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By the end of 2018, Malta's pension entitlements stood at €36.4 billion, 290.8 per cent of GDP.

Pension Entitlements in Malta: 2018

Accrued-to-date liabilities (ADL) represent the present value of pensions to be paid in the future, based on the rights accrued until a specific date. These accrued pension rights result from social contributions paid by current contributors and remaining pension entitlements of existing pensioners. In simpler terms, it shows what it would cost to settle the outstanding pension liabilities if the pension scheme were, theoretically, to be closed.

Following the requirements established in both the European System of Accounts (ESA 2010)¹ and the System of National Accounts (SNA 2008), EU Member States are obliged to report the total pension entitlements accrued by members of employment-related pension schemes or social security pension schemes.

Main Assumptions

A real discount rate of two per cent was applied to determine the present value of Malta's pension liabilities as at end 2018. Since an inflation rate of two per cent was assumed, this implies a discount rate of four per cent in nominal terms. These standard assumptions, laid out in Eurostat and the European Central Bank's Technical Compilation Guide for Pension Data in National Accounts², were applied by all Member States to ensure comparable results.

The wage growth assumptions found in the European Commission's 2021 Ageing Report³ were used to calculate the progression of wages, while life expectancy was determined through the latest (2019) EUROPOP assumptions⁴.

Results

At the end of 2018, total pension entitlements in Malta amounted to €36.4 billion, equivalent to 290.8 per cent of GDP. Most of these entitlements were accumulated by members of the Social Security Pension System, with these accounting for €33.2 billion, or 91.2 per cent, of the total entitlements. The remaining €3.2 billion, or 8.8 per cent, represent entitlements relating to the Treasury Pension System (Chart 1).

In 2018, social contributions totalled €2.1 billion, €1.9 billion of which were used to cover the Social Security Pension System. Furthermore, pension payments of €0.9 billion were disbursed (Table 1), the significant majority going towards recipients of old age type pensions (Charts 2 and 3).

Sensitivity Analysis

Besides the standard discount rate of two per cent, other discount rates were considered to examine the sensitivity of the results. In particular, entitlements were re-estimated using discount rates of one per cent and three per cent. Assuming a lower discount rate of one per cent causes pension obligations to rise by 27.4 per cent to €46.3 billion. Conversely, pension liabilities decline by 19.5 per cent to €29.3 billion when a higher discount rate of 3 per cent is assumed (Table 2).

International Comparison

Malta's pension entitlements amounted to 290.8 per cent of GDP in 2018, the 10th lowest percentage among the 28 European countries (24 EU Member States, Iceland, Norway, Switzerland and the United Kingdom) for which data is currently available. The highest ratio was reported by Luxembourg (528.0 per cent), with Austria (446.0 per cent) in second and France (430.0 per cent) in third. In contrast, Denmark registered the lowest share, with their obligations amounting to 94.0 per cent of GDP, followed by Bulgaria (178.0 per cent) and Ireland (186.0 per cent) (Chart 5) ■

¹ EU Regulation 549 of 2013 of the European Parliament and of the Council of 21 May 2013.

² Eurostat/ECB Technical Compilation Guide for Pension Data in National Accounts (2020 edition).

³ See European Commission (2020), "The 2021 Ageing Report: Underlying Assumptions and Projection Methodologies", Institutional Paper 142.

⁴ Eurostat population projections.

Table 1. Pension Entitlements: 2018

Description	Treasury	Social Security	Total
	€ million		
<i>Opening Balance Sheet</i>			
1 Pension entitlements ¹	3,095	31,198	34,292
<i>Changes in pension entitlements due to transactions</i>			
2 Increase in pension entitlements due to social contributions (=2.1+...+2.4-2.5)	201	1,907	2,108
2.1 Employer actual social contributions	0	306	306
2.2 Employer imputed social contributions	77	-	77
2.3 Household actual social contributions	0	354	354
2.4 Household social contribution supplements	124	1,248	1,372
2.5 Less pension scheme charges	0	0	0
3 Other (actuarial) increase of pension entitlements	-	577	577
4 Reduction in pension entitlements due to payment of social benefits	105	764	870
5 Change in pension entitlements due to social contributions and pension benefits (=2+3-4)	96	1,720	1,815
6 Transfers of entitlements between schemes	0	0	0
7 Change in pension entitlements due to other transactions	0	0	0
<i>Change in pension entitlements due to other economic flows</i>			
8 Changes in entitlements due to revaluations	0	0	0
9 Change in entitlements due to other changes in volume	26	242	267
<i>Closing Balance Sheet</i>			
10 Pension entitlements (=1+5+6+7+8+9)	3,216	33,159	36,375
As a percentage of GDP²	25.7	265.1	290.8
Main Assumptions			
1. Discount rate: 2% real / 4% nominal Source: Pension Technical Guide (2020 edition)			
2. Wage growth: 1.8% average growth per year (period: 2019-2070) Source: Labour Productivity Growth from the 2021 Ageing Report			
3. Life expectancy: EUROPOP 2019 population projections Source: Eurostat			

