

Tertiary Education Attainment

30 to 34 years old population – data and projections



July of 2016

Directorate-General for Education and Science Statistics

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This technical note aims to present possible scenarios for the evolution of the EU 2020 strategy indicator "Tertiary Education Attainment in the population aged 30 to 34 years" in Portugal. It mostly uses the statistical data about graduates collected by DGEEC under the RAIDES survey and the estimates of the resident population and projections from Statistics Portugal for the population aged 30 to 34 years, based on the 2011 Census.

At the current date, the graduates' databases is updated until 2015 and has historical data, disaggregated by age, dating back to 1997. These data allowed us to determine the stock of graduates aged 30 to 34 years in each year of the period elapsing from 2011 to 2015:

| Year | Stock of tertiary graduates aged 30 to 34 years old |
|------|---|
| 2011 | 237,982 |
| 2012 | 243,641 |
| 2013 | 237,001 |
| 2014 | 236,863 |
| 2015 | 234,003 |

Source: RAIDES (DGEEC/ME-MCTES)

However, these stock data on graduates from Portuguese tertiary education institutions (TEI) reveals a considerable departure from the estimates obtained by Statistics Portugal for the number of graduates with tertiary education in the population aged 30 to 34 years residing in Portugal, in each of the years listed above. These estimates are obtained through the Labour Force Survey and, although they are not disclosed, it is possible to obtain an approximate value by multiplying the PT2020 indicator by the estimates of the resident population:

| Year | Resident population aged 30 to 34 years (in thousands) | PT2020 Indicator Statistics Portugal /Labour Force survey | Tertiary graduates in the resident population aged 30 to 34 years (Statistics Portugal estimates) |
|------|--|---|---|
| 2011 | 764.1 | 26.7% | 204,015 |
| 2012 | 731.3 | 27.8% | 203,301 |
| 2013 | 700.6 | 30.0% | 210,180 |
| 2014 | 675.1 | 31.3% | 211,306 |
| 2015 | 651.3 | 31.9% | 207,765 |

Source: Statistics Portugal, Annual estimates of resident population and Labour Force Survey

The interpretation that can be given to this difference is that the balance between the number of graduates by the Portuguese TEI that are abroad and the number of graduates by foreign institutions

that came to reside within the country was very unfavorable for Portugal in the period under analysis. Since it is not so common that Portugal attracts graduates with foreign degrees, in the analysis that follows we will consider the difference between the stock of graduates and the Statistics Portugal estimates as a good *proxy* for the number of graduates with Portuguese diplomas that were out of the country in each year of the period 2011 to 2015.

The following table summarizes this collating data:

| Year | Resident population aged 30 to 34 years (In thousands) (P) | Stock of tertiary graduates aged 30 to 34 years (D) | D/P (%) | PT2020 Indicator Statistics Portugal /Labour Force survey (I) | Tertiary graduates in the resident population aged 30 to 34 years (Statistics Portugal estimates) (E=IxP) | Estimate of tertiary graduates aged 30 to 34 years that are abroad (D-E) | Estimate of the percentage abroad |
|------|--|---|---------|---|---|--|-----------------------------------|
| 2011 | 764.1 | 237,982 | 31.8% | 26.7% | 204,015 | 33,967 | 14.3% |
| 2012 | 731.3 | 243,641 | 34.0% | 27.8% | 203,301 | 40,340 | 16.6% |
| 2013 | 700.6 | 237,001 | 34.3% | 30.0% | 210,180 | 26,821 | 11.3% |
| 2014 | 675.1 | 236,863 | 35.4% | 31.3% | 211,306 | 25,557 | 10.8% |
| 2015 | 651.3 | 234,003 | 36.5% | 31.9% | 207,765 | 26,238 | 11.2% |

Projections for the period 2016 - 2020

To predict how the PT2020 indicator may evolve from 2015 to 2020 we will base the analysis on the Statistics Portugal projections for the population (Central Scenario - October 14, 2014), on DGEEC estimates for graduates in the age groups for the years to come and on the migration pattern shown in the table above.

In the Base Scenario, the estimates of new graduates in the age groups that will get successively missing as we advance in years are given by the peer values for 2015. It is assumed that in 2016 there will be still a decrease of 1 percentage point in the percentage of graduates out of the country when compared to the percentage estimated for 2015, thus fixing this percentage at 11.6% in 2016 onwards.

| Base Scenario | | | | | | |
|---------------|---|---|---------|--|---|---|
| Year | Resident population aged 30 to 34 years (P) | Stock of tertiary graduates aged 30 to 34 years (D) | D/P (%) | Estimate of tertiary graduates aged 30 to 34 years that are abroad | Estimate of tertiary graduates in the resident population aged 30 to 34 years | Estimate of PT2020 Indicator on Tertiary Attainment |
| 2016 | 635.7 | 222,447 | 35.0% | 24,001 | 198,446 | 31.2% |
| 2017 | 600.3 | 211,138 | 35.2% | 22,781 | 188,357 | 31.4% |
| 2018 | 582.2 | 201,213 | 34.6% | 21,710 | 179,503 | 30.8% |
| 2019 | 564.8 | 195,109 | 34.5% | 21,052 | 174,057 | 30.8% |
| 2020 | 557.0 | 195,312 | 35.1% | 21,073 | 174,239 | 31.3% |

The Optimistic Scenario has two calibration parameters: it is assumed that there may be an increase in the number of new graduates in the age groups where the counterpart values of 2014 were used as estimates. This is typically the age group above 26 years old which may still benefit from the measures designed to attract new publics to tertiary education, namely short-cycle tertiary courses; it is assumed also a greater maintenance of graduates within the country, gradually over the period.

