

1-1-2014

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## Recommended Citation

Jawin, Thomas, "Some Features of the Slovenian Social Security System" (2014). *Slovenia: Challenges and Opportunities*. Paper 10.  
<http://preserve.lehigh.edu/perspectives-v32/10>

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# SOME FEATURES OF THE SLOVENIAN SOCIAL SECURITY SYSTEM

*Thomas Jawin*



## Introduction

This article discusses the past, present, and future of Slovenia's social security system. Public pension expenditure as a percentage of gross domestic product in Slovenia is higher than the Organisation for Economic Co-operation and Development (OECD) average. In 2008, the OECD average was 7 percent, while public pensions in Slovenia were 10.9 percent of GDP. By way of comparison, Italy's expenditure on public pensions was 14.1 percent and the United Kingdom's was a mere 5.4 percent. These represent two extremes of generosity in terms of pension plans (OECD, "Pensions at a Glance..."). In a no-change scenario, where all current laws regarding the public pension system remain the same, it is estimated that public pension expenditure increases to 18.3 percent of GDP by 2050 (OECD, "Slovenia..."). It is clear that Slovenia's public pension system is in need of review, at the very least; however, steps are being taken to ensure its stability

and sustainability. There also exists a private pension system, as well as a public, but this article focuses on the public pension system in Slovenia.<sup>1</sup>

## Pension Basics

Both public and private pensions are periodic payments made to retired citizens. They are generally, but not always, less than a retiree's earnings while he or she was working. Social security systems are designed by governments, whereas private pensions are provided by employers.

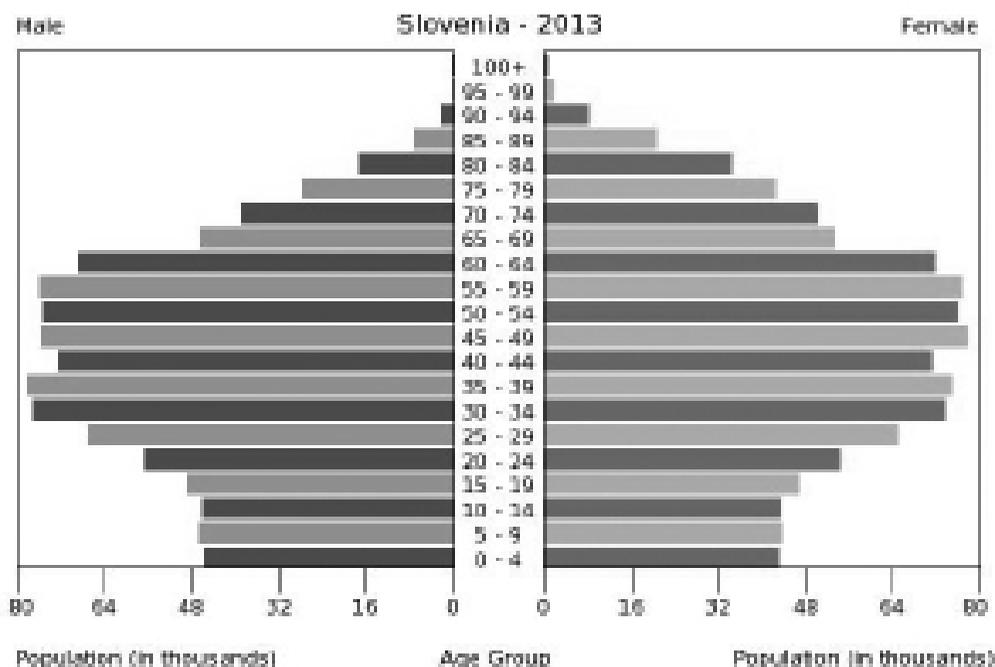
There are two main types of pension plans: defined contribution and defined benefit. In a defined contribution plan, a pension is based on contributions made by the employer and employee. Both employer and employee contractually declare a percentage of annual

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<sup>1</sup>The Glossary at the end of this article defines terms relating to Slovenia's pension system.

