# Changes in medium-long term projections of pension expenditure in Italy<sup>1</sup>

In May 2021, the Working Group on Ageing Populations and Sustainability (AWG)<sup>2</sup> published the new Ageing Report containing medium-long term projections (2019-2070) of the main social expenditure items and, in particular, pensions.<sup>3</sup> Projections are based on a set of economic and demographic hypotheses released in 2020 that incorporate the effects of COVID-19 crisis only in the short term and on the European Commission Spring Forecasts of May 2020.<sup>4</sup>

This Flash summarizes the main results of the latest AWG projections and compares them with other projection exercises. As of today, available scenarios allow to carry out this comparison along two dimensions: an inter-temporal one, between projections conducted by AWG in different years (different AWG releases); and an interinstitutional one, including projections conducted by AWG and the State General Accounting Department (RGS), with hypotheses developed independently but in the same period.

More in detail, the AWG baseline scenario ("AWG-2021") is compared with: 1) the previous baseline scenario by AWG ("AWG-2018");<sup>5</sup> 2) the

<sup>&</sup>lt;sup>1</sup> The authors wish to thank Marco Cacciotti of the General Inspectorate for Social Expenditure of the State General Accounting Department for his availability to discuss some technical aspects of the projections.

<sup>&</sup>lt;sup>2</sup> Also for 2021, the AWG working program and publications are part of the mandate that ECOFIN gave to the Economic Policy Committee (EPC) to develop medium-long term projections of public spending items most affected by the population ageing. These projections are used in the context of the European semester for the assessment of the sustainability of public finances, the identification of any critical issues and the coordinated choice of targets for guiding economic policy.

<sup>&</sup>lt;sup>3</sup> European Commission (2021), "The 2021 Ageing Report: Economic and Budgetary Projections for EU Member States (2019-2070)", May.

<sup>&</sup>lt;sup>4</sup> European Commission (2020), "Spring 2020 Economic Forecast: A deep and uneven recession, an uncertain recovery", May.

<sup>&</sup>lt;sup>5</sup> European Commission (2018), "The 2018 Ageing Report: Economic and Budgetary Projections for the EU Member States (2016-2070)", May.

AWG-2021 modified and updated to be included in the 2021 Economic and Financial Document (EFD) for the purposes of the analysis of the medium-long term sustainability of public finances ("AWG-in-2021 EFD")<sup>6</sup>; 3) the national baseline scenario included in the 2021 EFD as well, with macroeconomic and demographic assumptions selected by RGS ("RGS-in-2021 EFD");<sup>7</sup> 4) the national baseline scenario published in July 2020 by RGS within the annual report on medium-long term trends of the pension, health and long-term systems ("RGS-2020").<sup>8</sup>

AWG-2018 and AWG-2021 allow the comparison between projections made at different times by the same Institution, while AWG-2021 and RGS-2020 pave the way to the comparison between projections made by different Institutions based on information gathered at the same time (first half of 2020).<sup>9</sup> AWG-in-2021 EFD and RGS-in-2021 EFD allow an inter-institutional comparison as well, even if they both share the short-term macroeconomic forecasts included in the 2021 EFD.

The most recent projection exercises, AWG-in-2021 EFD and RGS-in-2021 EFD, are not yet provided with a sufficient degree of detail; therefore, the comparison can only be partial (e.g., for RGS-in-2021 EFD it is available the pension expenditure to GDP ratio but not the breakdown into its main components and the underlying medium-long term macroeconomic and demographic assumptions).

