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Project MIGAPE (Mind the Gap in Pensions)

Work Package 2

Results of the Standard Simulations for Slovenia

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1. Introduction

1.1. The goal of project MIGAPE

The goal of the project "MInd the GAP in PEnsions" (MIGAPE) is to analyse gender differences in pensions. A summary of the project is available at the MIGAPE website (http://www.migape.eu/) and, more specifically, the project description (Dekkers, Hoorens and Van den Bosch, 2019). The objectives of this project are: 1) to provide the public at large with relevant information on the consequences that their choices may have on their future pensions, 2) to provide policymakers with information on the possible future developments of Gender Pension Gaps, and 3) to study how to raise people's awareness of the consequences of employment decisions (Dekkers and Van den Bosch, 2020).

1.2. Goal and approach of this report

The pension that one can expect to receive after retirement is a function of previous labour market circumstances and decisions, as well as compensating elements granted by the pension system (Dekkers, Hoorens and Van den Bosch, 2019). This report is based on standard simulations to demonstrate the impact of choices that women may make, in response to care responsibilities for a young child or a dependent parent, on the pensions that they later receive. The selected decisions include complete and part-time career interruptions. In practice, the "choices" and "decisions" are frequently not entirely free and also depend on the access to adequate information on the pension consequences of various options (Dekkers and Van den Bosch, 2020).

The advantage of standard simulations is that, by fixing the definitions of hypothetical individuals and varying only particular labour market decisions, the resulting difference in a pension can be unambiguously attributed to the decision (Dekkers and Van den Bosch, 2020). The hypothetical (model) individuals vary by gender, education, unemployment experience, and the time of retirement (at the standard retirement age, two years earlier (if eligible), or as soon as possible). In total, we simulated 828 different scenarios.

The structure of the report is as follows. In chapter 2, we introduce the methodology, including the characteristics of the model persons. In chapter 3, we describe the pension system in Slovenia and the family policy provisions that employees can use when they interrupt their careers completely or part-time in order to care for young children. Chapter 4 presents and discusses the results, and Chapter 5 concludes.

2. Methodology

2.1. Definition of the scenarios[1]

A *scenario* is a single combination of circumstances and options. *Circumstances* are assumed given, while individuals may choose between *options*.

Circumstances are defined by four variables, which together form 24 combinations.

1. Gender:

- woman,
- man.

2. Age (at which a choice is made):

- age 30,
- age 54.

The motivation for selecting these ages is that 30 is a typical age at which women and men are confronted with the care of young children, and 54 is a typical age at which some women and men are confronted by care for older parents.

The women and men are supposed to have been born in 2000.

3. Education:

- less than upper secondary education (ISCED 0-2),
- upper secondary education or post-secondary non-tertiary education (ISCED 3-4),
- higher education (ISCED 5+).

This variable (together with gender) determines the earnings profiles.

Each education level comes with its age of labour market entry (based on the Labour Force Survey data for the participant countries in the MIGAPE project):

- ISCED 0-2: 19 years,
- ISCED 3-4: 21years,
- ISCED 5+: 24 years.

4. Full working career or a period of unemployment:

- full working career,
- a 3-year period of unemployment.

[1] This section is largely based on Dekkers and Van den Bosch (2020).

The spell of unemployment happens at ages 26-28 for the case aged 30 and at ages 49- 51 for the case aged 54. It is assumed that the cases are entitled to the unemployment benefit.

For each age at which the choice is made (30 or 54), there are five options that an individual can choose from:

- the base option of continuing to work full time,
- part-time work at 80% for six years,
- part-time work at 50% for six years,[2]
- ceasing to work for six years, excluding the wage penalty, and
- ceasing to work for six years, including the wage penalty.

Periods of unemployment and full work interruption can imply that the person, when returning to work, does not earn the same salary as an otherwise similar individual who worked continuously. This effect is referred to as a "wage penalty" (or "earnings penalty") and is mainly due to less seniority and experience. The modelling of the wage penalty is explained in section 2.2.2.

We distinguish between situations where the period out of work (full or part time) gives rise to pension credits and situations where it does not. This depends on whether the person concerned is entitled to specific benefits related to the reason for the move to part-time work or full work interruption. We assume that for the individual that considers his or her options at the age of 30, the reason is "caring for a young child", while for the individual that considers the options at the age of 54, it is "caring for a dependent parent". The alternative (not specified) is a reason that does not make persons eligible for these or similar schemes and therefore does not entail pension credits for the time not worked.

Furthermore, many persons retire earlier than the statutory retirement age (SRA) if they are eligible for an old-age pension. In addition to the variant where people retire at the SRA, we include the variants where they retire two years earlier than the SRA (if eligible) and as early as possible.

2.2. Earnings profiles and the wage penalty

Old-age pension is the result of a labour market activity, working hours and earnings throughout the work career. Assumptions regarding the labour market entry and withdrawal(s) have been set in the form of different scenarios, while the lifetime earnings have been estimated from the earnings statistics.

Earnings profiles for Slovenia are based on the 2016 Structure of Earnings Statistics (SES). The SES provides information on monthly gross earnings by sex, age, education attainment level, occupation, activity, sector, and statistical region. All persons in paid employment who worked full time (36 hours per week or more) the whole year for the same employer, and received at least 90% of the annual

[2] The report does not include the option of working part time at 20% because it is not realistic for Slovenia, where working full time is a norm also for parents with young children.

national minimum wage, are included in the database (approximately 538 thousand persons aged from 19 to 64 years).

2.2.1. Modelling of earnings profiles

Longitudinal earnings profiles by age and gender were estimated from the cross-sectional data on average earnings in 2016. Earnings were recalculated to full-year equivalent earnings for persons having worked less than 40 hours per week. The top and bottom percentiles were excluded to neutralize the impact of outliers. Separate regressions (OLS) were performed for each gender-education group using the age, age-squared and the third power of age as independent variables. Estimates from these regressions were used to simulate earnings profiles for all ages from 19 to 64 years (statutory retirement age is 65).

Earnings profiles plotted using the SES data are presented in Graph 1 (for women) and Graph 2 (for men). The regression results show a drop in average earnings at higher ages for:

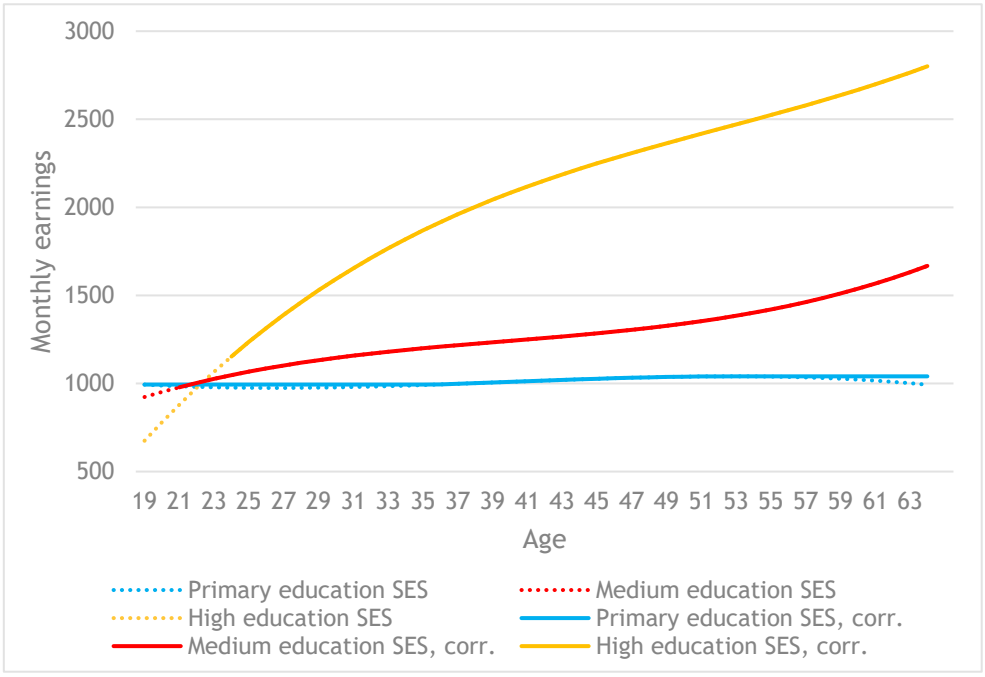
- women with primary education, from the age of 54 years;
- men with primary education, from the age of 49 years; and
- men with secondary education, from the age of 51 years.

There is also a drop in earnings of low-educated women up to the age of 35 (their earnings amount to around EUR 1,000 across all ages). The decline is very small and can hardly be perceived as such. This phenomenon is driven by the characteristics of the SES database, which contains only individuals with earnings of at least 90% of the minimum wage. However, the earnings profile for low-educated women most probably realistically reflects the situation in the labour market where low-educated women can expect earnings very close to the minimum wage regardless of their age and experience. As the drop in earnings at higher ages is not very likely in reality, it is alternatively assumed that earnings remain at the same level (in real terms) at which they had been before the drop started. Consequently, one set of three lines (SES) shows the situations where a drop in earnings at higher ages is allowed, while the second set (SES, corr.) shows the cases under the presumption that earnings remain at the level at which they had been before the drop started.

It is also evident from Graphs 1 and 2 that, throughout their careers, men with a low education earn more than their female counterparts. The earnings of men with a medium or high education reach higher levels at a (considerably) earlier age than those of women. The difference is around five years for high educated people, but as high as 20 years for the medium-educated (the basis is the men's earnings at the age of 30).[3]

[3] Medium-educated women reach the earnings level of the medium-educated 40-year-old men at around 18-year higher age.