**Figure 1**

**Population Pyramid of Slovenia**



Source: Central Intelligence Agency. *The World Factbook*.

earnings to be put toward retirement. These payments are called contributions, and the sum of these contributions is then invested. Because this is invested, the sum of an employee's pension payments may turn out to be greater or less than the future value of total contributions paid. In other words, there is a risk of changing investment returns over time when using a defined contribution plan.

Under a defined benefit plan, employees are provided a pension, the amount of which is based on a formula. This poses an enormous burden on pension providers, because they must estimate the future pensions and, therefore, the future earnings of all of their employees. If pension providers underestimate this amount, they will not have sufficient funds to provide their employees with the promised pensions. Of course, governmental units may decide to finance the plan on a pay-as-you-go basis, transferring funds from those working to those who have retired. However, if the number of pensioners increases relative to the

number of current employees, a greater proportion must be deducted from those currently working (Schwartz et al.).

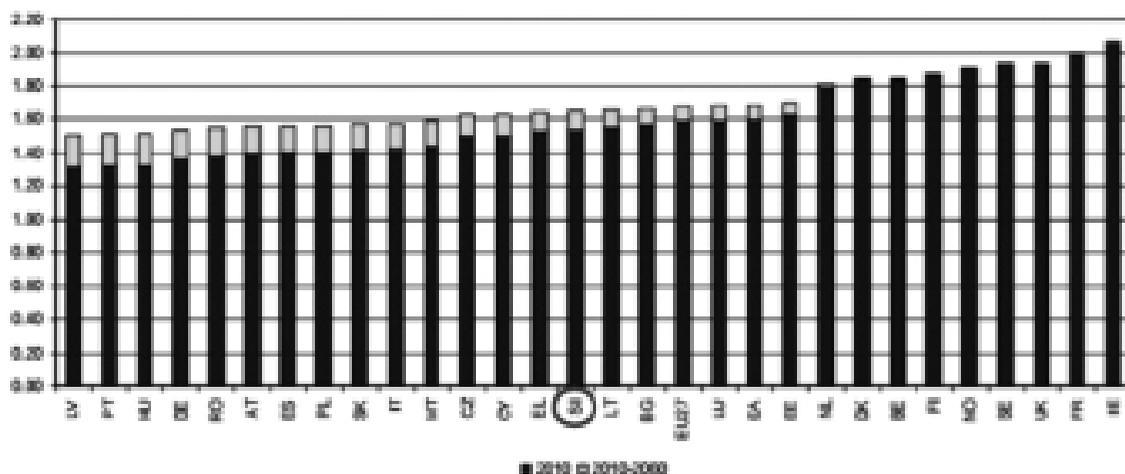
**Demographics**

Demographics can play havoc with a pension system. As of 2013, Slovenia's population has been dominated by those in the 25 to 54 age range, as they represent 44.2 percent of the total population. Those 65 years and older represent 17.5 percent of the population, followed by those 55 to 64 years of age, who represent 14.7 percent. The age ranges 0 to 14 and 15 to 24 comprise 13.4 percent and 10.3 percent of the population, respectively. The age distribution of women and men is approximately symmetrical, as seen in Figure 1. These data are of concern because they show that more than half of the country's current population will be entitled to a pension within the next 40 years.

In 2010, Slovenia's fertility rate was only

Figure 2

### Projected Fertility Rates of EU Member States, 2010–2060



Source: European Commission. “The 2012 Ageing Report.”

1.54 children born per woman, lower than the 2010 OECD average of 1.74 (OECD, “Fertility”). Figure 2 shows fertility rates both from 2010 and projected values in 2060. Slovenia (circled) has a fertility rate that is lower than the EU27 average. This low fertility rate also manifests itself in the population pyramid of Figure 1, where the percentage of the population between the ages of 0 and 24 is much smaller than the percentage between 24 and 48. The low fertility rate suggests that the Slovenian population will decrease, ignoring immigration, which means that the government would eventually have to supply fewer pensions in the future.

