Job insecurity and the consumption of (non) durable goods

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1. Introduction

The Netherlands holds second place when it comes to temporary employment of the OECD countries, with several advisory boards for the government, to be discussed later, speaking out against this trend. The presence of temporary employment causes job- and income insecurities. Individuals and households are less able to plan their life and that affects their behaviour as well. Ample research on the effects of job insecurity on all types of behaviour and health is done. However, very specific consumption effects are yet to be discovered.

In the past decade, the Dutch labour market underwent two big reforms. These two reforms were aimed at changing the tide of the induced flexibility of the Dutch labour market. The number of flexible jobs in the Netherlands almost doubled in the period from 2003 to 2020 (CBS, 2021). The CBS (2015, p.9) divides flexible workers into two groups: a self-employed person with no employees and employees with a flexible employment status. In 2003, flexible workers accounted for 1.7 million jobs, in 2010 2.3 million jobs, and the latest number from 2020 is 2.8 million jobs. The increase of flexible employment increased from less than 30% in 2004 to almost 40% in 2014 (p. 11). The largest group of flexible workers is the group with a flexible employment status. This increase of flexible contracts comes at a cost since employees with a flexible employment status experience a higher job- and income insecurity than other employees (Kremer, 2017, p. 39). The *'Sociaal Economische Raad'* (SER) is a council that advises the government on socio-economic issues. The SER released an advisory report for the Dutch government on June 2^{nd,} 2021, in cooperation with labour unions and employers aiming to reform the labour market. A part of this advice is to create better terms of employment for flexible workers and to shrink the percentage of employees with a flexible employment status significantly.

The increase of flexible workers is partially the result of the *'Wet Flexibiliteit en Zekerheid'* (WFZ) that was put in place in 1998. The WFZ was meant to offer employers extra options to employ flexible workers and to strengthen the legal status of these flexible employees (Redactieflexmarkt, 2007). However, in 2014 at the start of the second term of Prime Minister Mark Rutte, the first big labour market reform in more than 15 years was introduced in the form of the *'Wet Werk en Zekerheid'* (WWZ). It was aimed to strike a new balance between flexible- and permanent jobs because flexible employment had risen significantly. However, in 2020 the *'Wet Arbeidsmarkt in Balans'* (WAB) was introduced, and the WWZ was put aside because the

desired balance was still not found between flexible- and permanent jobs (Ondernemen met personeel, 2020).

Looking at other OECD countries, two-thirds of the countries faced a rise in temporary employment over the period 1997-2014 (Hoekstra, 2016, p. 6). This while only one-quarter experienced a decline of the same type of employment. What stands out when looking at the performance of The Netherlands, is that the percentage of temporary employment grew with 8 percentage points to 18% in 2014. This percentage puts The Netherlands only second behind Spain, and just ahead of Portugal (p. 7). With the knowledge of the previous paragraph, the share of temporary workers did not stagnate after 2014, but only increased further the following years.

The *'Wetenschappelijke Raad voor Regeringsbeleid'* (WRR) extensively investigated the effects of flexible workers on their work, family, and social- and job security (Kremer, 2017). The WRR is a governmental advisory board that informs and advises the government and parliament on major social issues (Ministerie van Algemene Zaken, 2021). The WRR concludes that there are strong indications that job- and income insecurity have negative effects on consumption, and that certain types of consumption are put on halt (Kremer, 2017, p. 37). As a result of lower consumption, economies recover slower after a recession and constrain general economic growth. Next to the economic consequences of job insecurity, also health problems arise such as physical complaints, loneliness, depression, and lower work performances (p. 42). Additionally, job insecurity also results in an 'unpredictable lifetime', where people do not feel ready to plan their future because of job- and income insecurity. This phenomenon is defined by Silva (2013) as 'prisoners of the present'. This can lead to postponements of daily consumption, but also the purchase of a house or deciding to get children are put on hold as a reaction to job- and income insecurity (Kremer, 2017, p. 43). Lastly, it's important to consider that temporary employment is unequally distributed: an individual who is young, low-educated, a woman, or has a migration background is more likely to have a temporary contract (Bolhaar, Brouwers, and Scheer, 2016, p.22). However, individuals with temporary contracts do not necessarily experience more job- and income insecurity than people with a permanent contract, because this insecurity depends on many factors such as the state of the economy and age for example (Kremer, 2017, p. 42).

The increase of flexible work in the form of the self-employed with no employees and the employees with temporary contracts since 2004 – as defined by the CBS (2015, p.9) – has

led to an imbalance in the Dutch labour market. Temporary contracts are often presented and perceived as a way to get job experience and to get to know a company. This can help to kickstart a career, but often it is more of a trap where a worker moves from a temporary contract to another temporary contract, without the perspective of receiving a permanent contract anytime soon. Overall, flexible jobs contribute to a less stable environment for the workers, and the increase of this group leads to a less stable situation for the Dutch labour market.

Flexible jobs are on the rise and there are signs that job insecurity has been following this trend (Kremer, 2017, p. 89). However, the effects of increasing job insecurity on consumption and the differentiation between consumption categories – apart from some strong indications – remain under-investigated. This research aims to create a detailed understanding of how economic behaviour is influenced by job insecurity. The research question is: *'What is the effect of an increase in job insecurity on household consumption behaviour?'*. To answer that question this research will conduct 'ordinary least squares' (OLS) regressions, panel data fixed effects regressions, and panel data fixed effects regressions with interaction terms. The first method is used to give a first general look at the independent and control variables, and how they affect the dependent variables. The second method filters out individual characteristics and common time trends, offering greater explanatory power of the model and it allows to interpret the results more causally. The third method is used to look for variables that interact with job insecurity, resulting in additional effects on the dependent variables.

The statistical analyses are done using the Longitudinal Internet studies for the Social Sciences (LISS) data. This panel differentiates twelve general consumption categories and the total household consumption, this offers a chance to look at general household consumption. The panel also provides information on specific consumption activities, which helps with differentiating between durable and non-durable consumption, and how this is affected by job insecurity. The 'Life-Cycle Hypothesis' by Ando and Modigliani (1963) states that an individual will smooth its consumption to maximize its utility. Applying this intuition to the effect of job insecurity on consumption, it can be expected that an increase in job insecurity leads to a decrease in consumption. De Lucia and Meacci (2005) researched this relationship, and they found that consumption decreases as a result of job insecurity. Furthermore, Pettinicchi and Vellekoop (2019) found that durable consumption is cut more than non-durable consumption in reaction to increased self-reported job insecurity.

This research contributes a great variety of consumption categories to the existing literature, with twelve derivatives of the total household consumption, and six 'yes or no questions' regarding specific consumption activities. Researches on the effect of job insecurity have focussed on just general consumption or only on car acquisitions as durable consumption. Other researches have focussed on job loss expectations in combination with actual job loss and its permanency. Some studies stated similar research questions but solely used survey data that had a rather small quantity of observations or used data that was cross-sectional, leading to limitations of the causal inference of the results. The use of the LISS data provides a large longitudinal dataset, with sixteen consumption categories, which allows for an in-depth analysis of the relationship of job insecurity on the selected variety of consumption categories.

The results give significant evidence concerning the relationship between job insecurity and certain consumption categories. Household day trips and holiday expenditures decrease by €65,63 when job insecurity increases from 0% to 100%. Furthermore, a similar increase in job insecurity results in a decrease of 8.82% of the likelihood of a household replacing its worn-out furniture. Finally, it is found that when the household head has a partner present when experiencing an increase of 100% job insecurity, the likelihood of a household having done a large investment in the last 12 months increases by 8.81%.

This research is structured in the following manner. First, the current literature of job loss expectations, which can be used as a measure for job insecurity, on economic behaviour is discussed. Second, the 'Life-Cycle Hypothesis' and a derivation of this hypothesis, are used to form the theoretical basis for the hypotheses of this research. Third, the methodology explains the panel data fixed effects regressions, elaborates upon which data is selected, and provides descriptive statistics. Fourth, the data is analysed according to the methodology. Lastly, the results are discussed and compared to other findings in the literature, the limitations and implications are discussed, followed by some concluding remarks.

2. Literature review

2.1 Different measures for job insecurity

In the field of research on the effects of job insecurity on consumption, different measures are used for job insecurity. In this research, subjective job loss expectations are used to measure job insecurity, which will be discussed in more detail in the methodology. The studies of

Stephens (2004), Pettinicchi and Vellekoop (2019), and Been et al. (2020) focus more on just the measure of job loss expectations, rather than linking it to the concept of job insecurity. Stephens (2004) uses a measure where workers report the probability of their subjective job loss expectations of the upcoming twelve months on a scale from 0 to 10. Pettinicchi and Vellekoop (2019), and Been et al. (2020) use the LISS data where the answer is given on a scale from 0% to 100%. Instead of using the subjective job loss expectation of a worker, Carroll, Dynan, and Krane (2003) use observable characteristics of workers to estimate the risk of unemployment. De Lucia and Meacci, (2005) also use observable characteristics, but they use these characteristics to estimate a worker's job security.

Lozza, Castiglioni, and Bonanomi (2017) use a creative experimental design with 377 participants to estimate a worker's job insecurity. They put participants in a scenario where one scenario has higher expected job security than the other. The scenario is determined by the 'context' and the 'contract'. The participants are asked to imagine a scenario where three months have passed and their contract (temporary/permanent), or the context (secure/insecure), or both had changed in a good or a bad way. Then, they have to imagine a particular scenario, where their monthly salary was 1300 euros and how they would spend that on daily consumption and major life decisions. This research method outlines four scenarios of job insecurity and it provides a very detailed insight into the concept of job insecurity. The operationalization of the concept of job insecurity used by Lozza, Castiglioni, and Bonanomi, differs substantially from how this research conducts the operationalization. Finally, Hendren (2017) does not measure job insecurity, but rather the knowledge about future displacement itself.

2.2 The effect of job insecurity on consumption

The effect of job insecurity on consumption can be investigated by purely using job insecurity, or by interacting it with actual job loss. In this section, first, the effect of job insecurity in combination with actual job loss on consumption is explored. Second, the effect of job insecurity – or the measure of 'job loss expectations' – on consumption is discussed.

The first category is about the event of actual job loss, whether this was expected, and the effect it has on consumption before the displacement. Hendren (2017) finds evidence of a decline in consumption a year before the actual job loss and an increase in spousal's labour supply when an individual has knowledge about future job loss. This is an interesting effect and

in section 5.3, the effect of having a partner while experiencing job insecurity and the effect it has on consumption will be further investigated. Been et al. (2020) find evidence of unexpected job loss having a large impact on total spending. They find that the impact on consumption the year before being displaced is a decrease of 18% in total consumption (pp. 15-16). Additionally, Stephens (2004) finds that job loss expectations are a good predictor for future displacement.

The second category regards studies that use the concept of job insecurity, or use the variable of subjective job loss expectations to measure the effect on consumption. The first two models form the theoretical basis for how the change in household consumption can be explained by job insecurity. The first model is the Life-Cycle Hypothesis of Ando and Modigliani (1963). This model states that by smoothing consumption throughout an individual's life, an individual maximizes its utility. The second model by Carroll, Dynan, and Krane (2003) is an extension of the first model and concerns household consumption- and precautionary saving behaviour. The assumption behind the model is that individuals with constantly high job insecurity, have higher precautionary savings to be prepared for possible future displacement with the corresponding income shock. Both models tell the same story: the increase in job loss expectations leads to a decrease in consumption to increase the precautionary savings. Individuals take the prospect of future displacement into account when it comes to their spending- and saving behaviour.

Evidence for precautionary behaviour is examined by e.g. Stephens (2004). He looks only at job loss expectations of workers and found that the job loss expectations are a highly significant predictor for future displacement. However, the effect of job loss expectations on household consumption is not found by Stephens. De Lucia and Meacci (2005) examine the decline in marginal propensity to consume of Italian households in the year 2000. They investigate individual job security perception, measured by observable characteristics, and the effects on the consumption of 2918 individuals. With this cross-sectional analysis, they found an effect of the job security perception on a household's non-durable consumption. Lozza, Castiglioni, and Bonanomi (2017) found that an improvement in job security increased the willingness of engaging in both daily consumption and major life decisions. Major life decisions can be a form of durable consumption, which will be further discussed in section 2.3.