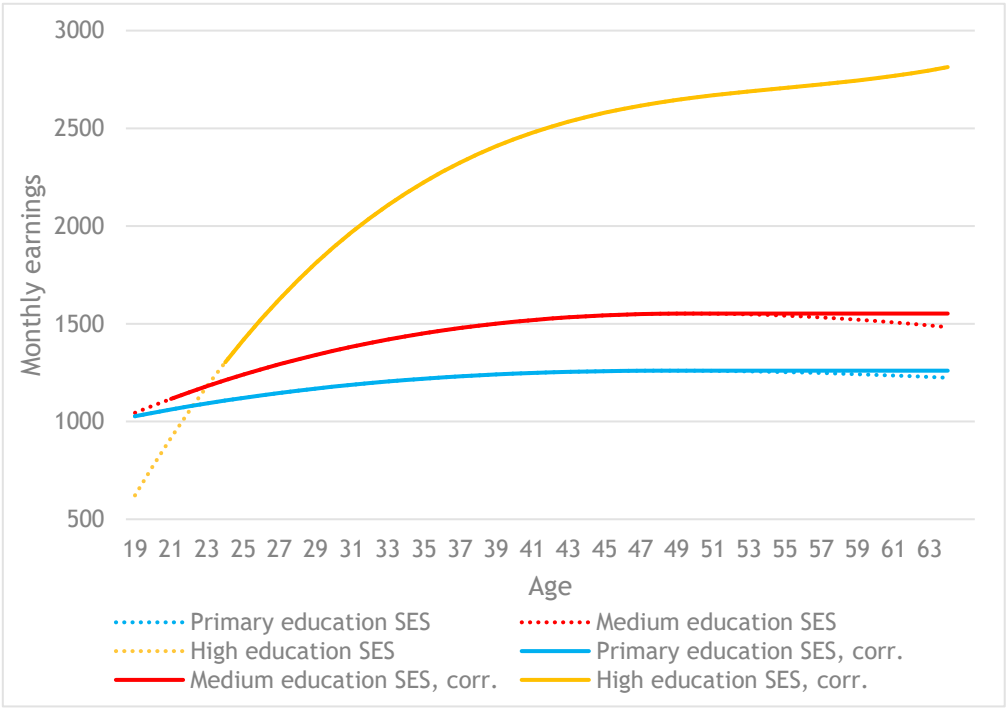
Graph 1: Mean gross earnings of women, by age and educational level



Source: Project »Development of a model for forecasting the needs for the study programs implementation at the national level (with pilot implementation), including preliminary research (analysis) of the current situation of graduates of individual study programmes in the labour market«[4])

Legend: SES = Structure of Earnings Statistics, a drop in earnings at higher earnings levels is allowed
SES_corr. = Structure of Earnings Statistics, earnings stay at the same level at which they had been before the drop started

Graph 2: Mean gross earnings of men, by age and educational level



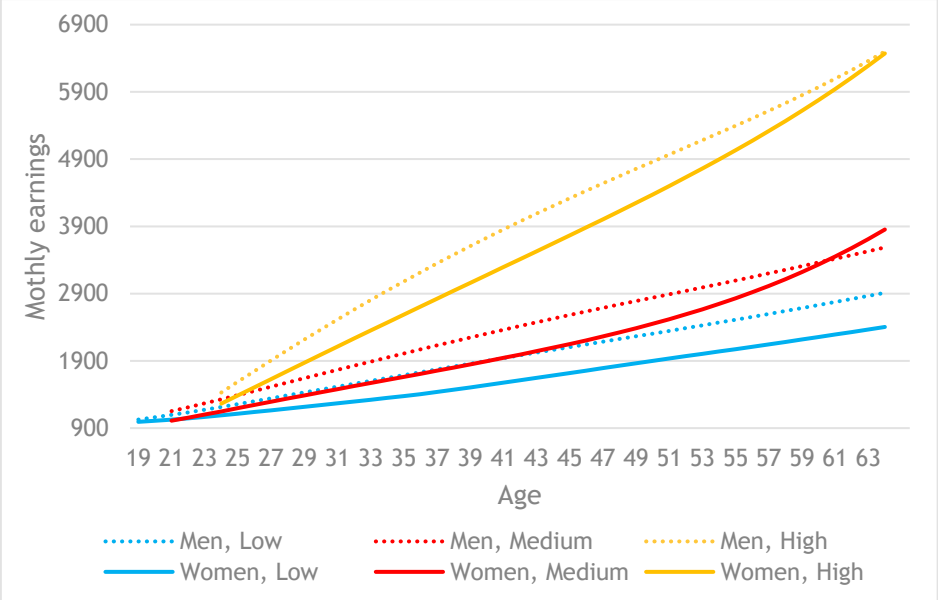
Source: Project »Development of a model for forecasting the needs for the study programs implementation at the national level (with pilot implementation), including preliminary research (analysis) of the current situation of graduates of individual study programmes in the labour market«)

Legend: SES = Structure of Earnings Statistics, the drop in earnings at higher earnings levels is allowed
SES_corr. = Structure of Earnings Statistics, earnings stay at the same level at which they had been before the drop started

[4] The project was financed by the Ministry of Education, Science and Sport, Republic of Slovenia, from 20 August 2018 to 15 November 2018, contract no. C3330-18-753990.

As the next step, the earnings amounts were uprated to future years using the projections of average salaries by the Ageing Working Group of the Economic Policy Committee of the European Council (REF). Earnings profiles presented in Graph 3 show that there is only a small difference between the earnings of the persons with a low and medium education. High education obviously has a significant positive impact on earnings. Around the age of 60, the earnings of medium- and high-educated women catch up with those of men and even exceed them afterwards in the case of medium-educated women. These increases are driven by the fact that only women with higher earnings remain in the labour market after the age of 60.

Graph 3: Earnings profiles by educational level



Source: Project »Development of a model for forecasting the needs for the study programs implementation at the national level (with pilot implementation), including preliminary research (analysis) of the current situation of graduates of individual study programmes in the labour market«)

2.2.2. Modeling of wage penalty

Some policy scenarios assume a wage penalty, which is a negative effect of job interruption on the earnings throughout the subsequent career. It is very likely that an individual who experienced joblessness or inactivity earns less after returning to work than a comparable individual with an uninterrupted career. In the context of standard simulations intended to show the consequences on later pensions of partial or complete interruptions of work due to care responsibilities, it is important to take this phenomenon into account.

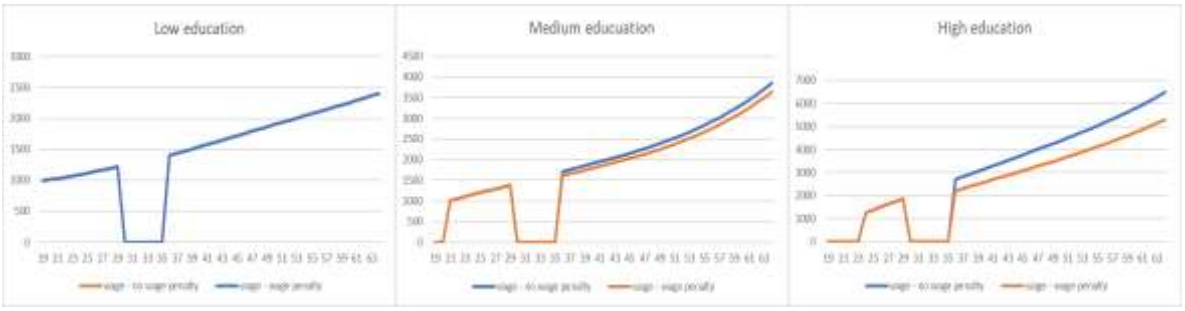
For the purpose of standard simulations, the wage penalty was modelled as

$$w_{it} = w_{it-1} * a_{it} * g_t,$$

where w_{it} stands for the earnings of individual i at age t; a_{it} for the age-related individual increase in earnings and g_t for the overall increase in earnings due to productivity gains in the national economy. Both factors, a_{it} and g_t, are represented as growth rates. We assume that, after interruption, the person's earnings are the same as those during her latest year in work, increased by the average

national salary growth during the period of interruption. During the interruption, there is no age-related individual earnings increase as the person does not gain any experience or seniority. After interruption, the earnings increases resume at the level experienced by a person of the same age with an uninterrupted career. The impact of this methodological approach on earnings profiles is presented in Graph 4.

Graph 4: Earnings profiles in the case of a career interruption for 6 years at the age of 30; by educational level



The wage penalty increases with educational level and, consequently, the strongest impact of the wage penalty on the pensions of high-educated women can be expected. It should be noted that low-educated women do not experience wage penalties because their earnings profile at a young age before uprating with the projections of AWG is completely flat (Graph 1).

3. Pensions and thematic leave for employees in Slovenia

3.1. Pensions

The Slovenian pension and disability insurance system is a pay-as-you-go system. It is uniform and mandatory for all employed persons and other persons generating some income from employment or other gainful activity. Inactive persons can join the system voluntarily. They are all included in the insurance scheme under the same act – Pension and Disability Insurance Act (2012) (ZPIZ-2) – and covered by the same insurance provider – the Pension and Disability Insurance Institute of Slovenia. The system is financed through social security contributions and direct transfers from the central government budget. The total contribution rate for pension and disability insurance is 24.35% of gross earnings without a ceiling (the employee´s contribution is 15.50%, and the employer´s is 8.85%). Transfers from the central government budget accounted for 20% of the total 2018 revenues of the Pension and Disability Insurance Institute of Slovenia. (European Commission, 2018, p. 228)

The compulsory insurance scheme includes: a) the right to a pension (old-age, disability, survivors', widow/er's, and partial pension); b) disability insurance entitlements (occupational rehabilitation, reassignment and reduced working hours, reimbursement of travel expenses, and benefits from disability insurance: for the duration of occupational rehabilitation, duration of waiting for reassignment to another workplace or appropriate job, due to reduced working hours, due to lower earnings at another appropriate job, entitlement to partial disability pension, temporary benefits, and disability benefits); c) supplemental entitlements (assistance and attendance allowance, part of a widow/er's pension); and d) other entitlements (annual supplement). There are also some special entitlements that are not included in the system of compulsory pension insurance: a) farmers' and

military pension, b) part of the military widow/er's pension, and c) advance pension payment and other pensions and rights under special acts.

The statutory retirement age is 65 years for both sexes, while **the minimum age requirement for early retirement is 60 years**. The **pension qualifying period** is equal for men and women: 15 years if aged 65 years or more, or 40 years (without a purchased period) if aged 60-64 years.

From 2020 on, the **accrual rates** will be gradually increased in the years 2020–2024 and will ultimately be the same for women and men in 2025: 29.5% for the first 15 years of work (or 1.97% per year) and 1.36% for each additional year of work. There is also an additional accrual rate of 1.36% for taking care of each child in its first year (for a maximum of three children).

There are bonuses for staying active longer. A person can accrue an additional 1.5% for each six months of work after the fulfilment of 60 years of age and completion of 40 years of pension contribution period without a purchased period (up to 9%). Also, the person meeting the retirement conditions but deciding to remain in employment is entitled to receive a part of the pension, subject to payment of all social security contributions on earnings. In the first three years of full-time employment after meeting the conditions for retirement, that person will receive 40% of the old-age pension as an additional incentive to remain in employment. In the fourth and all subsequent years, the proportion of the pension received will be decreased to 20%, and the accrual rate returned to its normal level of 1.36%.

Some provisions enable **a decrease in the statutory retirement age without incurring negative accruals** (the so-called added period). The most important one is related to child-rearing (see section 3.2). The retirement age for men can be decreased by 2/3 of the military service period. It can also be decreased for persons who started working before the age of 18 years, but it is conditioned by a sufficiently long pension contribution period (40 years, with a maximum decrease from 60 years to 56 years for women and 58 years for men).

The **minimum pension**[5] is provided through the minimum pension assessment base that is fixed at 76.5% of the national average net earnings. On the other extreme, there is a **maximum pension** assessment base, which is four times higher.

Since 2019, the **24 best consecutive years** are taken into account for the calculation of the pension assessment base.

Valorisation coefficients used in computing the pension assessment base are equal to the growth in average national nominal salary.

The concept of net pensions is applied, with the pension assessment base being computed from the net earnings. There is no payment of contributions for health care insurance from individual pensions (these contributions are paid from the state budget). With generous tax allowances, only a small number of pensioners pay personal income tax.

Pensions are **indexed by 0.6 of the average national salary growth and 0.4 of price growth**.

[5] The minimum pension is determined in the legislation and calculated as the minimum pension assessment base multiplied by the accrual rate for the minimum career length (29.5%).

The basic characteristics of the current first pillar of the Slovenian public pension system are presented in Table 1.