This also means, however, that the old-age dependency ratio (the ratio of people 65 and older to those 25 to 64) is projected to rise from 26 percent in 2010 to 63 percent in 2060. Therefore, by 2060, for every 100 people working there will be 63 who are retired. Because not all choose to retire once reaching the old-age requirement (the minimum age to retire and receive a pension), the actual number of retirees will be lower. Nevertheless, the number of pensions that need to be provided is very high (OECD, “Fertility”).

Slovenian life expectancy at birth in 2013 was estimated to be 75.8 for men and 82.3 for

women and is projected to rise to 84 and 88.8 for men and women, respectively, by the year 2060. By this time, all people currently in the 25 to 64 age range will have started collecting pensions. This increase in life expectancy means a longer pension-paying period for the state (Central Intelligence Agency).

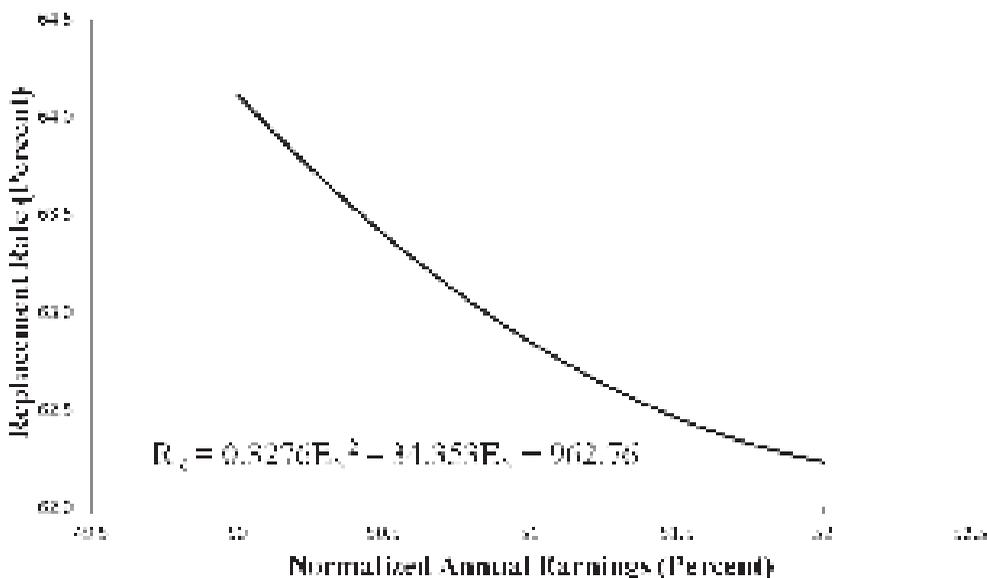
### Pre-Reform Pension System: A Description of Replacement Rates

Slovenia’s social security system has been based on the defined benefit concept. In this system, the duration and amount of paid contributions are the main factors used in determining a pension. Slovenia’s public pension policy provides higher replacement rates to poorer pensioners than to those who have greater earnings. Replacement rate determination varies based on earnings. More specifically, there exist three distinct ranges, each containing varying distributions of replacement rates with respect to normalized annual earnings: 50 to 52 percent, 52 to 158 percent, and greater than 158 percent of normalized annual earnings.

Range 1 is comprised of those who make 50 percent to 52 percent of the average earnings.

**Figure 3**

**Replacement Rate vs. Normalized Annual Earnings  
for Workers Whose Earnings Are 50 to 52 Percent of Average Earnings**



Their replacement rates can be determined by Equation 1:<sup>2</sup>

$$R_R = 0.3276E_N^2 - 34.353E_N + 962.76 \quad (\text{Eq. 1})$$

where  $R_R$  = replacement rate and  $E_N$  = normalized annual earnings. Figure 3 shows a magnified view of Range 1 and the graphical depiction of Equation 1.