Research by Pettinicchi and Vellekoop (2019) has the most resemblance to what this research intends to do. They focus on the effect of job loss expectations on durable consumption and household savings. Their findings include that individuals with higher job loss expectations

acquire cheaper cars, save more, and are less exposed to risky assets. What this research will add to the current literature is that a broader definition of non-durable consumption will be included; do people consume less daily to anticipate a future job loss? If yes, does a consumption category decreases more than another? Next to that, a broader definition of durable consumption will be used, by including more diverse data for durable consumption. This will help to create a deeper understanding of the behaviour of individuals experiencing job insecurity.

In summary, an increase in job insecurity can have consequences for the consumption behaviour of individuals and households. Interesting insights could be found by investigating which components of an individual's consumption are harmed significantly as a result of increased job insecurity.

2.3 Durable and non-durable consumption responses

Not all consumption is easy to flat out over time, and some types of consumption are not affected in the same way as others. Pettinicchi and Vellekoop (2019) found, as mentioned before, that people with higher job loss expectations acquire cheaper cars or are less likely to acquire a car at all. This change in behaviour on durable consumption is interesting to look further into. When an individual's job is on the line, what does that mean for durable and non-durable consumption, and are there significant differences between both categories? Benito (2006) explored the relation between durable consumption and job insecurity and found that the probability of having recently purchased a durable good varies inversely with job insecurity. In simpler terms, this means that durable consumption decreases when job insecurity is higher (p. 175). In addition, Lozza, Castiglioni, and Bonanomi (2017) found that job insecurity has a bigger influence on the major life decisions of individuals than on their daily consumption. These comparable findings, lead to the expectation that durable consumption decreases more as a result of job insecurity in comparison with non-durable consumption.

The different effects certain events can have on durable and non-durable consumption will be elaborated on further. A recent study on the US consumption response to the 2020 economic stimulus payments, finds that American households with high job insecurity have a weaker consumption response to the stimulus, due to precautionary saving behaviour (Baker et. al., 2020). In addition, a relatively small increase in durable spending and a large increase in spending on food and short-term debts is found. Furthermore, the consumption response of

lower-income households is greater than that of middle- and high-income households. The study of Baker et al. gives two insights with the second being the most important for this section, (1) households that experience job insecurity do not spend their stimulus as much as people who do not experience job insecurity, and (2) households spend their money mostly on non-durable consumption. The second insight can be interpreted as a form of myopia, with job loss expectations playing a vital role in precautionary saving behaviour.

Browning and Crossley (2009) take the differentiation in consumption one step further. They look at how households in temporarily straitened circumstances spend marginal dollars of their transfer income such as unemployment insurance benefits. They find that when testing for liquidity constraints, non-durable expenditures have little predictive power because the expenditures in these goods are preferably smoothed (p. 1175). In short, this means that non-durable consumption – like food – is not affected as much by income fluctuations as durable consumption, because it will be consumed rather evenly throughout an individual's life. Browning and Crossley argue that non-durable consumption is subjected relatively less to income fluctuations than durable consumption.

3. Theoretical framework

The life-cycle model of consumption and saving by Campbell and Deaton (1989) provides a simplified operationalization of reality. They operationalize how consumption, wealth, capital income, labour income, and expectations interact. They present the following equation for optimal consumption as

$$c_t = \frac{r}{1+r}\ \left[A_t + \sum_{i=0}^{\infty}(1+r)^{-i}E_t Y_{t+i}\right] \qquad (1)$$

In equation 1 c_t stands for consumption at time t, r is the real interest rate which is assumed to be a constant factor, A_t is wealth at time t, E_t is the expectation operator for the expectations regarding income at time t, and Y_t is labour income received at point t. The constant interest rate, an infinite number of years, and the point expectations together simplifies reality and provides insight into the relevant mechanisms of this function. The change of consumption over time is written as

$$\Delta c_{t+1} = r\ \sum_{i=0}^{\infty}(1+r)^{-i}(E_{t+1} - E_t)\ Y_{t+i} \qquad (2)$$

In equation 2 the change in future consumption is driven by present and future expectations of labour income, the past expectations of labour income are not taken into account. So the expectation of future labour income affects consumption. In addition to equations 1 and 2, where consumption is operationalized, it's also interesting to see how (precautionary) savings are affected by the expectations of future labour income. Campbell (1987) provides a "saving for a rainy day" equation with savings, s_t, defined as

$$s_t = -\sum_{i=0}^{\infty}(1+r)^{-i}\, E_t\ \Delta Y_{t+i} \qquad (3)$$

The amount of money saved is determined by the discounted present value of the expected change in future labour income. Equations 2 and 3 give specifications of the mechanisms that will be investigated further and will be used to formulate hypotheses. Equation 2 presents the mechanism of the difference in current and future expectations of labour income, and the effect it has on consumption. This mechanism is that when an individual has a lower expectation of labour income in the upcoming year than in the current year, the consumption decreases in the next year relative to the current year. In simpler terms, when an individual expects there is a risk of lower future income, this individual decreases their current consumption as a reaction. So expectations of future income can influence current consumption. This reasoning is expressed in the first hypothesis as

> H_1: When a household expects lower future income as a result of an expected future job loss, general household consumption will decrease.

Equation 3 focuses on saving behaviour in relation to expectations of future income. When the expected income in the future is lower than the current income, savings increase. The effect of job insecurity can be different for different groups, such as a household of a single individual, a household with children, or a household with people who are older than 55 who see their pension getting closer. These effects will be examined in chapter five, where the empirical results will be shown and discussed. Similar to the intuition of equation 2 and the first hypothesis, for savings to increase – assuming income stays constant – consumption has to decrease. This is why it's important to control for total income when examining the effect of job insecurity on consumption. If it's assumed that total income is constant and savings increase as a result of expectations of lower future income, savings are the result of lower consumption.

According to equation 3, savings are increased when expecting job loss, as a result of lower consumption. The differentiation between durable and non-durable consumption is discussed in section 2.3. Non-durable goods are easier to smooth over time and significant shocks are more likely to be found for durable goods, also depending on the composition of the household. Following section 2.3 and equation 3, the second hypothesis can be expressed as

> H_2: When a household expects lower future income as a result of higher job loss expectations, durable consumption will relatively decrease more than non-durable consumption.

Both hypotheses 1 and 2 assume that the only effect on current consumption is the expectation of a change in future income. Hypothesis 1 focuses on lower general consumption as a result of job insecurity, and hypothesis 2 emphasizes on the differences in types of consumption.

4. Methodology

4.1 Quantitative regression models

4.1.1 Ordinary Least Squares regression models

To create greater knowledge of how the variables interact, before excluding certain control variables in the fixed effects regression models, an Ordinary Least Squares (OLS) regression will be performed. OLS regression models are linear regression models where the confounding variables that influence the dependent variable, have to be adjusted for. When these confounding variables are accounted for, they will serve as control variables in the regression models (Toshkov, 2016, p.207). However, these regression models will serve as support for later regression models which offer results with higher causal inference. Therefore, it's not informative to discuss the OLS regression models to the fullest extent.

4.1.2 Panel data design and fixed effects regression models

The main objective of this research is to examine the effect job insecurity has on the consumption of the employed. Panel data is the combination of the time series and cross-sectional design; the same units are observed over the same period in time (Toshkov, 2016, p.232). This type of data can be used for a fixed effects regression, where sources of variation – caused by confounders – are relatively better blocked than with a time series or cross-sectional

design (p.232). In a fixed effects regression design, fixed individual differences and common time trends are controlled for. This is because not the levels between individuals are compared, but the changes within individuals over time are compared, partly circumventing the omitted variable bias (Angrist and Pischke, 2014, p.223). Panel data in combination with fixed effects regression help better identifying and estimating causal effects, leading to a more trustworthy causal inference. This fixed effects regression model is essential in this research and will help to identify the causal mechanism of job insecurity on consumption. However, there is one statistical problem that has to be accounted for. This is 'serial correlation', and it occurs when in the data there are repeated observations of the same individual over time, which is the case for panel data (p. 206). Serial correlation can lead to misleading statistical evidence, and to control for this, the standard errors for the same individuals have to be clustered (p.207).

The baseline model is used to test the hypothesis and ultimately answer the research question, and it takes the following form:

$$Y_{it} = \beta_0 + \beta_1 JI_{it} + \beta_2 Control_{it} + \varepsilon_{it}$$

The outcome variable Y_{it} stands for the household consumption of a particular household at a certain moment in time, depending on the regression. The parameter β_0 gives the average household consumption, given that all the other values of the explanatory variables are zero. The parameter β_1 is the estimated effect of job insecurity on household consumption, controlling for household-specific and time-specific characteristics. JI_{it} is the variable for job insecurity of the household head i on moment t. β_2 is a vector of coefficients of the control variables that can change over time and across individuals. $Control_{it}$ is a combination of control variables, which consists of net household income, age, having children present n the household, and having a partner present in the household. These are variables that are not household- or time-specific and they can change over time. ε_{it} is the error term of the difference between the observed Y_{it} and the fitted values that are generated by this regression model (Angrist and Pischke, 2014, p.57). The household fixed differences are controlled for by the fixed effects and are part of the error term. The common time trend is also part of the error term and is controlled for by the fixed effects design, which accounts for changes that are common for all individuals over time (e.g. economic shocks).

4.1.3 Fixed effects regression models with interaction terms

The baseline model is a regular fixed effects regression model. However, in section 5.3 a fixed effects regression model will be performed with an interaction term. This interaction is between two variables, the main explanatory variable, and a moderating variable, and it shows the additional effect on consumption. A moderator variable can potentially change the effect of the main explanatory variable on the dependent variable, creating an additional effect. This additional effect can occur when both variables are higher than zero. When this is the case, the coefficient of this term represents the additional effect of these two variables when they interact. The model takes the following form:

$$Y_{it} = \beta_0 + \beta_1 JI_{it} + \beta_2 Control_{it} + \beta_3 JI_{it} * HC_{it} + \varepsilon_{it}$$

This model resembles the baseline model, except for the term $JI_{it} * HC_{it}$ with the coefficient β_3. JI_{it} is the main explanatory variable 'job insecurity' for household head i at time t, this variable interacts with the moderating variable HC which stands in this model for 'household characteristic' for household head i at time t. This model takes three forms and the difference between the three models is a result of the three different household characteristics which are interacted with job insecurity. The household characteristics are the age category of the household head, whether there are children present in the household, and whether there is a partner present in the household. β_3 represents the additional effect of job insecurity in combination with the moderating variable on household consumption. This will help to create a better understanding of reality rather than just controlling for these variables.

4.2 Data source and selection

4.2.1 Data source and variable selection

Data for this research is derived from the Longitudinal Internet studies for the Social Sciences (LISS) panel, administered by CentERdata (Tilburg University, The Netherlands). The LISS panel is a representative sample of Dutch individuals where a longitudinal survey is performed every year since 2007, covering a wide variety of domains on a micro-level. The domains concerning the work situation, household expenditures, and individual- and household characteristics are used in this research. These studies are the 'Economic Situation: Income', 'Time Use and Consumption', and 'Background Variables' respectively. Most studies are performed each year, however, the 'Time Use and Consumption' survey is an exception. This study is done for the years 2009, 2010, 2012, 2015, 2017, and 2019. For the other two studies,

the corresponding years are used in this research. This matches the three studies over the six periods, creating the dataset that will be used for the statistical analysis.

