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Job Amenities and the Gender Pension Gap

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Abstract

One reason gender pay gaps persist is that women receive more of their total compensation through amenities. Since wages, but not amenities, increase retirement incomes, this may translate into gender pension gaps. Using a discrete choice experiment we investigate whether the valuation for amenities changes when the trade-off with pension income is made salient. We find that women value amenities more than men. Beliefs about the effect of wage changes on pension income do not show large gender differences. However, women change their choices much more strongly than men when reminded about the effects of current choices on pension income.

JEL Codes: D91, J16, J26, J32
Keywords: gender, pension gap, amenities, work meaning, workplace flexibility, hypothetical choice experiment, salience, beliefs

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1 Introduction

The gender gap in wages and hours worked has been an unavoidable topic in economic research and public debates (Blau and Kahn, 2017). An often overlooked but equally interesting extension of the wage gap is the gender gap in pension income. This 'pension gap' is on average still twice the size of the hourly wage gap in European Union (EU) countries. In the Netherlands, the hourly wage gap has decreased by more than 10 percentage points since the early 1990s and is now at about 14.7 percent just below the EU average(Spijkerman, 2000). However, the pension gap among Dutch retirees remained completely unchanged over the same period and still amounts to almost 40 percent, ranking the Netherlands third in the EU (Eurostat, 2020).

A recent economics literature links wage gaps between men and women to the fact that women have stronger preferences for amenities (or non-wage attributes) such as work flexibility or meaning of work.[1] The literature claims that women as a consequence accept lower wages in return for better amenities. Equally important, but up until now overlooked, is that these preference differences may translate into gender differences in retirement income. The argument is that following the theory of compensating wage differentials from Rosen (1986), there exists a trade-off between wages and amenities. Wages translate into retirement income, while amenities do not. This is particularly true in a country like the Netherlands, where large parts of retirement incomes are determined as a fixed share of wages. Thus, if women systematically choose the non-wage over the wage dimension, this may explain part of retirement gaps.

There is a large literature showing that individuals systematically fail to correctly take into account the effects of their current decisions on retirement incomes (e.g. Dolls et al. (2018); Goda et al. (2014)). Losses in retirement income may thus be a cost associated with better amenities that individuals are not aware of, or they may have biased perceptions about this cost. Our research objective is to investigate the role of trade-offs between wages and amenities for gender pension gaps. We first investigate whether men indeed have relatively stronger preferences for wages over non-wage attributes than women do. If this is indeed the case, it is interesting to know whether women and men are both equally aware of the long-term consequences of their choices. Thus, our main interest is whether trade-offs of men and women change in a different way when retirement income is made salient. It is also possible that women and men have biased expectations about the long-term effects of their current choices. Thus, we want to investigate what happens to current trade-offs between wages and amenities when we inform respondents about the actual effects of current income changes on retirement incomes.

In two separate studies (called study A and B, respectively), we present respondents with hy-

[1] Burbano et al. 2023; De Schouwer and Kesternich 2024; Maestas et al. 2023; Mas and Pallais 2017; Wiswall and Zafar 2018

pothetical choice experiments in which they are asked to choose between jobs that differ in the level of wages and amenities. The amenities we consider are work meaning; schedule flexibility; the option to telecommute; evening, night, and weekend work; and part-time work. Before the hypothetical choice experiment, we administer three experimental treatments, one control, one awareness, and one information treatment. In the awareness treatment, we remind respondents that their current labor market choices have effects on future retirement income. In the information treatment, we additionally inform them about the size of this effect. We want to investigate whether, when reminded of the long-term consequences of their choices for retirement income, respondents will give more weight to the wage than to the non-wage dimension. If we observe changes in valuation to the awareness treatments, this means that respondents had not been aware that the current trade-offs between wages and amenities have effects on retirement income. When we additionally inform respondents about the true value, we would expect respondents to reduce their valuations of amenities if they underestimated the losses in retirement income, and to increase their valuations if they overestimated them.

Our main finding is that women change the relative valuation of amenities and wages much more strongly than men. Women react to both the awareness and information treatments by reducing their relative valuation of amenities, while men's reactions to the treatment are mainly insignificant and show no clear patterns. We argue that the gender differences in reaction to treatment are due to the fact that women are in a situation in which they earn lower wages, and in which they both value amenities higher and receive better amenities than men. Thus, there is more scope for women to reduce amenities and increase wages than for men. Both genders have large biases on the effects of their current choices on retirement incomes, but these biases do not show clear gender differences.

We conducted study A in 2022 with 2,259 respondents (after data cleaning) from the Longitudinal Study of Social Sciences (LISS), a true probability sample of the Dutch population. We conducted study B with 3,868 respondents (after data cleaning) in 2023. The sample of the second study comes from Panel Inzicht[2] and is quasi-representative in terms of gender and education level. In both the awareness and information treatment, we elicit respondents' beliefs about how much their monthly retirement income would be reduced if their gross monthly income were reduced by 250 euros from the current moment until they retire at the statutory retirement age of 67. In the information treatment, we inform respondents about the actual monthly retirement loss. In the second study, we additionally ask respondents to estimate the total loss in retirement income between the age of 67 and the average life expectancy of 82.

Our main results are that first for all non-wage attributes, women show a higher willingness-to-pay (WTP) than men. Women are willing to give up about double the shares of their gross incomes for better amenities than men. When we compare the actual current work situation, women earn

[2]Panel Inzicht is one of the leading online research panels in the Netherlands.

much lower wages (about 30 percent lower), and they can thus expect much lower retirement incomes even at the same level of contribution years (approximately 45 percent lower).[3] In contrast, women have better amenities. They are more likely to work part-time, work less often in the evening, night, or weekend, and they work in more meaningful jobs. The only amenity in which men fare better than women is the option to telecommute.

Second, both men and women *overestimate* the gross *monthly* pension loss caused by a permanent loss in gross monthly income. In study A, the average actual effect of a 250 euros permanent wage loss is 86 euros for men and 93 euros for women. Respondents' mean guesses of the loss are 219 euros for men and 234 euros for women. In percentage terms, men's average biases are larger than women's. In study B, when we ask both for monthly pension losses and losses over the whole retirement period, the estimates for the monthly losses become much more accurate. On average, men overestimate monthly losses by 24.7 percent, and women by 31.1 percent. When respondents in study B are asked to estimate the total loss in retirement income between the statutory retirement age of 67 and the average life expectancy of 82, both men and women *underestimate* the *total loss*, which with 19,926 euros for men and 21,128 euros for women is considerable. The average expected loss is only 5,421 for men and 4,742 for women. Men on average underestimate by 70.3 percent and women by 74.9 percent. Thus, while biases of both men and women are sizeable, there is no clear pattern of whether men's or women's beliefs are more biased.

Most importantly, there are large gender differences in reaction to the treatments. Men barely react to either the awareness or information treatment. We find no significant changes in WTP for amenities for men in study A in either the awareness or the information treatment. In study B, we only find two significant changes for men, but no clear pattern in the point estimates between control, awareness, and information treatment. Thus, for men, being reminded about retirement income or informed about the relation between current income and retirement income does not change their trade-offs.

Women react much more strongly to the treatments. In study A, women *reduce* their WTP in the *awareness treatment* for attributes with positive WTP (flexibility; telecommuting; work meaning; avoiding evening, night, or weekend shifts) by on average 39 percent. Four out of six changes are significantly different from zero at the 10 percent level or lower. In the *information treatment*, since women *overestimate* monthly losses, women are informed that income losses will lead to lower monthly pension changes than they previously believed. Thus, in the information treatment, their WTP for amenities remains about the same as in the control treatment, with no significant differences. This can be explained by a combination of the reduction in WTP through the awareness effect and the increase in WTP due to being informed that retirement losses are

[3]This value is based on our own calculations using the pension formula discussed in section 3.1. We assume 42 contribution years for all respondents and use the average monthly wages for men and women in studies A and B.

lower than they believed. In study B, in which we also ask and inform about the total loss in pension income over the whole retirement period, patterns are slightly different. Here, women are informed that the total loss is much bigger than they originally thought. Thus, they *decrease* their WTP for positive attributes in both treatments. The decrease is smaller (on average 13 percent) in the awareness than in the information treatment (on average 23 percent). In both the awareness and information treatment, WTP for part-time work with low working hours turns significantly negative.

To summarize, women are less likely to give up wages for amenities when being reminded or informed about the link between current wage losses and losses in retirement income, while men do not change their behavior in response to the treatments. In the current situation, women have lower wages and better amenities than men. To illustrate, we estimate total compensation as the sum of wages and the valuation for the current level of amenities. On average, men receive about 15 (8) percent of their total compensation in the form of amenities in study A (B). Women receive about 23 (15) percent of their total compensation in the form of amenities in study A (B). Thus, women start from a situation where, when taking retirement incomes into account, it may be beneficial to put more weight on wages and less weight on amenities.

Our findings add further implications to the above-mentioned findings that preference differences in amenities are the main drivers of wage differences between men and women. It is important to keep in mind that, while women may want to change their trade-offs in order to increase their retirement savings, they may be restricted from doing so by constraints on the firm-side, by family obligations, or difficulties in organizing childcare. Thus, our paper is complementary to a recent strand of research that investigates what shapes preference differences and gender norms on the division of child care and homework, limited supply of childcare, beliefs on how childcare influences child development, or constraints in the type of jobs that are available that are consistent with time constraints (see for example, Attanasio et al. 2022; Boneva et al. 2021; Cortés and Pan 2019).

We also contribute to the literature on pension gaps which is much smaller than the literature on gender wage gaps. The main reasons for pension gaps provided in the literature are that women earn lower wages, work fewer hours, live longer, and work fewer years (Betti et al., 2015). Filer and Petri (1988) have introduced non-wage characteristics in the theory of retirement. Their focus is that non-wage characteristics can change the retirement age. There is also evidence that older workers value non-wage attributes more than younger ones (Maestas et al., 2023). In the literature it has been overlooked that retirement wage gaps can be linked to the choice of amenities.

Lastly, we contribute to the literature on information provision and retirement savings. The main objective of this literature is to find out whether and why individuals save less than optimally for retirement. The main reasons investigated in the literature are insufficient information or knowl-

edge (Dolls et al., 2018; Goda et al., 2014; Lusardi and Mitchell, 2008) and behavioral factors like defaults, inertia, lack of self-control, or present-biasedness (Goda et al., 2019a; Carroll et al., 2009; Madrian and Shea, 2001). There are also several closely related field experiments. Dolls et al. (2018) show that information provided by the German administration about the pension system, for example, information about expected pension payments, helps to increase both private retirement savings and public pensions (which depend on labor supply decisions). They do not report differences between men and women. Lusardi and Mitchell (2008) show that older women in the United States have very low levels of financial literacy, and this fact is associated with very low levels of retirement planning. Our paper highlights that women are unaware of the trade-offs between wages and non-wage attributes, and they have biased perceptions of the long-term effects of their trade-offs. Our paper is also linked to the literature on information provision and gender wage gaps which is mainly concerned with whether there is a causal impact of beliefs about gender wage gaps on the demand for public policy (Settele, 2022; Casarico et al., 2024). Our contribution to this literature is to shed light on gender gaps in pension income and the role of choices between non-wage attributes and wages in the labor market.

Our paper is organized as follows. Section 2 provides a brief overview of the Dutch pension system and gender gaps in the Netherlands. Section 3 describes the experimental design and data collection. Section 4 explains the empirical method and Section 5 shows the main results. Finally, Section 6 concludes.

2 Gender Pension Gap in the Netherlands

With a gender pension gap amounting to 40%, the Netherlands has one of the largest gender pension gaps in the EU, surpassed only by Luxembourg and Malta (Eurostat, 2020). This is mainly due to a difference between men and women in the accrual of the second pillar, the occupational pension, which is work-related (Kali et al., 2021).[4] Figure 1 compares the hourly wage gap, monthly income gap, and pension gap for the European Union, France, Belgium, Germany, and the Netherlands. While the Netherlands has similar gender gaps in hourly wage and monthly earnings to countries such as Germany and France, the gender gap in pensions is much wider. Furthermore, Figure A.1 compares the lifetime evolution of gender gaps in hourly wages, monthly earnings, and

[4]The Dutch pension system consists of three pillars: Pay-as-You-Go state pensions (AOW, *Algemene Ouderdomswet*), occupational pensions, and individual savings. The first pillar, the state pensions, provides all Dutch residents with a flat-rate pension once they reach their AOW claiming age. The second pillar, occupational pensions, which we focus in the experiments, are collective pension schemes connected to a specific industry or company. The amount of the occupational pensions is related to earnings and work decisions. Contribution to the second pillar is mandatory. Retiring early (i.e., before the statutory AOW claiming age) was and is still only possible through the occupational pensions. The third pillar consists of non-mandatory private savings. See Appendix A for more details.

accrued pensions in the Netherlands.[5] The figure shows that while all gender gaps increase with age, the pension gap increases at a faster rate.

Recent literature shows that differences in preferences for job amenities are an important determinant of the gender wage gap (Goldin, 2014), as women are willing to pay significantly larger compensating differentials for workplace flexibility (e.g., Mas and Pallais, 2017) and work meaning (e.g., Burbano et al., 2023; De Schouwer and Kesternich, 2024). De Schouwer and Kesternich (2022) show that female-dominated sectors in the Netherlands are more likely to be characterized by high levels of meaning, a high share of part-time work, and low levels of workplace flexibility. We are interested in whether different preferences for amenities translate into gender differences in pension income. These gaps will work through two factors: First, women accepting lower hourly wages in exchange for better amenities, and second, women working fewer hours (or part-time). It may also be the case that occupations with better non-wage attributes and a higher share of females offer lower pensions given the same number of hours worked. To understand what share of the pension gap could potentially be caused by women's choices of amenities, we need to understand what share of pension gaps is explained by women's lower hourly wages, lower hours worked (both considered in our hypothetical choice experiment) and lower years of working life (not considered in our experiment).