| Optimistic Scenario | | | | | | |
|---------------------|--|---|---------|--|---|---|
| Year | Resident population aged 30 to 34 years (In thousands) (P) | Stock of tertiary graduates aged 30 to 34 years (D) | D/P (%) | Estimate of tertiary graduates aged 30 to 34 years that are abroad | Estimate of tertiary graduates in the resident population aged 30 to 34 years | Estimate of PT2020 Indicator on Tertiary Attainment |
| 2016 | 635.7 | 222,957 | 35.1% | 22,770 | 200,187 | 32.0% |
| 2017 | 600.3 | 211,978 | 35.3% | 19,529 | 192,449 | 32.1% |
| 2018 | 582.2 | 202,468 | 34.8% | 16,628 | 185,840 | 32.0% |
| 2019 | 564.8 | 196,905 | 34.9% | 14,202 | 182,702 | 32.5% |
| 2020 | 557.0 | 199,005 | 35.7% | 12,364 | 186,642 | 33.6% |

In the Pessimistic Scenario it is assumed that there will be no growth in the number of graduates or a reduction in the percentage of graduates abroad, that is, that it will keep the estimated value for 2015 (10.8%):

| Pessimistic Scenario | | | | | | |
|----------------------|--|---|---------|--|---|---|
| Year | Resident population aged 30 to 34 years (In thousands) (P) | Stock of tertiary graduates aged 30 to 34 years (D) | D/P (%) | Estimate of tertiary graduates aged 30 to 34 years that are abroad | Estimate of tertiary graduates in the resident population aged 30 to 34 years | Estimate of PT2020 Indicator on Tertiary Attainment |
| 2016 | 635.7 | 222,447 | 35.0% | 24,943 | 197,504 | 31.1% |
| 2017 | 600.3 | 211,138 | 35.2% | 23,674 | 187,464 | 31.2% |
| 2018 | 582.2 | 201,213 | 34.6% | 22,562 | 178,651 | 30.7% |
| 2019 | 564.8 | 195,109 | 34.5% | 21,877 | 173,232 | 30.7% |
| 2020 | 557.0 | 195,312 | 35.1% | 21,900 | 173,412 | 31.1% |

Convergence Scenario

In any of the above scenarios, the estimated projection for the value of the indicator is well below the agreed EU 2020 target, which is 40%. This distance from the target seems to stem mainly from two factors: continued decrease in the rates of graduates aged between 22 and 30 years and high levels of emigration among young graduates.

Note that, in five years where the calculations involve estimations (2016-2020), these concern age groups outside the modal age of completion of the degree. Typically, it was necessary to estimate the number of graduates with ages above 26, with the scenarios being designed just on these age groups because in the remaining age groups that contribute to the total number of graduates aged 30 to 34 years in 2020, the data used was already consolidated.

More precisely, of the 55,030 students who graduated in 2015, only 8,487 were aged between 26 and 30 years. The following convergence scenario assumes, therefore, a strong increase in the number of graduates in these age groups. It is not credible that this increase will be achieved through the large number of students entering the national access application, we see this scenario as potentially realistic if a significant attractiveness for the short-cycle tertiary courses is attained among the population aged 26 to 30 years in 2016/17, aged 27 to 31 years in 2017/18 and aged 28 to 32 years in 2018/19. As these courses have a length of 2 years, it is believable that most of these young people will be graduated and aged 30 to 34 years in 2020.

Assumptions of the convergence scenario:

- 20% increase in the number of graduates aged 26 to 34 years in 2016, relative to 2015;
- 20% increase in the number of graduates aged 27 to 34 years in 2017, relative to 2016;
- 40% Increase in the number of graduates aged 28 to 34 years in all subsequent years, compared with the number recorded in the previous year;
- 4% reduction in the percentage of graduates abroad in 2016 and 2 percentage points reduction, successively, in each year of the 2017-2020 period.
- Positive balance for Portugal, between graduates immigrants and emigrants, amounting to about 5,090 graduates aged between 30 and 34 years, in 2020.

| Convergence Scenario | | | | | | |
|----------------------|--|---|---------|--|---|---|
| Year | Resident population aged 30 to 34 years old (In thousands) (P) | Stock of tertiary graduates aged 30 to 34 years old (D) | D/P (%) | Estimate of tertiary graduates aged 30 to 34 years old that are abroad | Estimate of tertiary graduates in the resident population aged 30 to 34 years old | Estimate of PT2020 Indicator on Tertiary Attainment |
| 2016 | 635.7 | 223,192 | 35.1% | 11,635 | 211,557 | 33.3% |
| 2017 | 600.3 | 213,286 | 35.5% | 6,852 | 206,434 | 34.4% |
| 2018 | 582.2 | 206,920 | 35.5% | 2,510 | 204,411 | 35.1% |
| 2019 | 564.8 | 207,288 | 36.7% | -1,632 | 208,920 | 37.0% |
| 2020 | 557.0 | 217,690 | 39.1% | -5,090 | 218,820 | 40.0% |

Comparing this scenario with the optimistic scenario, we verify that the projection for the number in stock of graduates aged 30 to 34 years is gradually moving away over the period:

- More 235 graduates in 2016
- More 1,308 graduates in 2017 (unreliable because a similar number of young people aged between 29 and 33 years should have entered the short-cycle tertiary courses in 2015/16)
- More 4,452 graduates in 2018
- More 10,383 graduates in 2019
- More 18,685 graduates in 2020

According to these projections, in order to achieve the 40% target, it will be necessary to attract for the tertiary education in the overall of the three academic years from 2016/17 to 2019/20, 20,000 pupils aged between 26 and 32 years, mainly for short-cycle tertiary courses or to complete degrees which have been abandoned by half or more. Creating conditions for young graduates to return to the country and for foreign graduates to settle here is also an important factor in the sense that the target is reached.