There are varying methods of measuring job insecurity, as discussed in section 2.1. In this research the concept of job insecurity is measured as the individual job loss expectation, this expectation is self-reported. The data for this measure is found in the 'Economic Situation: Income' study, where the individual data is obtained by the question:

> *"Do you think that there is any chance that you might lose your job in the coming 12 months? You can indicate this in terms of a percentage. 0 % means that you are sure that you will not lose your job, and 100% means that you are sure that you will lose your job."*

This is a unique question for a survey and allows estimating the effect self-reported job insecurity has on consumption. The general household expenditure data is obtained through the 'Time Use and Consumption' study, where the general household expenditure data is obtained by the question:

> *"Can you indicate for each type of expenditure how many euros your household spends on this on average, per month in the past 12 months?"*

The monthly household expenditures are categorized as follows: mortgage, rent, general utilities, transport and means of transport, insurances, children's daycare, alimony and financial support for children not living at home, debts and loans, day trips and holidays, cleaning or gardening, eating at home, and other remaining household expenditures. Additionally, the total sum of these categories is also provided in the form of 'total household expenditures'.

The ability to differentiate between durable and non-durable consumption is provided by the data from the 'Economic Situation: Income' study. This study does not provide numerical expenditure data, what it does provide is specific data on distinct types of consumption activities. An example of a question in this study is:

> *"Do you replace worn-out furniture?"*

Possible answers on this, and other equivalent questions are: yes, no (with three different reasons for answering 'no'), or not applicable. This question does not specify whether this activity occurred over the last year, but rather if a household intends of engaging in a certain consumption activity or not. This information about how inclined people are to participate in a

consumption activity is valuable when looking for the effect that job insecurity might have on the likelihood that this type of consumption occurs. Similar questions that will be used in this research to provide specific consumption data are about buying new clothes regularly, going minimal a week a year on vacation, going out for dinner once in two months, whether people pay for one or more sports club memberships, and whether a household did a large investment in the last 12 months. As can be seen, some questions include a specific timeframe for a certain consumption activity to occur and some do not. The most interesting data relates to questions about explicit durable consumption activities, being 'replacing worn-out furniture', 'buying new clothes regularly', and 'doing a large investment in the last 12 months'. These three questions provide information on the likelihood of durable consumption, helping to test the second hypothesis. One drawback of the question whether a household did a large investment in the last 12 months, is that this question is relatively subjective. A household with high savings might not interpret 'a large investment' in a similar way as a household where money is tight.

Control variables are included to control for individual or household characteristics in the regression models. These variables are household net income, ethnic background, gender, age, level of education, presence of a partner, and presence of one or more children. As mentioned in the introduction, an individual that is young, low-educated, a woman, or has a migration background correlates with a higher likelihood of having a temporary contract (Bolhaar, Brouwers, and Scheer, 2016). However, intuitively household net income, having a partner, or having children also influence economic behaviour when expecting job loss. As mentioned in the literature review, for example, Hendren (2017) finds that spousal's labour supply increases when having knowledge of future job loss. Not all control variables have to be included in the fixed effects regression models. Fixed individual characteristics such as gender, ethnic background, and level of education do not have to be included, because they do not change over time.

4.2.2 Sample selection

The selected sample provides information for all individuals, and the total number of observations in the complete sample is 33106 before exclusion. However, for this research, certain observations have to be excluded. First, only household heads with paid jobs are included. The exclusion of non-household heads is done because consumption is measured at the household level and not the individual level. To measure the effect of job insecurity on consumption, the job insecurity of the household head is used. The exclusion of household

heads without a paid job is done because when the household head experiences job insecurity, income is not affected and thus not relevant for this research. Additionally, household heads who have zero total household expenditures are also excluded. Furthermore, only working-age individuals are included in the sample, since this group represents best what this research intends to study. People younger than 25 switch jobs very frequently and the main focus is not always on work, education for example can be the primary daily activity. People older than 65 receive state old-age pension in the Netherlands, and if they continued working, job insecurity becomes a smaller factor in their consumption decisions.

The exclusion of non-household heads results in a reduction of the number of observations by 14601. The exclusion of household heads without a paid job, or unemployed household heads, results in 628 fewer observations. Households with zero total household expenditures are also excluded, resulting in 3190 fewer observations. Finally, the exclusion of individuals younger than 25 years old results in 357 fewer observations, and the exclusion of individuals older than 65 years leading to 4489 fewer observations. The total number of observations before exclusion is 33106. After the exclusion of previously discussed observations, the selected sample in this research has a total number of 9841 observations. All the variables are kept the same at the minimal level and the maxima are thoroughly examined and extreme outliers are excluded. This is done to keep the selected sample representative while preserving the utility of the statistical part of this research.

4.3 Descriptive statistics

Table 1 shows the descriptive statistics of the main explanatory variable, job insecurity, the main dependent variables in the form of household expenditure data, and the specific consumption activities of households. Panel A contains the continuous variables, including job insecurity, and the dependent variables concerning general household expenditures in euros. Panel B contains the binary dependent variables, with no being represented as a 0 and yes as a 1. In panel B, the first three variables are used for statistical analyses regarding durable consumption. The control variables can be found in the appendix. The descriptive data are for over the period 2009 until 2019, however, as mentioned in subsection 4.2.1, only the years that are available in the ‘Time use and consumption’ study are used in this research.

Table 1 Descriptive statistics for the years 2009-2019

Variable	Mean	Std.Dev.	Min	Max	N=
Panel A					
Job insecurity	11.98	22.78	0	100	9841
Total household expenditures (€)	1997.35	2032.74	2	57530	9838
Household mortgage expenditures	482.79	708.02	0	20000	9442
Household rent expenditures	181.18	414.01	0	13000	9552
Household expenditures on general utilities	212.88	185.66	0	6000	9213
Household expenditures on transport	154.27	238.49	0	10000	9463
Household insurance expenditures	239.10	260.67	0	8160	8953
Household children's daycare expenditures	38.71	233.56	0	12000	9616
Household alimony and financial support for children expenditures	29.02	157.56	0	4500	9666
Household debts and loans expenditures	59.57	584.36	0	25000	9602
Household expenditures on day trips and holidays	141.99	364.38	0	12000	9366
Household cleaning and gardening expenditures	44.51	97.06	0	5000	9286
Household eating at home expenditures	350.34	444.95	0	17500	9290
Other household expenditures	124.81	255.08	0	10000	8676
Panel B	Mean	Missing values			N=
Buy new clothes regularly (yes=1)	0.48	3.69%			9478
Replacing worn out furniture	0.56	10.82%			8776
Large investment in the last 12 months	0.78	2.36%			9609
Minimal a week of vacation once a year	0.72	4.42%			9406
Minimal once in two months going out for dinner	0.49	36.81%			6219
Pay for sports club membership	0.76	47.20%			5196

4.3.1 Descriptive statistics of the dependent variables

Table 1 shows that the average job insecurity is 12%. However, the standard deviation of the main explanatory variable is rather high and a more detailed view of this variable will be provided in the following subsection. The average total monthly household expenditures are just below €2000. The average mortgage and eating at home expenditures are the highest household expenditure categories. The lowest average household expenditures have something to do with the care of children, which could be due to not all households having to take care of children. The lowest average household expenditure that is relevant for all households is the cleaning and gardening expenditures, with average monthly costs of around €45.

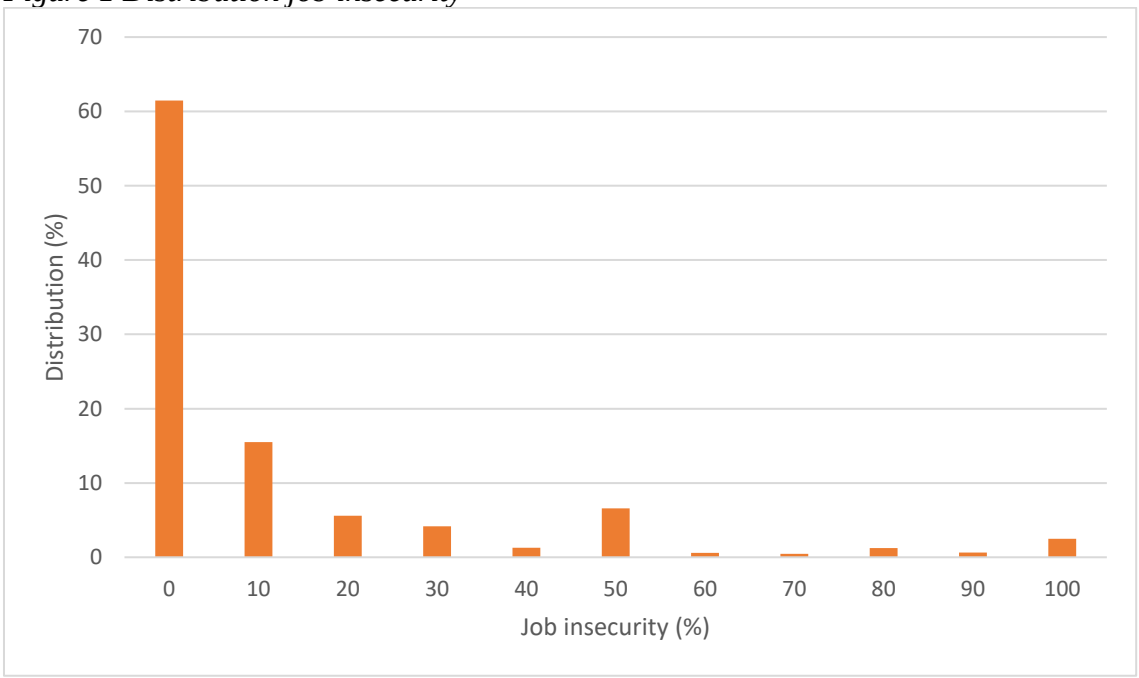
The specific household consumption activity data is shown in panel B of Table 1. There are six specific household consumption variables, with three having an average of around 50% yes, which are buying clothes regularly, replacing worn-out furniture, and going out for dinner once in two months. Replacing worn-out furniture question being answered yes slightly more with 56%. The variables concerning going on holiday, having more than one sports club memberships, and making a large investment, all being answered yes around 75% on average.

In the appendix, the control variables are shown, with a percentage for the missing values provided for the non-continuous variables in panel B. The average monthly household income is €2862 when comparing this to the household expenditures, on average around €850 is not spend. This amount is by definition – similarly to the assumptions made in the theoretical framework – the amount of savings. Finally, what stands out is that ethnic background has 37,52% missing values, which could lead to limitations during the statistical analysis. To account for this problem, a dummy variable is included for the missing values of ethnic background.

4.3.2 Descriptive statistics of the main explanatory variable

In this subsection, a more detailed view of the main explanatory variable 'job insecurity' is provided. The distribution of the variable job insecurity is graphically shown in Figure 1. In this figure, the percentages are rounded off to the nearest 10 percent. The distribution is similar to previous studies regarding the measure of subjective job loss expectations (Stephens, 2004; Pettinicchi and Vellekoop, 2019; Been et al., 2020). This is that most individuals answer 0 percent when asked whether they expect to lose their job in the upcoming 12 months, with a steady decreasing trend. With two peaks at 50 and 100 percent and a very small increase for the category of 80 percent, which includes 75 percent. These peaks are probably due to people rounding off their expectations.

Figure 1 Distribution job insecurity



Note: the percentages are rounded off to the nearest 10 percent

In Figure 2 the average job insecurity is graphically shown for the period from 2009 until 2019. In 2009 being around 14%– just after the financial crisis – and steadily declining to 9% until 2017, only to increase again in 2019 to approximately 11%. Remarkable is that the trend of job insecurity until 2017 is not following the trend of flexible and temporary work, which was still increasing over that similar period. Job insecurity not following the same trend as the share of temporary workers is something to keep in mind for future research. In Figure 3, the average job insecurity relative to age is shown. The average job insecurity in the age segment of 25-35-year-old, is around 10-12% with small peaks that reach 15%. After the age of 35, job insecurity increases steadily to around 14-15%, only to decrease significantly after the age of 55. Figure 3 indicates differences between age segments. In section 5.3, age groups will be created to interact with job insecurity, to find additional effects of age in combination with job insecurity.