However, from the 2021 EFD it is possible to gather that AWG-in-2021 EFD and RGS-in-2021 EFD differ, respectively, from AWG-2021 and RGS-2020 (which are both provided with detailed information) only with respect to the short-term macroeconomic forecasts and, to a lesser extent, demographics. As for macroeconomics, the 2020 Spring Forecasts and the 2020 EFD short term macroeconomic forecasts are replaced with those of the 2021 EFD which covers the four-year period 2021-24 and includes a preliminary assessment of the expansionary effects expected from the implementation of the National Recovery and Resilience Plan (NRRP).<sup>10</sup> As for demographics, in absence of new projections (by Eurostat and Istat) taking properly into account the consequences of the pandemic, residential population on December 31<sup>st</sup>, 2020 has been reviewed to reflect the rise in the number of deaths due to COVID-19 leaving unchanged the structural dynamics (mortality, fertility, birth rate, immigration, etc.). In the coming months, the RGS report "Medium-long term trends of the pension, health and long-term systems" will be released and it will contain the update of RGS-2020 projections. As soon as the new expenditure projections are available, they will be the object of another PBO Flash.



<sup>&</sup>lt;sup>6</sup> Ministry of Economy and Finance (2021), "Economic and Financial Document - Section I - Stability Program", April.

<sup>&</sup>lt;sup>7</sup> Ministry of Economy and Finance (2021), "Documento di Economia e Finanza - Sezione II – Analisi e tendenze della finanza pubblica", April.

<sup>&</sup>lt;sup>8</sup> State General Accounting Department (RGS, 2020), "Le tendenze di medio-lungo periodo del sistema pensionistico e socio-sanitario", July. In the short term, this exercise incorporates the macroeconomic forecasts of the 2020 EFD, nesting them into the framework of the medium-long term assumptions formulated by the RGS.

<sup>&</sup>lt;sup>9</sup> In particular, as regards the short-term macroeconomic assumptions, AWG-2021 uses the European Commission 2020 Spring Forecasts, while RGS-2020 incorporates the macroeconomic forecasts outlined in the 2020 EFD.

<sup>&</sup>lt;sup>10</sup> The trend macroeconomic forecast incorporates the NRRP in its version presented with the Ministry of Economy and Finance (2021) "Update of the Economic and Financial Document" and slightly revised for the three-year period 2021-23 by the Budget Law for 2021; it incorporates also the recent "Sostegni" Decree Law (this information can be gathered from Economic and Financial Document - Section I – Stability Program).

The inter-temporal comparison across AWG releases allows the evaluation of the changes in pension expenditure projections occurred over a relatively short period and due, on the one hand, to some minor legislative changes<sup>11</sup> and, on the other, to changes in both short-term macroeconomic forecasts and medium-long term macroeconomic and demographic projections. Conversely, the inter-institutional comparison sheds a light on the different views that AWG and RGS have on the future evolution of pension expenditure, as a result of different macroeconomic and demographic scenarios.

To give a preliminary perception of the possible long-term consequences of the pandemic crisis, the new Ageing Report also contains two sensitivity scenarios, the first with a slower recovery ("lagged-recovery") and the second with a structural reduction of potential growth ("adverse-structural"). In this Flash, these two ad hoc sensitivity scenarios are presented together with a third one selected from the range of sensitivity analysis developed in the previous projection exercises, which considers the possibility of a more sustained total factor productivity dynamics ("higher-TFP-growth").

This Flash shows the high degree of sensitivity of pension expenditure projections to the different medium-long term macroeconomic assumptions of the two Institutions, with the AWG generally more pessimistic than RGS especially during the two decades 2030-2050. Choosing the appropriate set of assumptions is in general tricky because of the long projection horizon and the uncertainty surrounding long-term effects of policy choices on the macroeconomic scenario. In the current situation, the difficulty is even amplified by the possible long-term consequences of COVID-19 crisis and the uncertainty surrounding the efficacy of both national and European-coordinated recovery policies, and in particular those connected with the implementation of the NRRP. Projections available so far have not yet been able to fully take them into account.

The first paragraph compares the different projections of the pension expenditure to GDP ratio; the other four paragraphs outline the differences regarding the set of assumptions on demography, employment, productivity and GDP growth. The last paragraph illustrates some sensitivity scenarios included in the Ageing Report 2021.