All persons who lie in Range 2, those earning from 52 percent to 158 percent of average earnings, receive a replacement rate of 62.39 percent. All persons who lie in Range 3, those earning more than 158 percent of average earnings, receive a replacement rate given by Equation 2:<sup>3</sup>

$$R_R = 0.0017E_N^2 - 0.91253E_N + 164.22 \quad (\text{Eq. 2})$$

Figure 4 shows Equation 2 expressed graphically.

Those who earn less than 52 percent of normalized annual earnings and have paid contributions for a full 40 years receive the minimum pension. This minimum pension is equal to 35 percent of the minimum pension base, which in 2008 was €517.40 per month. There is also an upper limit for pensionable earnings, which is equal to four times the minimum pension base (OECD, “Pensions at a Glance...”).

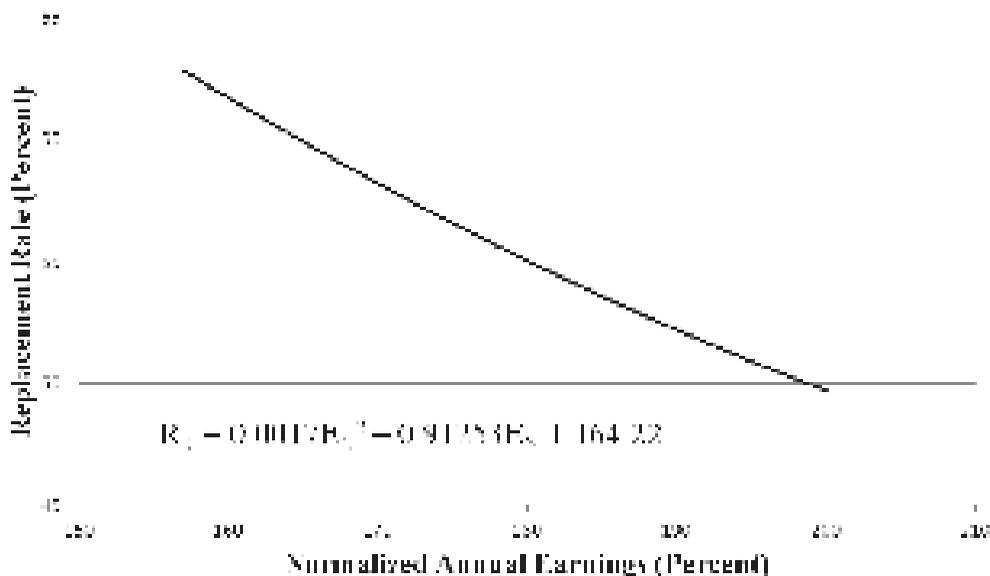
Targeted pensions are for low-earning pensioners who have contributed payments for no more than 35 years. To qualify for a targeted pension, a pension must lie below a set allowance limit, which in 2008 was €422.20. If a pension was below this limit while earnings, when combined with the earnings of those who resided with this person, did not exceed €388.86 per month, an employee was entitled to this allowance limit (OECD, “Pensions at a Glance...”). The amount that a pensioner is actually entitled to depends on the length of time over which contributions have been paid. The targeted

<sup>2</sup>Equation 1 was obtained by fitting a curve to the data provided in the OECD report, “Pensions at a Glance 2011.” The data set used provides values of replacement rates for every 1% of normalized annual earnings. Therefore, any value between these, such as 50.5% of normalized annual earnings, is estimated using the equation given.

<sup>3</sup>Equation 2 was obtained by fitting a curve to the data provided in the OECD report, “Pensions at a Glance 2011.” As with Equation 1, the data set used provides values of replacement rates for every 1% of normalized annual earnings. Therefore, any value between these is estimated using the equation given.