We answer this question by computing the Oaxaca–Blinder decomposition in the same spirit as Blau and Kahn (2017). We decompose the impact on the gender gap in accumulated pension income over the life cycle into components based on differences in hourly wages, monthly earnings, years of contributions, age, and an unexplained component (Oaxaca, 1973; Blinder, 1973).[6]

Table A.1 shows the Oaxaca-Blinder decomposition of the total gender pension differences between individuals aged 25 to 65 over the period 2005 to 2014. All monetary values are CPI adjusted to 2015 euros. We show that hourly wage, monthly earnings and accrued contribution years explain the gender pension gap by 29.88%, 16.71% and 41.51%, respectively. Analyzing the gender pension gap over the life cycle reveals large differences, with an average gender pension gap of 43%. This gap is notably larger than the hourly wage gap, which stands at 15%, and the monthly earnings gap of 38%. When disaggregating the sample by age, we see that the gender pension gap is smaller for younger individuals (below age 50), at 32%, compared to a more pronounced gap of 48% for older individuals (above age 50). This is consistent with the pattern we observe in Figure A.2, which shows the evolution of the accrued annual pension income over the life cycle by

[5] Accrued pension at each age refers to the amount a person would receive if they stopped working at that point. The sample used for this analysis is the same as in the Oaxaca decomposition below.

[6] We use the Dutch administrative data maintained by Statistics Netherlands (Centraal Bureau voor de Statistiek, CBS), which covers the entire Dutch population, to construct the sample for this analysis. We link the pension information, which is available between 2005 and 2014, to detailed labor market histories including working hours and hourly earnings, which are available since 2006. To trace out the life-cycle pattern, we take cohorts born from 1953 to 1983 at five year interval to construct our sample. For more details, see Appendix E.

gender. The gender gap in accrued pension income becomes more pronounced as individuals age, particularly after age 40. The importance of hourly wage and monthly earnings in explaining the gender pension gap remains high for both younger and older groups. Importantly, hourly wage and monthly hours worked together explain around 46 percent of the gender pension gap. Therefore, the gender difference in choices of non-wage amenities could potentially have a large impact on the gender pension gap.

3 Experimental design and data

Data collection took place through two separate studies in November 2022 (study A) and November 2023 (study B). Study A was added to the November 2022 wave of the annual Longitudinal Internet Studies for the Social Sciences (LISS) panel. The panel consists of a random sample drawn from the Dutch population register and is representative of the Dutch population in terms of age, income, education level and household size. Study B was conducted in cooperation with Panel Inzicht, who recruited the online research panel, and Centerdata, who scripted the study. The sample for study B is quasi-representative in terms of gender and education level. The preregistration for the studies can be found under *AsPredicted#110525* and *AsPredicted#144774*, respectively.

3.1 Study set-up

At the start of each study, we ask respondents a number of questions about the characteristics of their jobs. These include information about the number of hours they work, the flexibility of their working schedule, their ability to work from home, and the meaningfulness of their job. We also ask respondents about their age and years of work experience. The list of study questions can be found in Appendix C. We then randomly assign respondents to three different treatments: control, awareness, and information treatment.

Awareness treatment: In the awareness treatment we ask respondents the following question:

> *"You indicated that your gross monthly income is [€Y]. Now suppose you earn €250 less per month for the rest of your career. Your gross monthly salary is therefore [€(Y - 250)] from now until the year in which you retire at the target age of 67. Also assume that you do not change jobs during this period and continue to practice the same profession. How much lower do you think your monthly gross pension income will be due to this change in your monthly salary?"*

Where Y is the respondents answer to the income question. In study B, the response to the question is restricted to be a value between €0 and €250 and respondents are additionally asked a follow-

up question:

> *"Assuming you live to be 82 years old, how much lower do you think your total gross pension will be due to this change?"*

Information treatment: In the information treatment we ask respondents the same question as in the awareness treatment. We additionally provide them with information on the correct amount based on estimates from De Nederlandsche Bank:

> *"Thank you for your answer to the previous question. The Dutch pension system works in such a way that you earn [€Y] gross per month less during your entire retirement. Please note: this is a rough estimate based on information from De Nederlandsche Bank."*

In study B, the treatment differs slightly:

> *"Thank you for your answer in the previous question. The Dutch pension system works in such a way that you earn [€Y] gross per month less during your retirement. Assuming that you live to be 82 years old, this amounts to a total amount of [€Y*12*15] over your entire pension. Please note: this is a rough estimate based on information from De Nederlandsche Bank."*

Respondents in study B also receive additional information on the estimated retirement income associated with each job during the discrete choice experiment. Specifically, the amount of occupational pension benefits depends on the past work history, the accrual rate, and a franchise amount, which takes into account the flat-rate state pension. In the hypothetical choice experiments, we use the following pension formula to predict the pension income for different job offers:

$$\textit{Pension amount} = \textit{Number of contribution years} \times \textit{Accrual rate} \times (\textit{Average wage} - \textit{Franchise})$$

, where franchise is the wage part that is not subject to pension contribution. We take the average franchise of the ten sectors with the most members in 2022 as the value of the franchise (around 14,000 euros). The accrual rate is set to 1.8% , which is the weighted average based on the distribution of accrual rates in 2019. See Appendix A.2 and B for more details.

After the treatment, all respondents are asked to complete 8 discrete choice experiments. In each experiment, respondents are asked to choose between two hypothetical job profiles (denoted A and B). The job profiles are anchored to the respondent's current job (or most recent job if they are currently unemployed), so that they resemble realistic job options for each respondent.[7] Job A reflects the respondent's current job and does not change between choice experiments. Job B differs in terms of the monthly wage as well as one or two non-wage amenities. As the job profiles do not provide a complete picture of what each job entails, we ask respondents to pretend

[7] The design is similar to that in Maestas et al. (2023).

that both jobs are identical in all respects except those specified in the choice experiment. Figure A.3 shows a screenshot of an example hypothetical job pair evaluated by a respondent in the information treatment group. The wording of the categories of job attributes in the discrete choice experiment is shown in Table A.2. More detailed information on the experiments can be found in Appendix D. In study B, we asked respondents some additional questions after the discrete choice experiments. These questions concern their gender, marital status, number of children, educational attainment, and pension fund. This information is already standard in the LISS dataset. Finally, we ask respondents in study B some additional questions to assess their present bias and financial literacy.

If respondents are not aware of the long-term effects on retirement income of giving up wages for amenities, then reminding them of these long-term effects would tend to reduce their relative valuations of amenities. When additionally, we inform respondents of the actual size of the reduction, then how they change their valuations will depend on the direction of the bias. If respondents underestimate the long-term effects, then they should increase their valuation in the information treatment. If respondents overestimate the long-term effects, then they should decrease their valuation in the information treatment.

3.2 Data and Descriptives

Study A. — The initial sample consists of 2,501 respondents aged 25 to 67 who were employed at the time of the study or had a job in the five years prior to the study and were not retired at the time of the study. We remove 26 respondents who fall outside the 1st percentile of response time(1 minute and 51 seconds). We then remove 125 respondents who fall outside the 2.5th and 97.5th percentile of the male and female wage distributions. Finally, we remove 91 respondents who fall outside the 95th percentile for expected pension change. Our final sample in study A consists of 2,259 respondents.

Study B. — The initial sample consists of 4,878 respondents aged 30 to 55 who were employed at the time of the study or had a job in the five years prior to the study and were not retired at the time of the study. We remove 51 individuals who fall outside the 1st percentile of response time (1 minute and 42 seconds). We then remove 242 respondents who fall outside the 2.5th and 97.5th percentile of the male and female wage distributions. We remove 135 respondents who fall outside the 95th percentile for expected pension change. Finally, we remove 582 respondents who failed the attention check question incorporated in study B.[8] Our final sample in study B consists of 3,868 respondents.

[8]We showed each respondent one choice where job A and job B only differ in the monthly wage. If respondents did not chose the job with the higher wages, we consider them as inattentive.

The demographics of study A and B are shown in Tables A.3 and A.4, respectively. Both tables show that the control, awareness and information groups of both study A and study B are balanced in terms of gender, age, marital status, educational attainment, employment status, and share of respondents with children. The only statistically significant difference is that the share of respondents with children is slightly lower in the information treatment of study A (approximately 7 percentage points) and the awareness treatment of study B (approximately 4 percentage points). In study B, control, awareness and information groups are also balanced in terms of financial literacy and present-bias. Respondents in study B are slightly younger compared to respondents in study A. This is to be expected given the different age ranges of both studies. Additionally, respondents in study B are more likely to be married.

4 Empirical Strategy

With our study, we aim to investigate the impact of awareness and information about current trade-offs between wages and amenities on pension income. We are particularly interested in gender differences, since pension gaps between men and women are usually much larger than wage gaps. To this end, we estimate workers' valuations of non-wage job amenities through a stated choice experiment. The final aim is to compare how men's and women's WTP reacts to the awareness and information treatment.

We formulate the indirect utility a worker i derives from job j in experiment t as a function of wages (W), hours (H), and job amenities (A):

$$V_{ijt} = \nu + \alpha \ln W_{ijt} + H_{ijt}\delta + A'_{ijt}\beta + \varepsilon_{ijt} \tag{1}$$

The error ε, follows an i.i.d. type I Extreme Value distribution. We estimate the utility parameters through maximum likelihood via a logit model. To account for each respondent participating in multiple experiments, standard errors are clustered at the individual level.

We estimate the willingness-to-pay (WTP) for each job amenity $a \in A$ by using our estimated preference parameters in the following way. Consider an individual i who is indifferent between a job with wage $\bar{w}$ that does not offer job amenity a and a job that does offer amenity a but at a lower wage $\underline{w} = \overline{w} - WTP^a$. At this point of indifference, the individual's willingness to pay for job amenity a is given by the wage difference:

$$\alpha \ln \overline{w} = \beta^a + \alpha \ln \underline{w}$$

From which we can derive the WTP for job amenity a as:

$$WTP^a = \overline{w}[1 - e^{\frac{-\beta^a}{\alpha}}] \tag{2}$$

Where β^a is the individual's marginal utility of job amenity a. We estimate the utility function's parameters separately for men and women to allow for gender-specific coefficients. Standard errors on the willingness to pay estimates are calculated using the delta method.

5 Results

5.1 Willingness-to-Pay Estimates

In Tables 1 and 2 we show willingness-to-pay (WTP) estimates as a share of wages for study A for men and women, respectively. In Tables 3 and 4 we show the same estimates for study B.[9]

Control group: In the control group, both men and women show positive and significant WTP for schedule flexibility, the option to telecommute, work meaning, and avoiding evening, night, or weekend shifts (with the exception for the lowest level of schedule flexibility in study B). WTP for part-time work is either negative or insignificant. This means respondents want to be compensated for the loss of income that is associated with part-time work.

For all positively valued amenities, women show about double the WTP as shares of wages than men. For example, men value the option to make changes to their schedule between 1.9 percent (some flexibility, study B) and 7.2 percent (full schedule freedom, study A), women between 3.7 percent (some flexibility, study B) and 14.8 percent (full flexibility, study A). WTP for the option to telecommute is about equal to a low level of schedule flexibility for men and to a high level of schedule flexibility for women. Both men and women are willing to give up a large share of their wages (around two times the amount to obtain full schedule flexibility) to avoid evening, night or weekend shifts. WTP for work meaning is significantly different from zero, but smaller than that for the different aspects of work flexibility. These findings are all in line with previous findings from the literature on WTP for non-wage attributes (e.g., De Schouwer and Kesternich, 2024; Maestas et al., 2023). Figure 1 illustrates the gender differences in WTP for men and women.

Beliefs: In both the awareness and the information treatment, we elicit respondents' beliefs about how much pension income they would lose when their current income would be reduced by 250 euros from the moment of study until retirement at age 67.

[9] Tables A.5 A.6 A.7 and A.8 show the same estimates in euros.

Both men and women *overestimate* the gross *monthly* pension loss caused by a permanent loss in gross monthly income. In study A, on average men think that their monthly gross pension will reduce by 219 euros, while the calculated loss based on our pension formula is 86 euros. Similarly for women, the guess is 234 euros, while the calculated loss is 93 euros on average. Table 5 indicates that 69 percent of men overestimating the loss and 64 percent of women overestimating. The difference is statistically significant at the 10 percent level. Figures A.4 (a) and (b) plot the relationship between respondents' guesses of the loss and the calculated loss in study A, along with the histogram distributions of these two variables. We group the sample into 40 bins based on the value of the calculated loss. Again, we see both men and women overestimating the monthly pension loss.

In study B, we made sure to highlight that pension losses can be measured monthly or over the entire retirement period. This significantly improves the accuracy of respondents' estimates of the monthly losses. On average men think that their monthly gross pension will reduce by 125 euros compared to 111 euros of calculated change. Women guess a loss of 138 euros while the calculated loss is 117 euros. The calculated changes are larger in study B than study A because the respondents in study B are on average younger. Hence, the wage loss will affect a longer period of their career. A much lower share of men and women in Study B overestimate their monthly losses (24.7 percent and 31.1 percent, respectively) compared to respondents in Study A. Figures A.4 (c) and (d) show that people facing higher calculated losses tend to underestimate, while those facing smaller losses tend to overestimate.