# **1** Comparison of projection exercises: the pension expenditure to GDP ratio

Figure 1 (charts a), b), c)) shows the evolution of the pension expenditure to GDP ratio from 2015 to 2070 resulting from the five different basic scenarios.

All curves converge towards a similar long-term pension expenditure to GDP ratio, ranging between 13 and 14 per cent in 2070, and share some salient common characteristics. In



<sup>&</sup>lt;sup>11</sup> Mainly the so-called "Quota 100" and the suspension until 2026 of the link to the progression of the expected life of requirements for early retirement.



*Figure 1* – Pension expenditure to GDP ratio (1)

Source: AWG (2018 and 2021), RGS (2020) and EFD (2021).

(1) Outcomes for the years 2015-2020. – (2) Both projections incorporate the 2021 EFD trend macroeconomic scenario for the period 2021-24.



particular, the continuous, albeit differentiated, increase in the ratio until 2035-2045 is mainly driven by the retirement of the so called "baby boomer" cohorts with the calculation of allowances still based for a significant share on past wages. Subsequently, the progressive disappearance of these cohorts and the concomitant gradual transition to a fully fledged notional accumulation system based on contributions explains the reversal of the trend and the reduction in the expenditure to GDP ratio.<sup>12</sup>

The AWG projections (fig. 1, chart a)) show the highest pension expenditure to GDP ratio: in AWG-2018 it reaches 18.7 per cent in 2040 and then gradually converges towards 13.9 per cent in 2070; in AWG-2021 it reaches 17.9 per cent in 2035 and then gradually decreases to 13.6 in 2070. Compared to the former projection, the latter is more optimistic: if on one hand it includes the expenditure increases caused by the measures introduced in 2019 not considered in AWG-2018,<sup>13</sup> on the other it is based on more favorable medium-long term assumptions on labour market and productivity growth. The difference between the two AWG releases is 0.9 percentage points of GDP in 2040, increases to 1.1 percentage points in 2045, then decreases slightly to 0.3 percentage points in 2070.

In the inter-institutional comparison between projections with assumptions formulated in the first part of 2020 (fig. 1, chart b)),<sup>14</sup> RGS-2020 reports a lower pension expenditure to GDP ratio compared to AWG-2021 from 2025 onwards. The difference reaches 1.5 percentage points in 2035 (the same year AWG-2021 reaches its peak of 17.9 per cent) and then gradually decreases to 0.6 points in 2050 and becomes negligible thereafter. These differences can be entirely ascribed to the underlying demographic and macroeconomic assumptions (see par. 2, 3 and 4).

The second inter-institutional comparison (fig. 1, chart c)) is similar to the previous one with some differences which, however, do not alter the relative position of the two projections. In fact, compared to the assumptions of AWG-2021 and RGS-2020, AWG-in-2021 EFD and RGS-in-2021 EFD keep the medium-long term macroeconomic framework unchanged (in particular, the potential GDP),<sup>15</sup> but incorporate outturn data for 2020 and the trend macroeconomic forecasts for the years 2021-24 of the 2021 EFD. These forecasts include a preliminary assessment of possible short-term effects on growth of the NRRP, while prudently omit to consider possible permanent effects (for example on the medium-long



<sup>&</sup>lt;sup>12</sup> In coming years, the last workers with pensions calculated on the basis of past wages (wage formula) will retire, although with a minor part of the allowances calculated on the basis of contributions paid from 2012 onwards, according to the "Fornero" reform of 2011 (notional accumulation formula); it is necessary to wait roughly until 2040 to see the first retirees with pensions fully calculated with the notional accumulation formula (applied to the entire career). Around 2060 there will be only pensions entirely calculated with the notional accumulation formula.

<sup>&</sup>lt;sup>13</sup> AWG-2018 does not include the so-called "Quota 100" and the suspension until 2026 of the link to the progression of life expectancy of requirements for early retirement, as well other minor legislative changes introduced on a temporary basis in 2019 (as the prolongation of the so called "Opzione Donna" and "APE sociale", two retirement schemes for selected groups of workers).