**Figure 4**

**Replacement Rate vs. Normalized Annual Earnings  
for Workers Whose Earnings Are Above 158 Percent of Average Earnings**



pension sum is expressed in Equation 3:<sup>4</sup>

$$\text{Targeted Pension} = \text{Raw Pension} + K \cdot (\text{Allowance Limit} - \text{Raw Pension}) \quad (\text{Eq. 3})$$

where  $K = 0.6 + (N - 15) \cdot 0.02$  and  $N =$  number of years of paid contributions.

For example, if a raw pension were €350.00 per month and contributions had been paid for 20 years, the targeted pension would be calculated as follows:

$$\begin{aligned} \text{Targeted Pension} &= 350.00 + [0.6 + (20 - 15) \\ &\quad \cdot 0.02] \cdot (422.20 - 350.00) \\ \text{Targeted Pension} &= \text{€}400.54 \end{aligned}$$

Those with 15 years of contributions are entitled to 60 percent of the difference between the limit amount and their pension. People with 20 years of contribution are awarded 70 percent, and those with 35 are awarded all of the limit amount in addition to their raw pension (OECD, “Pensions at a Glance...”).

<sup>4</sup>Equation 3 was derived from the description of targeted pension replacement rates from the OECD report, “Pensions at a Glance 2011.”

**Summary of Current System**

Slovenia’s public pension system is still based on defined benefit plan principles. Pensions are determined based on earnings prior to retirement. However, Slovenia’s public pension system is financed on a “solidarity” system. This means that contributions paid by citizens are not invested in any way (Gorsic). Rather, the government makes a promise that pensions will be provided to each contribution-making citizen after retirement.

In 2014, 15.5 percent of each employee’s gross monthly earnings is earmarked for pension payments. Pension is then determined from a pension base, which is the monthly average over the period of 24 successive years with highest contributions. The minimum pension base sets the minimum pension, which is equal to 76.5 percent of the Slovenian average monthly earnings in the past calendar year. In contrast, the maximum pension base sets the maximum pension, which is four times the minimum pension base, or 306 percent of the average monthly earnings (Official Gazette of Slovenia).

A pension depends not only on the size

**Table 1**  
**Assessment Percentage Increases with Qualifying Period**

Qualifying Period	Assessment Percentage	
	Men (%)	Women (%)
15	26	29
16	27.25	30.25
17	28.5	31.5
18	29.75	32.75
19	31	34
20	32.25	35.25
21	33.5	36.5
22	34.75	37.75
23	36	39
24	37.25	40.25
25	38.5	41.5
26	39.75	42.75
27	41	44
28	42.25	45.25
29	43.5	46.5
30	44.75	47.75
31	46	49
32	47.25	50.25
33	48.5	51.5
34	49.75	52.75
35	51	54
36	52.25	55.25
37	53.5	56.5
38	54.75	57.75
39	56	59
40	57.25	60.25

*Source:* Official Gazette of Slovenia.

of contributions paid but also on the length of the qualifying period. The minimum necessary pension qualifying period to obtain an old-age pension is 15 years. After 15 years, a man can obtain a pension worth 26 percent of his pen-

sion base while a woman can obtain a pension worth 29 percent of hers. For each additional year of pension qualifying period, the pension is increased by 1.25 percent. Table 1 displays values of the assessment percentage for men

and women along with their respective pension qualifying periods. Equations 4, 5, and 6 represent these relationships in a more transparent manner:<sup>5</sup>

$$\text{Men: } A = [0.26 + 0.0125 \cdot (P_Q - 15)] \cdot 100\% \quad (\text{Eq. 4})$$

$$\text{Women: } A = [0.29 + 0.0125 \cdot (P_Q - 15)] \cdot 100\% \quad (\text{Eq. 5})$$

$$\text{Assessed Pension} = (\text{Pension Base}) \cdot A \quad (\text{Eq. 6})$$

where  $A$  = assessment percentage,  $P_Q$  = pension qualifying period, and Assessed Pension = actual pension received.