However, when respondents in study B were asked to estimate the total loss in retirement income between the statutory retirement age of 67 and the average life expectancy of 82 in the Netherlands, both men and women significantly *underestimated* the *lifetime loss* in pension income. Their estimates of total pension losses are 5,421 euros and 4,742 euros for men and women respectively, which is 14,504 euro and 16,385 euros less than the calculated losses. Although respondents only needed to multiply their estimated monthly pension loss by 180 (12 months * 15 years), it seems they failed to do this calculation correctly. If we multiply respondents' guess of the monthly pension loss by 180, their total pension loss would have been 22,420 euros and 24,772 euros on average for men and women, respectively. Similarly, Figures A.4 (e) and (f) show the correlation between the calculated lifetime pension loss and the respondents' estimates. Visually, we can immediately see that almost all respondents underestimated the loss. It appears that respondents understand that the losses over the whole pension period are larger than the monthly losses, but they underestimate how much larger.

To summarize, while biases of both men and women are sizeable, there is no clear pattern of whether men's or women's beliefs are more biased.

Treatment groups: In both studies, men exhibit few behavioral changes in response to the awareness or information treatments. In study A, we do not find any significant changes in WTP for amenities among men in either the awareness or information treatment. In study B, we find two significant changes in WTP for non-wage attributes but no clear pattern in the point estimates between the control, awareness, and information treatments. Combined, this suggests that, for men, being reminded or informed about the relationship between current income and retirement income does not affect their trade-offs between wages and non-wage attributes.

In comparison, women react much stronger to the treatments. In study A, we find that women in the awareness treatment reduce their WTP for attributes with positive WTP (flexibility, telecommuting, work meaning, avoiding irregular shifts) by approximately 39 percent. Approximately half of these changes are statistically significant at a significance level of 10 percent or lower. As women (like men) overestimate the pension loss resulting from a reduction in their gross monthly wages, the information treatment in study A informs women that the income losses will result in lower monthly pension changes than they initially expected.[10] As a result, the WTP for amenities of women in the information treatment remains similar to the WTP of women in the control treatment. In study B, we make it salient that pension losses can be measured monthly or over the entire retirement period. The changes in choice behavior patterns are somewhat different as a result. The reduction in women's WTP for attributes with positive WTP is now smaller in the awareness treatment (approximately 13 percent) than in the information treatment (approximately 23 percent). Women's WTP for short part-time work now becomes negative in both the awareness and information treatment.

Combined, the results of study A and B show that women become less likely to trade-off wages for amenities when being reminded or informed about the relationship between current income and retirement income. In contrast, men do not show clear changes in their behavior in response to treatments.

5.2 Understanding the Different Responses by Gender

While our study design does not allow us to study causal effects for the observed gender differences, we elicited a rich set of descriptives in order to shed light on the potential causes for these differences.

One possible explanation for the observed behavioral differences between men and women is differences in their personal characteristics. Tables 5 and 6 compare the key characteristics of

[10]To confirm that respondents in the treatment group trust the information provided, we asked them whether they agree with the following statement on a scale of 0 (completely disagree) to 10 (completely agree): "I agree that the predicted pension income based on information from De Nederlandsche Bank is approximately correct." More than 80percent (85 percent) of respondents agreed, giving the statement a rating between 5 and 10, while 8 percent (5 percent) rated it below 3 in study A (study B).

female and male respondents in studies A and B. We find that women are more likely to be divorced or widowed. While statistically significant, this difference is economically small. Women are also more likely to have children but the difference is economically small and in study A it is only marginally statistically significant.

Men and women hold similar beliefs regarding the pension losses they would suffer from a permanent reduction in their gross monthly income. Both men and women tend to overestimate the monthly losses and underestimate the total losses. As described above, there is no clear pattern in whether men or women have more biased beliefs. Thus, the differences in beliefs are unlikely to cause the differences in reaction to treatment.

After conducting the discrete choice experiments, we ask the respondents a few questions related to pension awareness. We ask them if they agree with the following two statements: "I am worried about my pension income." and "When I make choices about my job, I think about how it will affect my pension income." On a scale of 0 (completely disagree) to 10 (completely agree), they indicate how they feel about these statements. Figure A.5 plots the distributions by gender in the control group. We notice two patterns. First, women are more concerned about their pension incomes than men. Second, men indicate that they are more likely to take their pension into account when making job choices, although these differences are economically small. Do the treatments change respondent's answers to these questions? Tables A.9 and A.10 compare the average score across treatment groups for men and women separately. It appears that only women in study B respond to the information treatment and are less likely to agree with the statement, "consider retirement incomes when making job choices" (statistically significant at 10 percent level). This could be because the treatment maes them aware of the fact that they had not been thinking about pensions sufficiently.

The well-known gender gap in financial literacy (Bucher-Koenen et al., 2017) is also present for our respondents in study B. For the interest rate question, while 85% of men answer the question correctly, 80% of women do so. Similarly, for the inflation question, 74% and 64% of men and women answer correctly. We also ask respondents about their present bias preference, as the tendency to value the present over the future is an important predictor of retirement readiness (Goda et al., 2019b). Men are slightly less present-biased, although the differences are economically small.

As described above, there are no economically significant differences in personal characteristics or beliefs between men and women. However, as shown in Tables A.11 and A.12, the average wage of women is much lower than the average wage of men (about 30 percent). As a result, women can expect much lower retirement incomes (approximately 45 percent lower)[11]. Women

[11] Value based on own computations with study A and B using the pension formula discussed in section 3.1. Computed at the observed average monthly wages for men and women and assuming 42 contribution years.

are more likely to work part-time, work less often in the evening, night, or weekend, and they work in more meaningful jobs. The only amenity in which men fare better than women is the option to telecommute. Thus, women start from a situation where, when taking retirement incomes into account, it may be beneficial to put more weight on wages and less weight on amenities. This is supported by the fact that men in the control groups of studies A and B choose the highest-paying job approximately 69% and 67% of the time, respectively. For women this is only 52% and 53%, respectively.

We illustrate this by showing which shares of total compensation men and women receive in wages versus in amenities. Total compensation is calculated by adding together wages and the monetary compensation from amenities. We consider part-time work separately from the other amenities. Tables 7 and 8 outline the process used to calculate the total compensation for both men and women. The compensation coming from amenities is determined by multiplying the WTP in euros for each specific amenity by the proportion of respondents who report having that amenity in their current job. Thus, gender differences in compensation for amenities can stem from gender differences in levels or valuations of amenities.

The observed monthly wage gap in study A is 34 percent, and in study B 31 percent (see actual average wage). When we consider full-time workers only, the wage gap between men and women reduces to 14 (study A) and 7 percent (study B), showing that a large portion of the overall gender wage gap is driven by differences in working hours. Additionally, women receive a larger share of their compensation in the form of amenities than men. For men, the share of amenities in total compensation is 15 percent in study A and 8 percent in study B. For women,this share is much higher, 23 percent in study A and 15 percent in study B. Wage gaps in total compensation are at 27 percent in study A and 25 percent in study B.

To summarize, women start from a situation of lower wages and better amenities (including a higher share of part-time work) than men. We do not investigate whether these gender differences are caused by preferences, norms, or constraints (such as the availability of childcare). However, we hypothesize that these differences translate into the observed differences in how men and women react when the link between current wages and retirement incomes is made salient.

6 Conclusion

There is a rich literature on gender differences in the trade-off between wages and non-wage job attributes and how this affects the gender gap in wages and labor market participation. We contribute to this literature by extending the discussion to the effect of this trade-off on the gender gap in pension income.

Our paper shows that men do not change their job choice behavior in response to being reminded

or informed about the effect of current trade-offs between wages and job amenities on retirement income. Women, on the other hand, want to exchange amenities for better wages when reminded or informed about the effect of this trade-off on their retirement income. These findings imply additional implications to the findings that preference differences for non-wage job attributes are the main drivers of wage differences between men and women. Since women lower their valuation of amenities in response to being made aware of retirement income, there may be scope for policymakers to better inform women about the future consequences of their current choices.

Our findings also call for more research on the drivers of women's valuations, the constraints they face, and the norms that may determine their decisions. In addition, more research is needed on trade-offs between amenities and wages over the life-cycle. What share of amenity-wage trade-offs is determined through the choice of occupation and sector when individuals are still very young? And how large are changes in the level of preferences and amenities over the life-cycle? We believe these to be interesting questions for future work.

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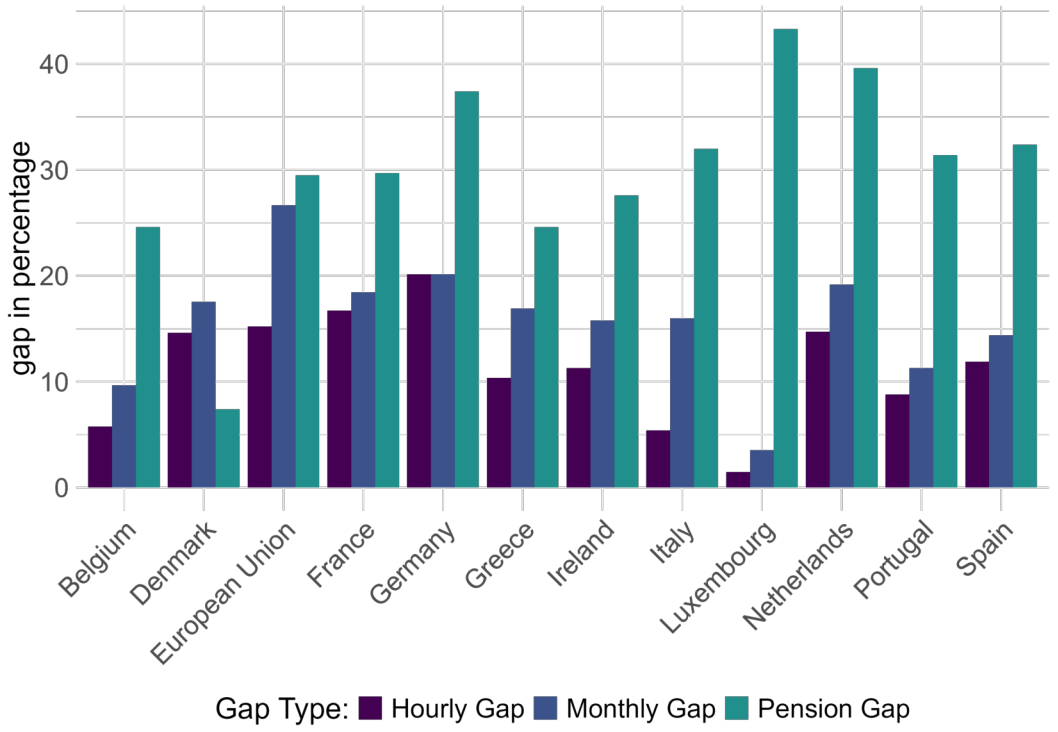
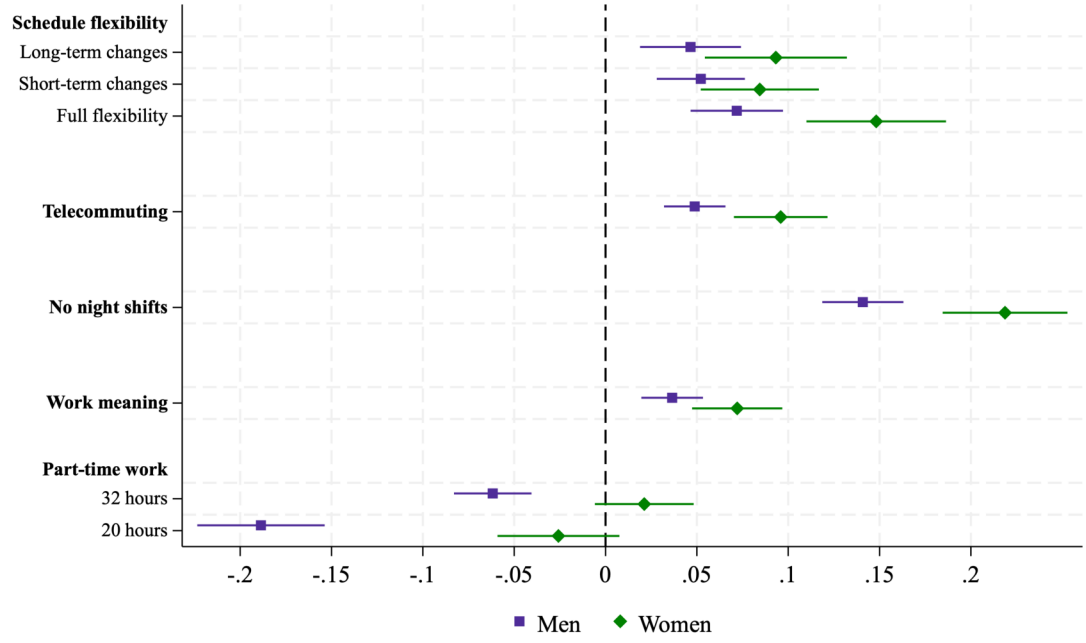
Figure 1: Gender Gaps in Hourly Wage, Monthly Earnings and Pension Income by Country



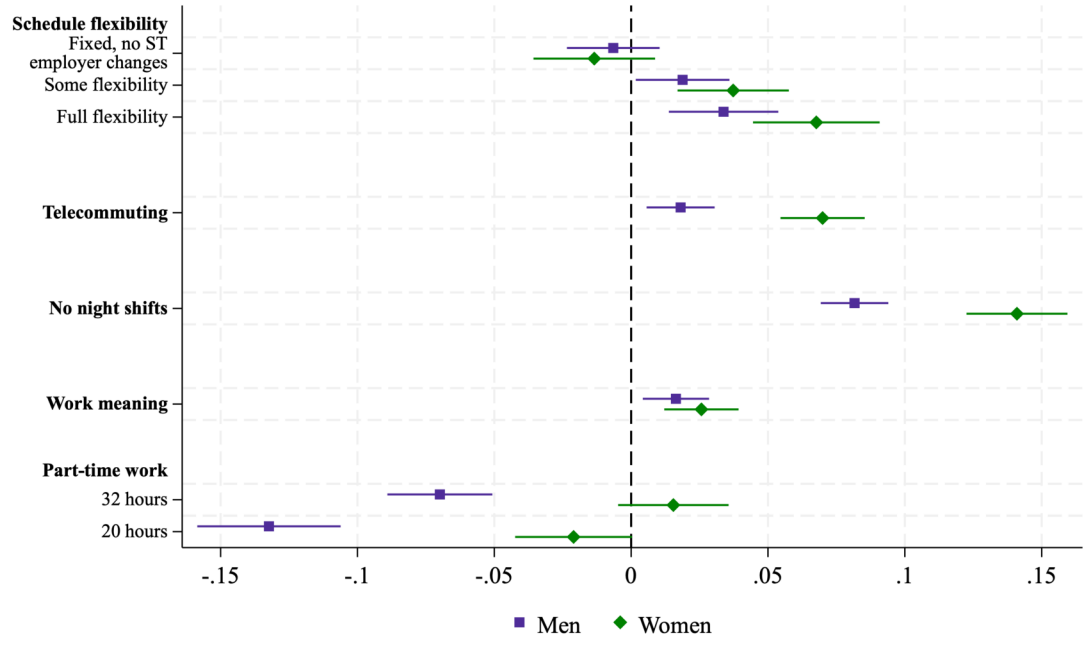
Note: Own computations based on Eurostat data (Monthly earnings earn_ses_monthly, hourly earnings earn_ses_hourly and gender pension gap ilc_pnp13. Monthly and hourly earnings for individuals employed in industry, construction and services (except public administration, defense, compulsory social security). The gender wage (pension) gap is the gender difference in wages (pensions) expressed as a percentage of men's wages (pensions).