<sup>&</sup>lt;sup>14</sup> Please note that AWG-2021 is based on assumptions outlined during 2020 ("The 2021 Ageing Report - Underlying Assumptions & Projection Methodologies") even if the publication of the projections occurred during 2021.

 $<sup>^{\</sup>rm 15}\,$  In AWG-in-2021 EFD the methodology is just the same developed by AWG.

term dynamics of GDP). In AWG-in- 2021 EFD, the pension expenditure to GDP ratio decreases from 17.1 per cent in 2020 to 16.0 per cent in 2025, and then moves along a growth trend that culminates in the 17.3 per cent in 2035, thereafter remaining substantially stable until 2040, and subsequently beginning a long gradual convergence towards 13.4 per cent by 2070. According to RGS-in-2021 EFD, in 2025 the expenditure ratio is 15.8 per cent, then starts a rising trend that culminates in the 16.6 per cent of 2045, thereafter gradually converging towards 13.3 per cent in 2070. In 2025, AWG-in-2021 EFD is about 0.2 percentage points above RGS-in- 2021 EFD; this gap widens up to 1 percentage point in 2035 and then slowly begins to shrink until it roughly represents 0.4 points in 2045 and becomes negligible from 2050 onwards. Differences between these two institutional sources of projections, with the AWG more pessimistic and the RGS more optimistic, can be explained by the technical specifications of assumptions used in the medium-long term, mainly those concerning labour market and productivity growth (see par. 3 and 4).

AWG-2021 stays always above AWG-in-2021 EFD, with the difference between the two first increasing up to about 0.6 percentage points of GDP in 2035, and then gradually decreasing to roughly 0.2 percentage points in the final part of the projection horizon. Finally, RGS-2020 remains slightly above RGS-in-2021 EFD until 2045 (with a difference ranging from 0.6 percentage points to zero in 2025), and then aligning substantially to it until 2070. Differences between AWG-2021 and RGS-2020 and their modified versions included in the 2021 EFD are due to the underlying macroeconomic and demographic assumptions and, in particular, to the different forecasts of the 2020 and 2021 EFD over the initial years of the projection horizon.

All in all, the different evolution of the pension expenditure to GDP ratio can be explained by looking at the different assumptions on demography (par. 2), on the labour market (par. 3) and on labour productivity (par. 4). The combination of these three components is at the origin of the dynamics of GDP (par. 5). All projections share the same legislative framework, with the exception of AWG-2018 that does not include pension reforms implemented since 2019 (that are anyway mainly temporary and of minor magnitude with respect to the scope of long-term projections).<sup>16</sup>

# 2 The demographics

AWG-2018 is based on the Eurostat-2017 baseline demographic scenario with starting year in 2015, while AWG-2021 is based on the Eurostat-2020 baseline demographic



<sup>&</sup>lt;sup>16</sup> As already mentioned, AWG-2018 does not include the so-called "Quota 100" or the suspension until 2026 of the link to the progression of life expectancy of requirements for early retirement, as well other minor legislative changes introduced on a temporary basis in 2019, as the prolongation of the so called "Opzione Donna" and "APE sociale", two retirement schemes for selected groups of workers. AWG-2021, AWG-in-2021 EFD and RGS-in-2021 EFD include, in addition to these 2019 measures, also the further prolongation of "Opzione Donna" and "APE sociale" provided for by the Budget Law for 2021.

scenario starting in 2019 (fig. 2).<sup>17</sup> For its part, RGS-2020 uses the Istat-2019 central demographic scenario starting in 2018 (fig. 2)<sup>18</sup>. Neither AWG-in-2021 EFD nor RGS-in-2021 EFD are provided yet with details on the demographic assumptions (therefore they are not shown in fig. 2). However, from the 2021 EFD it is possible to gather that both projections use a demography corrected with an update of resident population by age as of January 1<sup>st</sup>, 2021 (to take into account the excess of mortality caused by the COVID-19 pandemic), while other demographic parameters remain the same as respectively Eurostat-2020 and Istat-2019.<sup>19</sup>



Figure 2 – Demographic indicators (1)

Source: AWG (2018 and 2021) and RGS (2020).