Figure 2 average job insecurity over the years

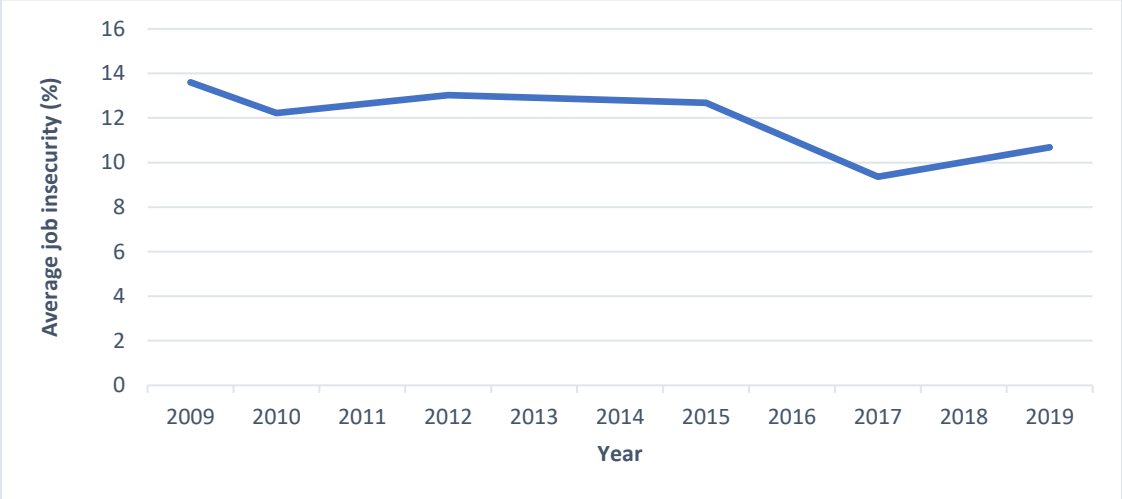
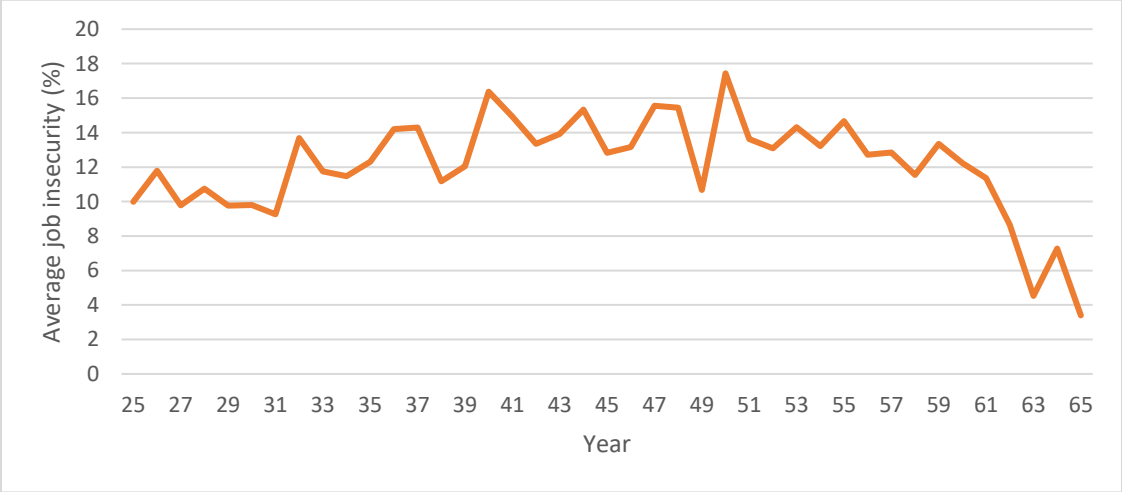


Figure 3 average job insecurity by age



Tables 2 and 3 present the descriptive statistics of two groups, with Table 2 representing the group of household heads that report zero job insecurity, and Table 3 representing the group of household heads that report above-zero job insecurity. When comparing both groups, compelling is that the group that reports zero job insecurity has on average lower total household expenditures and also a lower average household net income. The total household expenditures differ for more than €300, however, the income gap is somewhat smaller being just lower than €300. When comparing the average amount of monthly savings for both groups, it's interesting that the group who report zero job insecurity, save €874,33, while the group of household heads who report above-zero job insecurity save €851,74. The group of household heads who report zero job insecurity, save on average €22,59 more than the group who report above-zero job insecurity. This is not in line with the discussed literature from section 2.2 and the first hypothesis. Nevertheless, these are just the averages and it's interesting to statistically analyse the effect of job insecurity on consumption and interpret the empirical results in the next chapter. Finally, in panel B of both Tables 2 and 3, the binary consumption categories are shown. It can be said that the household heads who report above-zero job insecurity, are more likely to consume durables than households where the household head reports zero job insecurity. Only large investments being done more often by households where there is zero job insecurity reported.

Table 2 Descriptive statistics for household heads report zero job insecurity

Variable	Mean	Std. Dev.	Min	Max	N=
Panel A					
Job insecurity	0.00	0.00	0.00	0.00	5642
Total household expenditures	1864.26	1811.77	2.00	53000.00	5641
Household net income	2738.59	5328.80	40	250270	5296
Age	50.27	11.81	25	65	5642
Panel B	Mean	Missing Values			N=
Buy new clothes regularly (yes=1)	0.45	5.85%			5312
Replacing worn out furniture	0.54	13.47%			4882
Large investment in the last 12 months	0.79	4.11%			5410
Minimal a week of vacation once a year	0.67	6.63%			5268
Minimal once in two months going out for dinner	0.47	39.68%			3403
Pay for sports club membership	0.71	50.18%			2811

Table 3 Descriptive statistics for household heads report above-zero job insecurity

Variable	Mean	Std. Dev.	Min	Max	N=
Panel A					
Job insecurity	28.07	27.66	1.00	100.00	4199
Total household expenditures	2176.22	2284.52	10.00	57530.00	4197
Household net income	3027.74	1466.96	200	154000	3957
Age	46.07	10.19	25	65	4199
Panel B	Mean	Missing Values			N=
Buy new clothes regularly (yes=1)	0.51	0.79%			4166
Replacing worn out furniture	0.59	7.26%			3894
Large investment in the last 12 months	0.76	0%			4199
Minimal a week of vacation once a year	0.79	1.45%			4138
Minimal once in two months going out for dinner	0.52	32.94%			2816
Pay for sports club membership	0.82	43.20%			2385

5. Empirical results

5.1 OLS regression models

Table 5 shows the OLS regression results for job insecurity on the total consumption and the twelve general household consumption categories. In this regression, all the control variables mentioned in the methodology are included. The reference category for the ethnic background is having a Dutch background, and the reference category for education level is having no education. To create a more meaningful interpretation of the coefficients, job insecurity is divided by 100. By doing this, the coefficient is the effect of an increase from 0% self-reported job insecurity, to 100% self-reported job insecurity, instead of just a 1% increase that makes interpretation more difficult. The term used for 0% self-reported job insecurity is ‘zero job insecurity’, and the term used for 100% self-reported job insecurity is ‘full job insecurity’.

The interpretation of Table 5 is that job insecurity does not affect general household consumption, except for children’s daycare and rent expenditures. The effect of an increase to full job insecurity results in a reduction of children’s daycare expenditures of €22,03 on average per month. A similar increase in job insecurity results in a €36,91 reduction in average monthly rent expenditures. Both coefficients are significant at the 0.05-level. Children’s daycare expenses can be reduced by simply not bringing your children in, and ‘producing’ that product yourself. This type of producing a service yourself to reduce costs is also known as ‘home production’ which is used in the research of Been et al. (2020). For rent expenses, on the

contrary, reducing this expenditure can be challenging. Moving to a cheaper location would be one of the only plausible options, but this does not feel like an appropriate response to higher job insecurity. Further statistical analysis is needed to create a better understanding of this effect.

When taking a look at the control variables (which can be found in the appendix), what can be seen is that household net income is an important determinant of household consumption, with having significant positive effects on most household expenditures. Household debt expenditures and household insurance expenditures being the exceptions, these are not affected by household net income with at least a 10% significance level. Additionally, age is a significant variable when it comes to affecting household expenditures, varying in positive and negative effects. Being a female household head has a negative effect on most general household consumption categories, while rent expenditures are the only positive effect for female household heads. Furthermore, it can be said that according to Table 5, the higher the education level – with VMBO being the lowest education level and WO being the highest – the higher the household expenditures. What stands out when looking at the missing value dummy for ethnic background, is that the dummy is significant for total household expenditures and five other household expenditure categories. This dummy represents 37,52% of the ethnic background values. The missing value dummy being a significant predictor for certain consumption categories is a concern, however, this problem is dealt with in section 5.2. The fixed individual differences between observations are controlled for by the fixed effects regression model, so the missing values for ethnic background will not be a concern in those regression models. Finally, the dummies for having a partner and have one or more children are both significant determinants for nearly all categories of general household consumption.

In relation to the first hypothesis, it cannot be said whether job insecurity has a significant effect on the general consumption of a household. However, there are significant effects for some consumption categories, such as rent and children's daycare. These relations will be investigated more thoroughly in section 5.2.

Table 5 Regression results for general household consumption

	(1) Total	(2) Mortgage	(3) Rent	(4) General	(5) Transport	(6) Insurance
Job insecurity (/100)	-126.116	-9.429	-36.908**	-7.42	10.797	-3.168
	(89.584)	(30.436)	(18.004)	(8.624)	(11.055)	(12.338)
_cons	1485.019***	548.573***	435.369***	65.412***	112.642***	88.702***
	(143.576)	(48.918)	(28.897)	(13.828)	(17.677)	(19.871)
Observations	9235	8904	8991	8666	8911	8432
R-squared	.079	.127	.064	.053	.046	.048

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1. The complete list of the control variables' coefficients can be found in the appendix.*

Table 5 continuation

	(7) Children	(8) Alimony	(9) Debt	(10) Daytrips	(11) Cleaning	(12) Eating	(13) Other
Job insecurity (/100)	-22.031**	8.201	-32.003	-11.667	4.314	5.891	-10.116
	(10.722)	(7.247)	(24.723)	(16.668)	(4.554)	(20.849)	(12.535)
_cons	134.309***	-49.224***	96.954**	-54.728**	1.542	96.286***	40.469**
	(17.221)	(11.634)	(39.663)	(26.69)	(7.316)	(33.352)	(20.012)
Observations	9045	9090	9033	8822	8743	8740	8184
R-squared	.067	.028	.005	.081	.033	.063	.024

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1. The complete list of the control variables' coefficients can be found in the appendix.*

The OLS regression results for the binary dependent variables are presented in Table 6. In this regression, the same independent and control variables are used as in the regression models of Table 5. The difference with previous regression models is that the dependent variables are binary. More importantly, these results represent the change in the likelihood of the occurrence of a certain consumption activity. The first three columns in Table 6 contain the dependent variables that represent durable consumption activities. It can be seen that job insecurity has significant negative effects on replacing worn-out furniture and going out for dinner once in two months. The coefficients for job insecurity on the variables 'furniture' and 'dinner' are -0.0817 and -0.837 respectively. This means that the effect of an increase to full job insecurity results in a decrease by 8.17% in the likelihood of a household replacing its worn-out furniture, and a similar increase of job insecurity results in a decrease by 8.37% in the likelihood of a household going out for dinner once in two months. These two coefficients are significant at the 0.01-level. The negative coefficient of 'clothes' is only significant at the 0.10-level, and therefore not relevant to interpret.

In columns 3 and 4, positive effects of job insecurity on consumption are found. The coefficient for making a large investment in the past 12 months is 0.041 and significant at the 0.05-level. While the coefficient for going on a week of holiday once a year is significant at the 0.10-level. The coefficient of making a large investment is interpreted as the effect of an increase to full job insecurity results in an increase by 4.1% in the likelihood of having made a

large investment the past 12 months. The likelihood of having a sports club membership is not significantly affected by job insecurity, according to this OLS regression model.

In relation to the second hypothesis, it can be said that the results of Table 6 point in the direction of people consuming less durable consumption as a result of job insecurity. However, the results of replacing worn-out furniture and making a large investment over the past 12 months are somewhat contradictory. The next section, where the fixed effects regression models are used, will further help to determine whether job insecurity has a positive, negative, or no effect on durable consumption. This will ultimately lead to more conclusive evidence to test the second hypothesis.