Table 1: Basic characteristics of the current Slovenian public pension system (first pillar)

Retirement age	65 years
Minimum pension contribution period (required for retirement at the age of 65)	15 years
Minimum conditions for early retirement	Age 60 years with 40 years of pension qualifying period[1)]
Minimum conditions for early retirement without negative accruals	Age 60 years with 40 years of pension qualifying period
Pension assessment base	Best 24 years of net earnings (earnings valorised with valorisation coefficients which are equal to the growth of average national nominal salary)
Computation of pension	Pension assessment base multiplied by accumulated accrual rates
Accrual rates	29.5% for first 15 years, 1.36% for each additional year[2)] 1.36% for taking care of each child in its first year (for a maximum of three children)
Pension indexation	60% of average national salary growth and 40% of price growth (inflation rate)
Minimum pension assessment base	76.5% of the national average net earnings
Maximum pension assessment base	4 times minimum pension assessment base
Incentives and disincentives	Decreased pensions for early retirement, 3.6% per each year prior to age 65 (max 18%). Higher accrual rates for later retirement (1.5% per additional 6 months, up to the maximum of 3 years; i.e. max 9%.

Source: Pension and Disability Insurance Act (2012) (ZPIZ-2).

Notes: 1) The years of pension qualifying period can also include the so-called added period (a decrease in the statutory retirement age without incurring negative accruals).

2) These accrual rates will be reached gradually in 2020–2024 and will apply from 2025 on.

3.2. Thematic leaves

3.2.1. Parenting-related leave

The leave associated with childbirth and parenting (that is, caring for a young child) – the part that can be taken by a woman – lasts 365 days and consists of the maternity leave (3.5 months) and the parental leave (8.5 months). The person on leave receives 100% of her average monthly gross earnings during the 12 months prior to the leave. The minimum earnings compensation amounts to 55% of the minimum wage, while the ceiling (for the parental leave compensation only) is at 2.5 times the average salary in Slovenia. Eligibility is held by persons who were insured (employed or self-employed) a day before the start of the leave. Persons not fulfilling this condition are eligible if having been insured for at least 12 months in the last three years before the start of the leave. The first 105 days (maternity leave) must be taken as a continuous full-time leave, while at least 185 out of 260 days of parental leave must be taken as a continuous leave, however either full-time or part-time. In the case of part-time leave, the duration of leave is not extended proportionately. To conclude: the

pension system treats the period of receiving earnings compensation equally as the period of employment (that is, as the pension contribution period).

Furthermore, two alternative provisions additionally acknowledge child-rearing in the pension system and are also based on the use of the parenting-related leave: 1) a decrease in the statutory retirement age without incurring negative accruals, and 2) an additional accrual rate for taking care of the child in its first year. Both provisions are described in more detail in the continuation of this section. It is possible to benefit from only one of these provisions for each of the children. Both provisions are intended for the parent who was taking care of a child (or adopted child) in its first year, which in practice means the person who took the parental leave. The provisions are thus practically limited to women since men only rarely tend to take parental leave.

1) **A decrease in the statutory retirement age without incurring negative accruals**

Statutory retirement age may be reduced by a maximum of 48 months (6 months for one child, 16 for two, 26 for three, 36 for four, and 48 months for five or more children).[6] In the case of 40 years of the pension qualifying period (without a purchased period), the retirement age of 60 years may be reduced to at least 56 years for women and 58 years for men. This option is possible very rarely: only if 40 years of pension qualifying period are collected before the age of 60. It is also possible to take advantage of this provision with at least 38 years of the pension qualifying period, in which case the retirement age of 65 years may be reduced to at least 61 years.

If the statutory retirement age is decreased due to taking care of a child, the beneficiary is not entitled to an extra 1.36 accrual rate for taking care of a child (see the following paragraph).

2) Additional accrual rate

There is an additional accrual rate of 1.36% for taking care of each child[7] in its first year (for a maximum of three children). As a rule, a woman is entitled because, most often, she is the parent who took most of the parenting (maternity and parental) leave and benefit. If a man has exercised the right to parental benefit for at least 120 (out of 240) days of parental leave, the parents may mutually agree who of them will benefit from the additional accrual rate for a particular child. In the absence of a consensual decision, the parent who has exercised the majority of the parental leave entitlement is entitled to the additional accrual rate. If neither of the parents has been on parental leave or they have exercised the right to parental leave in equal shares, a woman is entitled.

The eligible individual has to choose between this provision and a decrease in the statutory age due to taking care of a child. The first advantage is irrelevant for some of the standard simulations in this report, as working up to the SRA is assumed. Since the second provision is available without any age- or pension-qualifying-period condition, it is taken into account in all standard simulations.[8]

[6] The child has to be a citizen of Slovenia unless otherwise provided in an international agreement.

[7] The child has to be a citizen of the European Union.

[8] An accrual rate of 1.36% was added not only in the case of a woman on thematic leave due to giving birth at the age of 30 years but also in the case of a woman who starts taking care of her dependent parent at the age of 54 and a man on thematic leave (at the age of 30) due to caring for a child.

3.2.2. The pension qualifying period for parents who work part-time due to caring for (young) children

There is also a family-policy measure in the Parental Protection and Family Benefits Act granting parents a pension qualifying period for hours of childcare. A parent who is taking care of a child below the age of three years and working part time (the hours worked must be equal to or longer than half full-time working hours) is entitled to having the social security contributions (based on the proportional part of the minimum wage) paid from the state budget for hours not worked. A parent who is taking care of two children may extend this right until the younger child completes the first grade of elementary school (between the ages of 6.5 and 7.5 years[9]). One year of this entitlement is a non-transferrable right for each of the parents.

3.2.3. Parent-care-related leave

In Slovenia, there is no leave to care for a dependent parent or any kind of leave related to the long-term care of the elderly.

4. Results

4.1. Introduction

In this chapter, the results of the standard simulations are presented and discussed. Since all combinations of circumstances and choices result in 414 scenarios, our dataset consists of the careers and subsequent unique simulated old-age pensions of 828 "individuals" (414 men and 414 women). The impacts of these individuals' unique combinations of circumstances and choices are shown through box plots in the second section of this chapter.

In the third and the fourth section of this chapter, variant sets are compared with the reference set. A set consists of scenarios referring to all education levels and all options, and (except the one including an unemployment spell) comprises 15 scenarios.[10] Options are chosen when two selected life events and the subsequent 6-year interruptions in work careers occur:

- birth of a child at the age of 30 years; and
- care for a dependent parent at the age of 54 years.

For both life events, a reference set is defined. It consists of scenarios covering circumstances considered as most relevant for showing the impact of different options on future pensions.

Reference set 1: Woman; age at interruption: 30; reason for interruption: caring for a young child; no unemployment; retirement at statutory retirement age.

[9] Children are enrolled in the first grade of the elementary school in the calendar year in which they reach the age of 6.

[10] Since the comparison of all 414 scenarios would be unmanageable and not very productive due to the low relevance of many comparisons, the selection of scenarios was agreed upon by the research consortium.

Reference set 2: Woman; age at interruption: 54; reason for interruption: caring for a dependent parent; no unemployment; retirement at statutory retirement age.

Variant sets are defined relative to the reference set, by changing one dimension (care benefits, unemployment spell, time of retirement, and gender) at a time. These are:

1. Variant set 1, which is the reference set without a relevant reason for a career interruption (thematic leave), implying that no pension credits are built up during the interruption;

2. Variant set 2, which is the reference set with three years of unemployment in a career before interruption;

3. Variant set 3, which is the reference set with pension benefit simulated in case of retirement two years before the statutory retirement age;

4. Variant set 4, which is the reference set with pension benefit simulated for men;

5. Variant set 5, which is the reference set with pension benefit simulated at the earliest possible age of retirement (in Appendix).

Within each set, we use the option with no work interruption as the base option (base scenarios) and express the pension amounts in scenarios corresponding to the other options as a percentage of the base scenario amount for the same education level. These percentages show the impact of choices on later pensions. Besides, for the variant sets, a table is included showing the pension amount for each scenario as a percentage of the amount for the corresponding scenario in the reference set (Dekkers and Van den Bosch, 2020). The results show to what extent the results are sensitive to circumstances: availability of care benefits, career duration as dependent on possible unemployment spell or early retirement, and gender earnings profile.

4.2. Overall results

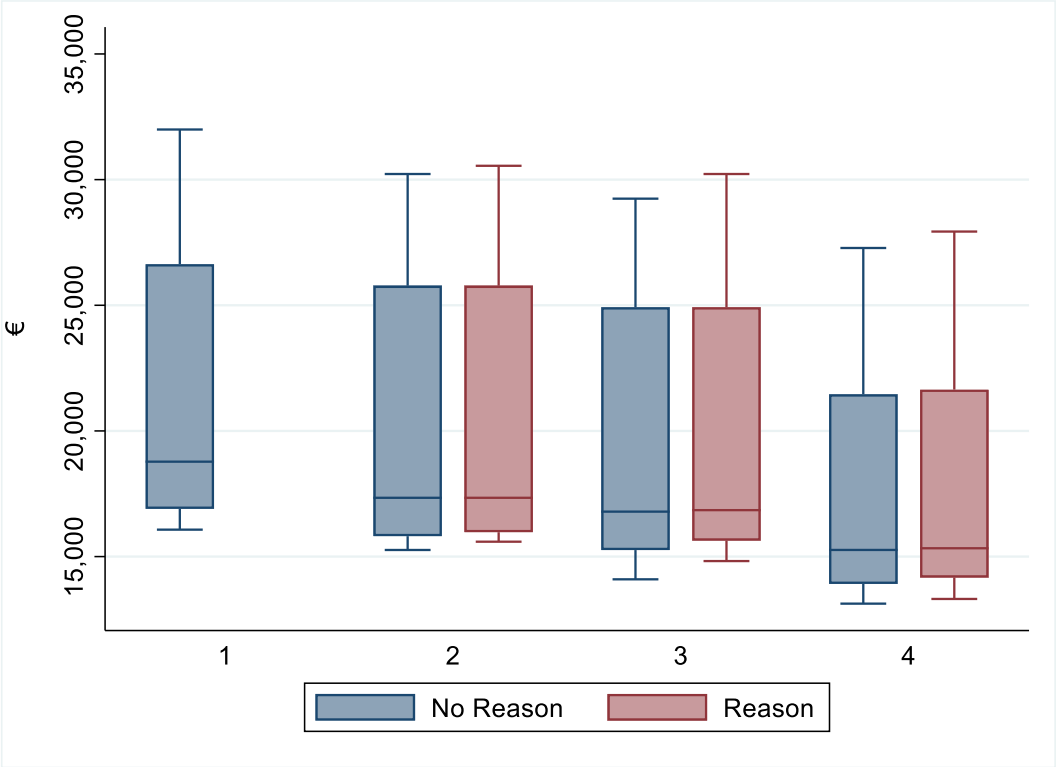
The presentation of the overall variation in pension amounts across all scenarios focuses on the impact of choices in combination with the presence of the reason for a particular choice on the old-age pension. The specific reason considered here is the thematic leave for caring for a young child. The graphical presentation is done using box and whisker plots. A box plot is a graph that shows in a comprehensive way the distribution of a variable, in this case, the simulated old-age pension. The whiskers indicate the minimum and maximum values, excluding outliers. Since the actual simulated pension benefits are not very relevant for this analysis,[11] the results are discussed relative to the base scenario.