(1) Outcomes for the years 2015-2020.

https://www.istat.it/it/files//2021/06/Report\_ISS\_Istat\_2021\_10\_giugno.pdf).



<sup>&</sup>lt;sup>17</sup> Eurostat (2020), "Eurostat population projections 2019-based (EUROPOP2019)", April.

<sup>&</sup>lt;sup>18</sup> Istat (2019), "Population Projection".

<sup>&</sup>lt;sup>19</sup> On the basis of the monthly demographic balance, Istat recently updated the overall population figures as of December 31<sup>st</sup>, 2020 to take into account the higher mortality caused by COVID-19. Compared to the average deaths occurred between March and December in the period 2015-19, in 2020 there was an increase of over 15.5 percentage points, more than 100,000 deaths in excess. If we restrict the analysis to people aged 65+ (potential pension recipients), there were almost 97,000 more deaths (+16.9 per cent), with a slight prevalence of men (Istat data publicly available on <a href="https://www.istat.it/it/archivio/241428">https://www.istat.it/it/archivio/241428</a>). In the first four months of 2021, there were almost 24,000 more deaths than the average in the same months during the period 2015-19 (Istat data publicly available on

In all projections, in the space of about forty years, the demographic transition takes place, which slowly but deeply reduces the share of active population (aged 15-64 years) and increases that of inactive (65+). The profile of the ratio between those aged 65+ and the active people aged between 15 and 64 shows only minimal changes across projections. It goes from about 33 per cent in 2015 to about 62 per cent in 2050, thereafter gradually converging to slightly below 61 per cent in 2070. The share of 65+, almost identical in the three projections, rises from 21.7 in 2015 to 34 per cent in 2050, and then remains roughly stable until 2070. Finally, the share of aged 15-64 years shrinks from 64.5 per cent in 2015 to 54.4 per cent in 2045, and then substantially stabilizes. In general, it can be said that the differences in the expenditure projections (fig. 1) do not originate, if not to a minor extent, from the differences in the demographics underlying the three exercises, even if it is true that in AWG-2021 active age brackets are relatively more numerous than in AWG-2018 and RGS-2020.

#### 3 Employment

Projections differ significantly in the assumptions on employment rates (fig. 3). AWG-2021 is more pessimistic than RGS-2020, with the general employment rate growing from 56.3 per cent in 2015 (58.1 in 2020) to just over 64.5 per cent in 2050, remaining stable at this level until 2060 and marginally increasing in the final part of the projection horizon (64.9 per cent in 2070). In RGS-2020, the employment rate, although growing at



Figure 3 – Employment rates (aged 15-64 years) (1)

Source: AWG (2018 and 2021) and RGS (2020). (1) Outcomes for the years 2015-2020.



a slower pace until 2030, exceeds 66.0 per cent in 2050 and then remains substantially stable at this level until 2070 (66.4 per cent). AWG-2018, on the other hand, was significantly more pessimistic: the employment rate reached just more than 62 per cent in 2045 and there it stabilized until 2070, respectively 2.6 and 4.1 percentage points less than AWG-2021 and RGS-2020 rates.