Table 6 Regression results for specific household consumption activities

	(1) Clothes	(2) Furniture	(3) Investments	(4) Holiday	(5) Dinner	(6) Sport
Job insecurity (/100)	-.0393*	-.0817***	.041**	.0363*	-.0837***	.0345
	(.0224)	(.0228)	(.0188)	(.0195)	(.0278)	(.0264)
_cons	.3381***	.292***	.6389***	.4517***	.3178***	.5307***
	(.0365)	(.0371)	(.0304)	(.0317)	(.0437)	(.0426)
Observations	8897	8257	9011	8834	5816	4859
R-squared	.0675	.0987	.0389	.1259	.1495	.1237

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1. The complete list of the control variables' coefficients can be found in the appendix.*

5.2 Fixed effects regression models

Before the regression models in this section are carried out, a Hausmann test has to be performed, which is presented in Table 7 in the appendix. This test is used to determine whether fixed effects or random effects have to be included in the panel data regression model. The Hausman test assesses whether random effects or fixed effects are more efficient estimators when using a panel regression model. Generally speaking, a fixed effects model is useful when the sample of the population remains constant, as opposed to random effects estimator where the sample of the population is random. The Hausmann test helps to evaluate the two types of models, and it looks at whether the fixed effects are at least as consistent as the random effects. The fixed effects are at least as consistent when the alternative hypothesis is true, this is the case when the p-value is equal to or lower than 0.05. In Table 7, the Hausmann test is performed for total household expenditures as the dependent variable, and the result is that the fixed effects are the preferred estimator for this panel regression model. For the remaining dependent variables, identical tests are performed, and all tests show evidence in support of using fixed effects as the estimator.

In Table 8, the results for the fixed effects regressions are presented for general household consumption. Total consumption – with many other consumption categories – is not significantly affected by job insecurity. Neither the results in section 5.1, where an OLS regression model was used nor the results in column 1 of Table 7, find a significant effect of job insecurity on total household consumption. Nevertheless, for two other general household consumption categories significant effects at the 0.10-level are found. This is the case for rent and cleaning expenditures – columns 3 and 11 respectively – where rent has a negative coefficient and cleaning has a positive coefficient. The one general consumption category that is significant at 0.05-level, is day trips and holiday expenditures, which is found in column 10. This coefficient is -65.632, which means that the effect of an increase to full job insecurity, results in a decrease by €65,63 in average monthly household day trips and holiday expenditures.

Table 8 Fixed effects regression results for general household consumption

	(1) Total	(2) Mortgage	(3) Rent	(4) General	(5) Transport	(6) Insurance
Job insecurity (/100)	-237.652	-54.433	-29.141*	-4.500	-0.553	6.855
	(165.122)	(46.397)	(15.724)	(11.477)	(14.959)	(16.821)
_cons	512.310*	654.580***	141.198**	195.487***	81.873*	11.106
	(268.683)	(97.104)	(61.983)	(30.645)	(43.198)	(43.846)
Observations	9250	8917	9005	8681	8925	8445
R-squared	0.004	0.003	0.005	0.002	0.001	0.005

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1. The complete list of the control variables' coefficients can be found in the appendix.*

Table 8 continuation

	(7) Children	(8) Alimony	(9) Debt	(10) Daytrips	(11) Cleaning	(12) Eating	(13) Other
Job insecurity	-38.270	-4.962	-32.353	-65.632**	7.973*	-28.770	-15.795
(/100)	(29.545)	(8.294)	(33.290)	(32.309)	(4.426)	(35.794)	(12.620)
_cons	-80.832*	98.180***	130.237	29.337	-17.657	357.253***	211.198***
	(41.495)	(32.910)	(82.589)	(56.206)	(20.835)	(63.787)	(47.005)
Observations	9058	9104	9047	8836	8757	8752	8195
R-squared	0.020	0.009	0.000	0.005	0.002	0.002	0.001

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1. The complete list of the control variables' coefficients can be found in the appendix.*

Reflecting on the findings in Table 5 of section 5.1, no significant effect of job insecurity on children's daycare expenditures is found in this fixed effects regression model. The coefficient of rent expenditures, which is significant at the 0.05-level in the OLS regression of Table 5, is found to be less significant in the fixed effects regression model of Table 8. The statistical significance of both coefficients is reduced.

The results found in Table 8 do not confirm what was previously assumed, job insecurity harming general household consumption. It can be concluded from these results that households who experience job insecurity, mostly cut leisure expenditures, and that job insecurity does not lead to an increase in household expenditures. A plausible explanation for cutting leisure expenditures is that this type of consumption is easier to smooth when a household head is experiencing job insecurity. Certainly in comparison to categories like example alimony or mortgage expenditures, that are far more rigid than the expenditures of day trips and holidays. Cutting leisure expenditures does not perse means less leisure time, but an expensive flight or hotel might be replaced by a domestic holiday, and a day trip might involve going to a local park instead of going to an amusement park. Whether this is the case, is determined by the results in Table 9, by the results of the likelihood of going on a holiday one week once a year decreases. In conclusion, total household consumption is not influenced by increased job insecurity, but monthly day trips and holiday expenditures are negatively affected. In relation to the first hypothesis, one consumption category is decreased significantly, while no consumption category significantly increased as a result of job insecurity. The results do not give conclusive and sufficient evidence to accept the first hypothesis, however, there is evidence that supports this hypothesis.

In Table 9, the fixed effects regression results for the binary dependent variables are provided, these variables give insight into the likelihood of specific household consumption activities. The first three columns are most informative when searching for the effects of job insecurity on durable consumption behaviour, the final three columns are more indicatory for non-durable consumption activities. In column 2 of Table 9, the fixed effects regression model for the dependent variable of the likelihood of a household replacing its worn-out furniture is presented. The coefficient of job insecurity on replacing worn-out furniture is -0.08818 significant at the 0.01-level. This means that the effect of an increase to full job insecurity results in an average decrease of 8.82% in the likelihood of households replacing worn-out furniture. The remaining five consumption activities – including the three non-durable ones – are not significant at the desired level in this model, and therefore do not help explain consumption behaviour. One of the non-durable consumption activities is going on a holiday one week once a year, and this is not significantly affected by job insecurity. So it can be concluded that spending in holidays decreases, but going on a holiday once a year is not affected.

Table 9 Fixed effects regression results for specific household consumption activities

	(1) Clothes	(2) Furniture	(3) Investment	(4) Holiday	(5) Dinner	(6) Sport
Job insecurity (/100)	-0.01397	-0.08818***	0.04573*	-0.00515	-0.02577	-0.01002
	(0.02379)	(0.02468)	(0.02706)	(0.01973)	(0.03469)	(0.03326)
_cons	0.56425***	0.45157***	0.20197**	0.77275***	-0.18106	0.94644***
	(0.08597)	(0.08849)	(0.08843)	(0.07976)	(0.11910)	(0.12469)
Observations	8911	8271	9025	8847	5826	4868
R-squared	0.00145	0.00420	0.01058	0.00156	0.02761	0.00660

Standard errors are in parentheses

**** p<.01, ** p<.05, * p<.1. The complete list of the control variables' coefficients can be found in the appendix.*

The results in Table 9 give insight into the effects of job insecurity on durable and non-durable consumption. The second hypothesis states that durable consumption is affected more negatively by job insecurity than non-durable consumption. Although it can't be said that durable consumption decreases more, what can be said is that the consumption activity for durable consumption is significantly decreased by job insecurity, while non-durable consumption is not affected according to this model. In Table 6 of section 5.1, the results were more contradictory. The likelihood of replacing worn-out furniture being decreased by job insecurity, opposed to the likelihood of investments that was increased by job insecurity, with both coefficients being significant at least at the 0.05-level. On the contrary, the results of Table 9 show that the coefficient of job insecurity on replacing worn-out furniture is significant at the 0.01-level, while the coefficient of job insecurity on having made a large investment is just significant at the 0.10-level. In conclusion, non-durable consumption activities are not found to be significantly affected by job insecurity in the fixed effects regression models. The results from Table 9 support the second hypothesis: as a result of increased job insecurity, durable consumption decreases relatively more than non-durables. However, only a few specific consumption activities were measured, and to be able to accept the second hypothesis, more consumption activities should be measured and investigated in potential future research.

5.3 Interaction effects

In this section, the additional effects of job insecurity are investigated. The additional effects are sought for through the interaction effect between job insecurity and one of three binary or categorical variables. These variables work as a moderator, it potentially can change the effect of the independent variable on the dependent variable. These changes in effects are called the additional effects as discussed in the methodology The first moderating variable is the age category, where middle-age is for the group of 40-54 years old household heads, and the old-age group consists of the 55-65 years old household heads. The age group of 25-39 years old is

the reference category. Age is used because of the findings in subsection 4.3.2, where Figure 3 shows varying averages for job insecurity in different age segments. The younger and the older segments having lower average job insecurity than the middle age group. The choice for these age bandwidths for the age groups is done to create proportionally similar groups and in accordance with what is found in Figure 3.

The second moderating variable is whether in a household children are present. This variable is selected due to the intuition that in households where one or more children are present, job insecurity might have a bigger effect as a result of the responsibility of parents taking care of their children, and thus saving more. Lastly, the moderating variable of the presence of a partner in the household is measured. As is discussed in section 2.2, Hendren (2017) found that as a result of knowledge of future job loss, spousal's labour supply increased. This phenomenon is interesting to study further, to look at whether consumption is affected differently by job insecurity when a partner is present. In this section, only total household expenditures and the three durable consumption activities are used as dependent variables. This reduction of regression models is done to exclusively look at the relevant dependent variables for this research, the total general consumption, and the durable consumption activities.

As mentioned in the first paragraph of this section, average job insecurity differs considerably between age categories, with the middle age group experiencing the highest average job insecurity of approximately 15%. To investigate whether this variance in job insecurity across age groups, also leads to additional effects, job insecurity interacts with the two selected age categories. In Table 10, the additional results for the middle age and the old age categories are presented. There are two coefficients positively significant at the 0.10-level for the old age category. These coefficients can't be interpreted, however, the small positive effect of job insecurity on total household consumption and buying clothes regularly suggests that household heads for the ages 55-65 react to job insecurity by increasing consumption. This positive additional effect could be due to the elderly having saved more, resulting in job insecurity not being that of a great threat to the ability to smooth their consumption anymore. However, further research could be done to investigate this relationship in greater detail.

Table 10 Additional effect of job insecurity on middle and old age household heads

	(1) Total	(2) Clothes	(3) Furniture	(4) Investment
Interaction middle age	215.6895	.0618	-.0365	.0335
	(207.0617)	(.0534)	(.0679)	(.0511)
Interaction old age	303.8838*	.1029*	.0111	-.0362
	(178.0708)	(.0545)	(.0686)	(.0516)
_cons	1594.9495***	.4688***	.4282***	.7534***
	(61.162)	(.0168)	(.0197)	(.0136)
Observations	9250	8911	8271	9025
R-squared	.z	.z	.0711	.0323

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1. The complete list of the independent variables' coefficients can be found in the appendix.*

The results in Table 11 show the additional effect on consumption of having one or more children in a household when experiencing job insecurity. In contrast to the coefficients with low significance that are found in Table 10, these results do not show any form of an additional effect on consumption as a result of having children present in a household when experiencing job insecurity.

