds that deferring the retirement age by three months reduces the probability of having a doctor's visit per year, as well as the probability of prescription drugs on French data.

Few studies document a positive effect of retirement on health care utilization. Lucifora and Vigani (2018) use pooled SHARE data but for ten European countries, and find that the probability of visiting a doctor more than four times a year increases significantly at retirement for men. As already mentioned, Zhang et al. (2018) find that retirement increases the number of doctor's visits in urban China. They also find an increase in out-of-pocket inpatient cost at retirement. The latter effect is only significant for men.

Galama et al. (2013) develop a life-cycle model that rationalizes the decrease in health expenditures at retirement. In their model, utility depends on consumption and health, and health is also an input in the production function that generates the worker's income. During retirement, health still has a positive effect on utility but no longer contributes to income and related consumption. Consequently, individuals may decrease health expenditures after retirement. One might think, however, that retirees maintain their investment in health so as to live longer. In the model of Galama et al. (2013), health has no impact on life expectancy. Instead, longevity depends on the level of health care in Kuhn et al. (2015). In their model, utility during the working life depends on consumption and on the disutility of work, and solely on consumption afterwards. Better health is possibly associated with higher earnings and lower disutilities of work. The probability of survival is an increasing function of health and weights the stream of utilities over the life-cycle. Their analysis implies that a deferral of the retirement age can lead to a reduction in post-retirement health expenditures when health increases earnings and/or lower the disutility of work. It "raises the demand for health care before retirement", and if "this boost in pre-retirement health care spending exceeds the additional earnings from retirement postponement", then the "individual is forced to reduce consumption and (by complementarity) post-retirement health care." (see Proposition 1 in Kuhn et al., 2015). Otherwise, a deferral of the retirement age leads to an increase in health spending after retirement.

An alternative explanation to the change in health spending or health care utilization at retirement relates to the opportunity-cost of time. Before retirement, if "employers grant employees time off work to visit the doctor, there is no leisure time cost of going to the GP's office before retirement. This changes after retirement" (Nielsen, 2019). This could explain the drop in health care utilization at retirement. However, the argument can be reversed to assert that the opportunity-cost of time decrease after retirement to foster health care utilization (Lucifora and Vigani, 2018; Zhang et al., 2018).

Another explanation that is only valid for the decrease in health consumption is a possible improvement in health upon retirement. Retirees would no longer experience work-related stress, would suffer less from daily work-related health problems, would have more free time for physical exercise, or would adopt a healthier lifestyle (Eibich, 2015; Frimmel and Pruckner, 2020). Also, the number of doctor's visits could decline at retirement because retirees may need to provide less medical assessments than workers, sick-leave certificates being the leading example (Birò and Elek, 2018; Nielsen, 2019).

6. Final remarks

We have focused on the short-term effects of retirement on consumption. However, as Celidoni and Reba (2017) point out, "individuals might experience, right after retirement, a so-called honeymoon phase in which they can engage in different activities that were set aside because of work-related constraints." Long-term effects of retirement are therefore important to analyze, but they are difficult to disentangle from the effects of aging. In addition, the deferral of the legal retirement age implemented in many countries may change the effect of retirement on consumption and health if it alters the cognitive or physical abilities of individuals (see Celidoni and Reba, 2017; Shai, 2018).

On the other hand, there are limitations to studying retirement effects on household consumption, as consumption survey data only include a small sample of older individuals. Often survey data also suffer from low response rates, which was though not the case of the studies surveyed in this subsection for France, for which the survey response rate was very high, about 80-90%. Unfortunately, administrative data on pensions and retirement is not always available, and even when it is, it is not often possible to link to survey data on consumption and time use. Scan expenditure data are also scant and do not always cover representative population samples.

Finally, increased pension deficits and recent retirement reforms in OECD countries may have changed the picture of consumption at old age. Individuals with interrupted and shorter work histories -such as, notably, migrant workers, lone parents, divorced women- are entitled to lower pension benefit but may also not be able to save much for retirement. It follows that declining consumption possibilities at retirement may add to lifelong gender and societal inequality. Future studies may look further into consumption at retirement, elderly well-being, and inequality.

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