Graph 3 shows the box plots of the simulated old-age pension of men and women for all combinations of choices (working full time (1); working part time at 80% (2) or 50% (3) for six years or until SRA;

[11] The average simulated gross old-age pensions for women are considerably higher than the current ones since the simulations assume that the individual was born in 2000 and therefore starts working around 2020. The time of retirement will be around forty years later, and the period worked will be considerably longer than in the case of currently retired women.

and (4) not working for six years (with wage penalty),) and considering whether the individual takes this choice for a relevant reason which makes her/him eligible for a thematic leave.[12] The vertical axis denotes the gross simulated old-age pension. The lower and upper ends of the box equal the 25th and 75th percentile, while the line in the middle shows the 50th percentile or median. The whiskers reflect the minimum and maximum values, excluding outliers. The variation of the old-age pension is caused by all circumstances and choices that are not used to distinguish scenarios in the box plot,[13] that is, by different combinations of educational attainment level, whether or not there was unemployment throughout the career, the age at the labour-market choice (30 or 54), and whether or not a wage penalty is assumed in the earnings profile. Due to the minimum and the maximum pension assessment base, as well as other redistributive elements in the Slovenian pension system, there are no outliers.

Graph 3: Distribution of old-age pensions resulting from choices made (full-time work; part-time work at 80% or 50% for 6 years; not working for 6 years) and the presence/absence of the reason for interrupting a career credited by the pension system



Note: Data are based on own standard simulations
Legend:
1 Full-time work
2 Part-time work (80% of full time) for 6 years
3 Part-time work (50% of full time) for 6 years
4 Not working for 6 years

The blue box plots show the results for situations where no pension credit is gained for the time not worked during a complete or partial interruption of work (because the reduction in work was not

[12] Only the scenarios where individuals retire at the SRA are included, as earlier retirement is only possible within some circumstances, and the proportion of scenarios where it is feasible varies across choices made (Dekkers and Van den Bosch, 2020).

[13] The various scenarios in the box plots are based on the labour market choice and on whether or not the woman takes up thematic leave.

made for the reason entailing eligibility for care benefits). Comparisons within the set of box-plots of the same colour indicate the effect of the choice made on the resulting pension. The blue box plot (1) on the left reflects the distribution of the old-age pension of those scenarios where the individual worked full time throughout the career (base scenarios). The other blue box plots (2-4) show the impact of various options (work part time (2 and 3) or not work at all for six years (4)) that can be compared to the blue box plot (1) on the left. In all cases, the old-age pension is skewed to the right, which is mostly due to the protection through the minimum pension assessment base. It is not surprising that working part time (2 and 3) or interrupting work for six years (4) results in lower old-age pensions. The difference to the old-age pension based on a continuous full-time work (1) increases with the hours not worked but is not considerable.

The red box plots present the variation in pensions when pension credit is earned. There would be, of course, no difference between the blue and red plot if the person worked full-time during the entire career, so only one (blue) box plot is presented.

A comparison of blue and red box plots provides an indication of the impact of pension credits on the later pension. The patterns are almost the same, except in the case of working 50% of full time for six years (3), which is not an outlier in this case.

Overall results are summed up in the following points.

- There are relatively small differences both a) between scenarios and b) compared to the base scenario of full-time work throughout the career.
- The impact of thematic leave is small.
- The median pension decreases with the shortening of hours worked in a period of six years. Compared to the reference scenario, the median pension decreases by 7.7 % in the options of working 80% of full time for six years; by 10.6% if working half time for six years; and by 18.4% if not working at all for six years.
- Minimum values are almost the same for all scenarios, regardless of the take-up of thematic leave. This is, to a great extent, due to the application of the minimum pension assessment base.

4.3. Reference set and variant sets with choice at age 30

4.3.1. Reference set

The reference set refers to a woman giving birth at the age of 30 years and consequently taking the decision regarding her continuing to work full-time, working part time for a period of six years, or interrupting her career for a period of six years. For some of this six-year period, the woman is entitled to thematic leave provisions: a) a year of full-time and fully compensated parenting-related leave (see section 3.2.1), and b) two years of a pension qualifying period for hours not worked due to care of a

child below the age of three years if working part time (50% or more) (see section 3.2.2). This woman will not have an episode of unemployment and is assumed to retire at the statutory retirement age.

Table 2-1 contains the pension amounts for the reference set by three education levels and five options regarding work after childbirth. The amounts are much higher than the current average old-age pension because they are projected amounts for someone born in 2000 and retiring in 2065. Hence, their value lies not so much in the amounts, but the comparison between scenarios (Dekkers and Van den Bosch, 2020).

Table 2-1: Reference set: pension amounts

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	17,024	19,057	30,052
PT 80% 6 years	16,727	18,712	28,724
PT 50% 6 years	16,579	18,332	28,423
No work 6 years (no wage penalty)	14,823	16,087	26,315
No work 6 years (wage penalty)	14,823	15,182	21,526

Reference set: Woman, age at interruption 30, reason for interruption caring for a young child, no unemployment, retirement at statutory retirement age

Like the earnings profiles in Graph 1, Table 2-1 also shows relatively small differences between old-age pensions of women with a low and a medium education, even if medium educated women have shorter careers. The assumption is that a low-educated woman enters the labour market at the age of 19, a medium-educated one at the age of 21, and a high-educated one at the age of 24. The pension of a high-educated woman is considerably higher in all options, showing that lower accrual rates affect pensions much less than higher earnings and the consequent higher pension assessment base.

The amounts of pensions by all education levels come ever closer to one another as the options move from full-time work without interruptions towards no work for six years. The first reason is that, in all five options, the low-educated women benefit from the minimum pension assessment base. The second reason is a longer pension contribution period and, consequently, higher accrual rates for lower-educated women.

In the option of no work for the period of six years with no wage penalty, the amount of old-age pension does not change for a low-educated woman because besides the flat earnings profile (Graph 1) she benefits from the minimum pension assessment base.

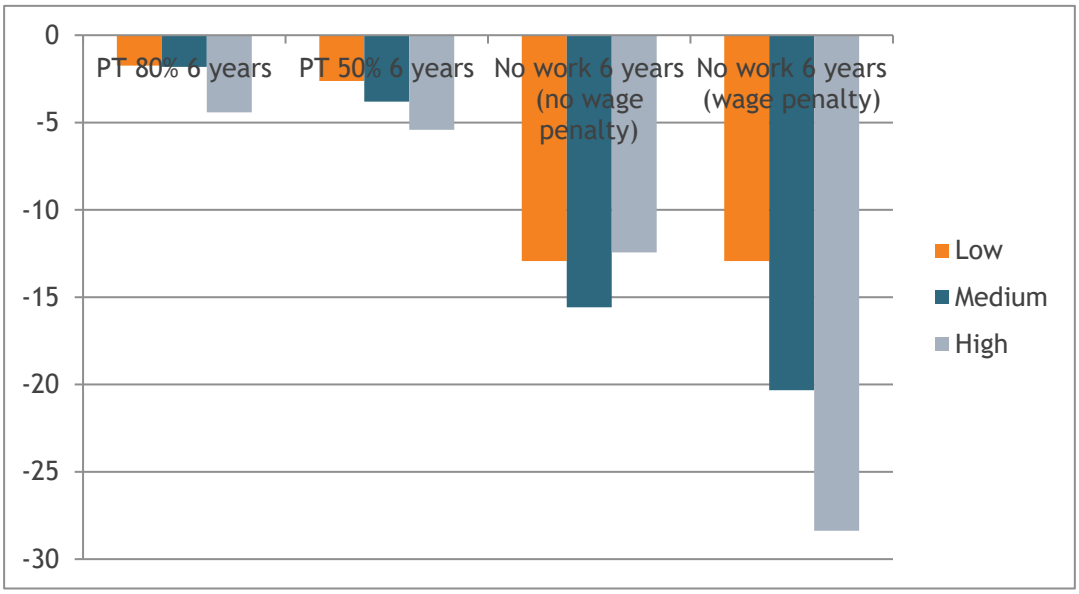
Table 2-2 presents ratios of pension amounts − derived from table 2-1 − for four options (work part time at 80%, work part time at 50%, full career interruption without and with wage penalty) relative to the base option of continuing to work full time uninterrupted. Graph 4 provides the same information through the size of the pension loss. For instance, a low-educated woman suffers a decrease in pension of 1.74 percentage points (pp) due to six years of 80% part-time work. The loss is relatively small also due to the family-policy provision granting full pension contribution period in the option of part-time work until the child's age of 3. The woman's part-time earnings are supplemented by the social security contributions (based on the proportional part of the minimum wage) for the rest of 20% of full-time hours. The decline is similar for a medium-educated woman but rises to 4.42 pp for a high-educated woman. Due to the wage penalty, a decrease in the pension of the woman who fully interrupts her career for five years after a year of parental leave amounts to 20.23 pp for a medium-

educated woman and 28.37 pp for the high-educated one. The wage penalty is the strongest for a high-educated woman because of her steep earnings profile, also at the age of 32-35 years. Compared to all other options in Table 2-2, her pension assessment base is thus lower by 18.2%. Furthermore, her pension contribution period is considerably shorter due to later labour market entry and, consequently, the accrual rate lower. Interestingly, the difference in pension losses (in percentage points) is almost the same between the low- and medium-educated women who fully interrupted work, and between the medium- and high-educated ones.

Table 2-2: Reference set: pension amount as percentage of pension for base scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100.00	100.00	100.00
PT 80% 6 years	98.26	98.19	95.58
PT 50% 6 years	97.38	96.20	94.58
No work 6 years (no wage penalty)	87.07	84.42	87.56
No work 6 years (wage penalty)	87.07	79.67	71.63

Graph 4: Reference set: Reduction of pension, relative to continuing to work full-time, by education level, in percentage points



Reference set: Woman, age at interruption 30, reason for interruption caring for a young child, no unemployment, retirement at statutory retirement age

The relative decline in pension is lowest for low-educated women because, in all options, the minimum pension assessment base is applied, so that lower earnings resulting from six years of part-time work or no work (of which the first year is their maternity and parental leave) do not have a negative impact on their pension assessment base. However, career interruptions result in shorter pension contribution periods and consequently lower accrual rates. Lower accrual rates applied to the same minimum pension assessment base mean lower pensions. There is a provision that mitigates this effect. The woman opting for part-time work for 50% or 80% after the parenting leave is paid social security contributions for the difference to full-time hours until the child's age of 3 years. This prevents any loss in the pension contribution period in the second and the third year of interruption. A medium-educated woman (as any woman whose pension assessment base exceeds the minimum

one) nevertheless experiences a negative influence of the second and third year of interruption on the pension amount because "free" social security insurance is based on the minimum wage and not the (normally higher) actual earnings. The pension penalty of 28.4 pp for a high-educated woman interrupting her career for six years due to caring for a young child (see Graph 4) is the consequence of the wage penalty (for years not worked at the early stage of a career), five years less pension contribution period, and the absence of higher accrual rates for working longer than the SRA.

