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**THE EFFECT OF FOREIGN WORKERS
AND THE PENSION REFORM
ON THE PARTICIPATION RATE:
A COHORT APPROACH**

BOX 2: THE EFFECT OF FOREIGN WORKERS AND THE PENSION REFORM ON THE PARTICIPATION RATE: A COHORT APPROACH¹

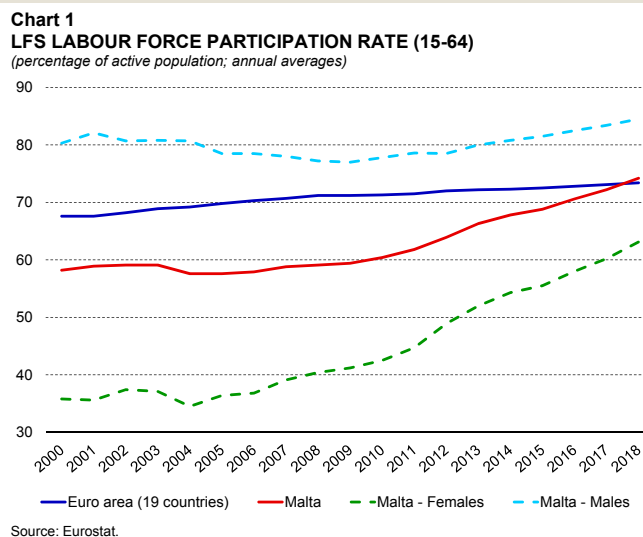
Introduction

The structure of the labour market is a fundamental determinant of a country's long-run productivity and potential output. At the same time, the decision to participate in the labour market is determined by a number of socio economic factors whose relevance varies across age, gender and time. Analysing the behaviour of different age and gender groups is therefore essential for understanding what drives the overall participation rate, its likely future evolution, and the implications for a country's potential output in the years ahead.

Recent developments in the Maltese labour market

LFS data show a strong increase in Malta's participation rate for those aged 15 to 64 since the country's accession to the European Union, from 57.6% in 2004 to 74.2% in 2018. Following these increases, for the first time since the inception of the survey, in 2018 Malta's participation rate stood above the euro area average of 73.7% (see Chart 1). Most of this rise can be attributed to gains in the female participation rate, which rose by 28.6 percentage points over this period, to 63.1%. Similarly, the male participation rate rose to an all-time high of 84.5%, from 80.7% in 2004. These developments were driven by a number of measures aimed at reaching the Europe 2020 target employment rate of 70% for those between 20 and 64 years old, which was achieved in 2016.²

Data on age-cohort profiles over time indicate that the profile of age-cohort participation rates for males has been fairly stable, whereas that of females has changed significantly. When analysing age-cohort profiles, one can also note that the participation rates of younger cohorts have decreased, while those of older cohorts have increased among both males and females. While the former reflects increased participation in post-secondary education, the latter reflects the implementation of the recent pension reform. Furthermore, the increased influx of foreign workers has led to changes in the participation rates among younger and middle-aged groups as well as among females.



¹ Prepared by Abigail Marie Rapa, senior economist within the Economic Analysis Department of the Central Bank of Malta. This Box applies the main methodology of Rapa, A. M. (2019) "A cohort approach to project the labour participation rate in Malta", Policy Note April 2019, Central Bank of Malta, to the 2018 Q4 LFS vintage. The views expressed are those of the author and do not necessarily reflect those of the Central Bank of Malta. Any errors are the author's own.

² See The National Employment Policy, Ministry for Education and Employment, May 2014, p.13 and *Malta: National Reform Programme 2019*, Ministry for Finance, April 2019, p.41.