¹Equal to the closing stock for the previous year.

²As published in NSO News Release 194/2020.

Chart 1. Pension entitlements categorised by scheme: 2018

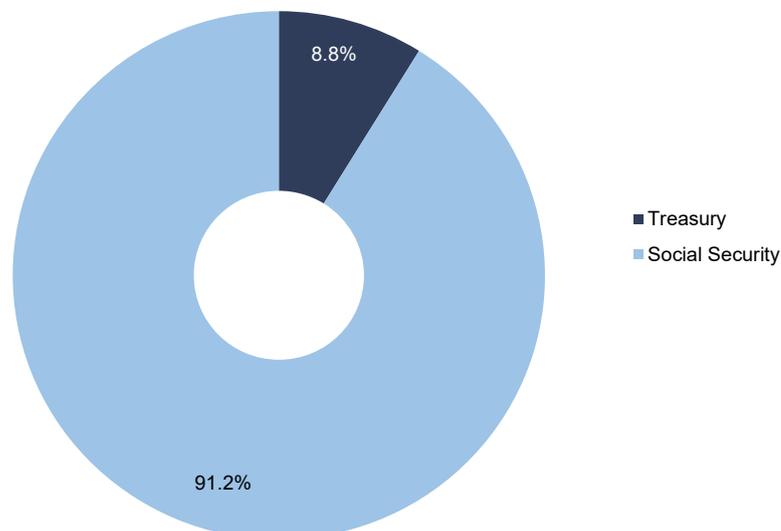


Chart 2. Treasury pension payments by type of pension: 2018

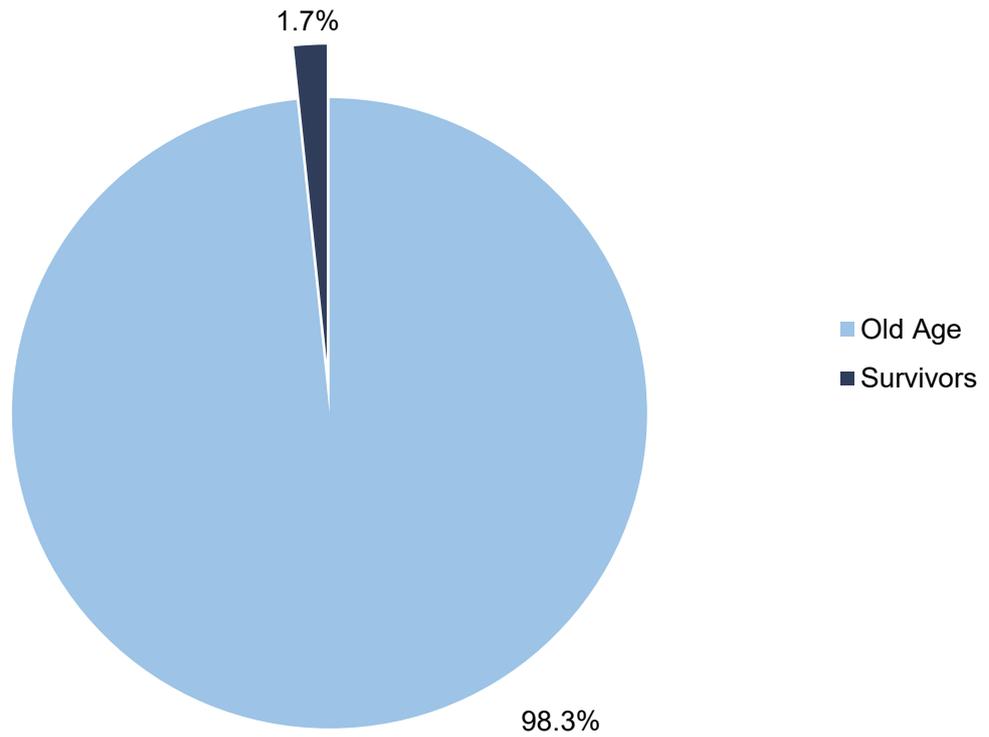


Chart 3. Social security pension payments by type of pension: 2018

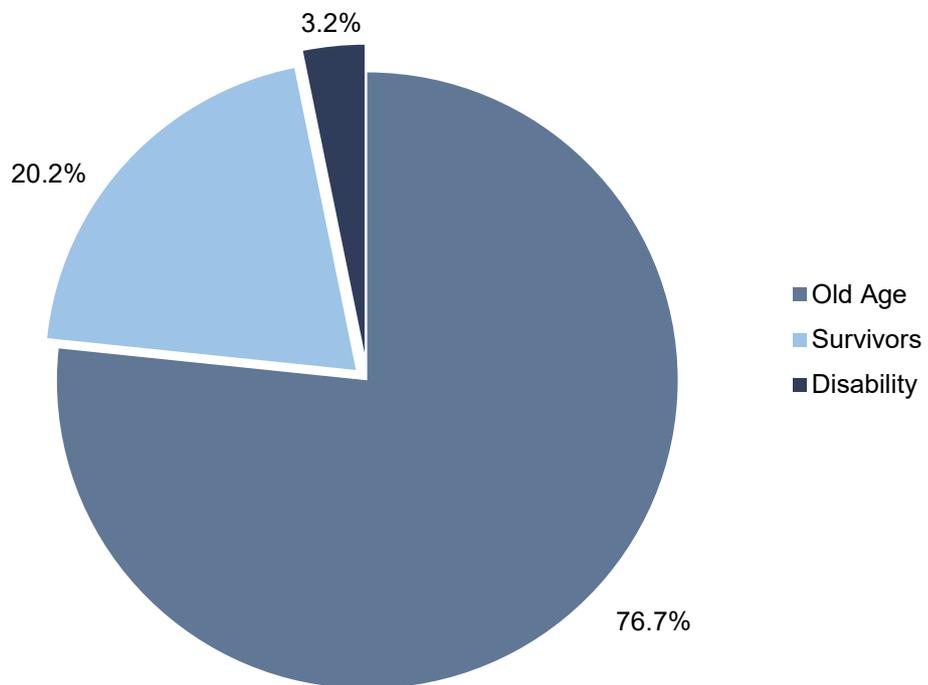


Table 2. Sensitivity Analysis: Discount Rate ($\pm 1\%$)

Description			2018		
			Treasury	Social Security	Total
Discount rate (%)	1.0	€ million	3,872	42,476	46,348
		% of GDP ¹	31.0	339.6	370.5
	2.0	€ million	3,216	33,159	36,375
		% of GDP	25.7	265.1	290.8
	3.0	€ million	2,722	26,542	29,264
		% of GDP	21.8	212.2	234.0

¹GDP as published in NSO News Release 194/2020.