Figure 2: The WTP Estimates for Amenities of Men and Women in Control Group

(a) Study A



(b) Study B



Note: This figure shows the WTP estimates along with the 95 percent confidence intervals for men and women in the control groups in Studies A and B.

Table 1: The Willingness-to-pay Estimates for Men in Study A

	WTP in % wages			P-values		
	Ctrl	Aware	Info	Ctrl vs. Aware	Ctrl vs. Info	Aware vs. Info
Schedule flexibility						
[Fixed schedule]						
Changes 1 week in advance possible	0.047**	0.055***	0.041**	0.357	0.379	0.280
	(0.014)	(0.012)	(0.012)			
Short-term changes possible	0.052***	0.066***	0.052***	0.269	0.399	0.248
	(0.012)	(0.011)	(0.010)			
Full schedule freedom	0.072***	0.089***	0.086***	0.257	0.293	0.393
	(0.013)	(0.013)	(0.012)			
Telecommuting	0.049***	0.057***	0.040***	0.321	0.291	0.130
[No telecommuting]	(0.009)	(0.008)	(0.008)			
No evening, night or weekend shifts	0.141***	0.133***	0.139***	0.349	0.396	0.363
[Evening, night or weekend shifts]	(0.011)	(0.010)	(0.010)			
Work meaning	0.036***	0.040***	0.028***	0.383	0.301	0.222
[No work meaning]	(0.009)	(0.008)	(0.008)			
Part-time work						
[Full-time work]						
Long part-time (32h)	-0.062***	-0.057***	-0.048***	0.380	0.255	0.320
	(0.011)	(0.010)	(0.009)			
Short part-time (20h)	-0.189***	-0.185***	-0.161***	0.394	0.213	0.258
	(0.018)	(0.019)	(0.017)			
Number of observations	374	342	328			

Notes: This table shows the willingness to pay for job amenities for men in study A. Reference categories are shown between square brackets. The coefficients are estimated using equation (1) and transformed using equation (2). Standard errors are clustered by individual and transformed with the delta method. The p-values are obtained using t-tests. standard errors in parentheses (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

Table 2: The Willingness-to-pay Estimates for Women in Study A

	WTP in % wages			P-values		
	Ctrl	Aware	Info	Ctrl vs. Aware	Ctrl vs. Info	Aware vs. Info
Schedule flexibility						
[Fixed schedule]						
Changes 1 week in advance possible	0.093***	0.075***	0.083***	0.302	0.375	0.375
	(0.020)	(0.015)	(0.020)			
Short-term changes possible	0.084***	0.020	0.071***	**0.008**	0.344	**0.051**
	(0.016)	(0.016)	(0.020)			
Full schedule freedom	0.148***	0.086***	0.143***	**0.019**	0.393	**0.046**
	(0.019)	(0.016)	(0.022)			
Telecommuting	0.096***	0.051***	0.091***	**0.012**	0.383	**0.032**
[No telecommuting]	(0.013)	(0.011)	(0.014)			
No evening, night or weekend shifts	0.219***	0.173***	0.236***	**0.051**	0.325	**0.017**
[Evening, night or weekend shifts]	(0.017)	(0.014)	(0.021)			
Work meaning	0.072***	0.052***	0.082***	0.185	0.343	**0.085**
[No work meaning]	(0.013)	(0.010)	(0.014)			
Part-time work						
[Full-time work]						
Long part-time (32h)	0.021	0.004	0.034*	0.255	0.328	0.119
	(0.014)	(0.012)	(0.015)			
Short part-time (20h)	-0.026	-0.038**	-0.025	0.345	0.399	0.338
	(0.017)	(0.015)	(0.018)			
Number of observations	404	385	424			

Notes: This table shows the willingness to pay for job amenities for women in study A. Reference categories are shown between square brackets. The coefficients are estimated using equation (1) and transformed using equation (2). Standard errors are clustered by individual and transformed with the delta method. The p-values are obtained using t-tests. standard errors in parentheses (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

Table 3: The Willingness-to-pay Estimates for Men in Study B

	WTP in % wages			P-values		
	Ctrl	Aware	Info	Ctrl vs. Aware	Ctrl vs. Info	Aware vs. Info
Schedule flexibility						
[Fixed schedule, ST changes by employer]						
Fixed, no ST changes by employer	-0.007	0.006	-0.029*	0.249	0.125	**0.029**
	(0.009)	(0.009)	(0.012)			
Some flexibility, no ST changes by employer	0.019*	0.004	0.007	0.213	0.272	0.393
	(0.009)	(0.009)	(0.011)			
Full freedom, no ST changes by employer	0.034**	0.026*	0.017	0.350	0.238	0.346
	(0.010)	(0.011)	(0.012)			
Telecommuting	0.018**	0.031***	0.030***	0.149	0.176	0.399
[No telecommuting]	(0.006)	(0.006)	(0.007)			
No evening, night or weekend shifts	0.082***	0.086***	0.072***	0.360	0.260	0.168
[Evening, night or weekend shifts]	(0.006)	(0.007)	(0.008)			
Work meaning	0.016**	0.003	-0.003	0.135	**0.045**	0.309
[No work meaning]	(0.006)	(0.006)	(0.007)			
Part-time work						
[Full-time work]						
Long part-time (32h)	-0.070***	-0.055***	-0.069***	0.216	0.398	0.249
	(0.010)	(0.010)	(0.011)			
Short part-time (20h)	-0.132***	-0.125***	-0.144***	0.371	0.339	0.258
	(0.013)	(0.013)	(0.015)			
Number of observations	638	660	613			

Notes: This table shows the willingness to pay for job amenities for men in study B. Reference categories are shown between square brackets. The coefficients are estimated using equation (1) and transformed using equation (2). Standard errors are clustered by individual and transformed with the delta method. The p-values are obtained using t-tests. standard errors in parentheses (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

Table 4: Willingness-to-pay Estimates for Women in Study B

	WTP in % wages			P-values		
	Ctrl	Aware	Info	Ctrl vs. Aware	Ctrl vs. Info	Aware vs. Info
Schedule flexibility						
[Fixed schedule, ST changes by employer]						
Fixed, no ST changes by employer	-0.013	-0.018	-0.016	0.385	0.396	0.395
	(0.011)	(0.013)	(0.013)			
Some flexibility, no ST changes by employer	0.037***	0.028*	0.038**	0.335	0.399	0.341
	(0.010)	(0.012)	(0.012)			
Full freedom, no ST changes by employer	0.068***	0.061***	0.049***	0.373	0.229	0.317
	(0.012)	(0.013)	(0.013)			
Telecommuting	0.070***	0.061***	0.044***	0.288	**0.031**	0.146
[No telecommuting]	(0.008)	(0.008)	(0.008)			
No evening, night or weekend shifts	0.141***	0.150***	0.119***	0.324	**0.096**	**0.033**
[Evening, night or weekend shifts]	(0.009)	(0.011)	(0.009)			
Work meaning	0.026***	0.020**	0.017*	0.349	0.283	0.382
[No work meaning]	(0.007)	(0.008)	(0.008)			
Part-time work						
[Full-time work]						
Long part-time (32h)	0.015	0.009	-0.013	0.368	**0.086**	0.168
	(0.010)	(0.011)	(0.012)			
Short part-time (20h)	-0.021	-0.031*	-0.055***	0.333	**0.057**	0.161
	(0.011)	(0.012)	(0.013)			
Number of observations	679	669	606			

Notes: This table shows the willingness to pay for job amenities for women in study B. Reference categories are shown between square brackets. The coefficients are estimated using equation (1) and transformed using equation (2). Standard errors are clustered by individual and transformed with the delta method. The p-values are obtained using t-tests. standard errors in parentheses (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

Table 5: Gender Differences in Characteristics and Study Responses, Study A

	Men	Women	p-value
Number of observations	1,044	1,213	
Demographics:			
Age	47.847	46.303	0.002
	(11.522)	(11.579)	
Married	0.556	0.515	0.056
	(0.497)	(0.500)	
High education	0.495	0.502	0.714
	(0.500)	(0.500)	
Has children	0.646	0.686	0.043
	(0.479)	(0.464)	
Beliefs about Pension Changes:			
Computed monthly pension loss [c]	86.194	93.135	0.002
	(51.843)	(52.107)	
Respondents' guess of monthly loss [a,c]	218.554	233.637	0.353
	(303.718)	(316.558)	
Share of respondents overestimating monthly loss[c]	0.688	0.643	0.067
	(0.464)	(0.479)	
Additional Information:			
Concern about pension[b]	4.832	4.939	0.348
	(2.760)	(2.641)	
Pension considered during job choice[b]	4.861	4.344	$<$0.001
	(2.792)	(2.861)	

[a] Expected monthly pension loss when monthly wage would be reduced by 250 euro/month, assuming pension claiming age of 67.
[b] Scales of 0 (completely disagree) to 10 (completely agree).
[c] Only observed for individuals in the awareness and information groups.
Notes: This table shows the demographics across men and women in study A. For categorical variables, percentages and standard deviations are reported and p-values are obtained using Pearson's chi-squared tests. For continuous variables, means and standard deviations are reported and p-values are obtained using t-tests.

Table 6: Gender Differences in Characteristics and Study Responses, Study B

	Men	Women	p-value
Number of observations	1,911	1,954	
Demographics:			
Age	42.400	40.917	<0.001
	(7.493)	(7.566)	
Married	0.697	0.636	<0.001
	(0.460)	(0.481)	
High education	0.504	0.501	0.832
	(0.500)	(0.500)	
Has children	0.667	0.724	<0.001
	(0.471)	(0.447)	
Beliefs about Pension Changes:			
Computed monthly pension loss [g]	110.699	117.375	<0.001
	(33.718)	(34.046)	
Respondents' guess of monthly loss[a,g]	124.559	137.625	<0.001
	(75.590)	(78.948)	
Computed lifetime pension loss[g]	19,925.746	21,127.569	<0.001
	(6,069.265)	(6,128.328)	
Respondents' guess of lifetime pension loss [b,g]	5,421.491	4,742.111	0.057
	(9,344.590)	(8,631.941)	
Share of respondents overestimating monthly loss [g]	0.535	0.569	0.080
	(0.499)	(0.495)	
Share of respondents overestimating lifetime loss[g]	0.112	0.082	0.013
	(0.315)	(0.275)	
Additional Information:			
Concern about pension[f]	5.555	5.622	0.435
	(2.669)	(2.618)	
Pension considered during job choice[f]	5.495	5.002	<0.001
	(2.638)	(2.713)	
Financial literacy, interest rate[c]	0.852	0.802	<0.001
	(0.355)	(0.398)	
Financial literacy, inflation[d]	0.743	0.642	<0.001
	(0.437)	(0.480)	
Present bias measure[e]	6.591	6.232	<0.001
	(1.988)	(1.841)	

[a] Respondent's guess of monthly pension loss when monthly wage would be reduced by 250 euro/month.
[b] Respondent's guess of lifetime pension loss when monthly wage would be reduced by 250 euro/month, assuming life expectancy of 82 years old and pension claiming age of 67.
[c] Expected savings after 5 years, assuming an initial endowment of 100 euro and an interest rate of 2%
[d] Expected savings after 1 year, assuming an interest rate of 1% and an inflation rate of 2%.
[e] Scale of 0 (not at all) to 10 (completely), indicating how willing the person is to give up something that benefits them today in order to benefit more in the future.
[f] Scales of 0 (completely disagree) to 10 (completely agree).
[g] Only observed for individuals in the awareness and information groups.
Notes: This table shows the demographics across men and women in study B. For categorical variables, percentages and standard deviations are reported and p-values are obtained using Pearson's chi-squared tests. For continuous variables, means and standard deviations are reported and p-values are obtained using t-tests.