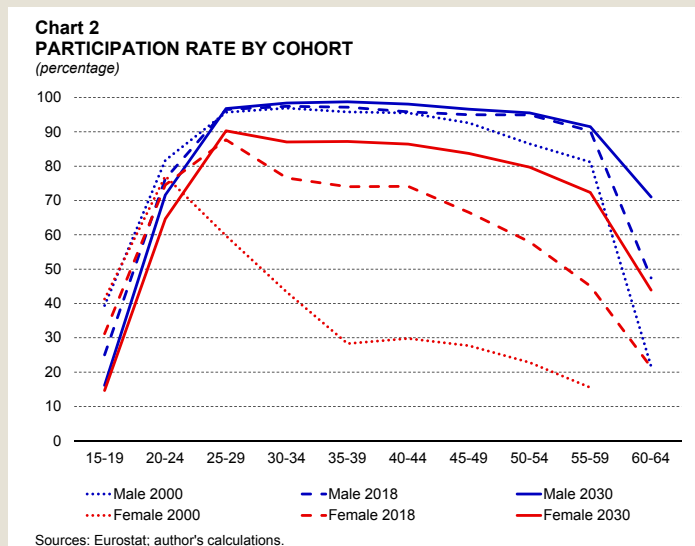
Projections of the overall participation rate using a cohort model

In the light of these developments, a five-year cohort model of participation rates based on Carone (2005) is used to project LFS-consistent aggregate participation rates for the medium run, while taking into account gender, age, period and cohort effects.³

The overall participation rates are projected in three steps. First, the Maltese working age population by five-year cohort is forecasted using official past demographic data and EUROPOP-2015 projections. The number of foreign nationals are then forecasted by combining own assumptions on foreign worker flows for the immediate years (taking into account recent data on migration flows from Jobsplus administrative records) and, EUROPOP-2015 projections for more distant years.

Second, cohort-specific participation rates are projected by applying the rates of exit and entry from the labour force as appropriate, taking in consideration past patterns in gender and age-period-cohort characteristics, using the approach in Carone (2005). Given the substantial shifts within the Maltese labour market over the very recent years, this study largely applies the average rates between 2014 and 2017 for most cohorts.⁴ Apart from taking into account the age effects, this dynamic cohort methodology also considers the development of labour market participation across different generations. Finally, the overall participation rate is obtained by weighting cohort specific participation rates by their relative share in total population in each period.

Using the dynamic cohort approach and under the assumption of no further policy changes other than those expected up to 2026 in relation to the pension reform, one can note that, as in recent years, both male and female participation rates of the first two cohorts are expected to continue to decline in the next decade. This is mainly driven by a higher proportion of people aged between 15 and 29 who seek higher education attainment levels. Driven mainly by the recent pension reform, activity among the older male cohort is expected to continue to increase. Older females are also expected to experience this effect given that the pension reform applies to both genders. However, age-period-cohort effects are also relevant in this case, as they are expected to gradually



³ In this study we analyse and forecast the labour supply of the following five-year cohorts; 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-59, 50-54, 55-59 and 60-64.

⁴ For further details about the computation of the rates of entry and exit refer to Rapa, A. M. (2019) "Forecasting the labour participation rate in Malta using a cohort approach", *Economic Projections*, Central Bank of Malta, June 2019.

shift the participation of middle-aged females to higher levels. Also, the age-cohort profile of the female participation rate is expected to gradually become closer in shape to that of males implying a continued catching up process over the forecast horizon (see Chart 2). As a result, the female participation rate is expected to reach 74.5%, whilst the overall LFS participation rate is expected to reach 81.0% in 2030, from 74.2% in 2018.

The impact from a sustained influx of foreign workers and the pension reform

The implementation of the recent pension reform and the sustained influx of foreign workers in the Maltese labour market are two factors heavily shaping developments in both male and female participation rates. Since EU accession in 2004, the Maltese labour market has become ever more affected by the influx of foreigners. Since most foreign nationals who moved to Malta in recent years did so to seek employment, this has inevitably led to an increase in the overall participation rate. Moreover, the recent pension reform has resulted in significantly higher participation rates among the older age cohorts, serving as another push factor for the overall participation rate.