In the absence of a wage penalty, a woman with a medium education who fully interrupts her work for six years receives a pension that is by 15.58 pp lower than in the option of full-time continuous work. This is 4.75 pp more than in the option with the wage penalty. A high-educated woman, who now receives a pension that is by 12.44 pp lower than in the base scenario, receives as much as 15.93 pp more than when affected by wage penalty.

4.3.2. Variant set 1: no pension credits

Pension amounts are lower if there is no reason for interruption, that is, when the first year of part-time work or full interruption is not compensated because there was no childbirth and there is no additional accrual rate (1.36%) for taking care of the child in its first year (Table 3-1). Women also lack the reason for "free" social security contributions paid until the child's age of three in the options of part-time work at 80% or 50%.

Table 3-1 Variant set 1 (no reason for interruption): pension amounts

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	17,024	19,057	30,052
PT 80% 6 years	16,579	18,332	28,423
PT 50% 6 years	16,133	17,192	27,519
No work 6 years (no wage penalty)	14,167	15,743	25,712
No work 6 years (wage penalty)	14,167	14,856	21,034

In Table 3-2, similarly as in Table 2-2, the impact of each of the four options (work part time at 80%, work part time at 50%, full career interruption without and with wage penalty) relative to the base option of continuing to work full time uninterrupted, is presented. The decline in pension increases with the duration of interruption and education. The impact of the parenting-related leave and schemes for part-time work for parents of young children is not as big as one might expect. In the case of part-time work, the years around age 30 fall out of the pension assessment base calculation as only 24 best consecutive years are taken into account. This means that, for all educational groups, the only impact of part-time career interruption without a thematic leave is that of a shorter pension contribution period, that is, a lower accrual rate. Full career interruption has a more severe impact on future pensions for medium- and (even more) high-educated women, which is a consequence of lower accrual rates and lower pension assessment bases. The negative impact of full career interruption without a thematic leave is more profound if there is a wage penalty, especially for high-educated women.

Table 3-2 Variant set 1 (no reason for interruption): pension amount as percentage of pension for base scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100.00	100.00	100.00
PT 80% 6 years	97.38	96.20	94.58
PT 50% 6 years	94.77	90.22	91.57
No work 6 years (no wage penalty)	83.22	82.61	85.56
No work 6 years (wage penalty)	83.22	77.96	69.99

In Table 3-3, the old-age pension amounts from Table 3-1 are compared with those in Table 2-1, that is, compared are the scenarios of the variant set 1 with the same scenarios in the reference set. As expected, there is a negative impact of interruption without reason (the variant set) for all selected options of interruption and all education groups, compared to the same scenarios in the reference set where there is a reason for interruption (caring for a young child). In the variant set, the loss in earnings and the contribution period is suffered for six years rather than five because there is no parenting-related full earnings compensation in the first year. Besides, social security contributions are not paid for the hours not worked in the second and third year of interruption in the options of part-time work for 80% and 50%.

Table 3-3 Variant set 1 (no reason for interruption): pension amount as percentage of pension for the same option in the reference scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100.00	100.00	100.00
PT 80% 6 years	99.11	97.97	98.95
PT 50% 6 years	97.31	93.78	96.82
No work 6 years (no wage penalty)	95.58	97.86	97.71
No work 6 years (wage penalty)	95.58	97.86	97.71

Reference set: Woman, age at interruption 30, reason for interruption caring for a young child, no unemployment, retirement at statutory retirement age

In the options of part-time work, the difference in the decline in old-age pension between this variant set and the reference scenarios (expressed in percentage points) increases with the non-worked hours for all education levels. This is expected because there are no benefits related to parenting or care for the child below the age of three. In the variant scenario, compared to the same scenario in the reference set, a low-educated woman working part time at 80% for six years will receive an old-age pension that will be by 0.99 pp lower than the pension of a woman who, after childbirth, takes a year of parenting-related leave with full earnings compensation and then benefits from the payment of social security contributions for the period not worked until the child's age of three. For a medium-educated woman, the loss increases to 2.03 pp, but is lower (1.05 pp) for a high-educated woman. If working part time at 50%, the low-educated woman's old-age pension is by 2.69 pp lower than in the base option, the medium-educated woman's by 6.22 pp, and the high-educated woman's by 3.18 pp.

Surprisingly, when there is no reason for interruption, for both options of part-time work, a woman with a high education loses relatively less in her pension than a woman with a medium education, compared to reference scenarios. The reason is a lower decrease in her accrual rate. Namely, a medium-educated woman (like a low-educated one) accumulates 40 years of a pension qualifying period before reaching the age of 65 when she retires. For each additional six months (for a maximum of three years), in the base scenario, she receives a high accrual rate of 1.5%, which accumulates to additional 9%, compared to 3% received by a high-educated woman (who started working only at the

age of 24). In this situation, working less than full-time results in a high loss in the accrual rate (for a medium-educated woman). When the pension qualifying period exceeds 40 years, each lost year has an important impact.

The negative difference in the pensions of women not working for six years without reason (with and without wage penalty) in the variant set 1, compared with the respective reference scenarios where there is a reason for interruption, is higher for low-educated women than for medium- and high-educated women. For instance, in the option of no work for six years (with wage penalty), a woman with low education receives 4.42 pp less if not having the reason for the interruption; a medium-educated woman receives 2.24 pp less; while a high-educated woman receives 2.29 pp less. The reason is the pension qualifying period of a low-educated woman that is 41 years in the reference scenario and 40 years in the scenario with no reason for interruption (variant set 1). In the reference scenario, the woman profits from a higher accrual rate for the 41st year. Consequently, the difference in the accrual rates for a low-educated woman is higher than for a medium- or high-educated woman.

4.3.3. Variant set 2: unemployment spell

The second variant set includes a 3-year period of unemployment (at ages 26, 27 and 28) before a six-year interruption. Consequent pension amounts are presented in Table 4-1. There is no option of "no work for six years (no wage penalty)"in this variant because, in the modelling of the scenarios, we assumed − for the reason of consistency − that the wage penalty applies to all periods of non-employment, whether due to unemployment or another kind of interruption. So, if the six-year interruption does not lead to a wage penalty, neither does the unemployment spell (Dekkers and Van den Bosch, 2020).

Table 4-1 Variant set 2 (unemployment): pension amounts

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	16,282	17,572	27,519
PT 80% 6 years	15,805	16,604	27,218
PT 50% 6 years	15,478	16,432	26,616
No work 6 years (wage penalty)	13,722	13,716	16,962

Interestingly, in the option of full career interruption (with wage penalty), a medium-educated woman ends up with a lower old-age pension (13,716) than a low-educated one (13,722), despite much higher earnings. What is important here is that a low-educated woman is much less punished because of three years of unemployment as she is protected by the minimum pension assessment base. A medium-educated woman's pension assessment base exceeds the one of a low-educated woman by less than 5% in spite of her sum of average gross earnings and earnings compensations being higher by almost 16%. Besides, she started her career two years later than a low-educated woman and thus has a shorter contributing period and a consequently lower accrual rate, which finally results in her lower old-age pension.

Table 4-2 shows the cumulative impact of a career interruption due to caring for a young child and the related benefits, 3 years of unemployment, and wage penalty (only in the option of no work during interruption) on the old-age pension. The pensions, relative to those in respective base scenarios,

decrease with the lowering of hours worked and particularly in the option of no work during the interruption.

Table 4-2 Variant set 2 (unemployment): pension amount as percentage of pension for base scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100.00	100.00	100.00
PT 80% 6 years	97.08	94.49	98.91
PT 50% 6 years	95.06	93.51	96.72
No work 6 years (wage penalty)	84.28	78.06	61.64

It is evident from Table 4-2 that the consequences are particularly serious for a high-educated woman who was unemployed for three years and also stopped working for six years following childbirth at the age of 30. Taking the wage penalty into account, her pension is by as much as 38.36 pp lower than in the base option that does not include any interruption after childbirth. This is mostly due to five years of pension contribution period less than in the base scenario (six years of interruption less a year of paid parenting leave) and a resulting wage penalty and a lower accrual rate.

Table 4-3 results from a comparison of Tables 4-1 and 2-1, and shows the impact of 3 years of unemployment on the old-age pension. In the base scenario, the decline in old-age pension due to 3 years of unemployment amounts to 4.36 pp for a low-educated woman, 7.79 pp for a medium-educated one, and 8.43 pp for a high-educated one. A low-educated woman is protected by a minimum pension assessment base in all options. Hence, the differences in her old-age pension are exclusively the result of a shorter pension contribution period and a consequent lower accrual rate.

Table 4-3 Variant set 2 (unemployment): pension amount as percentage of pension for the same option in the reference scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	95.64	92.21	91.57
PT 80% 6 years	94.49	88.74	94.76
PT 50% 6 years	93.36	89.64	93.64
No work 6 years (wage penalty)	92.57	90.35	78.79

Reference set: Woman, age at interruption 30, reason for interruption caring for a young child, no unemployment, retirement at statutory retirement age

The most surprising finding is that medium-educated women, working part-time after childbirth (that is, for five years after the parenting-related leave), lose more in their old-age pensions due to three years of unemployment than high-educated women. One would have expected the opposite. The reason lies in the fact that "one cannot lose what one could not achieve". In the reference set, the medium-educated women who start working at the age of 21 and retire at the age of 65, accumulate more than 40 years of the pension qualifying period and profit from very generous accrual rates for continuing working. In this variant set that includes three years of unemployment, these women attain 2.5 years less of the pension qualifying period than the women without an unemployment spell (reference set) since they remain insured during six months of receiving the unemployment benefit. Consequently, they are not entitled not only to the regular accrual rate for these 2.5 years but also to higher accrual rates intended for those prolonging work beyond 40 years. Since high-educated women enter the labour market at the age of 24, they cannot accumulate more than 41 years of the pension

qualifying period, so in the variant including a 3-year unemployment spell, they cannot lose as much as the medium-educated women.

On the contrary, in the options without work interruption after childbirth or where six years of full career interruption are added to a three-year unemployment spell, high-educated women lose more than low- and medium-educated women.[14] The wage penalty for a total of nine years of a career interruption (three years of unemployment and six years of a career interruption due to caring for a young child) severely reduces the earnings of high-educated women and their pension assessment base and results in lower pensions.

4.3.4. Variant set 3: early retirement

The following variant set differs from the reference one in the time of retirement, which is two years before statutory retirement age. This option is not available to all women because 40 years of the pension qualifying period (without a purchased period) is required for retirement at the ages of 60-64 years. The women who can retire two years before the statutory age need to accept a lower amount of the old-age pension (Table 5-1) than it would be two years later.

Table 5-1 Variant set 3 (early retirement): pension amounts

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	16,222	17,292	
PT 80% 6 years	15,929	16,560	
PT 50% 6 years	15,605	15,994	
No work 6 years (no wage penalty)			
No work 6 years (wage penalty)			

In the variant set 3 where the retirement occurs two years before the statutory age, the losses in pension due to interruptions, compared to base scenarios (Table 5-2), are higher than in the reference set where the retirement occurs at statutory age (Table 2-2). This is logical because, in the variant of early retirement, the pension amount results from a lower pension assessment base (except if the minimum pension assessment base applies) and a lower accrual rate (due to a shorter pension contribution period).