Chart 4. Pension entitlements by discount rate: 2018

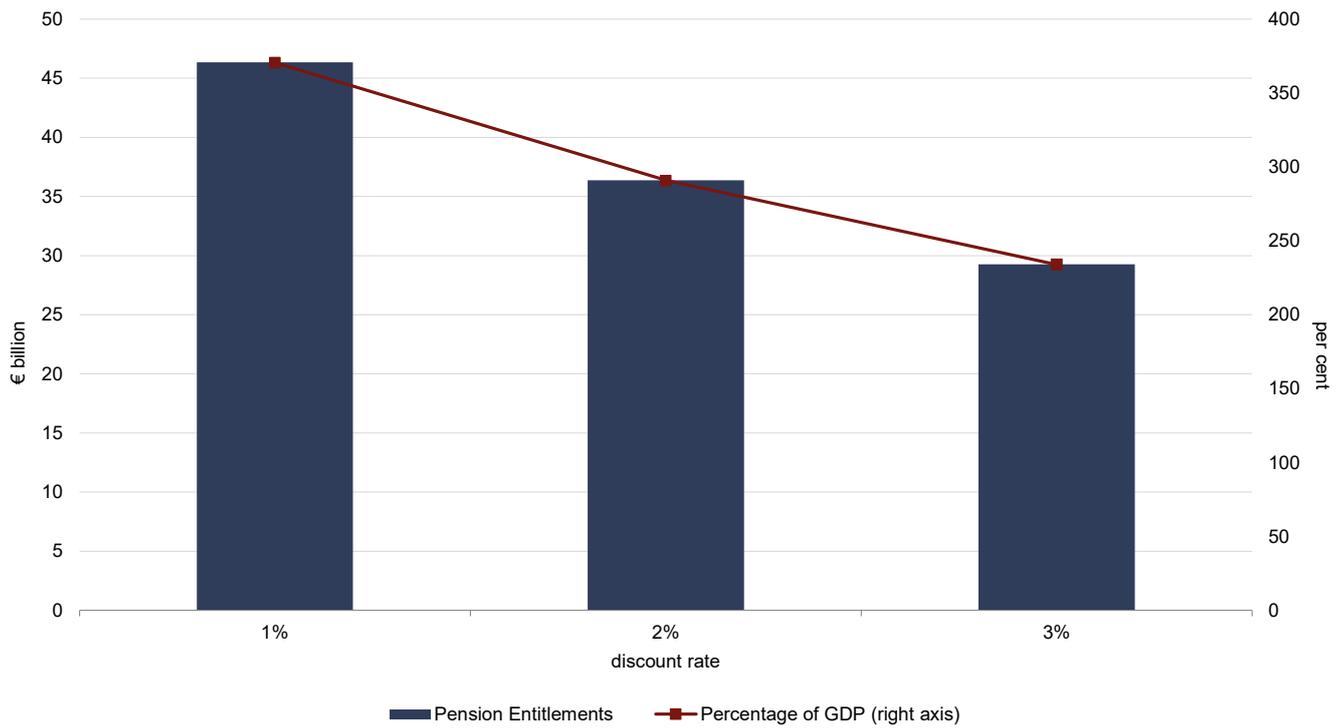
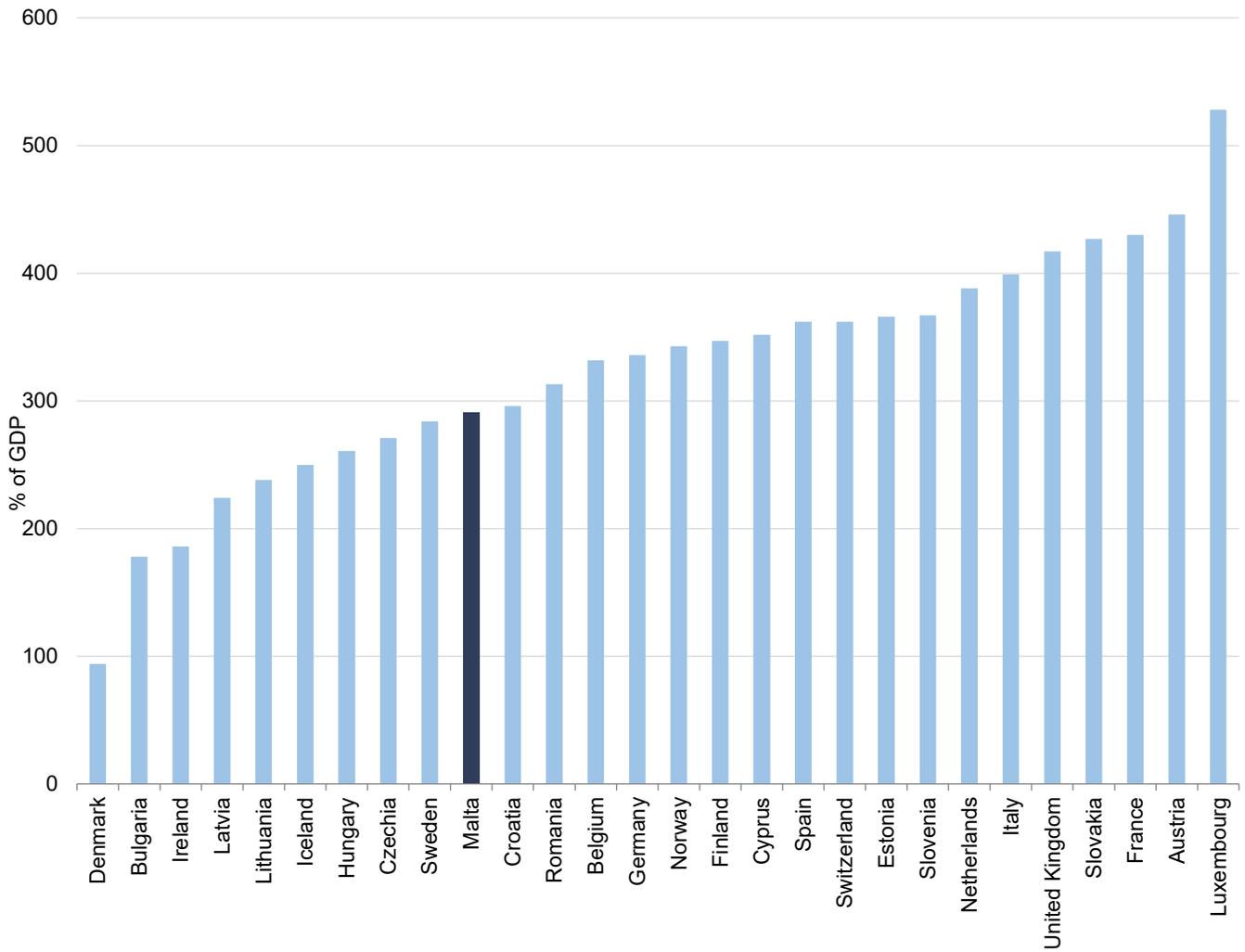