The difference between AWG-2021 and AWG-2018 is partly explained by the fact that the employment outturns in 2019 turned out to be better than what AWG-2018 had forecasted a couple of years before.<sup>20</sup> The higher employment rate in RGS compared to AWG reflects the construction of a generally more optimistic framework of assumptions, a feature that constantly characterizes projections conducted since the early 2000s. Figure 3 does not show AWG-in-2021 EFD and RGS-in-2021 EFD, for which – as already mentioned – details are not yet available. With regard to AWG-in-2021 EFD, until 2024 it incorporates the 2021 EFD forecasts, which are then linearly linked, over the following decade, to the assumptions of AWG-2021. A similar bridging mechanism seems to apply to RGS-in-2021 EFD, with the forecasts of the 2021 EFD linked to the assumptions of RGS-2020. In the long term, all projections agree on employment rates significantly higher than 60 per cent, while in the medium term they differ about how rapidly that level is gained (that means, from another point of view, about how long the same trend observed in the historical series since the mid-nineties may continue, net of the temporary contractions due to economic crises).

# 4 Labour productivity

Figure 4 illustrates the assumptions on labour productivity. Although the different projections express productivity differently, productivity growth rates are shown in the same graph because they are comparable with an acceptable degree of approximation.<sup>21</sup> Data for the first two years (2015 and 2020) are final outturn and the drastic increase in 2020 is an effect of the pandemic which reduced hours worked more than the contraction caused to GDP.

RGS-in-2021 EFD is not shown in the figure because detailed data are missing. In AWGin-2021 EFD, the productivity growth rate is at 0.2 per cent in 2025, then increases to 1.7 by 2040, and thereafter follows a trend of slow decline to 1.5 per cent by 2070. In AWG-



<sup>&</sup>lt;sup>20</sup> This motivation is expressly referred to in the 2021 Ageing Report: "Labour market figures for the base year 2019 were better than assumed in the 2018 Ageing Report. The improved starting point for employment, participation and unemployment rates are reflected in the labour market assumptions, which are generally more favourable than in the previous exercise".

<sup>&</sup>lt;sup>21</sup> In particular, in RGS-2020 productivity is calculated as GDP per worker, in AWG-2018 and AWG-2021 it is calculated as GDP per hour worked, while in AWG-in-2021 EFD as GDP per full-time equivalent worker. The growth rates of these three definitions of productivity are comparable because in all AWG projections the number of hours worked per worker remains almost constant after the crisis and throughout the projection horizon.



*Figure 4* – Labour productivity growth rates (1)

Source: AWG (2018 and 2021), RGS (2020) and EFD (2021).

(1) Outcomes for the years 2015-2020. Productivity growth rates in RGS-2020 are the annualized values of five-years growth rates.

2021, the growth rate is slightly higher in 2025 compared to AWG-in-2021 EFD, and then gradually aligns to it. Both dynamics are a clear improvement with respect to AWG-2018 (between 2025 and 2045, 0.3 percentage points more on yearly average, which become approximately 0.1 between 2045 and 2070). Finally, in RGS-2020 the dynamics are more sustained until 2035, and then converge to 1.5 per cent by 2070 following a marginally slower trend than in AWG exercises.

In the medium-long term, all projections have in common labour productivity dynamics more intense than those observed in recent times, and in particular with respect to the yearly-average 0.3 per cent of the 1997-2019 period (omitting the anomalously high 2020 rate that includes post-crisis rebound), and with respect to the yearly-average 0.2 per cent between 2014 and 2019 (omitting as well the rebound from the previous crises of 2008 and 2012).<sup>22</sup>

# 5 GDP growth rate

The combination of the components listed so far (par. 2-4) produces the dynamics of GDP shown in figure 5. After the strong post-crisis rebound following the impact of



<sup>&</sup>lt;sup>22</sup> Istat database.



*Figure 5* – GDP growth rates (1)

Source: AWG (2018 and 2021), RGS (2020) and EFD (2021).

(1) Outcomes for the years 2015-2020. GDP growth rates in RGS-2020 are the annualized values of five-years growth rates.

COVID-19, in both AWG-in-2021 EFD and AWG-2021 the growth rate is at 0.4 per cent in 2025, then follows a trend of moderate improvement up to 1.5 per cent in 2050, and thereafter it follows a path of slow reduction to 1.3 per cent in 2070.