Table 11 Additional effect of job insecurity on households with children

	(1) Total	(2) Clothes	(3) Furniture	(4) Investment
Interaction effect children	-125.8835	-.0529	-.0887	.0481
	(189.0475)	(.0413)	(.0554)	(.039)
_cons	1594.9495***	.4688***	.4282***	.7534***
	(61.162)	(.0168)	(.0197)	(.0136)
Observations	9250	8911	8271	9025
R-squared	.z	.z	.0711	.0323

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1. The complete list of the independent variables' coefficients can be found in the appendix.*

The final additional effects that are measured, are those of having a partner present when experiencing job insecurity. This is according to the intuition of a household being able to better smooth their consumption when facing job loss, and according to the previously discussed study of Hendren (2017). In Table 12 the regression results are shown, and the coefficient of the interaction effect is significant at the 0.05-level. The coefficient is 0.0881, which means that when having a partner present while experiencing an increase to full job insecurity results in an increase by 8.81% in the likelihood of having done a large investment in the past 12 months. The effect of job insecurity on this dependent variable is non-significant, however, the sole effect of having a partner present on having done a large investment is worth mentioning. Having a partner present results in a decrease by 11.4% in the likelihood of having done a large investment. Job insecurity in combination with having a partner present only reduces this negative effect on the likelihood of the consumption activity. The effects on the dependent variable for making large investments are remarkable and somewhat counterintuitive. This is

because having a partner present reduces the likelihood, only for the combination of job insecurity and having a partner present to partially counter this effect. Further research into this dependent variable should be done to find out whether this data is representative, and if so, how this causal mechanism works.

Table 12 Additional effect of job insecurity on household heads with a partner

	(1) Total	(2) Clothes	(3) Furniture	(4) Investment
Interaction effect partner	-108.5688	-.0363	-.0948*	.0881**
	(144.7954)	(.0406)	(.0527)	(.0365)
_cons	1831.9828***	.5258***	.4201***	.6077***
	(82.9309)	(.0302)	(.0338)	(.0238)
Observations	9250	8911	8271	9025
R-squared	.z	.z	.0714	.0336

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1. The complete list of the independent variables' coefficients can be found in the appendix.*

6. Conclusion and discussion

6.1 Summary of the research and the results

In this research, the effects of job insecurity on household consumption are investigated. The expectation that job insecurity harms consumption is derived from the Life-Cycle Hypothesis by Ando and Modigliani (1963), and previous studies on the subject, which are discussed in the literature review. In the theoretical framework, the Life-Cycle Hypothesis is used to form the two hypotheses. The first hypothesis states that job insecurity has a negative effect on general household consumption. The second hypothesis states that job insecurity has a relatively larger negative effect on durable consumption than on non-durable consumption. To test these hypotheses and to answer the research question, the LISS data is used and variables are obtained for job insecurity, household consumption, and household characteristics. This data has a panel structure, which allows controlling for fixed differences between household heads and common time trends by using fixed effects regression models. The empirical results show no clear evidence in support of the first hypothesis. Nevertheless, it is found that the increase from zero job insecurity to full job insecurity results in an average decrease of €65,63 in monthly day trips and holiday expenditures. Additionally, a similar increase in job insecurity results in a decrease in the likelihood of a household replacing its worn-out furniture by 8.82%. Lastly, three moderating variables are interacted with job insecurity to uncover potential additional effects. An additional effect is found for household heads who have a partner present. Having a partner present when experiencing an increase of full job insecurity, the likelihood of a household

having done a large investment over the past 12 months increases by 8.81%. The research question stated in the introduction is: '*What is the effect of an increase in job insecurity on household consumption behaviour?'.* It can be concluded according to the empirical results that households try to smooth their consumption by cutting costs for day trips and holiday expenditures when expecting job loss. Next to that, households are less inclined to replace their worn-out furniture as the result of increased job insecurity. Finally, having a partner present while experiencing an increase of job insecurity, results in large investments being more likely to have occurred in the past 12 months, relatively to a situation when there is no partner present and there is zero-reported job insecurity.

6.2 Results in relation to the existing literature

In the literature, the sole effect of job insecurity on different types of consumption had not been thoroughly investigated yet. What Pettinicchi and Vellekoop (2019) found on durable consumption and saving behaviour has similarities to what is found in this research. People who have higher self-reported job insecurity overall consume less and thus save more, results show. Pettinicchi and Vellekoop also found that people who have higher job insecurity, acquire cheaper cars as an example of cutting durable consumption. In this research, not the level of the price, but the likelihood of actually acquiring or participating in a consumption activity is examined. The results in this research provide evidence that job insecurity decreases the likelihood of households replacing their worn-out furniture, which is a durable consumption activity. The two pieces of research tell a similar story, that job insecurity results in a decrease in durable consumption.

Browning and Crossley (2009) found that households try to smooth non-durable consumption, like food. So changing income or – in this research – job insecurity is not thought to have an impact on that type of consumption. In the panel data fixed effects regression, this expectation is found to be true. Job insecurity is not found to have any significant effect on the expenditure of eating at home for example.

Finally, the research by Hendren (2017) is worth comparing to this research, specifically the findings regarding the effects of partners. In the research by Hendren, it is found that the partner increases hours worked to mitigate the impact of the job loss of its spouse. This is a form of substitution to cope with potential job loss and subsequently income loss. In this research, a similar substitution effect is found in the form of an increase in the likelihood of

making a large investment when a partner is present and job insecurity increases. This effect could be because when a household has two individuals who receive income, they can help mitigate potential income shocks as a result of job loss. The two pieces of research show results of a mitigating effect of partners when there is a risk of an income shock.

6.3 Limitations

The main limitations of this research concern the data, which originate from the LISS. The missing years are already discussed in the methodology, but the limitations discussed here are more regarding some missing data of specific variables. The specific consumption variables 'going out for dinner once in two months' and 'pay for sports club memberships' have 32.94% and 43.2% missing values respectively. This limits the causal inference of the regression models where these categories are the dependent variables. Next to the problem of high percentages missing values of dependent variables, also the control variable concerning ethnic background has a high percentage of missing values. This percentage is 37.52%, however, this is not the main problem with this variable. The dummy for the missing values of the ethnic background has strong correlations with more than half of the dependent variables. This indicates that people not answering this question have something in common that cannot be determined. Luckily, this problem is addressed later in the research by using the panel data fixed effects regression, where household characteristics are controlled for. Only the changes of consumption within a household are measured by this regression model, not the differences in levels between households.

Two last additions to the limitations have to be made regarding the data gathering by the LISS. First, the question of whether a household has made a large investment in the previous year is not concrete. The question does not specify what falls under a (large) investment and as a consequence, the answer to this question does not provide adequate information which is needed for research regarding consumption. The answer yes can be very relative to a person's perception of what an investment is and whether this investment was large or not. A recommendation could be to add a reference percentage of what they mean with a large investment or the possibility for individuals to fill in what they consider a large investment. The second limitation concerning the data gathering regards the question that is asked in the 'Economic situation: income' study concerning job finding probability. This question is structured similarly to the question for the job loss expectation, with the answer being between 0% and 100%. The answer to this question could potentially provide valuable insights into the

real insecurity of individuals. When individuals think they will lose their current job, but they are confident that they will find a new one for sure the next year, the effect on consumption could be reduced. However, this question is only asked for individuals who are currently unemployed and thus not informative for research regarding job insecurity. What the LISS could change is to ask this question also to individuals who report above-zero job loss expectations. This would provide more information on the actual job insecurity.

6.4 Implications

Job insecurity harms household day trips and holiday expenditures. People are less likely to participate in certain durable consumption activities as a result of job insecurity, but total household expenditures are not affected. When a country would be in a recession and a large percentage of the population would experience job insecurity, this could potentially lead to severe consequences for businesses in the leisure sector. In addition, the southern member states of the European Union are reliant on the tourism sector (De Luca and Rosciano, 2020). When citizens of northern member states start cutting holiday expenditures, this could have financial consequences for the southern member states, ultimately resulting in a financial problem for the whole European Union. This might be far-reaching, but the cut costs on day trips and holiday expenditures are significant when it is considered that the reduction of €65,63 is monthly. The average total monthly expenditure for this category is just €141,99, which is found in Table 1, so near half of the expenditures are cut as a result of full job insecurity. These effects could be investigated more thoroughly but it sketches the effect of job insecurity on certain sectors of economies. Therefore, in current and future legislation, more emphasis should be put on making flexible work less flexible. This was concluded and recommended by the *'Commissie Regulering van Werk'* (2020) which is a commission that was put in place to analyse and review the Dutch labour market. As a potential result of following this advice, the economy becomes more rigid, and as a consequence employers cannot fire their employees that easily when tough economic times arise, this is a new trade-off that needs assessment and further research.

The effects of long-lasting job insecurity have been deemed many times to be undesirable, for example in the study by Kremer (2017). A wide range of harmful effects for the flexible workers caused by job- and income insecurity are found, and this research underscores and provides further evidence of those undesirable effects. The term 'prisoner of the present' used by Silva (2013) is an accurate description of the results found in this research.

Households are less inclined to replace their worn-out furniture as a result of job insecurity, even when controlled for income. Purely the insecurity of losing your job leads to people behaving more cautiously compared to a more secure situation. The SER (2021) also expressed their criticism concerning the flexible trap some employees find themselves in. Where they go from one temporary contract to the other, without having the prospect of a permanent contract. The government could oppose this flexible employment trend by limiting the maximum period of temporary employment and employers could be obliged to offer an employee a permanent contract after a certain number of years of being temporarily employed at the company.

6.5 Future research

Temporary employment is good for the flexibility of the labour market, but it can be harmful to the consumption behaviour of those who are temporarily employed. Some job insecurity is inevitable, so what is important is that a balance needs to be struck between a desirable amount of job security for the employees in combination with keeping the labour market flexible enough to deal with economic fluctuations. Furthermore, what this research aims to provide is a more detailed view of durable consumption activities, however, this could be investigated to a greater extent. Three durable consumption activities are investigated, but a more complete set of durable and non-durable consumption could be created to offer a broader knowledge of the effects of job insecurity on those types of consumption.

Finally, what is worth mentioning is that over the years the temporary and flexible employment kept increasing, but the descriptive statistics for job insecurity over the years did not fully reflect this trend. What could be done in future research is taking a more detailed look at what are the causes for higher self-reported job insecurity and which causes are most hurtful for household consumption. The dependent variables have been thoroughly examined, however, in future research the variable job insecurity could be analysed in greater detail.

7. References

Ando, A., and Modigliani, F. (1963). The ”life cycle” hypothesis of saving: Aggregate implications and tests. *American Economic Review*, 53(1), 55–84.

Angrist, J.D. and Pischke, J.S. (2014). *Mastering Metrics. The Path from Cause to Effect*. Oxfordshire: Princeton University Press.

Baker, S. R., Farrokhnia, R. A., Meyer, S., Pagel, M., and Yannelis, C. (2020). *Income, liquidity, and the consumption response to the 2020 economic stimulus payments* (No. w27097). National Bureau of Economic Research.

Bolhaar, J., A. Brouwers, and B. Scheer (2016) *De flexibele schil van de Nederlandse arbeidsmarkt: een analyse op basis van microdata*, CPB Achtergronddocument, Den Haag: Centraal Planbureau.

Browning, M., and Crossley, T. F. (2009). Shocks, stocks, and socks: Smoothing consumption over a temporary income loss. *Journal of the European Economic Association*, *7*(6), 1169-1192.

Been J., Suari Andreu E., Knoef M.G. and Alessie R. (2020), Consumption responses to unemployment shocks. Netspar Academic Series no. DP 01/2020-005. Tilburg: Netspar.

Benito, A. (2006). Does job insecurity affect household consumption?. *Oxford Economic Papers*, 58(1), 157-181.

Campbell, J., (1987), "Does saving anticipate declining labor income? An alternative test of the permanent income hypothesis," *Econometrica*, forthcoming.

Campbell, J., and Deaton, A. (1989). Why is consumption so smooth? *Review of Economic Studies*, 56(3), 357–373.

Carroll, C. D., Dynan, K. E., and Krane, S. D. (2003). Unemployment Risk and Precautionary Wealth: Evidence from Households' Balance Sheets. *Review of Economics and Statistics*, *85*(3), 586–604. https://doi.org/10.1162/003465303322369740

Castiglioni, C., Hevierova, M., and Lozza, E. (2019). Changes in Job Insecurity and Extraorganizational Outcomes: The Effects on Consumption and Major Life Decisions in Slovak Republic. *Rassegna di Psicologia*, *36*(3), 33-46.