Chart 5. Pension entitlements by country as a percentage of GDP: 2018



Note: Country publications can be found through the following link:
<https://ec.europa.eu/eurostat/web/pensions/information-member-states>

Methodological Notes

1. The rows of the supplementary table (Table 29) are defined as follows:
 1. The opening stock of pension entitlements (equal to the closing stock of the previous year).
 - 2.1 Actual social contributions made by employers during the reference year.
 - 2.2 Balancing item for defined benefit pension schemes, recording any changes in entitlements not included in any other rows of Table 29.
 - 2.3 Actual social contributions made by employees during the reference year.
 - 2.4 Relates to the property income earned, or imputed on the schemes. This is equivalent to the unwinding of the discount rate, equal to the nominal discount rate for the base year multiplied with the pension entitlements recorded at the beginning of the year.
 3. The imputed transactions of social security pension schemes. This row is used as a balancing item for social security pension schemes. Therefore, figures may be either positive or negative, with a positive value implying that the discount rate is lower than the scheme's annual rate of return.
 4. Pension payments made during the year.
 5. Changes in pension entitlements due to contributions and pension benefits.
 6. Amount of entitlements transacted from one pension fund to another.
 7. Changes in entitlements due to any pension reforms introduced during the year.
 8. Changes in entitlements due to changes made to the key model assumptions, such as the discount rate, wage rate and inflation rate.
 9. Other changes to the volume of assets that are not classified under row 8.
 10. Total pension entitlements recorded at the end of the year.
2. **Glossary:**
 - 2.1. **Accrued-to-date pension entitlements (ADL)** amount to the present value of pensions to be paid in future periods to members of a pension system as based on their accrued rights.
 - 2.2. In **Defined Benefit (DB) pension schemes** a formula is used to determine the amount of pension benefits to be paid to each individual, normally taking into consideration years of service, the person's salary over a certain period of time, the age at retirement and the pension indexation rules.
 - 2.3. **Disability Pensions** are benefits paid to persons below the legal/standard retirement age suffering from a disability which prevents them from working or earning above a certain minimum level as legislated.
 - 2.4. The **Discount Rate** represents an interest rate used to convert a future sum of money to its present value.
 - 2.5. The **Gross Domestic Product (GDP)** is the total value of all goods and services produced, deducting the value of any goods and services used in their production within a certain period in a country.
 - 2.6. The **Inflation Rate** is the rate at which the general level of prices for goods and services is increasing during a particular reference period.
 - 2.7. **Old Age Pensions** are benefits paid to persons who have retired from gainful employment at the legal/standard retirement age, in return for years of service and/or social insurance payments.
 - 2.8. **Pension Indexation** refers to the method used to update pensions on an annual basis. In Malta's case, pensions are updated by a sum equivalent to 70 per cent growth in average national wage and 30 per cent of the inflation rate.
 - 2.9. The **Present Value** represents the current worth of a future sum of money.
 - 2.10. The **Projected Benefit Obligations (PBO)** approach takes into consideration future wage increases, obtained either through promotions or a general increase in wages, when estimating the ADL of a pension system.
 - 2.11. **Survivors Pensions** are paid to the close relatives (wife or children) of a deceased person who would have been eligible to receive an old age pension upon reaching retirement age.
3. In 2015, the National Statistics Office (NSO) embarked on a project in collaboration with the Research Centre for Generational Contracts (RCG) at Freiburg University to compile a suitable model able to estimate Malta's pension entitlements for its two pension systems; (i) the Social Security Pension system and (ii) the Treasury Pension system.