Table 5-2 Variant set 3 (early retirement): pension amount as percentage of pension for base scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100.00	100.00	
PT 80% 6 years	98.19	95.77	
PT 50% 6 years	96.20	92.49	
No work 6 years (no wage penalty)			
No work 6 years (wage penalty)			

Due to early retirement, pensions are lower than in the reference scenarios for medium-educated women in particular (Table 5-3). In all options, if retiring at the statutory age, these women have more than 40 years (up to 42) of the pension qualifying period. In the variant of early retirement (two years before the statutory age), they are not entitled to higher accrual rates because their pension qualifying period does not exceed 40 years. The low-educated women have an even longer pension qualifying

[14] The exception is the scenario of a low-educated woman interrupting her career for six years without the wage penalty.

periods in the reference scenarios but these periods remain over 40 years also if they choose to retire two years before the statutory age. This means that these women still profit from high accrual rates for working longer than 40 years, just for a shorter period than in the reference scenarios.

Table 5-3 Variant set 3 (early retirement): pension amount as percentage of pension for the same option in the reference scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	95.29	90.74	
PT 80% 6 years	95.23	88.50	
PT 50% 6 years	94.13	87.25	
No work 6 years (no wage penalty)			
No work 6 years (wage penalty)			

Reference set: Woman, age at interruption 30, reason for interruption caring for a young child, no unemployment, retirement at statutory retirement age

4.3.5. Variant set 4: men

Since, starting from 2025, the pension legislation in Slovenia will be gender-neutral, the fourth variant, presented in Tables 6-1 to 6-3, differs from the reference one only in that it uses the earnings profile for men and not women. As evident from Graph 3, while low-educated men earn more than low-educated women regardless of their age, the earnings of medium- and high-educated women catch up with those of men around the age of 60. Table 6-4 shows the average simulated earnings throughout the full-time and uninterrupted career. Low-educated men earn 20% more than low-educated women. The difference is smaller between the medium- and high-educated men and women. The medium-educated men earn 12.1% more than women, while the high-educated men earn 10.5% more than women.

Table 6-1 Variant set 4 (men): pension amounts

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	17,676	20,976	32,648
PT 80% 6 years	17,367	20,596	31,204
PT 50% 6 years	17,213	20,178	30,877
No work 6 years (no wage penalty)	15,390	17,707	28,587
No work 6 years (wage penalty)	14,823	16,356	23,245

Table 6-2 Variant set 4 (men): pension amount as percentage of pension for base scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100	100	100
PT 80% 6 years	98.26	98.19	95.58
PT 50% 6 years	97.38	96.20	94.58
No work 6 years (no wage penalty)	87.07	84.42	87.56
No work 6 years (wage penalty)	83.86	77.97	71.20

Table 6-3 Variant set 4 (men): pension amount as percentage of pension for the same option in the reference scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	103.83	110.07	108.64
PT 80% 6 years	103.83	110.07	108.63
PT 50% 6 years	103.83	110.07	108.63
No work 6 years (no wage penalty)	103.82	110.07	108.63
No work 6 years (wage penalty)	100.00	107.73	107.99

Reference set: Woman, age at interruption 30, reason for interruption caring for a young child, no unemployment, wage penalty, retirement at statutory retirement age

Table 6-4: Average simulated gross earnings by gender and educational attainment level

	Education		
Gender	Low	Medium	High
Man	1,956	2,303	3,655
Woman	1,630	2,054	3,307
Man / Woman (%)	120.0	112.1	110.5

Due to men's higher earnings, their pensions are higher (by up to ten percentage points) than the women's in all scenarios, except the scenario combining low education with no work for six years with wage penalty (Table 6-3). In that scenario, both women and men profit from the minimum pension assessment base and get the same amount of old-age pension.

4.4. Reference set and variant sets with choice at age 54

4.4.1. Reference set

The second reference set is that of a woman who interrupted her career at the age of 54 in order to care for her dependent parent. She has had no spell of unemployment, and has retired at the statutory retirement age of 65. Old-age pension amounts for various combinations of options and education levels are presented in Table 7-1.

Table 7-1: Reference set: pension amounts

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	17,024	19,057	30,052
PT 80% 6 years	16,579	18,332	28,423
PT 50% 6 years	16,133	17,192	27,519
No work 6 years (no wage penalty)	14,167	15,093	24,177
No work 6 years (wage penalty)	14,167	14,780	23,801

Reference set: Woman, age at interruption 54, reason for interruption caring for a dependent parent, no unemployment, retirement at statutory retirement age

Pension amounts decrease with the shortening of hours worked (part-time at 80% and 50% or no work at all) in a period of six years (Table 7-2). Since there are no measures supporting long-term care of older persons neither in the Slovenian pension system nor in the Slovenian social policy, the full effect of interruption lasts six years.

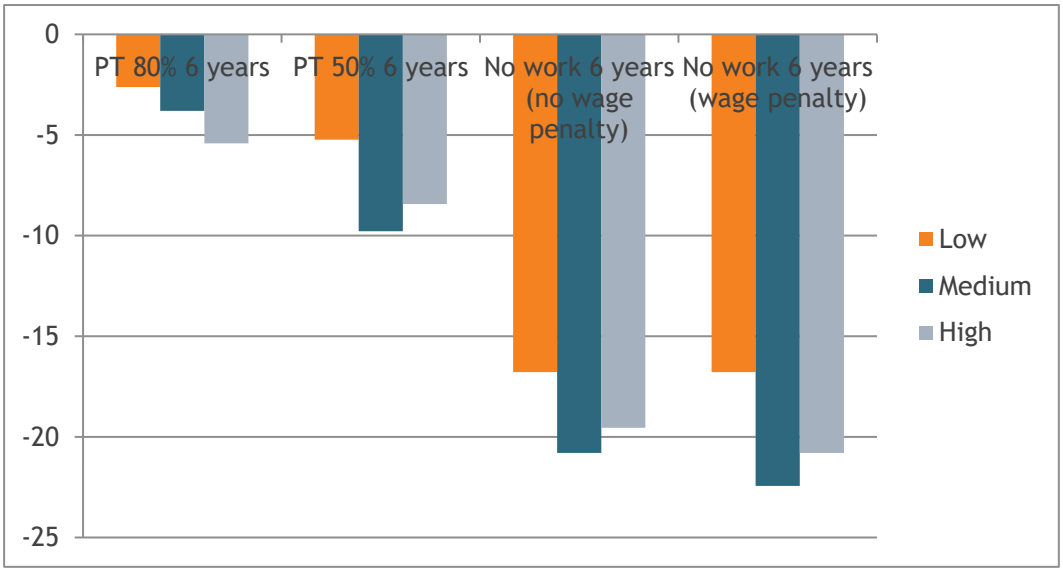
Table 7-2: Reference set: pension amount as percentage of pension for base scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100.00	100.00	100.00
PT 80% 6 years	97.38	96.20	94.58
PT 50% 6 years	94.77	90.22	91.57
No work 6 years (no wage penalty)	83.22	79.20	80.45
No work 6 years (wage penalty)	83.22	77.56	79.20

In all options, women with low education benefit from the minimum pension assessment base. Due to different working hours, their cumulative pension contribution periods vary from 46 years in the base option to 40 years in the two last options (no work for six years). This results in different accrual rates and different pension amounts. In the option of no work for six years with a wage penalty, they lose 16.78 pp of the pension earned by the woman in the base option. The pension is the same in the absence of a wage penalty because a low-educated woman is protected by the minimum pension assessment base.

As also evident from Graph 5, women with a medium education lose up to 22.44 pp of their pension in the base option, while women with a high education lose somewhat less (20.80 pp of their base option) in the option of full career interruption for six years with wage penalty. The reason mainly lies in higher accrual rates for working for more than 40 years. In the options of no work for six years, a medium-educated woman has 38 years of the pension qualifying period, compared to 44 years in the base option. She loses very high accrual rates for three years (and regular accrual rates for six years). A high-educated woman has 35 and 41 years, respectively, which means that she loses a high accrual rate for one year only. Obviously, a medium-educated woman has much more to lose if opting for a full six-year career interruption to care for a dependent parent. There is no policy measure to alleviate this effect.

Graph 5: Reference set: Reduction of pension, relative to continuing to work full-time, by education level, in percentage points



Reference set: Woman, age at interruption 54, reason for interruption caring for a dependent parent, no unemployment, retirement at statutory retirement age

The losses in pensions are higher than in the case of women who make choices for part-time work at the age of 30 because women who opt for part-time work at the age of 54 are not eligible for the

pension credits for the period not worked. The comparison of a woman who interrupts her career for six years (without a wage penalty) at the age of 30 with a woman who does the same at the age of 54 leads to the same conclusions. Additionally, foregone earnings of a woman who interrupts her career for six years at the age of 54 are higher and her pension assessment base is therefore lower. On the contrary, when the wage penalty applies, the pension is higher for a high-educated woman who takes the decision at the age of 54. According to the earnings profile (Graph 3), the wage penalty is substantially larger in the woman's 30s than in her 50s. This effect exceeds all other ones.

Table 7-3: Reference set: pension amount as percentage of pension for the equivalent scenario when the age of choice is 30

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100.00	100.00	100.00
PT 80% 6 years	99.11	97.97	98.95
PT 50% 6 years	97.31	93.78	96.82
No work 6 years (no wage penalty)	95.58	93.82	91.88
No work 6 years (wage penalty)	95.58	97.36	110.57

4.4.2. Variant set 1: no pension credits

The variant set where there is no reason for interruption does not differ at all from the reference set because care for a dependent parent is not acknowledged in the Slovenian social policy (see Tables 8-1 to 8-3).

Table 8-1 Variant set 1 (no reason for interruption): pension amounts

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	17,024	19,057	30,052
PT 80% 6 years	16,579	18,332	28,423
PT 50% 6 years	16,133	17,192	27,519
No work 6 years (no wage penalty)	14,167	15,093	24,177
No work 6 years (wage penalty)	14,167	14,780	23,801

Table 8-2 Variant set 1 (no reason for interruption): pension amount as percentage of pension for base scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100.00	100.00	100.00
PT 80% 6 years	97.38	96.20	94.58
PT 50% 6 years	94.77	90.22	91.57
No work 6 years (no wage penalty)	83.22	79.20	80.45
No work 6 years (wage penalty)	83.22	77.56	79.20

Table 8-3 Variant set 1 (no reason for interruption): pension amount as percentage of pension for the same option in the reference scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100.00	100.00	100.00
PT 80% 6 years	100.00	100.00	100.00
PT 50% 6 years	100.00	100.00	100.00
No work 6 years (no wage penalty)	100.00	100.00	100.00
No work 6 years (wage penalty)	100.00	100.00	100.00

Reference set: Woman, age at interruption 54, reason for interruption caring for a dependent parent, no unemployment, retirement at statutory retirement age

The comparison of women who decide to fully interrupt their careers for six years (without wage penalty) at different ages and for different reasons reveals that the woman who interrupts her career at the age of 54 to care for a dependent parent earns a lower pension compared to the woman who takes the same decision after childbirth at the age of 30 (Table 8-4). The foregone earnings are higher at a higher age, the pension assessment base is lower, and the pension amount thus smaller. On the contrary, if the wage penalty is assumed, the pension is higher in the case of full career interruption for six years at the age of 54. This is due to a higher wage penalty suffered by a woman in her 30s. Consequently, the woman who fully interrupts her career at the age of 54 has a higher pension assessment base and thus a higher pension as well.