Whereas, demographic statistics indicate that foreign nationals within the Maltese population have increased by an average of 8,283 in the three years to 2017, the EUROPOP-2015 population projections suggest a flow of 2,727 in 2017 which declines to 2,267 by 2030. In light of the apparent underestimation of the population of foreign nationals within EUROPOP-2015 data, the baseline scenario estimate for foreigners uses alternative assumptions that take into account the latest demographic and administrative flows data. The baseline scenario assumes that the projected number of foreign workers residing in Malta will continue to increase over the forecast horizon, with an average annual net flow of 4,122 persons over the period 2018-2030, which compares with an average of 2,401 in EUROPOP-2015. The net flow used in the baseline drops to the net flow forecasted by EUROPOP-2015 from 2025 onwards. In order to gauge the sensitivity of the results to the assumptions underpinning the baseline scenario, the participation rates derived in the previous section are re-estimated using the flows of EUROPOP-2015 migration projections (Scenario 1).

Scenario 2 estimates the impact of Malta's pension reform on the aggregate participation rate, driven by developments in the participation rates of the older cohort. The pension reform introduced in 2012 has raised the pension age to 62 for individuals born between 1952 and 1955, to 63 for those born between 1956 and 1958, 64 for persons born between 1959 and 1961 and to 65 for those born from 1962 onwards.⁵ This implies that the first effects from the pension reform were registered in 2013, with the final rise in pension age taking place in 2026. In order to estimate the effect of the pension reform on the overall participation rate, Scenario 2 uses the average rate of exit calculated over the period 2009-2012 for the 60-64 age bracket instead of the average rate of exit estimated for the period 2014 to 2017. The results are shown in Chart 3 and Chart 4.

Chart 3 shows that EUROPOP-2015 inward migration estimates are consistent with a significantly lower working age population when compared to the baseline forecasts. The

⁵ For further analysis on the effects of the pension reform on the Maltese economy, refer to Grech A. (2016) "The Possible Impact of Pension Age Changes on Malta's Potential Output", *Policy Note* April 2016, Central Bank of Malta.

difference between the two series represents the cumulative difference between the flow estimates used in the baseline scenario and those predicted by EUROPOP-2015, confirming that the projected net inflow of foreign nationals is a substantial driver behind working-age population growth in Malta. Although the baseline working age population over the projection horizon exceeds that consistent with Scenario 1 by a wide margin, this partly reflects the fact that, according to the LFS the number of foreigners in Malta in 2018 (55,900) already substantially exceeds the EUROPOP-2015 figure for that year (11,491).

The lower working age population level in Scenario 1 implies an almost equivalent difference in the forecasted labour supply (see Charts 3 and 4).

Since foreign nationals tend to have a higher participation rate than Maltese nationals, Scenario 1 entails a lower forecasted participation rate of 79.0% in 2030, compared to 81.0% in the baseline (see Table 1). The initial impact of higher migrant flows on the participation rate is estimated at around 1.0 percentage point in 2019. The impact reaches 2.0 percentage points by the end of the forecast horizon. The contribution of a continued influx of foreign nationals within the Maltese labour force affects both the male and female participation rates.

As regards the pension reform (Scenario 2), this has no impact on the working age population, as individuals affected by the pension reform are already included in the working age population. As the pension reform started to have an effect in 2013, the labour supply is affected already in that year. As shown in Chart 4, the introduction of the pension reform is

Chart 3
WORKING AGE POPULATION (15-64)
(persons)