CBS (2015). Dynamiek op de Nederlandse arbeidsmarkt. *De focus op flexibilisering*

CBS. (2021, March 26). Hoeveel flexwerkers zijn er? Retrieved from https://www.cbs.nl/nl-nl/faq/flexwerk/hoeveel-flexwerkers-zijn-er-

CentERdata (2021) *LISS Data.* Retrieved from: https://www.centerdata.nl/nl/databank/liss-panel-data

Commissie Regulering van Werk (2020). *In wat voor land willen wij werken?*

De Lucia, C., and Meacci, M. (2005). Does job security matter for consumption? An analysis on Italian microdata.

De Luca, G., Rosciano, M. (2020) Quantile Dependence in Tourism Demand Time Series: Evidence in the Southern Italy Market. *Sustainability* 12:8, pages 3243. Crossref

Hendren, N. (2017). "Knowledge of future job loss and implications for unemployment insurance." *American Economic Review*, 107(7): 1778–1823.

Hoekstra, K., Euwals, R., Arsova, A., and Berkhout, E. (2016). Flexible employment in an international perspective: An empirical analysis and some country-specific case studies. *The Hague: CPB Netherlands Bureau for Economic Policy Analysis.*

Kremer, M. (2017). De verschillende gezichten van onzekerheid. Flexibel werkenden over werk, familie en sociale zekerheid. *Voor De Zekerheid*, 97.

Lozza, E., Castiglioni, C., and Bonanomi, A. (2017). The effects of changes in job insecurity on daily consumption and major life decisions. *Economic and Industrial Democracy*, 41(3), 610-629.

Ministerie van Algemene Zaken. (2021, May 14). WRR. Retrieved from https://www.wrr.nl/

Ondernemen met personeel. (2020, August 4). Wet arbeidsmarkt in balans (WAB), zo zit het. Retrieved 2 March 2021, from https://www.ondernemenmetpersoneel.nl/orienteren/arbeidsrecht/wet-arbeidsmarkt-balans-wab-zo-zit-het

Pettinicchi, Y., and Vellekoop, N. (2019). Job loss expectations, durable consumption and household finances: Evidence from linked survey data. SAFE Working Paper No. 249

Redactieflexmarkt. (2007, November 21). Wet flexibiliteit en zekerheid (Flexwet). Retrieved from https://www.flexmarkt.nl/werkgeverschap/wet-flexibiliteit-en-zekerheid-flexwet/?vmn_sso_identifier=notfound

SER. (2021, June 2). Ontwerp-middellange termijn advies SER. Retrieved 3 June 2021, from https://www.ser.nl/nl/Publicaties/advies-sociaal-economisch-beleid-2021-2025

Silva, J. M. (2013) *Coming up short: working-class adulthood in an age of uncertainty*, Oxford University Press.

Stephens, M. (2004). Job Loss Expectations, Realizations, and Household Consumption Behavior. *Review of Economics and Statistics*, *86*(1), 253–269. https://doi.org/10.1162/003465304323023796

Toshkov, D. (2016). *Research Design in Political Science*. London: Palgrave Macmillan.

8. Appendix

8.1 Additional descriptive statistics of the control variables

Table 1 Descriptive statistics for the years 2009-2019

Variable	Mean	Std.Dev.	Min	Max	N=
Panel A					
Age	48.48	11.34	25	65	9841
Household net income	2862.24	4156.32	40	250270	9253
Panel B	Proportion	Missing values			N=
Dutch background	83.22%				5117
1st generation western	3.63%				223
1st generation non-western	5.37%				330
2nd generation western	5.56%				342
2nd generation non-western	2.23%				137
Total		37,52%			6149
Male	66.66%				6560
Female	33.34%				3281
Total		0,00%			9841
Basic education	5.13%				504
VMBO	17.80%				1749
HAVO/VWO	8.09%				795
MBO	27.06%				2658
HBO	28.60%				2810
WO	13.31%				1308
Total		0,17%			9824
No partner	42.68%				4200
Partner	57.32%				5641
Total		0,00%			9841
No children	62.81%				6181
Children	37.19%				3660
Total		0,00%			9841

8.2 Complete regression results

Table 5 Regression results for general household consumption

	(1) Total	(2) Mortgage	(3) Rent	(4) General	(5) Transport	(6) Insurance
Job insecurity (/100)	-126.116	-9.429	-36.908**	-7.42	10.797	-3.168
	(89.584)	(30.436)	(18.004)	(8.624)	(11.055)	(12.338)
Household net	26.774***	11.455***	-3.685***	1.162**	2.147***	.923
income (/€1000)	(4.997)	(1.664)	(.989)	(.467)	(.605)	(.662)
Age	-3.486*	-6.998***	-2.136***	1.634***	-.18	1.371***
	(1.889)	(.637)	(.377)	(.181)	(.232)	(.259)
Female	-229.603***	-130.162***	63.144***	-3.037	-42.57***	-5.854
	(47.446)	(16.035)	(9.479)	(4.53)	(5.835)	(6.499)
Ethnicity						
1st generation western	170.939	-16.576	4.809	19.127	22.55	24.622
	(140.6)	(47.57)	(28.341)	(13.445)	(17.248)	(19.139)
1st generation non-western	-168.922	-181.912***	123.928***	3.268	-46.329***	7.016
	(117.372)	(39.942)	(23.514)	(11.191)	(14.522)	(15.878)
2nd generation western	71.426	-50.022	54.535**	10.958	-15.511	14.794
	(112.747)	(37.918)	(22.366)	(10.737)	(13.742)	(15.397)
2nd generation non-western	212.805	-153.673***	143.862***	7.964	-29.492	.835
	(176.981)	(59.347)	(35.144)	(16.856)	(21.831)	(24.249)
Missing value dummy	-175.702***	-54.29***	-15.858*	9.346**	-8.81	-15.38**
	(43.587)	(14.777)	(8.739)	(4.207)	(5.366)	(6.038)
Education level						
VMBO	-5.895	16.516	-43.562**	11.202	-5.06	11.824
	(103.461)	(35.656)	(21.026)	(10.084)	(12.773)	(14.597)
HAVO/VWO	284.861**	109.298***	-89.162***	21.962*	23.165	28.481*
	(116.236)	(39.875)	(23.498)	(11.288)	(14.333)	(16.32)
MBO	192.745*	104.731***	-95.84***	23.683**	17.629	31.798**
	(100.458)	(34.672)	(20.427)	(9.791)	(12.417)	(14.181)
HBO	509.548***	235.605***	-133.363***	24.252**	49.896***	37.263***
	(100.198)	(34.518)	(20.347)	(9.746)	(12.36)	(14.102)
WO	999.31***	347.722***	-73.349***	34.812***	65.763***	46.509***
	(108.229)	(37.136)	(21.906)	(10.49)	(13.34)	(15.154)
Partner	451.822***	193.23***	-101.697***	43.238***	47.257***	87.477***
	(48.608)	(16.456)	(9.725)	(4.66)	(5.985)	(6.686)
Children	426.29***	149.295***	-39.238***	47.999***	18.718***	30.315***
	(46.032)	(15.666)	(9.26)	(4.469)	(5.694)	(6.42)
_cons	1485.019***	548.573***	435.369***	65.412***	112.642***	88.702***
	(143.576)	(48.918)	(28.897)	(13.828)	(17.677)	(19.871)
Observations	9235	8904	8991	8666	8911	8432
R-squared	.079	.127	.064	.053	.046	.048

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Table 5 continuation

	(7) Children	(8) Alimony	(9) Debt	(10) Daytrips	(11) Cleaning	(12) Eating	(13) Other
Job insecurity	-22.031**	8.201	-32.003	-11.667	4.314	5.891	-10.116
(/100)	(10.722)	(7.247)	(24.723)	(16.668)	(4.554)	(20.849)	(12.535)
Household net	1.085*	1.095***	.809	2.644***	.826***	3.02***	1.216*
income (/€1000)	(.591)	(.4)	(1.361)	(.91)	(.248)	(1.132)	(.662)
Age	-2.867***	1.428***	-.332	1.208***	.439***	1.996***	.668**
	(.225)	(.152)	(.519)	(.351)	(.096)	(.437)	(.263)
Female	8.075	-33.849***	-14.305	1.354	-4.596*	-36.905***	-29.807***

	(5.65)	(3.818)	(13.034)	(8.791)	(2.398)	(10.876)	(6.541)
Ethnicity							
1st generation	65.357***	5.334	11.029	-35.979	-3.849	65.911**	-2.459
western	(16.776)	(11.326)	(38.741)	(26.254)	(7.222)	(32.487)	(19.367)
1st generation	-35.102**	-1.778	131.658***	-36.399*	-9.065	-85.712***	-50.623***
non-western	(14.115)	(9.551)	(32.465)	(22.075)	(6.069)	(27.418)	(16.501)
2nd generation	-1.746	-1.137	49.879	4.592	1.319	3.822	-12.204
western	(13.366)	(9.018)	(30.792)	(20.744)	(5.726)	(25.878)	(15.555)
2nd generation	17.486	4.47	209.582***	52.15	-3.494	-39.328	-5.486
non-western	(21.077)	(14.207)	(48.541)	(32.919)	(8.987)	(40.967)	(24.302)
Missing value	-13.017**	6.427*	2.583	-11.025	1.4	-.519	14.076**
dummy	(5.205)	(3.514)	(11.996)	(8.099)	(2.222)	(10.148)	(6.112)
Education level							
VMBO	-4.776	6.77	-22.711	-9.826	-5.961	2.907	9.731
	(12.473)	(8.414)	(28.766)	(19.28)	(5.292)	(24.173)	(14.498)
HAVO/VWO	-.39	18.791**	-34.056	28.023	5.176	82.18***	42.196***
	(13.96)	(9.427)	(32.167)	(21.624)	(5.934)	(27.062)	(16.276)
MBO	-13.097	24.28***	-12.472	3.706	3.426	44.044*	33.039**
	(12.124)	(8.177)	(27.915)	(18.732)	(5.136)	(23.469)	(14.091)
HBO	2.11	33.662***	-35.672	40.224**	12.716**	84.414***	74.507***
	(12.077)	(8.147)	(27.813)	(18.646)	(5.109)	(23.352)	(14.01)
WO	45.539***	59.662***	-28.113	84.935***	34.285***	140.783***	98.25***
	(13.023)	(8.785)	(29.989)	(20.165)	(5.514)	(25.217)	(15.118)
Partner	29.761***	-30.671***	-5.974	172.78***	14.85***	115.315***	13.777**
	(5.795)	(3.917)	(13.378)	(9.029)	(2.469)	(11.229)	(6.778)
Children	74.646***	11.254***	.378	41.459***	8.637***	106.92***	7.088
	(5.513)	(3.72)	(12.726)	(8.617)	(2.362)	(10.751)	(6.553)
_cons	134.309***	-49.224***	96.954**	-54.728**	1.542	96.286***	40.469**
	(17.221)	(11.634)	(39.663)	(26.69)	(7.316)	(33.352)	(20.012)
Observations	9045	9090	9033	8822	8743	8740	8184
R-squared	.067	.028	.005	.081	.033	.063	.024

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Table 6 Regression results for specific household consumption activities

	(1) Clothes	(2) Furniture	(3) Investments	(4) Holiday	(5) Dinner	(6) Sport
Job insecurity (/100)	-.0393*	-.0817***	.041**	.0363*	-.0837***	.0345
	(.0224)	(.0228)	(.0188)	(.0195)	(.0278)	(.0264)
Household net	.0105***	.0091***	-.0044***	.0032***	.1072***	.0579***
income (/€1000)	(.0013)	(.0013)	(.0011)	(.0011)	(.005)	(.0047)
Ethnicity						
1st generation western	-.0859**	-.1929***	-.0006	-.0119	.0238	-.0981***
	(.0354)	(.0364)	(.0297)	(.0307)	(.0343)	(.0327)
1st generation non-western	-.2556***	-.3074***	.0703***	-.1963***	-.0998***	-.2429***
	(.0299)	(.0298)	(.0249)	(.0262)	(.0292)	(.0271)
2nd generation western	-.0851***	-.0869***	.0042	-.0156	.0608**	-.0644**
	(.0285)	(.0288)	(.024)	(.0249)	(.0277)	(.0265)
2nd generation non-western	-.1721***	-.0797*	.0158	-.1007***	.0466	-.0825**
	(.0447)	(.0461)	(.0374)	(.0391)	(.0433)	(.0408)
Missing value dummy	.0028	-.0133	-.0364***	.008	.024	-.0447**
	(.011)	(.0111)	(.0092)	(.0095)	(.0237)	(.0219)
Age	-.0013***	.0007	.0046***	-.0003	-.0026***	-.0004
	(.0005)	(.0005)	(.0004)	(.0004)	(.0006)	(.0005)
Female	.0042	-.0416***	.026***	-.0446***	.0043	-.0438***
	(.012)	(.0122)	(.0101)	(.0104)	(.0141)	(.0135)
Education level						