Table 7: Total Compensations, Study A

	Men			Women		
	WTP in EUR	Share	Compensation	WTP in EUR	Share	Compensation
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Compensations for Amenities						
Schedule flexibility						
[Fixed schedule]						
Changes 1 week in advance possible	181.37	0.126	22.79	243.76	0.149	36.20
Short-term changes possible	203.34	0.326	66.33	220.75	0.317	69.94
Full schedule freedom	280.15	0.144	40.45	387.36	0.069	26.84
Telecommuting	190.41	0.561	106.91	250.69	0.421	105.49
[No telecommuting]						
No evening, night or weekend shifts	549.16	0.775	425.82	571.68	0.770	440.08
[Evening, night or weekend shifts]						
Work meaning	142.21	0.332	47.15	188.42	0.450	84.88
[No work meaning]						
Compensation from non-wage amenities			709.45			763.43
Panel B: Decomposing Total Compensations						
Average wage of full-time worker			4,048.04			3,476.07
Actual average wage			3,888.71			2,578.77
Compensation from non-wage amenities			709.45			763.43
Total average compensation			4,598.16			3,342.20
Non-wage amenities as share of total compensation			0.154			0.228

Notes: This table calculates the total compensation from wage and non-wage job amenities for men and women separately in study A. Columns (1) and (4) in Panel A show the euro values of each amenity for men and women. Columns (2) and (5) list the share of men and women whose jobs offer such amenities. Columns (3) and (6) display the compensation for each amenity for men and women on average, taking into account the typical job profile of an average man and woman. Panel B decomposes the total average compensation.

Table 8: Total Compensations, Study B

	Men			Women		
	WTP in EUR	Share	Compensation	WTP in EUR	Share	Compensation
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Compensations for Amenities						
Schedule flexibility						
[Fixed schedule, ST changes by employer]						
Fixed, no ST changes by employer	-25.28	0.248	-6.26	-36.39	0.237	-8.63
Some flexibility, no ST changes by employer	72.72	0.309	22.45	100.74	0.318	32.05
Full freedom, no ST changes by employer	130.64	0.091	11.88	182.82	0.140	25.58
Telecommuting	69.94	0.575	40.23	188.99	0.548	103.54
[No telecommuting]						
No evening, night or weekend shifts	315.76	0.732	231.13	380.85	0.766	291.67
[Evening, night or weekend shifts]						
Work meaning	63.30	0.386	24.41	69.36	0.526	36.47
[No work meaning]						
Compensation from amenities			323.84			480.68
Panel B: Decomposing Total Compensations						
Average wage of full-time worker			3,945.68			3,680.81
Actual average wage			3,916.98			2,715.54
Compensation from amenities			323.84			480.68
Total average compensation			4,240.82			3,196.22
Amenities as share of total compensation			0.076			0.150

Notes: This table calculates the total compensation from wage and non-wage job amenities for men and women separately in study B. Columns (1) and (4) in panel A show the euro values of each amenity for men and women. Columns (2) and (5) list the share of men and women whose jobs offer such amenities. Columns (3) and (6) display the compensation for each amenity for men and women on average, taking into account the typical job profile of an average man and woman. Panel B decomposes the total average compensation.

Non-Wage Attributes and Retirement Income

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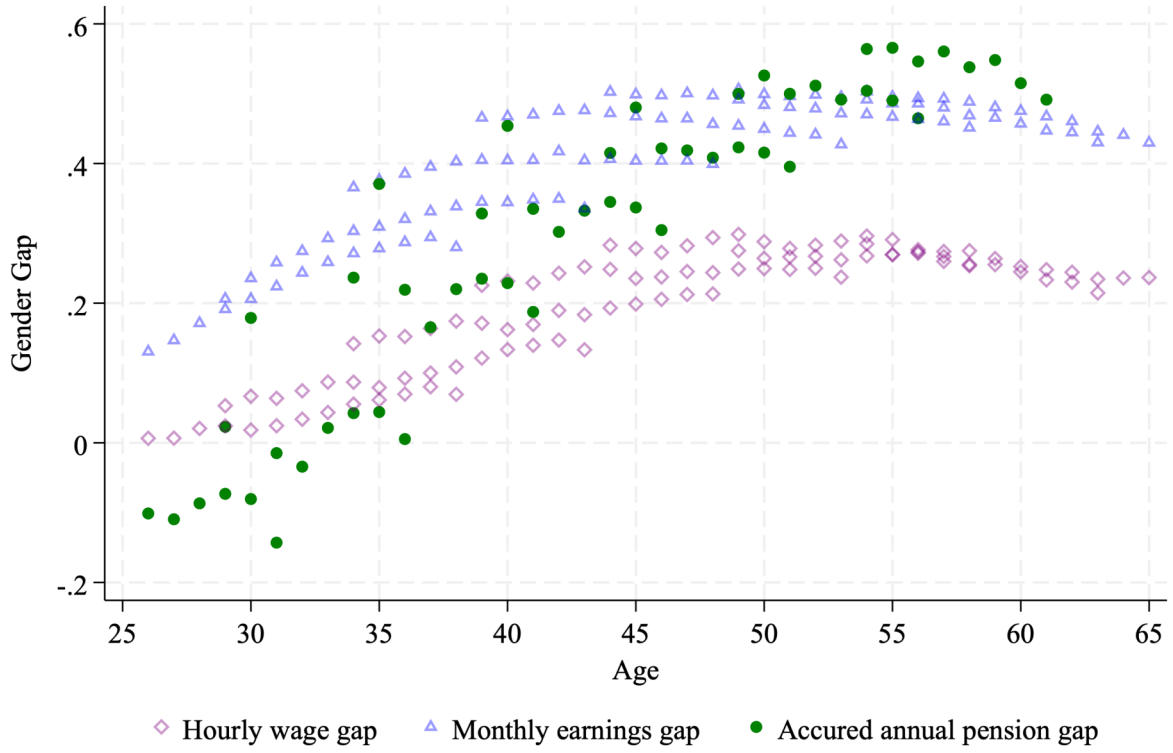
Online Appendix

List of Figures

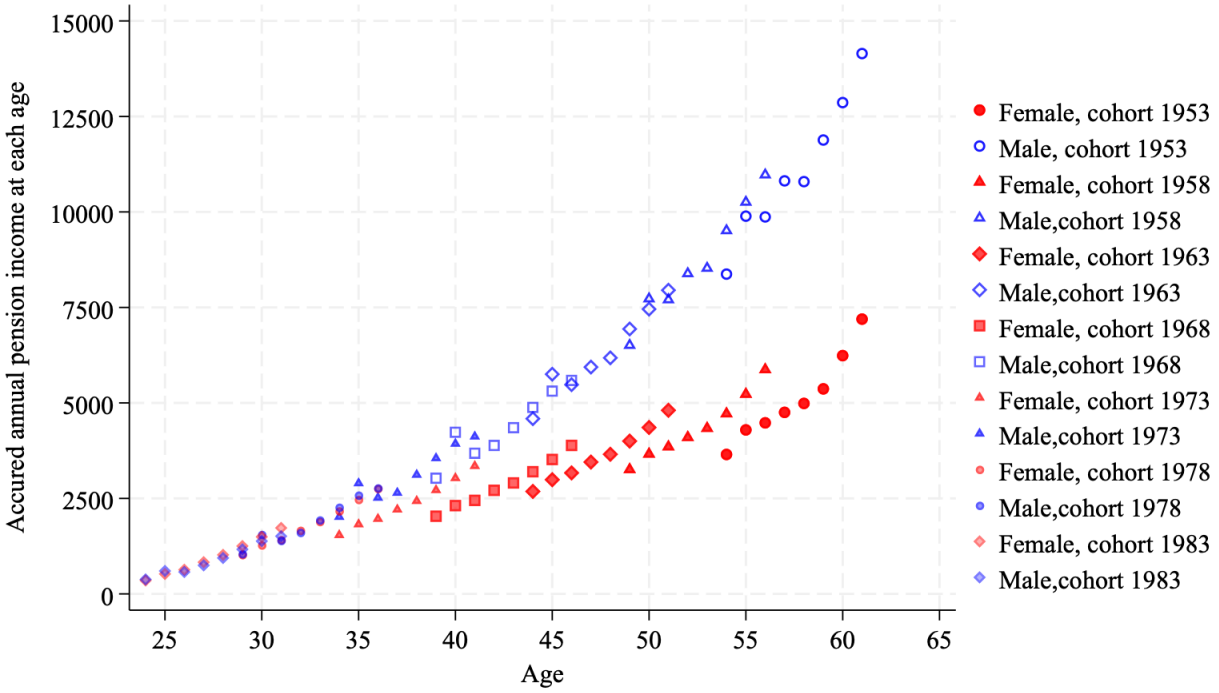
List of Tables

Figure A.1: Lifetime Evolution of Gender Gaps in Hourly Wage, Monthly Earnings and Pension Income



Note: Figure A.1 shows the lifetime evolution of gender pension gap in accrued annual pension income, hourly wage and monthly earnings. The sample contains information for cohorts born in 1953, 1958, 1963, 1968, 1973, 1978 and 1983. The pension gap is based on data between years 2005 and 2014. The earnings gap and hourly wage gap are based on data between 2006 and 2022. Data source: CBS.

Figure A.2: Lifetime Evolution of Accrued Annual Pension Income by Gender



Note: Figure A.2 shows the lifetime evolution of the accrued annual pension income by gender and the gender pension gap. The sample contains information for cohorts born in 1953, 1958, 1963, 1968, 1973, 1978 and 1983. The pension amount is based on data between years 2005 and 2014. Data source: CBS.

Figure A.3: Screenshot of Hypothetical Job Pair Evaluated by a Respondent in the Information Treatment Arm

Original Screenshot

Stel u voor dat u solliciteert naar een nieuwe baan en moet kiezen tussen de volgende twee functies. Neem aan dat beide banen gelijk zijn aan elkaar behalve de hieronder genoemde zaken. Geef aan voor welke baan u zou kiezen.

	Baan A	**Baan B**
Aantal werkuren per week	38 uren	38 uren
Mogelijkheid om zelf je werktijden aan te passen	Werktijden bepaald door bedrijf, wijzigingen door werkgever mogelijk op korte termijn	Werktijden bepaald door bedrijf, wijzigingen door werkgever mogelijk op korte termijn
Thuiswerk mogelijkheid	Geen thuiswerk mogelijkheden	Geen thuiswerk mogelijkheden
's avonds, 's nachts of in het weekend werken	Bijna nooit	Bijna nooit
Helpt anderen of heeft positieve invloed op de samenleving	Bijna nooit	Vaak
Bruto uurloon	23,08 euro	24,23 euro
(Bruto maandloon)	(3801 euro)	(3990 euro)
Bruto maandelijks pensioen (uitkeringen Pensioenfondsen)*	2027 euro	2136 euro

Voor welke baan zou u kiezen?

- Baan A
- Baan B

* U krijgt aanvullend een forfaitair AOW-pensioen van €1458,15 als u aleenstaand bent en van €993,16 als u gehuwd bent.

English Translation

Imagine that you are applying for a new job and have to choose between the following two positions. Assume that both jobs are equal to each other except for the matters mentioned below. Indicate which job you would choose.

	Job A	**Job B**
Hours worked per week	38 hours	38 hours
Possibility to adjust work hour yourself	Some flexibility at one week notice	Some flexibility at one week notice
Telecommuting option	Not possible	Not possible
Work evenings, nights and weekends	Almost never	Almost never
Helps others or has a positive impact on society	Almost never	Often
Gross hourly wage	23,08 euro	24,23 euro
(Gross monthly wage)	(3801 euro)	(3990 euro)
Gross monthly pension (from Pension funds)*	2027 euro	2136 euro

Which job do you choose?

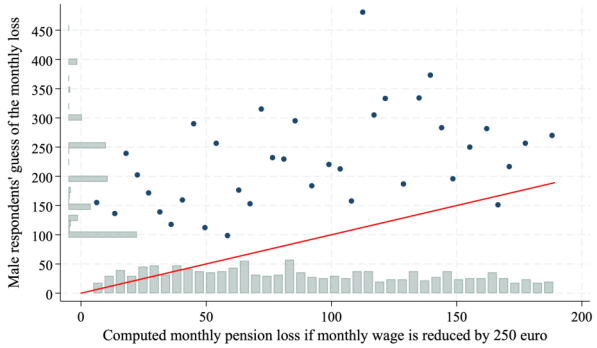
- Job A
- Job B

*You will additionally receive a fixed AOW pension of 1,458.15 if you are single and 993 if you are married.

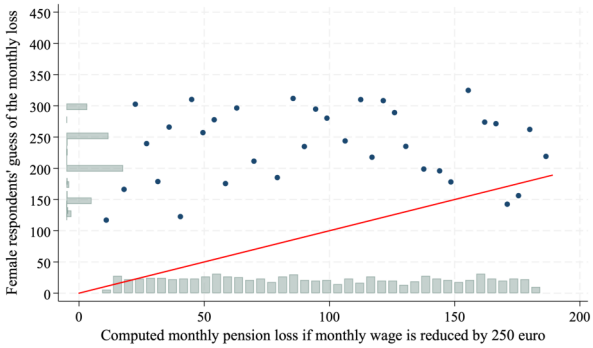
Note: This figure shows a screenshot of the hypothetical job choice experiment in the information treatment group, along with the english translation.