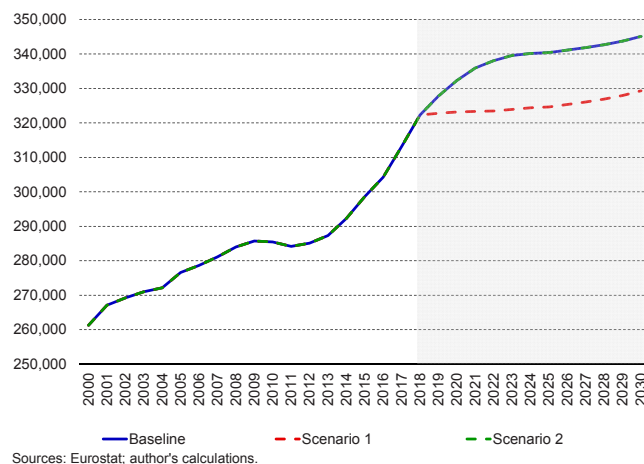


Chart 4
LFS LABOUR SUPPLY (15-64)
(persons)

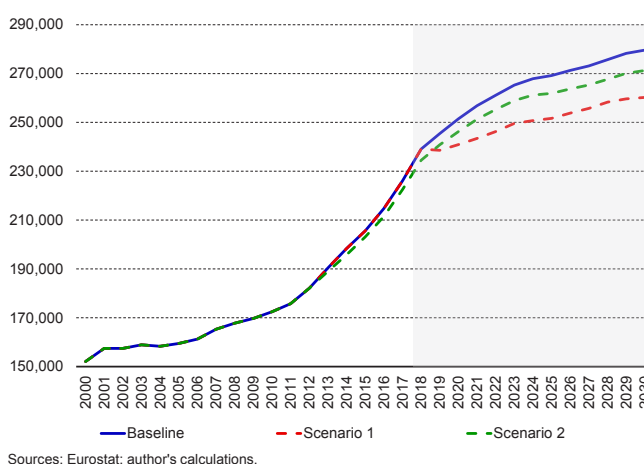


Table 1
PARTICIPATION RATE BASED ON LFS¹

Per cent of total working age population

	Baseline	Scenario 1	Scenario 2
2000	58.2	58.2	58.2
2001-2005 ⁽²⁾	58.4	58.4	58.4
2006-2010 ⁽²⁾	59.1	59.1	59.1
2011	61.9	61.9	61.9
2012	63.9	63.9	63.9
2013	66.3	66.3	65.8
2014	67.8	67.8	67.0
2015	68.8	68.8	68.0
2016	70.6	70.6	69.5
2017	72.2	72.2	71.0
2018	74.2	74.2	72.8
2019	74.9	73.9	73.5
2020	75.7	74.5	74.1
2021	76.5	75.3	74.8
2022	77.2	76.1	75.5
2023	78.1	77.0	76.3
2024	78.8	77.3	76.8
2025	79.1	77.5	76.9
2026	79.5	78.0	77.3
2027	79.9	78.4	77.6
2028	80.5	79.0	78.1
2029	81.0	79.2	78.6
2030	81.0	79.0	78.6

Sources: Eurostat; author's calculations.

⁽¹⁾ Forecasted figures are shown in bold.

⁽²⁾ Five year averages.

estimated to have a more muted effect on the labour supply compared with the sustained influx of foreign workers. On the other hand, its effect on the aggregate participation rate is estimated to be higher than that attributed to the sustained influx of foreign workers by the end of the forecast horizon (see Table 1). As soon as the pension reform was introduced, it immediately boosted the participation rate by 0.5 percentage point in 2013. This impact increases to 2.4 percentage points by the end of our forecast horizon. The impact of the pension reforms on the aggregate participation rate is mainly visible in the male component. Indeed by 2030, under the no pension reform scenario, the estimated participation rate of males is around 2.8 percentage points lower than that in the baseline scenario, while the participation rate of females is estimated to be around 2.0 percentage points lower than in the baseline.

This analysis indicates that more than half of the forecasted increase in the participation rate between 2019 and 2030 can be attributed to the sustained influx of foreign nationals and the pension reform. The remaining increase reflects cultural changes and the unfolding effects of other recent reforms aimed at increasing activity, whose effect has not been specifically estimated in this study.