Table 8-4 Variant set 1 (no reason for interruption): pension amount as percentage of pension for the equivalent scenario when the age of choice is 30

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100.00	100.00	100.00
PT 80% 6 years	100.00	100.00	100.00
PT 50% 6 years	100.00	100.00	100.00
No work 6 years (no wage penalty)	100.00	95.87	94.03
No work 6 years (wage penalty)	100.00	99.49	113.15

4.4.3. Variant set 2: unemployment spell

Table 9-1 shows the old-age pensions of women who experienced three years of unemployment at ages 49–51.

Table 9-1 Variant set 2 (unemployment): pension amounts

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	16,430	17,395	26,906
PT 80% 6 years	15,805	16,089	26,041
PT 50% 6 years	14,823	15,588	25,177
No work 6 years (wage penalty)	13,573	13,492	21,155

The proportions of pensions relative to the base option of no career interruption are presented in Table 9-2. No work for six years is associated with a wage penalty, but only for medium-and high-educated women. Low-educated women's pension is based on the minimum pension assessment base, and the only reasons for differences are the cumulative period not worked during the 6-year interruption (depending on the extent of part-time work or a full career interruption with wage penalty) and consequent accrual rates. Compared to the base scenario, the medium-educated women experience a steeper decline in their pensions than the high-educated ones because, in the base option, they have a higher accrual rate for working after 40 years of contribution period. Due to later entrance in the labour market, even in the base option, a high-educated woman accumulates no more than 39 of the pension qualifying period.

Table 9-2 Variant set 2 (unemployment): pension amount as percentage of pension for base scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100.00	100.00	100.00
PT 80% 6 years	96.20	92.49	96.79
PT 50% 6 years	90.22	89.61	93.57
No work 6 years (wage penalty)	82.61	77.57	78.63

The effect of three years of unemployment is evident in Table 9-3. The main effect is that of the absence of higher accrual rates for working for more than 40 years. In the reference scenarios, higher accrual rates are assigned to all women in the base option and low- and medium-educated women working part-time at 80% and 50%. In the variant set 2 that includesthree3 years of unemployment – even though during a year of receiving the unemployment benefit the woman is covered by the social security insurance − the pension qualifying period longer than 40 years remains only in the scenarios of low-educated women not interrupting their career or working part-time at 80% or 50%, and in the base option of no career interruption for a medium-educated woman. Besides, there is an effect of a 2-year shorter pension qualifying period and thus lower regular accrual rates, and the wage penalty for medium- and high-educated women (low-educated women are protected by the minimum pension assessment base).

Table 9-3 Variant set 2 (unemployment): pension amount as percentage of pension for the same option in the reference scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	96.51	91.28	89.53
PT 80% 6 years	95.34	87.76	91.62
PT 50% 6 years	91.88	90.67	91.49
No work 6 years (wage penalty)	95.81	91.29	88.88

Reference set: Woman, age at interruption 54, reason for interruption caring for a dependent parent, no unemployment, retirement at statutory retirement age

Table 9-4 shows that, in the base option, a low-educated woman who experiences a three-year unemployment spell at the age of 49 earns a slightly higher pension than a woman who has the same experience at the age of 26. Unemployment at higher age is associated with a half-a-year longer period of receiving unemployment benefit (due to a longer contribution period), which results in slightly higher accrual rate and pension, and low-educated women profit from the minimum pension assessment base.

Table 9-4 Variant set 2 (unemployment): pension amount as percentage of pension for the equivalent scenario when the age of choice is 30

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100.91	98.99	97.77
PT 80% 6 years	100.00	96.90	95.68
PT 50% 6 years	95.77	94.86	94.59
No work 6 years (wage penalty)	98.91	98.37	124.72

In most of the scenarios, women who interrupt their careers at the age of 54 in order to care for a dependent parent have lower pensions than those who interrupt their careers at the age of 30 due to caring for a young child because there are no pension credits for a career interruption due to caring for a dependent parent. The comparison of scenarios of low-educated women fully interrupting their

careers for six years shows that the woman who interrupted her career at the age of 30 benefited from 0.5 pension contribution years during three years of unemployment (while receiving unemployment benefit) and a year of pension contribution period during the parenting-related leave. The other (older) woman benefited from one pension contribution year during three years of unemployment but lacked any pension contribution period during six years of a career interruption. Consequently, the first one has 0.5 years of pension contribution period more than the other one. Since both women benefit from the minimum pension assessment base – which holds for low-educated women in all options − the difference between the scenarios is in the accrual rate that is higher for the woman who interrupted her career at the age of 30.

On the contrary, high-educated women who interrupt their careers at the age of 54 in order to care for a dependent parent have higher pensions than those who interrupt their careers at the age of 30 due to caring for a young child. This is due to a weaker effect of the wage penalty in the later period of one's career and a longer period of receiving the unemployment benefit with consequent pension credits. These effects are not cancelled out by positive effects of thematic leaves for caring for a young child, enjoyed by younger women.

4.4.4. Variant set 3: early retirement

Retirement two years before the statutory age is possible only for women who started working early enough and/or did not have long career interruptions (including part-time work). These cases are evident in Table 10-1.

Table 10-1 Variant set 3 (early retirement): pension amounts

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	16,222	17,292	
PT 80% 6 years	15,605	15,994	
PT 50% 6 years	14,635		
No work 6 years (no wage penalty)			
No work 6 years (wage penalty)			

Table 10-2 shows the effect of different options during a six-year interruption because of caring for a dependent parent, compared to the base option where there is no interruption. For instance, a low educated woman who has worked part-time at 50% for six years earns a pension that is by 9.78 pp lower than the one of a woman with the same education who has no interruption in her career.

Table 10-2 Variant set 3 (early retirement): pension amount as percentage of pension for base scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100.00	100.00	
PT 80% 6 years	96.20	92.49	
PT 50% 6 years	90.22		
No work 6 years (no wage penalty)			
No work 6 years (wage penalty)			

Compared to the reference scenarios, decreases in the old-age pension amounts are mainly due to the loss in high accrual rates for working more than 40 years (Table 10-3). Two less years of contributing have their effect on the regular accrual rates as well.

Table 10-3 Variant set 3 (early retirement): pension amount as percentage of pension for the same option in the reference scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	95.29	90.74	
PT 80% 6 years	94.13	87.25	
PT 50% 6 years	90.71		
No work 6 years (no wage penalty)			
No work 6 years (wage penalty)			

Reference set: Woman, age at interruption 54, reason for interruption caring for a dependent parent, no unemployment, retirement at statutory retirement age

Table 10-4 shows that, where early retirement is possible, a woman who interrupts her career at the age of 54 to care for a dependent parent gets a lower pension than a woman who makes a decision to interrupt her career at the age of 30 in order to care for a young child. Since part-time work is not associated with a wage penalty, and the pension assessment base is the same in both variants, the only reason for differences in pensions is the absence of any pension credits for care for a dependent parent. A woman who started working part time at 80% at the age of 30 has full-time coverage by pension insurance in the first three years of interruption due to provision described in section 3.2.2 and thus has 0.6 years of pension contribution period more than a woman who started working part time at the age of 54.

Table 10-4 Variant set 3 (early retirement): pension amount as percentage of pension for the equivalent scenario when the age of choice is 30

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100	100	
PT 80% 6 years	97.97	96.58	
PT 50% 6 years	93.78		
No work 6 years (no wage penalty)			
No work 6 years (wage penalty)			

4.4.5. Variant set 4: men

Tables 11-1 to 11-3 show the reference set of a man who, at the age of 54, decides on the continuation of his career in the following six years when he has to care for a dependent parent. The difference from the reference set for women is in the wage profile applied. Since the woman who has to take the same decision at the same age has taken care of her child, her accrual rate is 1.36% higher. However, as seen in Table 11-3, the men's higher earnings have a stronger impact, resulting in higher pensions in all scenarios. This is also the case for low-educated men because their pension assessment base exceeds the minimum one.

Table 11-1 Variant set 4 (men): pension amounts

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	17,367	20,596	31,993
PT 80% 6 years	16,905	19,799	30,223
PT 50% 6 years	16,665	18,544	29,241
No work 6 years (no wage penalty)	14,323	16,758	26,309
No work 6 years (wage penalty)	14,323	16,758	26,189

Table 11-2 Variant set 4 (men): pension amount as percentage of pension for base scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100.00	100.00	100.00
PT 80% 6 years	97.34	96.13	94.47
PT 50% 6 years	95.96	90.04	91.40
No work 6 years (no wage penalty)	82.47	81.37	82.23
No work 6 years (wage penalty)	82.47	81.37	81.86

Table 11-3 Variant set 4 (men): pension amount as percentage of pension for the same option in the reference scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	102.02	108.08	106.46
PT 80% 6 years	101.97	108.00	106.33
PT 50% 6 years	103.30	107.86	106.26
No work 6 years (no wage penalty)	101.10	111.03	108.82
No work 6 years (wage penalty)	101.10	113.39	110.03

Reference set: Woman, age at interruption 54, reason for interruption caring for a dependent parent, no unemployment, retirement at statutory retirement age

5. Discussion and conclusions

The statutory retirement age is 65 years in Slovenia. One can retire at the age of 60-64 years with 40 years of the pension qualifying period. A person aged at least 60 with 40 years of pension contribution period is granted higher accrual rates for postponed retirement (1.5% for each six months (up to 9%), compared to 1.97% per year in the first 15 years and 1.36% per year afterwards). The person taking care of the child in its first year is eligible for an additional accrual rate of 1.36%.

The maternity and parental leave does not have any impact on the future old-age pension because the person on leave receives earnings compensation that is equal to her/his average monthly gross earnings during the 12 months before the leave, and is paid social security contributions from that compensation. To be eligible for earnings compensation, the individual has to be covered by social insurance on the day before the leave starts, so all persons in employment are eligible.

If opting for part-time work (for at least 50%) after a year of maternity and parental leave, the person is paid social security contributions from the proportional part of the minimum wage for the difference to full-time hours until the child's age of three (i.e. for two years). This means that the person working part-time does not lose any pension qualifying period in the first three years. However, a lower basis for social security contributions for the difference to the full-time working hours in the second and third year (usually negligibly) negatively affects her/his pension assessment base.

These child-related provisions in the pension system and the family policy alleviate the negative consequences of part-time work or full career interruption due to caring for a young child. However, interestingly, the comparison of old-age pensions of a woman aged 30 interrupting her career for six years due to caring for a young child, and a woman interrupting her career without reason, showed relatively small differences (see Table 3-3). This is driven by the fact that, even if the reason for a 6-year career interruption is caring for a child, five years of the interruption are not taken into account for the pension calculation.

Since there is no leave to care for a dependent parent in Slovenia, the old-age pension of a woman aged 54 who interrupted her career for that reason is the same as the pension of a woman who interrupted her career for any other reason at the same age.