Figure A.4: Correlation Between Calculated Pension Loss and Respondents' Guess

(a) Monthly pension loss, Men, Study A

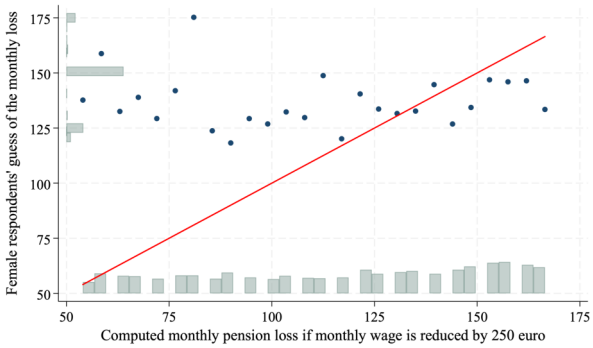


(b) Monthly pension loss, Women, Study A



(c) Monthly pension loss, Men, Study B

(d) Monthly pension loss, Women, Study B



(e) Lifetime pension loss, Men, Study B

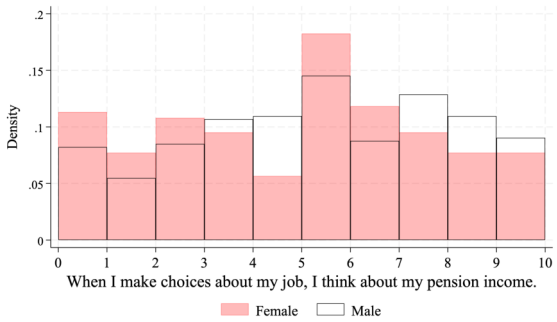
(f) Lifetime pension loss, Women, Study B

Note: Figure A.4 shows the binscatter plots of respondents' guess on the amount pf pension loss against the calculated pension loss based on the pension formula. Figures A.4 (a) and (b) show the correlation for monthly pension loss in Study A for men and women, respectively. Figures A.4 (c) and (d) show the correlation for monthly pension loss in Study B for men and women, respectively. Figures A.4 (e) and (f) show the correlation for lifetime pension loss in Study B for men and women, respectively. Note that in Study A, we ask the respondents to guess the loss in monthly pension if they face a monthly wage loss of 250 euro from now till retirement age of 67. In Study B, we additionally ask them to guess the value of lifetime pension loss assuming dying at age 82. The red solid lines in the figures are the 45 degree lines.

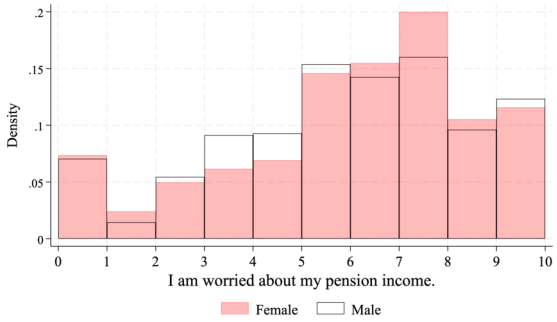
Figure A.5: Pension Awareness by Gender in Control Group

(a) Worry about pension, Study A

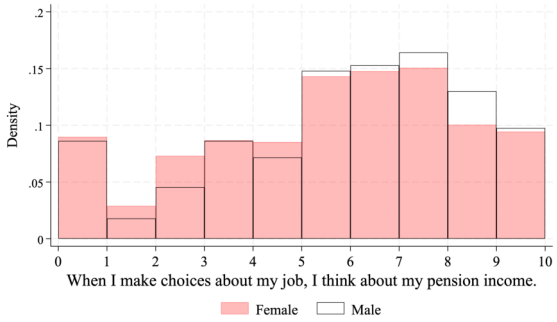
(b) Think about pension, Study A



(c) Worry about pension, Study B



(d) Think about pension, Study B



Note: Figure A.5 shows gender difference in respondents' agreement to two statements in the control group. 0 indicates complete disagreement and 10 indicates complete agreement. Figures A.5 (a) and (c) compare the answers for men and women for the statement "I am worried about my pension income." in studies A and B. Figures A.5 (b) and (d) compare the answers for the statement "When I make choices about my job, I think about how it will affect my pension income." in studies A and B.

Table A.1: Oaxaca Decomposition of Gender Pension Gap)

	Full sample		Age <50		Age >= 50	
Variables	Annual level	Percent explained	Annual level	Percent explained	Annual level	Percent explained
Hourly wage	786.37	29.88%	396.13	31%	1494.34	29.2%
Monthly earnings	439.65	16.71%	359.91	28.17%	881.56	17.23%
Contribution year	1092.55	41.51%	435.18	34.06%	2680.34	52.38%
Age	64.69	2.46%	20.08	1.57%	51.92	1.01%
Cohort	163.69	6.22%	47.92	3.75%	40.65	0.79%
Total explained	2546.91	96.77%	1259.21	98.56%	5148.82	100.62%
Total unexplained gap	84.89	3.23%	18.42	1.44%	-31.88	-0.62%
Total pay gap	2631.81	100%	1277.64	100%	5116.94	100%
Male (annual pension)	6127.14		3948.98		10760.25	
Female (annual pension)	3495.33		2671.64		5643.31	
Gap	43%		32%		48%	
Male (hourly wage)	21.19		19.08		24.14	
Female (hourly wage)	17.98		17.54		19.14	
Gap	15%		8%		21%	
Male (monthly earnings)	3195.1		2996.84		3616.73	
Female (monthly earnings)	1988.1		1959.88		2061.53	
Gap	38%		35%		43%	
Number of observations	6,425,998		4,510,450		1,915,548	

Notes: Sample includes all workers ages 25–65 born in 1953, 1958, 1963, 1968, 1973, 1978 and 1983. Entries are the male–female differential in the indicated variables multiplied by the current year male annual pension level coefficients for the corresponding variables. The total unexplained gap is the mean female residual from the male pension income wage equation. We control for hourly wage, monthly hours worked, contribution year, age and age squared in the Oaxaca decomposition specification.

Table A.2: Categories of Job Attributes in the Discrete Choice Experiment

Study A	Study B
Work hours per week	
20 hours	20 hours
32 hours	32 hours
38 hours	38 hours
Possibility to change your schedule	
My schedule is set by my company/organization with no possibility for change.	Schedule is set by my company, changes by my employer are possible at short notice.
I can choose when to work within limits, and I have to let my employer know at least one week in advance.	Schedule is set by my company, changes by my employer are not possible at short notice.
I can choose when to work within limits, and I can decide about it on very short notice.	Schedule can be set to a limited extent (e.g. certain key moments when attendance is mandatory), changes by my employer are not possible at short notice.
I can fully determine my own schedule.	Schedule can be almost entirely determined by myself, no changes by the employer are possible at short notice.
Telecommuting possibilities	
No telecommuting possibilities	No telecommuting possibilities
Telecommuting possibilities	Possibility to work from home for 2 days
Working evenings, nights or weekends	
Almost never	Almost never
Often	Often
Meaningful work	
Almost never	Almost never
Often	Often

Table A.3: Descriptive Statistics and Randomization Assessment, Study A

	Treatment groups			P-values		
	Ctrl	Aware	Info	Ctrl vs. Aware	Ctrl vs. Info	Aware vs. Info
Number of observations	778	727	752			
Women	0.519	0.530	0.564	0.690	0.081	0.186
	(0.500)	(0.499)	(0.496)			
Age	47.39	46.65	46.99	0.218	0.510	0.561
	(11.699)	(11.546)	(11.48)			
Married	0.554	0.523	0.524	0.224	0.239	0.962
	(0.497)	(0.500)	(0.500)			
High education	0.497	0.501	0.499	0.880	0.921	0.959
	(0.500)	(0.500)	(0.500)			
Currently employed	0.960	0.959	0.949	0.889	0.314	0.395
	(0.196)	(0.199)	(0.219)			
Has children	0.701	0.663	0.637	0.118	0.008	0.294
	(0.458)	(0.473)	(0.481)			
Expected monthly pension change[a]		219.07	234.28			0.347
		(314.65)	(307.04)			

[a] Expected monthly pension change when monthly wage would be reduced by 250 euro/month.

Notes: This table shows the demographics across the control, awareness, and information groups of study A. For categorical variables, percentages and standard deviations are reported and p-values are obtained using Pearson's chi-squared tests. For continuous variables, means and standard deviations are reported and p-values are obtained using t-tests.

Table A.4: Descriptive Statistics and Randomization Assessment, Study B

	Treatment groups			P-values		
	Ctrl	Aware	Info	Ctrl vs. Aware	Ctrl vs. Info	Aware vs. Info
Number of observations	1,317	1,329	1,219			
Women	0.516	0.503	0.497	0.531	0.354	0.752
	(0.500)	(0.500)	(0.500)			
Age	41.586	41.854	41.497	0.359	0.767	0.238
	(7.447)	(7.557)	(7.702)			
Married	0.680	0.643	0.676	0.040	0.814	0.076
	(0.467)	(0.479)	(0.468)			
High education	0.501	0.490	0.517	0.561	0.430	0.174
	(0.500)	(0.500)	(0.500)			
Currently employed	0.936	0.932	0.928	0.683	0.400	0.659
	(0.244)	(0.251)	(0.259)			
Has children	0.708	0.666	0.715	0.018	0.735	0.008
	(0.455)	(0.472)	(0.452)			
Expected monthly pension change[a]		129.126	133.247			0.180
		(77.736)	(77.320)			
Financial literacy, interest rates[b]	0.849	0.827	0.804	0.125	0.003	0.135
	(0.358)	(0.378)	(0.397)			
Financial literacy, inflation[c]	0.701	0.692	0.682	0.631	0.298	0.567
	(0.458)	(0.462)	(0.466)			
Present bias[d]	6.456	6.415	6.353	0.589	0.177	0.416
	(1.891)	(1.937)	(1.943)			

[a] Expected monthly pension change when monthly wage would be reduced by 250 euro/month.
[b] Expected savings after 5 years, assuming an initial endowment of 100 euro and an interest rate of 2%
[c] Expected savings after 1 year, assuming an interest rate of 1% and an inflation rate of 2%.
[d] Scale of 0 (not at all) to 10 (completely), indicating how willing the person is to give up something that benefits them today in order to benefit more in the future.
Notes: This table shows the demographics across the control, awareness and information groups of study B. For categorical variables, percentages and standard deviations are reported and p-values are obtained using Pearson's chi-squared tests. For continuous variables, means and standard deviations are reported and p-values are obtained using t-tests.

Table A.5: The Willingness-to-pay Estimates for Men in Study A (measured in Euro)

	WTP in EUR			P-values		
	Ctrl	Aware	Info	Ctrl vs. Aware	Ctrl vs. Info	Aware vs. Info
Schedule flexibility						
[Fixed schedule]						
Changes 1 week in advance possible	181.37**	215.81***	158.01**	0.357	0.379	0.280
	(54.98)	(48.63)	(48.51)			
Short-term changes possible	203.34***	259.90***	204.17***	0.269	0.399	0.248
	(47.99)	(41.76)	(39.16)			
Full schedule freedom	280.15***	346.64***	334.92***	0.257	0.293	0.393
	(50.32)	(50.08)	(48.51)			
Telecommuting	190.41***	221.07***	154.22***	0.321	0.291	0.130
[No telecommuting]	(33.45)	(32.11)	(30.97)			
No evening, night or weekend shifts	549.16***	518.53***	542.36***	0.349	0.396	0.363
[Evening, night or weekend shifts]	(44.19)	(39.01)	(39.01)			
Work meaning	142.21***	155.23***	108.05***	0.383	0.301	0.222
[No work meaning]	(33.55)	(31.06)	(30.59)			
Part-time work						
[Full-time work]						
Long part-time (32h)	-240.72***	-222.94***	-188.33***	0.380	0.255	0.320
	(42.19)	(37.61)	(35.99)			
Short part-time (20h)	-735.38***	-719.80***	-628.44***	0.394	0.213	0.258
	(69.36)	(72.22)	(65.80)			
Number of observations	374	342	328			

Notes: This table shows the willingness to pay for job amenities at mean wages for men in study A. Reference categories are shown between square brackets. The coefficients are estimated using equation (1) and transformed using equation (2). Standard errors are clustered by individual and transformed with the delta method. The p-values are obtained using t-tests. standard errors in parentheses (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

Table A.6: Willingness-to-pay Estimates for Women in Study A (measured in Euro)

	WTP in EUR			P-values		
	Ctrl	Aware	Info	Ctrl vs. Aware	Ctrl vs. Info	Aware vs. Info
Schedule flexibility						
[Fixed schedule]						
Changes 1 week in advance possible	243.76***	195.02***	217.99***	0.302	0.375	0.375
	(51.85)	(39.59)	(51.10)			
Short-term changes possible	220.75***	53.17	184.58***	**0.008**	0.344	**0.051**
	(43.12)	(41.00)	(50.28)			
Full schedule freedom	387.36***	225.10***	373.87***	**0.019**	0.393	**0.046**
	(50.94)	(41.83)	(58.11)			
Telecommuting	250.69***	133.93***	236.66***	**0.012**	0.383	**0.032**
[No telecommuting]	(34.17)	(27.94)	(36.32)			
No evening, night or weekend shifts	571.68***	453.21***	616.83***	**0.051**	0.325	**0.017**
[Evening, night or weekend shifts]	(45.55)	(36.75)	(53.99)			
Work meaning	188.42***	135.93***	215.40***	0.185	0.343	**0.085**
[No work meaning]	(32.92)	(26.65)	(36.56)			
Part-time work						
[Full-time work]						
Long part-time (32h)	55.44	9.85	88.90*	0.255	0.328	0.119
	(36.07)	(32.11)	(39.34)			
Short part-time (20h)	-67.37	-98.98**	-64.35	0.345	0.399	0.338
	(44.50)	(37.92)	(46.54)			
Number of observations	404	385	424			

Notes: This table shows the willingness to pay for job amenities at mean wages for women in study A. Reference categories are shown between square brackets. The coefficients are estimated using equation (1) and transformed using equation (2). Standard errors are clustered by individual and transformed with the delta method. The p-values are obtained using t-tests. standard errors in parentheses (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

Table A.7: Willingness-to-pay Estimates for Men in Study B (measured in Euro)