Anonymised data was collected for each of the reference years and inputted into the ADL model. Data used included current pensioners' micro data, reflecting each individual's pension intake categorised by type of pension payment (Old Age, Survivors or Disability), and contributions micro data, where for each individual the number of contributions paid were categorised by class (1 to 3). Credited contributions given to each eligible person along with data on person's wage history (from 1982 onwards, when available) were also covered in the contributions database.

The model takes a forward-looking approach to estimating pension entitlements, making use of each current contributor's historical data to project their future entitlements. No projection is required for current pensioners as they have already accrued their full pension rights.

4. The present value of future pension rights is determined by applying a real discount rate of 2 per cent to the model, one of a set of standard assumptions established in the Eurostat/ECB Technical Compilation Guide for Pension Data in National Accounts and which all countries applied in their calculations to ensure comparable results. Furthermore, the Projected Benefit Obligation (PBO) approach, taking into consideration future wage increases when applying wage indexation rules to pension payment increases, is the selected estimation technique. Other standard assumptions were the use of the latest (2019) EUROPOP life expectancy assumptions for demography, and the use of the labour productivity growth forecasts from the 2021 Ageing Report assumptions for wage growth .

Pension Technical Guide (2020 edition):

<https://ec.europa.eu/eurostat/documents/3859598/11336404/KS-GQ-20-008-EN-N.pdf/954bad30-1074-af17-15da-303ee9252074?t=1599751207000>

2021 Ageing Report:

https://ec.europa.eu/info/publications/2021-ageing-report-underlying-assumptions-and-projection-methodologies_en

5. Data on pension entitlements should not be used as a time series, since data for different years are based on different assumptions and are thus not comparable. Therefore, prior estimates should be considered obsolete since these are based on assumptions which are now outdated.

Since Member States are obliged to carry out this exercise every three years, for completeness, the excel version of this news release also contains accrued-to-date pension entitlements data for the years 2012 and 2015. Users should note that these figures differ from those reported in past News Releases due to refinements to the model. Again, comparisons between years should be avoided in light of the differing assumptions.

6. It needs to be highlighted that ADL is not to be used as an indicator of fiscal sustainability as only entitlements up to the reference year are considered, implying a limited time horizon. Furthermore, all present or future assets of the pension systems, which are a crucial element one needs to take into consideration when assessing the long-term sustainability of any pension system are being disregarded in the study.

7. The System for the Administration of Social Benefits (SABS), held by the Ministry for Family, Children's Rights and Social Solidarity, was used to obtain both the pensioners' micro data for the Social Security pension scheme and also the contributors' micro data.

8. The Treasury pensioners' micro data was obtained from the Treasury Department.

9. Figures may not add up due to rounding.

10. References to this news release are to be cited appropriately.

11. A detailed news release calendar is available on:

https://nso.gov.mt/en/News_Releases/Release_Calendar/Pages/News-Release-Calendar.aspx

12. Further details on Malta's pension system are available on:

<https://finance.gov.mt/en/epd/Documents/library/Pensions%20Projections/Long-term-Pension-Projections-for-Malta-2016-2070-final.pdf>

13. Pension entitlements data for 2012 and 2015 may be found on the online version of this news release:

https://nso.gov.mt/en/News_Releases/View_by_Unit/Unit_A2/Public_Finance/Pages/Pension-Entitlements.aspx

However, as pointed out previously, the results for different years are not comparable since they are based on different assumptions

14. European statistics comparable to data in this News Release are available at:

<https://ec.europa.eu/eurostat/web/pensions/data/database>

15. For further assistance send a request from:

<http://nso.gov.mt/en/Services/Pages/Request-for-Information.aspx>