If the options of part-time work are chosen, the losses in pensions are higher for women who interrupt their careers at the age of 54 to care for a dependent parent than for women who make choices after childbirth at the age of 30. This is due to the fact that women shifting to part-time work at the age of 54 to care for a dependent parent are not entitled to any pension credit for the non-worked hours. Additionally, the women who fully stop working for six years at the age of 54 forego a higher amount of earnings and thus have a lower pension assessment base. The comparison of a woman who fully interrupts her career for six years (without a wage penalty) at the age of 30 with a woman who does the same at the age of 54 leads to the same conclusion. On the contrary, when the wage penalty applies, the pension is higher for a high-educated woman who takes the decision at the age of 54 due to a much more significant wage penalty in the woman's 30s than in her 50s.

The factors that greatly influence the old-age pensions and differences between those in variant sets (listed in section 4.2) compared to the reference set (also defined in section 4.2) differ by education level. Low-educated women are protected by the minimum pension assessment base that amounts to 76.5% of the national average net earnings. Consequently, their lower earnings due to a full career interruption do not affect their old-age pensions. Their pensions are lower only due to lower accrual rates. The minimum pension assessment base also lowers the negative impact of a career interruption (due to caring for a young child, caring for a dependent parent, or without reason), a spell of unemployment, or early retirement.

Low-educated women also start working at the earliest age (age 19 in the presented simulations) and thus accumulate the longest pension contribution period that results in the highest accrual rates. These are the reasons why their old-age pensions come ever closer to those of the medium-educated women who experience a decrease in their pension assessment base because of the exit from the labour market due to caring for a young child or a dependent parent and also accumulate lower accrual rates.

A person who stops working for a period of six years suffers a wage penalty because of foregone promotion. The effect is strongest in the case of high-educated women because of their steep earnings profile (compared to flatter ones in the case of low- and medium-educated women). Low-educated women also benefit from the minimum pension assessment base that limits the impact of their foregone earnings and the loss in the old-age pension. For instance, without a wage penalty, a high-educated woman who has fully interrupted her career for six years at the age of 30 receives an old-age

pension that is by 22%[15] higher than in the scenario including wage penalty (see Table 2-1). There is no change for a low-educated woman, while a medium-educated woman's pension is higher by less than 6 pp compared to the variant with the wage penalty.

The lower the education level, the earlier a woman accumulates 40 years of pension contribution period. Until the statutory retirement age (65) – and also if a woman opts for retirement two years earlier (at age 63) – a low-educated woman (who starts working at the age of 19) receives the highest sum of higher accrual rates granted to those who continue working after age 60 and already have 40 years of pension contribution period. Different from her, a high-educated woman can receive higher accrual rates for one year only because she starts working at the age of 24 and, after 40 years, have only one year till the statutory retirement age (65). A low-educated woman with a continuous career can accumulate higher accrual rates for three years and a high-educated woman for only one. However, if a woman interrupts her career for six years − particularly without a child as the reason or for taking care of her dependent parent − she suffers a loss in higher accrual rates. This loss is more significant for those who would have otherwise accumulated the highest sum of higher accrual rates, i.e. the low-educated women. The simulations have shown that the effect of very generous accrual rates for working more than 40 years on the old-age pension amount exceeds the effect of higher earnings (and the resulting higher pension assessment base).

References

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[15] That is, 26,315/21,526=1.22.

Appendix – Variant set 5: retirement as early as possible

In this variant set, the old-age pension is calculated presuming that the woman retires as early as possible. The pension at the time of retirement is indexed until the woman reaches the age of 65 by 60% of the average national salary growth.

Interruption at age 30

The first set of tables refers to a woman who interrupts her career at the age of 30 due to caring for a young child, and includes the base option of no interruption, the options of part-time work at 80% or 50% for six years, and the options of full career interruption (without or with wage penalty). If a woman retires at the earliest possible age, it is the same age as in the reference set for 1) a high-educated woman in all but a base option, and 2) for a medium-educated woman not working for six years. High-educated women start working at the age of 24 and do not manage to accumulate enough pension contribution years before the age of 65. The same applies to a medium-educated woman who started working at the age of 21 but was not insured for five years after parenting leave.

Table 12-1 presents old-age pensions resulting from various combinations of options and education levels. It looks strange that the amounts of pensions increase or remain the same as the hours worked decrease, which can be observed for all education groups. This can also be seen in Table 12-2, where some percentages exceed 100. Firstly, this has to do with the possibility to retire earlier than at a statutory age. Secondly, women in the base option, regardless of their education level, retire at the lowest age of all for their education level, which means that their pension amounts are indexed more times than the ones of women who retired closer to the statutory retirement age. Consequently, women who had to work until their higher age − because of part-time work or no work after the family policy provisions ceased to guarantee them a full-year coverage by the social security insurance – have their pensions indexed fewer times and receive higher old-age pensions. Particularly interesting is the case of a low-educated woman who stopped working for five years after the parenting-related leave, but profits from the minimum pension assessment base (i.e. does not experience wage penalty due to a career interruption), whose old-pension amount is by 2.62 pp higher than in the base option because she retires four years later than the woman in the base option.

Table 12-1 Variant set 5 (retirement as early as possible): pension amounts

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	13,719	15,282	28,194
PT 80% 6 years	13,719	15,549	28,724
PT 50% 6 years	13,808	15,828	28,423
No work 6 years (no wage penalty)	14,078	16,087	26,315
No work 6 years (wage penalty)	14,078	15,182	21,526

Table 12-2 Variant set 5 (retirement as early as possible): pension amount as percentage of pension for base scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100.00	100.00	100.00
PT 80% 6 years	100.00	101.74	101.88
PT 50% 6 years	100.65	103.57	100.81
No work 6 years (no wage penalty)	102.62	105.27	93.33
No work 6 years (wage penalty)	102.62	99.34	76.35

Another interesting case is a low-educated woman working six years[16] part-time at 80% who earns the same pension amount as a woman in the base option (full-time work with no interruption). Both women retire in the same year with 40 years of contribution period and profit from the minimum pension assessment base. The woman who worked part-time at 80% after childbirth had three full-contribution years because of the parenting leave and the family-policy provision for parents caring for children until the age of 3. A low educated woman working full time without interruptions retires in the same year as a woman working part time at 80% since she fulfils the age retirement condition (60 years) after having collected 41 years of pension contribution period.

Decreases in pension amounts (relative to those in the reference scenarios) are considerable in most of the scenarios where retirement up to five years before the statutory age is possible (Table 12-3). Roughly estimated, a decrease of 17 pp means that the woman foregoes 2 out of 12 old-age pensions a year, received by the woman who retires at the statutory age. The main reason is the same as explained before: indexation of pensions till age 65.

Table 12-3 Variant set 5 (retirement as early as possible): pension amount as percentage of pension for the same option in the reference scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	80.58	80.19	93.82
PT 80% 6 years	82.01	83.09	100.00
PT 50% 6 years	83.29	86.34	100.00
No work 6 years (no wage penalty)	94.97	100.00	100.00
No work 6 years (wage penalty)	94.97	100.00	100.00

Reference set: Woman, age at interruption 30, reason for interruption caring for a young child, no unemployment, retirement at statutory retirement age

Interruption at age 54

The second set of tables refers to a woman who interrupts her career at the age of 54 due to caring for a dependent parent, and also includes the base option of no interruption, the options of part-time work at 80% or 50% for six years, and the options of full career interruption (without or with wage penalty). If a woman retires at the earliest possible age, it is the same age as in the reference set for 1) a high-educated woman in all but a base option, and 2) for a low- or medium-educated woman not working at all for six years. Different from a woman who interrupts her career at the age of 30 due to caring for a young child, the woman who interrupts her career at the age of 54 and chooses not to work for six years does not manage to accumulate enough pension contribution years before the age of 65 even if she is low-educated and thus starts her career at the age of 19. This is due to the fact that there are no pension credits for the long-term care of the elderly in the Slovenian system.

[16] It is not six years because there is a year of parenting-related leave that is covered by social security insurance.

Table 13-1 shows old-age pensions of women who interrupted their careers at various extents (from no interruption in the base option to full interruption) at the age of 54 in order to care for a dependent parent and opted to retire as early as possible. From Table 13-2, the effect of pension indexation for scenarios where the retirement before the statutory retirement age is possible is evident. This effect increases with the difference in years between the earliest possible retirement and retirement at the statutory retirement age. Percentages over 100 are the consequence of the indexation of pensions of women without a career interruption who can retire up to five years earlier than women in other scenarios. This means that, for women with the same education level, the pension amounts are lower in the base option than in some other option. Obviously, for the low- and medium- educated women working part time at 80% or 50% for six years, the negative impact of indexation till the age of 65 is considerable.

Table 13-1 Variant set 5 (retirement as early as possible): pension amounts

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	13,719	15,282	28,194
PT 80% 6 years	13,808	15,828	28,423
PT 50% 6 years	13,898	16,122	27,519
No work 6 years (no wage penalty)	14,167	15,093	24,177
No work 6 years (wage penalty)	14,167	14,780	23,801

Table 13-2 Variant set 5 (retirement as early as possible): pension amount as percentage of pension for base scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100.00	100.00	100.00
PT 80% 6 years	100.65	103.57	100.81
PT 50% 6 years	101.31	105.50	97.61
No work 6 years (no wage penalty)	103.27	98.76	85.75
No work 6 years (wage penalty)	103.27	96.72	84.42

If opting for retirement as early as possible (variant set 5), as compared to retirement at statutory retirement age (reference set), in some scenarios, women experience a considerable drop in their old-age pensions (Table 13-3). Percentages below 100 show an impact of pension indexation till the age of 65. The scenarios where there is no impact are those where early retirement is not possible due to a relatively high age at entering the labour market (high-educated women) or a six-year career interruption due to caring for a dependent parent.

Table 13-3 Variant set 5 (retirement as early as possible): pension amount as percentage of pension for the same option in the reference scenario

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	80.58	80.19	93.82
PT 80% 6 years	83.29	86.34	100.00
PT 50% 6 years	86.15	93.78	100.00
No work 6 years (no wage penalty)	100.00	100.00	100.00
No work 6 years (wage penalty)	100.00	100.00	100.00

Reference set: Woman, age at interruption 54, reason for interruption caring for a dependent parent, no unemployment, retirement at statutory retirement age

In Table 13-4, a woman who makes choices at the age of 54 due to caring for a dependent parent is compared with a woman who does so at the age of 30 due to caring for a young child. In the case of medium-educated women fully interrupting their careers for six years (both thus retire at the SRA of

65), the positive impact of one year of fully compensated parenting-related leave for the woman who interrupts her career at the age of 30 exceeds the negative impact of a wage penalty due to interruption at a younger age. Her pension assessment base is somewhat higher, and she has one year of insurance more than the woman who interrupted her career at the age of 54 due to caring for a dependent parent. The opposite is true for high-educated women, as the impact of the wage penalty is much stronger. It exceeds the impact of a longer insurance period, resulting in a lower pension of the woman who interrupts her career at the age of 30.

Table 13-4 Variant set 5 (retirement as early as possible): pension amount as percentage of pension for the equivalent scenario when the age of choice is 30

	Education		
Option	Low	Medium	High
Base (FT work, no interruption)	100.00	100.00	100.00
PT 80% 6 years	100.65	101.80	98.95
PT 50% 6 years	100.65	101.86	96.82
No work 6 years (no wage penalty)	100.64	93.82	91.88
No work 6 years (wage penalty)	100.64	97.36	110.57