RGS-2020 is more optimistic in the medium term, with a growth rate that reaches 1.9 per cent (1.5 percentage points more than AWG) in 2025, then starts converging towards the same dynamics as AWG, and since 2040 on it remains below AWG by 0.1-0.2 percentage points on average.

The AWG-2018 exercise was instead more pessimistic than the most recent projections (both AWG and RGS), with an average negative difference of about 0.4 percentage points until 2040, that gradually disappears until the end of the projection horizon.

In the medium-long term, all projections share the same hypothesis of an annual growth above 1 per cent, significantly higher than the economic performances in recent times, which was on average equal to 0.6 per cent between 1997 and 2019 (to omit the anomalous rate of 2020 affected by the pandemic), and 0.8 per cent between 2014 and 2019 (also omitting the anomalous negative data of the previous crises of 2008 and 2012).



### 6 The sensitivity scenarios

Both AWG and RGS have always accompanied baseline/central scenarios with sensitivity ones. The 2021 edition of the Ageing Report includes two special scenarios to explicitly consider consequences of COVID-19 crisis. Figure 6 shows, around the baseline scenario (the one previously discussed in par. 1), three sensitivity scenarios for the projections of the pension expenditure to GDP ratio. In the first, "higher-TFP-growth", already included in previous editions of the Ageing Report, the medium-long term growth rate of total factor productivity (TFP) converges to a level of 0.2 percentage points higher than in the baseline scenario. The second, "lagged-recovery", adopts the assumptions of deeper effects of the pandemic crisis on GDP in the first years, with a limited impact on GDP potential growth in the rest of the projection horizon. Finally, the third scenario, "adverse-structural", adds to the initial impact already incorporated in the second scenario a permanent impact of the crisis on potential growth (a structural negative lasting effect).

While in the "lagged-recovery" scenario the average GDP growth rate, over the entire projection horizon, is in line with the baseline scenario (approximately 1 per cent), in the "adverse-structural" scenario the growth rate is 0.3 percentage points lower. It is a notable difference if one considers that it should be compounded over fifty years (2019-2070). The "higher-TFP-growth" scenario projects an expenditure to GDP ratio that is on average 0.5 percentage points lower than in the baseline. Except in the early years (up to 2030) and to a much lesser extent in the last years (beyond 2065), the "lagged-recovery" scenario remains roughly like the baseline. Finally, in the "adverse-structural"



*Figure 6* – The pension expenditure to GDP ratio in AWG sensitivity scenarios (1)

Source: AWG (2021) and EFD (2021).

(1) Outcomes for the years 2015-2020.



scenario the incidence on GDP is always higher. This difference is significant in 2025 (1.0 percentage points), starts shrinking until 2030 and then tends to widen up again to 0.6 percentage points in 2040, to 1.3 points in 2050 and to 1.6 points in 2060 and in 2070.

The range of the values for the pension expenditure to GDP ratio across scenarios (the baseline ones and the sensitivity ones) highlights how much results are driven by medium-long term macroeconomic assumptions, whose setting is made complex by the length of the projection horizon (fifty years) as well as by the necessity to assess medium-long-term effects of already taken policy choices.<sup>23</sup> At present, difficulties are even greater because of the uncertainty surrounding the possible economic consequences of the COVID-19 crisis and the effectiveness of both national and European-coordinated recovery policies. In particular, projections available so far have not yet been able to fully take into account NRRP measures and their impact on labour market, productivity and growth. The next projections (by AWG and RGS) will face the difficult task of updating the entire frame of assumptions, both demographic and macroeconomic, to take into account, in the most realistic way, any legacies of the COVID-19 crisis.



<sup>&</sup>lt;sup>23</sup> All projections (AWG and RGS) normally take into account only already approved legislation and assume that the legislation framework remains stable and unchanged all over the projection horizon.