	WTP in EUR			P-values		
	Ctrl	Aware	Info	Ctrl vs. Aware	Ctrl vs. Info	Aware vs. Info
Schedule flexibility						
[Fixed schedule, ST changes by employer]						
Fixed, no ST changes by employer	-25.28	22.62	-113.19*	0.249	0.125	**0.029**
	(33.41)	(36.16)	(47.09)			
Some flexibility, no ST changes by employer	72.72*	16.96	26.26	0.213	0.272	0.393
	(33.76)	(36.66)	(41.01)			
Full freedom, no ST changes by employer	130.64**	101.48*	67.62	0.350	0.238	0.346
	(39.48)	(41.27)	(47.86)			
Telecommuting	69.94**	118.06***	117.81***	0.149	0.176	0.399
[No telecommuting]	(24.54)	(23.89)	(28.20)			
No evening, night or weekend shifts	315.76***	331.71***	279.90***	0.360	0.260	0.168
[Evening, night or weekend shifts]	(24.36)	(25.57)	(30.04)			
Work meaning	63.30**	13.34	-12.79	0.135	**0.045**	0.309
[No work meaning]	(23.90)	(24.13)	(27.46)			
Part-time work						
[Full-time work]						
Long part-time (32h)	-270.36***	-211.69***	-266.49***	0.216	0.398	0.249
	(37.86)	(37.06)	(42.62)			
Short part-time (20h)	-511.94***	-483.84***	-555.79***	0.371	0.339	0.258
	(51.70)	(51.73)	(57.08)			
Number of observations	638	660	613			

Notes: This table shows the willingness to pay for job amenities at mean wages for men in study B. Reference categories are shown between square brackets. The coefficients are estimated using equation (1) and transformed using equation (2). Standard errors are clustered by individual and transformed with the delta method. The p-values are obtained using t-tests. standard errors in parentheses (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

Table A.8: Willingness-to-pay Estimates for Women in Study B (measured in Euro)

	WTP in EUR			P-values		
	Ctrl	Aware	Info	Ctrl vs. Aware	Ctrl vs. Info	Aware vs. Info
Schedule flexibility						
[Fixed schedule, ST changes by employer]						
Fixed, no ST changes by employer	-36.39	-48.52	-41.92	0.385	0.396	0.395
	(30.63)	(34.38)	(34.40)			
Some flexibility, no ST changes by employer	100.74***	75.55*	101.31**	0.335	0.399	0.341
	(28.03)	(31.88)	(33.09)			
Full freedom, no ST changes by employer	182.82***	165.75***	132.29***	0.373	0.229	0.317
	(31.90)	(34.29)	(35.71)			
Telecommuting	188.99***	164.03***	118.90***	0.288	**0.031**	0.146
[No telecommuting]	(21.21)	(22.46)	(22.60)			
No evening, night or weekend shifts	380.85***	405.55***	320.27***	0.324	**0.096**	**0.033**
[Evening, night or weekend shifts]	(25.42)	(28.54)	(25.34)			
Work meaning	69.36***	54.81**	46.00*	0.349	0.283	0.382
[No work meaning]	(18.71)	(20.88)	(21.02)			
Part-time work						
[Full-time work]						
Long part-time (32h)	41.68	25.05	-34.04	0.368	**0.086**	0.168
	(27.82)	(30.58)	(32.98)			
Short part-time (20h)	-56.83	-83.13*	-147.53***	0.333	**0.057**	0.161
	(29.44)	(32.17)	(35.38)			
Number of observations	679	669	606			

Notes: This table shows the willingness to pay for job amenities at mean wages for women in study B. Reference categories are shown between square brackets. The coefficients are estimated using equation (1) and transformed using equation (2). Standard errors are clustered by individual and transformed with the delta method. The p-values are obtained using t-tests. standard errors in parentheses (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

Table A.9: Pension Awareness Statements by Treatment Status, Study A

	Treatment groups			P-values		
	Ctrl	Aware	Info	Ctrl vs. Aware	Ctrl vs. Info	Aware vs. Info
Men:						
Number of observations	374	342	328			
Concern about pension[a]	4.744	4.917	4.843	0.399	0.643	0.729
	(2.788)	(2.658)	(2.836)			
Pension considered during job choice[a]	4.882	4.951	4.740	0.746	0.511	0.342
	(2.787)	(2.789)	(2.807)			
Women:						
Number of observations	404	385	424			
Concern about pension[a]	5.051	4.925	4.847	0.516	0.274	0.671
	(2.732)	(2.615)	(2.578)			
Pension considered during job choice[a]	4.447	4.133	4.437	0.134	0.957	0.142
	(2.829)	(2.935)	(2.819)			

[a] Scale of 0 (not at all) to 10 (completely).

Notes: This table shows the pension concerns and consideration across the control, awareness and information groups of study A. Means and standard deviations are reported and p-values are obtained using t-tests.

Table A.10: Pension Awareness Statements by Treatment Status, Study B

	Treatment groups			P-values		
	Ctrl	Aware	Info	Ctrl vs. Aware	Ctrl vs. Info	Aware vs. Info
Men:						
Number of observations	638	660	613			
Concern about pension[a]	5.476	5.588	5.602	0.459	0.401	0.930
	(2.659)	(2.756)	(2.587)			
Pension considered during job choice[a]	5.431	5.560	5.492	0.385	0.690	0.648
	(2.665)	(2.592)	(2.663)			
Women:						
Number of observations	679	669	606			
Concern about pension[a]	5.614	5.661	5.590	0.747	0.873	0.630
	(2.674)	(2.633)	(2.541)			
Pension considered during job choice[a]	5.146	4.979	4.868	0.267	0.070	0.470
	(2.739)	(2.724)	(2.670)			

[a] Scale of 0 (not at all) to 10 (completely).

Notes: This table shows the pension concerns and consideration across the control, awareness and information groups of study B. Means and standard deviations are reported and p-values are obtained using t-tests.

Table A.11: Gender Difference in Job Characteristics, Study A

	Men	Women	p-value
Number of observations	1,044	1,213	
Part-time work			
[Full-time work]			
Short part-time	0.064	0.434	<0.001
	(0.245)	(0.496)	
Long part-time	0.142	0.267	<0.001
	(0.349)	(0.443)	
Flexibility			
[Fixed schedule]			
Long-term changes possible	0.109	0.153	0.002
	(0.312)	(0.360)	
Short-term changes possible	0.345	0.303	0.032
	(0.476)	(0.460)	
Full flexibility	0.128	0.091	0.004
	(0.335)	(0.287)	
Telecommuting	0.561	0.455	<0.001
[No telecommuting]	(0.496)	(0.498)	
Work meaning	0.366	0.474	<0.001
[No work meaning]	(0.482)	(0.500)	
No evening, night or weekend shifts	0.773	0.796	0.193
[Evening, night or weekend shifts]	(0.419)	(0.403)	
Gross monthly wage	3,898.895	2,614.047	<0.001
	(1,572.404)	(1,316.397)	

Notes: This table shows the job characteristics across men and women in study A. Reference categories are shown between square brackets. For categorical variables, percentages and standard deviations are reported and p-values are obtained using Pearson's chi-squared tests. For continuous variables, means and standard deviations are reported and p-values are obtained using t-tests.

Table A.12: Gender Difference in Job characteristics, Study B

	Men	Women	p-value
Number of observations	1,911	1,954	
Part-time work			
[Full-time work]			
Short part-time	0.056	0.438	<0.001
	(0.230)	(0.496)	
Long part-time	0.164	0.232	<0.001
	(0.371)	(0.422)	
Flexibility			
[Fixed schedule, ST changes by employer]			
Fixed, no ST changes by employer	0.242	0.234	0.565
	(0.429)	(0.424)	
Some flexibility, no ST changes by employer	0.320	0.321	0.967
	(0.467)	(0.467)	
Full freedom, no ST changes by employer	0.104	0.118	0.164
	(0.306)	(0.323)	
Telecommuting	0.587	0.507	<0.001
[No telecommuting]	(0.492)	(0.500)	
Work meaning	0.395	0.516	<0.001
[No work meaning]	(0.489)	(0.500)	
No evening, night or weekend shifts	0.725	0.756	0.030
[Evening, night or weekend shifts]	(0.446)	(0.430)	
Gross monthly wage	3,868.319	2,701.672	<0.001
	(2,253.005)	(1,841.537)	

Notes: This table shows the job characteristics across men and women in study B. Reference categories are shown between square brackets. For categorical variables, percentages and standard deviations are reported and p-values are obtained using Pearson's chi-squared tests. For continuous variables, means and standard deviations are reported and p-values are obtained using t-tests.

A Dutch Pension System

The Dutch pension system consists of three pillars: the Pay-as-You-Go state pensions (AOW), occupational pensions, and individual savings. The first pillar, the state pensions, provide all Dutch residents a flat-rate pension. AOW benefits depend on years of residence and are not related to earnings and contributions paid before retirement. They are financed by income taxes and are linked to the minimum wage. Until 2013, the state pension age was 65 years, after which it was gradually raised, reaching 67 in 2024.

The second pillar, the occupational pensions, consists of collective pension schemes connected to a specific industry or company, capital-funded, and managed by pension funds. Contribution to the second pillar is mandatory, and covers more than 90 percent of the workers in the Netherlands. The majority of these schemes are of the defined benefit type. These schemes typically aim at a replacement rate of about 80% (including the AOW benefits) of average pay after 40 years of service(**?**). The amount of occupational pension benefits depends on the past work history, the accrual rate and a franchise amount, which takes into account the flat-rate state pension.

The third pillar consists of non-mandatory savings. It is relatively small in the Netherlands and provides around 5% of pension income.

A.1 AOW Pension Benefit Formula

Each year of residency accumulates 2% of the full AOW entitlement up to 100% of the full benefits. People who have been insured for 50 years are entitled to the full amount of AOW pensions. Only years of residency matter. Periods out of paid work due to unemployment and childcare are automatically covered. The full gross monthly AOW benefits provide 70 percent of the minimum wage for singles and 50 percent of the minimum wage for each partner in a couple. The gross monthly AOW benefits were EUR 1,458.15 for singles and EUR 993.16 for couples during the period from July 1, 2023, to December 31, 2023. See Social Insurance Bank (Social Insurance Bank) website for more details.

A.2 Occupational Pension Benefit Formula

A.2.1 General Rules

Individuals build up the occupational pension through their employer with a company pension fund or industry-wide pension fund. The benefit amount from the second pillar depends on an individual's wage income and the pension arrangement that is provided by the firm or sector. There are three main types of retirement schemes that occupational pension funds offer: the career-average pay scheme, the final pay scheme and the defined contribution scheme. The majority

of these schemes are of the defined benefit type. According to statistics provided by the Dutch central bank (De Nederlandsche Bank, DNB), in 2022, 183 out of 272 pension funds are under the career-average pay scheme, while only 23 are under the final pay scheme and 36 under the defined contribution scheme. By number of members, 89% of the members are under the career-average pay scheme, 0.15% under final pay scheme and 7.55% under the defined contribution scheme.[1]

Under the career-average pay scheme, individuals accrue their pension base for each year of contribution. While under the final pay scheme, the most recently earned salary is taken as the pension base. Under the defined contribution scheme, the employer sets a specific contribution amount or percentage for that year. These schemes typically aim at a replacement rate of about 80% (including the AOW benefits) of average pay after 40 years of service (**?**).

Many pension schemes use pensionable earnings, calculated as salary minus a pension offset (also referred to as Franchise), as the basis for determining old-age pension. The majority of members (68%) is in pension funds that are linked to the state pension AOW. Only 37 thousand members out of 5937 thousand in 2022 have no pension offset. For example, in the ABP pension fund (pension for Educational and Civil service sectors), the largest collective pension fund in the Netherlands, the Franchise variable takes into account of the state pension.

*Occupation pension amount= Number of contribution years * Accrual rate * (Wage – Franchise)*

The *accrual rate* for defined benefit schemes varies by pension funds. According to OECD (2021a), the maximum accrual rate for average salary schemes is 1.875% per year of service. While the maximum accrual rate for the final pay scheme is 1.657%. The table below shows the distribution of accrual rates for defined benefit schemes.

Table A.1: Distribution of Accrual Rates

Year	Accrual rate							
	$\leq$1.5%	(1.5%-1.75%)	1.75%	(1.75%, 2%)	2%	(2%, 2.25%)	2.25%	Other
2019	2.6%	15.5%	24.1%	52%	2%	0.6%	2%	1.1%

Source: Table RR.3 "development of accrual rates for defined benefit retirement pension commitments" on DNB website.

The *Franchise* amount is the wage part that is not subject to pension contributions. It takes into account the fact that all inhabitants of the Netherlands will receive the first pillar and, hence, employees only need to build up pension for the part that exceeds this basic pension income.

Most defined benefit pension funds aim to ensure that pension benefits keep pace with inflation or wage increases in the company or sector involved. They do so by utilizing indexation. According

[1] See Table "Pension agreement (Years)" on or the more details.

to statistics provided by the Dutch central bank (De Nederlandsche Bank, DNB), in 2019, 51% of defined benefit pension fund members face no indexation policy. Among the top 25 pension funds in terms of the number of members, only one has an indexation of 0.26% (the construction sector, Bouwnijverheid).[2] For example, the ABP pension fund has no indexation.

In the occupational pension, there are no credits for childcare periods and unemployment periods. However, many schemes allow voluntary contributions to cover the periods of absence (OECD, 2021a).

B Our Calculation of Pension Benefits in the Study

We use the majority pension scheme ($\sim$ 90%), namely the average of the career-average pay scheme, to calculate an approximation of the pension amount. Moreover, we assume all pension funds have no indexation and are linked to state pensions via the franchise. Therefore, in the hypothetical choice experiments, we use the following pension formula to predict the pension income for different job offers:

$$\begin{aligned} \textit{Pension amount} =& \textit{Number of contribution years} \times \textit{Accrual rate} \times \textit{(Average Wage – Franchise)} \\ =& \textit{Number of contribution years} \times \textit{1.8\%} \times \textit{(Average Wage – 14000)} \end{aligned}$$

The *average wage* is obtained by two component: wage earnings till the time of study and wage earnings from the time of study till age 67 (targeted retirement age). For the first component, we proxy the respondent's average wage by using the reported current wage. For the second component, we assume wage stay constant till age 67 (without inflation adjustment, without growth by experience). This assumption is made clear to the respondents.