Therefore, the minimum and maximum pension bases restrict pension bases of all citizens to a range spanning from one to four times the minimum pension base. Using the average monthly earnings from May 2014 of €1000.69 (Statistical Office of the Republic of Slovenia), the range of possible pension bases is €766 to €3062. The value of €766 is 76.5 percent of the average monthly earnings, while €3062 is 306 percent of the average monthly earnings.

If an employee's pension base is less than the minimum pension base, the respective pension base increases to the minimum pension base. Likewise, if an employee's pension base is greater than the maximum pension base, the pension base is reduced to the maximum pension base. Therefore, an employee who earns more than 306 percent of the average monthly earnings, for example, receives the same pension base as one who earns 306 percent of the average monthly earnings. Similarly, an employee who earns less than 76.5 percent of the average monthly earnings receives the same pension base as one who earns 76.5 percent of the average monthly earnings (Official Gazette of Slovenia).

So, assuming that an employee earns the average monthly earnings and has worked for 40 years, the resulting pension base would be equal to the average earnings, €1000.69, and from Equations 4, 5, and 6, the assessment

percentage and assessed pension can be determined. The assessment percentage would be 57.2 percent, and the assessed pension €572.39.

## Reasons for Pension Reform

In 2011, the average retirement age was 58 years and 8 months and 61 years and 9 months for women and men, respectively. Also, the average qualifying period, or the length of time employees must pay contributions to receive benefits, was only 32 years and 7 months. Together, these two factors greatly limited the length of time citizens of Slovenia were an active part of the workforce (Republic of Slovenia). Figure 5 compares labor force participation rates of older workers for many members of the OECD. Slovenia has the second lowest ranking in this category compared with other OECD countries, which is a major factor in its pension sustainability issues.

In addition, the number of people applying for pensions has increased. From 2009 to 2011, the number of pensioners increased by 4.1 percent. As a result, the ratio of working persons per pensioner has decreased from 1.8 in the year 2000 to just 1.53 in 2011 (Republic of Slovenia).

## Implemented Solutions

To solve these problems (low retirement age, qualifying periods, and labor force participation rates), a recent pension reform, "Modernisation of the Pension System (ZPIZ-2)," was constructed and enacted in early December 2012. The old-age requirement was increased to 65, the same for both men and women. Also, pension payments cannot now be collected until an employee has paid contributions for at least 15 years. In addition, the average qualifying period was increased to 40 years. The base of a pension is no longer determined by the final year's earnings but by the most favorable 24 consecutive years of contributions (Republic of Slovenia).

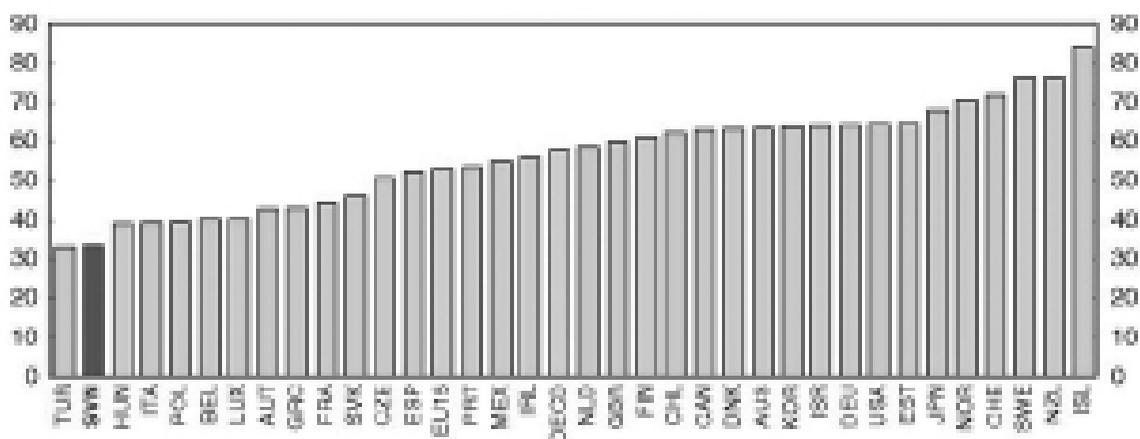
To encourage Slovenians to remain in the workforce longer, a penalty has been imposed on those who decide to retire before they have reached the old-age requirement. A deduction of 0.3 percent from the assessed pension is made for each month of the difference