VMBO	.0399	.0967***	.0018	.0494**	.0033	.0094
	(.0263)	(.0267)	(.0218)	(.0229)	(.0331)	(.0335)
HAVO/VWO	.1366***	.16***	-.0293	.2087***	.092**	.0468
	(.0295)	(.0299)	(.0245)	(.0256)	(.0362)	(.0361)
MBO	.1052***	.1359***	-.0203	.1402***	.0738**	.0985***
	(.0255)	(.0259)	(.0211)	(.0222)	(.0317)	(.0321)
HBO	.2211***	.2029***	-.0568***	.2632***	.1552***	.1575***
	(.0255)	(.0259)	(.0211)	(.0221)	(.0319)	(.0322)
WO	.2372***	.2072***	-.0365	.3253***	.2219***	.1415***
	(.0275)	(.0279)	(.0228)	(.0239)	(.0343)	(.034)
Partner	.1211***	.2179***	-.0871***	.1871***	-.0977***	.0237
	(.0123)	(.0124)	(.0103)	(.0106)	(.0159)	(.0151)
Children	-.0518***	-.0673***	.0197**	.0117	-.1456***	.005
	(.0116)	(.0117)	(.0097)	(.01)	(.0139)	(.013)
_cons	.3381***	.292***	.6389***	.4517***	.3178***	.5307***
	(.0365)	(.0371)	(.0304)	(.0317)	(.0437)	(.0426)
Observations	8897	8257	9011	8834	5816	4859
R-squared	.0675	.0987	.0389	.1259	.1495	.1237

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Table 8 Fixed effects regression results for general household consumption

	(1) Total	(2) Mortgage	(3) Rent	(4) General	(5) Transport	(6) Insurance
Job insecurity (/100)	-237.652	-54.433	-29.141*	-4.500	-0.553	6.855
	(165.122)	(46.397)	(15.724)	(11.477)	(14.959)	(16.821)
Household net	0.004	0.003	0.005	0.002	0.001	0.005
income (/€1000)	(2.710)	(0.696)	(0.318)	(0.215)	(0.663)	(0.440)
Partner	65.399	-12.745	-82.049**	5.046	38.283***	45.491***
	(123.042)	(85.981)	(40.639)	(14.651)	(12.169)	(11.860)
Children	307.861***	118.533***	-40.933	35.549***	-3.715	26.888***
	(79.952)	(30.611)	(34.444)	(7.426)	(10.014)	(9.992)
Age	28.168***	-4.172**	2.134**	0.048	1.027	4.001***
	(5.420)	(2.123)	(1.036)	(0.602)	(0.862)	(0.868)
_cons	512.310*	654.580***	141.198**	195.487***	81.873*	11.106
	(268.683)	(97.104)	(61.983)	(30.645)	(43.198)	(43.846)
Observations	9250	8917	9005	8681	8925	8445
R-squared	0.004	0.003	0.005	0.002	0.001	0.005

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Table 8 continuation

	(7) Children	(8) Alimony	(9) Debt	(10) Daytrips	(11) Cleaning	(12) Eating	(13) Other
Job insecurity	-38.270	-4.962	-32.353	-65.632**	7.973*	-28.770	-15.795
(/100)	(29.545)	(8.294)	(33.290)	(32.309)	(4.426)	(35.794)	(12.620)
Household net	-0.011	-0.060	0.625	-0.124	0.061	-0.358	-0.384
income (/€1000)	(0.153)	(0.175)	(0.618)	(0.311)	(0.092)	(0.538)	(0.461)
Partner	32.275***	-77.319***	-5.606	106.636***	10.854**	62.380***	-13.041
	(10.049)	(29.518)	(10.995)	(25.050)	(4.339)	(17.367)	(17.922)
Children	120.966***	1.678	5.414	9.267	4.884	55.170***	6.702
	(18.022)	(14.813)	(18.416)	(20.764)	(3.999)	(14.897)	(13.108)
Age	1.316*	-0.517	-1.441	1.182	1.099***	-1.134	-1.574*
	(0.780)	(0.749)	(1.667)	(1.117)	(0.413)	(1.295)	(0.912)
_cons	-80.832*	98.180***	130.237	29.337	-17.657	357.253***	211.198***

	(41.495)	(32.910)	(82.589)	(56.206)	(20.835)	(63.787)	(47.005)
Observations	9058	9104	9047	8836	8757	8752	8195
R-squared	0.020	0.009	0.000	0.005	0.002	0.002	0.001

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Table 9 Fixed effects regression results for specific household consumption activities

	(1) Clothes	(2) Furniture	(3) Investment	(4) Holiday	(5) Dinner	(6) Sport
Job insecurity (/100)	-0.01397	-0.08818***	0.04573*	-0.00515	-0.02577	-0.01002
	(0.02379)	(0.02468)	(0.02706)	(0.01973)	(0.03469)	(0.03326)
Household net	0.00152	0.00097	-0.00232	-0.00207	0.04016***	0.03387***
income (/€1000)	(0.00121)	(0.00081)	(0.00193)	(0.00151)	(0.01026)	(0.00918)
Partner	0.01472	0.04693	-0.02676	0.04261	-0.10547***	-0.07422*
	(0.03521)	(0.03567)	(0.03632)	(0.03445)	(0.04007)	(0.04079)
Children	0.03530	0.01961	0.04164	-0.00794	-0.06430**	0.00260
	(0.02668)	(0.02774)	(0.02831)	(0.01927)	(0.02769)	(0.03153)
Age	-0.00220	0.00173	0.01189***	-0.00128	0.01331***	-0.00500*
	(0.00171)	(0.00172)	(0.00168)	(0.00152)	(0.00247)	(0.00264)
_cons	0.56425***	0.45157***	0.20197**	0.77275***	-0.18106	0.94644***
	(0.08597)	(0.08849)	(0.08843)	(0.07976)	(0.11910)	(0.12469)
Observations	8911	8271	9025	8847	5826	4868
R-squared	0.00145	0.00420	0.01058	0.00156	0.02761	0.00660

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Table 10 Additional effect of job insecurity on middle and old age household heads

	(1) Total	(2) Clothes	(3) Furniture	(4) Investment
Job insecurity (/100)	-366.072**	-.0968**	-.0753	.0391
	(154.3329)	(.0446)	(.0542)	(.0429)
Middle age (40-54)	-56.1787	-.0717***	-.0081	.0865***
	(75.3234)	(.0168)	(.0193)	(.0147)
Old age (55-65)	-243.3264***	-.0705***	-.0066	.1404***
	(63.0815)	(.0173)	(.0192)	(.0138)
Interaction with age:				
Middle age	215.6895	.0618	-.0365	.0335
	(207.0617)	(.0534)	(.0679)	(.0511)
Old age	303.8838*	.1029*	.0111	-.0362
	(178.0708)	(.0545)	(.0686)	(.0516)
Household net income (/1000)	28.6704**	.0057*	.0105**	-.0047*
	(14.3663)	(.0032)	(.0049)	(.0028)
Partner	563.6812***	.1106***	.2505***	-.1003***
	(44.9237)	(.015)	(.0175)	(.0106)
Children	394.1803***	-.0247*	-.0683***	.0155
	(53.0634)	(.0146)	(.017)	(.0114)
_cons	1594.9495***	.4688***	.4282***	.7534***
	(61.162)	(.0168)	(.0197)	(.0136)
Observations	9250	8911	8271	9025
R-squared	.z	.z	.0711	.0323

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1.*

Table 11 Additional effect of job insecurity on households with children

	(1) Total	(2) Clothes	(3) Furniture	(4) Investment
Job insecurity (/100)	-113.8507**	-.0157	-.054*	.0258
	(57.6443)	(.026)	(.0327)	(.0231)
Children	438.1464***	-.0286*	-.0599***	.0157
	(57.7824)	(.015)	(.0172)	(.0122)
Interaction effect children	-125.8835	-.0529	-.0887	.0481
	(189.0475)	(.0413)	(.0554)	(.039)
Household net income	28.6445**	.0058*	.0105**	-.0048*
(/€1000)	(14.393)	(.0032)	(.0049)	(.0028)
Partner	558.0541***	.1143***	.2517***	-.1036***
	(44.6906)	(.015)	(.0174)	(.0106)
Age	-7.4866***	-.0023***	0	.0048***
	(1.577)	(.0006)	(.0006)	(.0004)
_cons	1831.3241***	.5249***	.421***	.6049***
	(82.2597)	(.0302)	(.0338)	(.0237)
Observations	9250	8911	8271	9025
R-squared	.z	.z	.0713	.0332

Standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1*

Table 12 Additional effect of job insecurity on households heads with a partner

	(1) Total	(2) Clothes	(3) Furniture	(4) Investment
Job insecurity (/100)	-101.3961*	-.0155	-.0347	-.0037
	(55.4989)	(.0283)	(.0381)	(.0247)
Partner	570.193***	.1184***	.2627***	-.114***
	(49.4734)	(.0158)	(.0185)	(.0115)
Interaction effect partner	-108.5688	-.0363	-.0948*	.0881**
	(144.7954)	(.0406)	(.0527)	(.0365)
Household net income	28.6608**	.0058*	.0104**	-.0048*
(/€1000)	(14.4058)	(.0032)	(.0049)	(.0028)
Children	423.3385***	-.035**	-.0704***	.0211*
	(52.8921)	(.0142)	(.0161)	(.0108)
Age	-7.5374***	-.0023***	-.0001	.0049***
	(1.5843)	(.0006)	(.0006)	(.0004)
_cons	1831.9828***	.5258***	.4201***	.6077***
	(82.9309)	(.0302)	(.0338)	(.0238)
Observations	9250	8911	8271	9025
R-squared	.z	.z	.0714	.0336

Standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1*

8.3 The Hausmann test

Table 7 Hausmann test

Fixed effects

Household total expenditures	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Job insecurity (/100)	-237.652	125.777	-1.89	.059	-484.227	8.924	*
Household net income (/€1000)	3.192	7.464	0.43	.669	-11.44	17.825	
Partner	65.399	150.985	0.43	.665	-230.594	361.393	
Children	307.861	126.04	2.44	.015	60.77	554.952	**
Age	28.168	7.738	3.64	0	12.999	43.337	***
Constant	512.31	392.593	1.30	.192	-257.335	1281.955	

Mean dependent var	2007.617	SD dependent var	2029.661
R-squared	0.004	Number of obs	9250.000
F-test	4.518	Prob > F	0.000
Akaike crit. (AIC)	159610.550	Bayesian crit. (BIC)	159653.344

**** p<.01, ** p<.05, * p<.1*

Random effects

Household total expenditures	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Job insecurity (/100)	-158.755	91.235	-1.74	.082	-337.571	20.062	*
Household net income (/€1000)	28.663	5.037	5.69	0	18.792	38.535	***
Partner	557.764	48.532	11.49	0	462.642	652.885	***
Children	422.547	49.564	8.53	0	325.403	519.691	***
Age	-7.534	1.945	-3.87	0	-11.345	-3.722	***
Constant	1838.66	101.093	18.19	0	1640.521	2036.799	***

Mean dependent var	2007.617	SD dependent var	2029.661
Overall r-squared	0.051	Number of obs	9250.000
Chi-square	402.609	Prob > chi2	0.000
R-squared within	0.001	R-squared between	0.081

**** p<.01, ** p<.05, * p<.1*

Hausman (1978) specification test

	Coef.
Chi-square test value	60.89
P-value	0