*Average wage = [(years of tenure till time of study) * average wage till time of study + (67-age at time of study) * (current wage)]/ (years of tenure till age 67)* if wage remain unchanged

*Average wage = [(years of tenure till time of study) * average wage till time of study + (67-age at time of study) * (new wage)]/ (years of tenure till age 67)* if wage is changed to a new level

For the *accrual rate*, we take the weighted average based on the distribution of accrual rates in 2019 (see table above). It takes the value of 1.8%. Finally, we take the average *franchise* of the

[2] See Table "Yearly data individual pension funds" and "Table RR.6 indexation bases for commenced retirement pensions (defined benefit)" on or more details.

ten sectors with the most members in 2022 as the value of the franchise (around €14000). If the average wage is lower than 14000, occupation pension amount is set to zero. This person only receives the flat-rate state pension AOW.

Table B.1 : Key parameters of the top ten Dutch pension funds

Sector	Franchise	Accrual rate opbouwpercentage	Max. pensionable income max. Pensioengrondslag
ABP	11850	1,701% (income <44177.59)	114866
	14850	1,875% (income $\geq$ 44177.59)	
Zorg en Welzijn	13343	1.75%	114866
Horecabedrijf	11614	1.51%	40376
Detailhandel	14720	1.41%	-
PMT (Metaal en Techniek)	14802	1.802%	81010
Personeelsdiensten	7.13 per hour	1.788%	31.89 per hour
Bouwnijverheid			
BPL	14618	1.7%	114866
Beroepsvervoer over de Weg	13343	1.788%	59706
PME	14802	1.815%	81.010

Source: Pension fund rules (Pensioenreglement) 2022 of these top ten sectors.

When face a wage change, we can obtain the change in pension using the following formula:

Change in pension benefits= Number of contribution years * Accrual rate * Δ Average wage

, where the change in average wage is Δ *Average wage = (67-age at time of study) * (wage change) / (years of tenure till age 67)*

C Study Questions

In this appendix we present the background questions used to construct the discrete choice experiment and to interpret its results. Before the discrete choice experiment, we ask respondents about the characteristics of their current job. For respondents who were not currently employed, we asked about their previous job. We start by asking about work experience:

Question*: "How many years of work experience do you currently have? Please do not include interruptions such as unemployment or maternity leave."*

They can respond with any whole number between 0 and 50. We then ask respondents about the number of hours worked per week:

***Question**: "How many hours per week do you work on average in your [current/last] job? If you have multiple jobs, please consider the job most important to you. Whether or not extra hours are paid is irrelevant."*

Respondents can answer with any whole number between 1 and 168. The next question concerns schedule flexibility:

***Question**: "This question is about the extent to which you can adjust your work schedule at your [current/last] job. The question is about your ability to decide (yourself) when to work, not about the number of hours. Can you determine your own working hours?"*

The answer possibilities for this question vary slightly between study A and B. The possible responses in study A are as follows:

- My schedule is set by my company/organization with no possibility for change.
- I can choose when to work within limits, and I have to let my employer know at least one week in advance.
- I can choose when to work within limits, and I can decide about it on very short notice.
- I can fully determine my own schedule.

For study B, the possible responses are as follows:

- Schedule is set by my company, changes by my employer are possible at short notice.
- Schedule is set by my company, changes by my employer are not possible at short notice.
- Schedule can be set to a limited extent (e.g. certain key moments when attendance is mandatory), changes by my employer are not possible at short notice.
- Schedule can be almost entirely determined by myself, no changes by the employer are possible at short notice.

The next question concerns respondents' ability to telecommute. In study A, this question is formulated as follows:

***Question**: "What percentage of your normal working week can you work from home in your [current/last] job?"*

Respondents can answer with any whole number between 0 and 100. In study B, the question is formulated slightly differently:

***Question**: "How many days of your normal working week can you work from home in your [current/last] job?"*

In this case, respondents can answer with any whole number between 0 and 5. We then ask respondents about requirements to work in the evenings or at night:

***Question**: "How often does your [current/last] job require you to work in the evening or at night? This concerns normal work, not overtime. This also does not involve working from home, where, for example, you work a number of hours in the evening to have more time for other things during the day."*

Respondents are provided with four possible answers:

- I never work during these hours.
- I occasionally work during these hours.
- I often (but not every week) work during these hours.
- I work during these hours every week.

This question is followed by a question on weekend shifts:

***Question**: "How often does your [current/last] job require you to work in weekends? This concerns normal work, not overtime. This also does not involve working from home, where, for example, you work a number of hours during the weekend to have more time for other things during the week."*

Respondents are provided with four possible answers:

- I never work on weekends.
- I occasionally work on weekends.

- I often (but not every week) work on weekends.
- I work every weekend.

We then ask respondents about the meaningfulness of their work:

***Question**: "How often does your job provide opportunities to have a positive impact on your community or society as a whole?"*

Respondents are provided with four possible answers:

- Never or almost never.
- Occasionally.
- Often.
- Always or very often.

Finally, respondents are asked about their gross monthly wages in the preceding year (2021 for study A, 2022 for study B):

***Question**: "What was your average gross monthly wage in [2021/2022] for the job for which you also answered the previous questions? Please only enter numbers (whole euros), without points and commas."*

Respondents can answer the question with either any positive integer or an indication that they do not know or do not want to disclose this information. In study B, respondents who answer with a gross monthly wage above 10,000 euro a month are asked a follow up question:

***Question**: "You have indicated that your average gross monthly wage in 2022 for the job for which you also answered the previous questions is [answer to previous question] euros. Are you sure this is the correct amount?"*

Respondents have two possible answers:

- Yes.
- No. I would like to change this amount (please enter only numbers (whole euros), without points and commas).

With the latter response, respondents can provide a new positive integer. We added this question to study B to limit the possibility of misspecified monthly wages due to inattention. Respondents who responded to the previous question with "I don't know/I don't want to tell" are asked to indicate their wage bracket:

***Question**: "In what range was the average gross monthly wage in [2021/2022] situated for the job for which you also answered the previous questions?"*

Respondents are provided with seven possible answers:

- Less than 650 euro
- 650-1.300 euro
- 1.300-2.000 euro
- 2.000-3.000 euro
- 3.000-4.000 euro
- 4.000-5.000 euro
- 5.000-6.000 euro
- 6.000 euro or more

After the discrete choice experiment, we ask respondents about their demographic characteristics and their personal opinions on retirement income. We start with asking about respondents' number of children at home:

***Question**: "How many children do you have at home?"*

Respondents can answer with any whole number between 0 and 20. Additionally, we ask respondents about the number of children who have already left the household:
***Question**: "How many children do you have who have already left the parental home?"*

Again, respondents can answer with any whole number between 0 and 20. We then ask respondents about their opinions and beliefs on pension income:

***Question**: "Please indicate on a scale of 0 (completely disagree) to 10 (completely agree) how you feel about the following statements:*

- *I am worried about my pension income.*
- *When I make choices about my job, I think about how it will affect my pension income.*
- *I agree that the predicted pension income based on information from the Nederlandsche Bank is approximately correct.*

For each statement, respondents can answer with any whole number between 0 and 10 or indicate that the statement does not apply. In study B, we ask additional questions about demographics to obtain information that is standard in the LISS dataset and to collect information on possible explanatory factors for our results. The questions only asked in study B start with gender:

***Question**: "what is your gender?"*

Respondents are offered three possible answers:

- Man
- Women
- Other

We then ask respondents about their marital status:

***Question**: "What is your marital status?"*

Respondents have five possible answers:

- Single
- Married
- Partnership
- Widowed
- Divorced

The next question concerns respondents' highest diploma obtained:

***Question**: "What is your highest diploma obtained?"*

Respondents are provided with nine possible answers:

- Primary education
- Vmbo
- Havo/vwo
- Mbo
- Hbo
- Wo
- Other
- Have not (yet) completed education
- Am not (yet) in education

Our final additional question on demographics concerns the respondents' pension fund:

Question*: "Which pension fund/insurer are/were you affiliated with from your current/last work?"*

Respondents are free to answer with a string character or to indicate that they do not know, do not want to provide the information or that the question does not apply. The last questions we added to study B concern possible explanatory factors for the results of the hypothetical choice experiment. We start with a question on present biasedness:

Question*: "On a scale of 0 (not at all) to 10 (completely), indicate how willing you are to give up something that benefits you today in order to benefit more in the future."*

Respondents can answer with any whole number between 0 and 10. We then ask two questions concerning financial literacy:

Question*: "Suppose you had 100 euro in a savings account and the interest rate was 2 percent per year. How much do you think you would have in the account after 5 years if you let the money grow?"*

Respondents have three possible answers:

- More than 102 euro

- exactly 102 euro
- Less than 102 euro

The second question on financial literacy concerns inflation:

***Question**: "Imagine if the interest on your savings account was 1 percent per year and inflation was 2 percent per year. After 1 year, would you be able to buy more than, exactly the same or less than today with the money in this account?*

Again, respondents have three possible answers:

- More than today
- The same as today
- Less than today

We then ask respondents about their retirement plan:

***Question**: "Are you planning to retire before, on or after the age of 67?"*

Respondents are provided with three possible answers:

- Before the age of 67
- At the age of 67
- After the age of 67

Finally, we ask respondents about their perceived life expectancy:

***Question**: "Do you think you will live to be 82 years or older?"*

Respondents can answer yes or no to this question.

D The Discrete Choice Experiments

This appendix discusses the construction of wages, pensions and amenities in the hypothetical job profiles.

For job A, respondents are classified into three categories based on the number of hours they report working: limited part-time (20 hours), longer part-time (32 hours) and full-time (38 hours). Respondents are classified in the limited part-time category if they report working less than 30 hours per week in their current job (or last job if they are currently unemployed). Respondents who reported working 38 hours or more per week are classified as full-time. Respondents who reported working between these two thresholds are classified in the longer part-time category.

For the flexibility of working hours in job A, we use the same classification as for the question on the extent to which respondents can adapt the working schedule of their current job.

The possibility of telecommuting for job A is formulated as a binary variable based on respondent's reported ability to telecommute. In study A, we asked respondents what percentage of their normal working week they could work from home. In study B, we asked respondents how many days a week they could work from home. For both studies, respondents who answered they could never work from home are assigned no possibility to telecommute for job A. All other respondents are assigned telecommuting possibilities for job A.

Similarly, the evening, night and weekend shifts of job A are formulated as a binary variable based on respondent's reported frequency of working during evenings or nights and working during weekends. Respondents who answered "often" or "always" to either question are assigned evening, night and weekend shifts in job A. All other respondents are assigned no evening, night and weekend shifts in job A.

The work meaning of job A is formulated as a binary variable based on respondent's reported work meaning. In both studies, respondents are asked how often their work allows them to help others or have a positive impact on society. Respondents who answered "never or almost never" or "sometimes" are not assigned any work meaning in job A. Respondents who answered "often" or "always or very often" are assigned work meaning in job A.

The gross monthly wage of job A is based on respondent's reported gross monthly wage and weekly hours worked. First, we scale the reported weekly hours worked to monthly values. We then obtain the hourly wage by dividing the reported gross monthly wage by the monthly hours worked. In study B, we truncate the hourly wage between 11.51 euro and 100 euro to avoid extreme monthly wages. Finally, we multiply the hourly wage by the baseline category of weekly working hours in job A (20, 32 or 38 hours) to obtain the gross monthly wage for job A. For the gross monthly wage of job B, we multiply the wages of job A by a factor $\theta \sim \mathcal{N}(1, \sigma^2)$. To avoid extreme wage draws, we truncate the factor between 0.75 and 1.25. We set $\sigma^2 = 0.01$ to reflect realistic wage offers for the Netherlands.

In study B, we also provide an estimate of the gross monthly pension paid out by the pension funds for each hypothetical job offer. To obtain the estimate of this pension we first calculate the

average annual wage according to the following formula

$$\text{Average yearly wage} = \frac{\text{Current total wage} + \text{New yearly wage} * \text{Remaining years}}{\text{Total years worked}}$$

where the current total wage is the reported annual wage - i.e., the reported monthly wage multiplied by 12 - multiplied by the number of reported years of work experience. The new annual wage is the gross monthly wage of job A and B multiplied by 12, and the number of remaining years is calculated as the difference between the respondent's current age and the retirement age of 67. Finally, the total years worked is the sum of the number of years of work experience and the number of years of employment remaining.

The gross monthly pension paid out by the pension fund is then calculated using the pension formula described in Appendix B

$$\text{Gross monthly pension} = \frac{(\text{Average annual wage} - 14000) * 1.8\% * \text{Total years worked}}{12}$$

If the average annual wage is less than 14,000 euros, the gross monthly pension is set at zero. In addition to the pension paid out by the pension fund, there is a fixed monthly AOW pension of 1,458.15 euro for single persons and 993.16 euro for married persons.

E More Details on Data

CBS data source: Gender and birth dates are using gpapersoontab. Labor market histories and income data are extracted from Official documentation of POLISBUS and SPOLISBUS, available from 2006. Pension information is from PENSIOENDEELNEMINGEN (available between 2005 and 2014)

Sample: In order to extract the trajectory of lifetime earnings and pension accumulation, we take several cohorts to follow the pattern. Specifically, we use the 1953, 1958, 1963, 1968, 1973, 1978 and 1983 cohorts. This is because we only observe data on earnings from 2006 onwards and data on pension accumulation, in particular the year of contribution, are only available between 2005 and 2014. The pattern and the Oaxaca decomposition are robust when we use other cohorts covering the 25-65 age range in the years for which data are available. All monetary values are CPI adjusted to 2015 euros.