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<sup>5</sup>Equations 4, 5, and 6 were derived from the data provided in Table 1, which was provided in the document from the Official Gazette of Slovenia. These equations serve as an alternate means to display the relationship between assessment percentage and pension qualifying period.

Figure 5

### Labor Force Participation Rates throughout the OECD for People Ages 55–64



Source: OECD. "OECD Economic Surveys: Slovenia 2013."

between their age and the old-age requirement. If a person continues to work after reaching this requirement, however, the respective assessed pension increases by an additional one percent every three months for up to four years, yielding a maximum bonus of 12 percent of the assessed pension (Republic of Slovenia).

There are a few situations in which the old-age requirement is reduced, however, for example, if an employee has children, participates in mandatory military service, or begins paying contributions before the age of 18. If an employee begins paying contributions before age 18, those contributions are counted toward his or her qualifying period (Republic of Slovenia).

To keep pension payments up-to-date with the ever-changing economy, the change in pensions is indexed to 60 percent of the change in average gross earnings as well as 40 percent of the average increase in the cost of living. Both average earnings and cost of living are relative to the period from January to December of the previous year. In addition, the Republic of Slovenia establishes a personal register of each citizen's paid contributions to promote transparency, making it easier for Slo-

venians to understand how their pensions are determined (Republic of Slovenia).

### Looking Ahead

Although virtually every problem associated with the current Slovenian pension system is being addressed, it is unclear whether or not these changes will be sufficient to reduce age-related expenditures to the EU average of national GDP. Given the variety of demographic issues Slovenia is facing, such as increasing average life expectancies and old-age dependency ratios, the current contribution rate of 15.5 percent may or may not be sufficient to fund all future pensions. If it is not sufficient, this contribution rate will have to be increased. The only way that the sustainability of such a system could be demonstrated is with a mathematical model. This is difficult, however, because many of the factors that determine the cost of future age-related expenditures are unknown. But if Slovenia successfully implements all of the proposed changes to its existing pension system, it will be much closer to the sustainable path it desires.

## GLOSSARY

**Allowance limit:** Upper threshold limit for those seeking a targeted pension. If raw pension is greater than the limit amount, they are not eligible to receive a targeted pension.

**Assessed pension:** Equal to the pension base multiplied by the yield factor. Represents the actual value of pension received.

**Assessment percentage:** Percentage of pension base received as pension.

**Average qualifying period:** The amount of time contributions must be paid in order to receive benefits.

**Contributions:** Monthly payments made toward a pension. Equal to 15.5 percent of monthly earnings.

**Maximum pension:** Equal to four times the minimum pension base.

**Minimum pension:** Lowest possible pension that can be earned, assuming contributions have been paid for at least 15 years. Equal to the minimum pension base.

**Minimum pension base:** Equal to 76.5 percent of Slovenian average monthly earnings in the past calendar year.

**Normalized annual earnings:** Equal to annual earnings divided by average annual earnings.

**Pension base:** Specific to each individual. Monthly average over the period of 24 successive years with highest paid contributions.

**Pension qualifying period:** Equal to the number of years an employee has paid contributions.

**Raw pension:** The value of a pension, which is below the minimum pension. Used in the calculation for targeted pensions.

**Replacement rate:** Percentage of monthly pension received to monthly earnings.

**Targeted pension:** Given to those whose pension is below the minimum pension but have a qualifying period less than the mandatory minimum—formerly 35, now 40, years.

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