

EVALUATION OF THE EFFICIENCY OF ECONOMIC POLICY UNDER THE EUROPE-2020 STRATEGY IN SMALL EUROPEAN UNION COUNTRIES

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Abstract. *The evaluation criteria to measure the efficiency of a state's economic policy in terms of integration processes in the European Union were determined in the Europe 2020 Strategy endorsed by the European Council in June 2010. According to the Strategy, the European Union has committed to seek progress in the fields of employment, investment in R&D, climate change and energy, education, and poverty reduction. With a view to assessing the economic impact of the above commitments by the European Union vis-a-vis small European Union countries, this article provides an evaluation of the three objectives of the Europe 2020 Strategy – employment, education, and investment in R&D – and their impact on the economic growth in smaller countries of the European Union.*

This article concludes that many of the smaller European Union countries choose not to be ambitious enough in their national objectives of employment, education, and investment in R&D areas under the Europe 2020 Strategy and, during the 2011–2020 period, they show on average a 4.8% lower annual GDP growth than it could potentially be, i.e. they abandon far-reaching ambitious targets.

Key words: *economic policy, small European Union countries, Europe 2020 Strategy, employment, education, R&D*

Introduction

Following the entry into force of the Lisbon Treaty, a deeper consolidation process in the European Union has been observed, with the European Union ever more operating in the world economy as one unit. However, at the same time the interests of individual European Union Member States have been increasingly ignored and not taken into account, particularly with regard to the smaller states. Hence, new challenges have surfaced up, as well as new requirements for the enhancement of the efficiency of the economic policy in the smaller European Union countries.

The evaluation criteria to measure the efficiency of a state's economic policy in terms of integration processes in the European Union were determined by the Europe 2020 Strategy – Europe 2020: A Strategy for smart, sustainable and inclusive growth – which was endorsed by the European Council in June 2010. According to this Strategy, the European Union has committed till 2020 to seek progress in the fields of:

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- employment: 75% of the population aged 20–64 should be employed;
- investment in R&D: 3% of the EU’s GDP should be invested in R&D;
- “20/20/20” climate/energy targets: reduce greenhouse gas emissions by at least 20% compared to 1990 levels; increase the share of renewable energy sources in final energy consumption to 20%, and by 20% increase the energy efficiency;
- education: the share of early school leavers should be under 10%, and at least 40% of the younger generation should have a tertiary degree;
- poverty reduction: 20 million less people should be at risk of poverty.

It should be mentioned that the European Commission’s proposal for the Europe 2020 Strategy, which was endorsed by the European Council, failed to provide for the economic impact assessment of the objectives on the European Union economic growth, let alone evaluations of each objective on the GDP in individual European Union Member States. To study its effect and to assess the economic impact of the European Union commitments in small European Union countries, this article provides an evaluation of three objectives of the Europe 2020 Strategy – employment, education, and investment in R&D – and their impact on the economic growth in smaller countries of the European Union.

In this case, the European Union Member States were selected as smaller countries of the European Union only by one criterion – the country should have a population of no more than 10 million inhabitants. According to the Eurostat, on the 1st of January of 2012, 15 Member States had a population below 10 million, namely Austria, Bulgaria, Cyprus, Denmark, Estonia, Finland, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Malta, Slovakia, Slovenia, and Sweden. The total number of the population of these 15 countries amounted to 13.2% of the EU’s total population.

Evaluation of the efficiency of economic policy: assumptions and projection methodology

The methodology to project the impact on the GDP considering changes in the fields of population and its structure by age groups, employment, education, and investment in R&D is based on a simple macrosimulation model. The macrosimulation model was created on the basis of the production function methodology by the author of this article, and it provides the possibility of projecting GDP growth by taking a country’s population and categorising it into age groups, employment rate, early school-leaving level, tertiary education level as the labour variables, and investment in R&D as the capital variable.

To evaluate the education impact on GDP growth across the smaller countries of the European Union, an assumption is made that a 1% increase in the enrolment rate raises the GDP by 0.35%. It does not take into account the fact that if a country decides to increase the level of education of its labour force by one year, the first impact is that the labour force falls. This is because the youngest cohort starts working a year later

than would otherwise be the case. Nor does it take into account the fact that the level of education within the labour force changes very slowly, as better-educated young people gradually replace the poorly-educated labour force.

To evaluate the R&D investment impact on GDP growth, an assumption is made that a 1% increase in R&D expenditure will generate a 0.07% increase in output.

The macrosimulation model was created on the basis of evaluating the impact of labour and capital variables on GDP growth by three steps. The first step involved the evaluation of the impact of demographic changes and the impact of implementation of employment targets in smaller EU countries on their GDP growth. The impact of the implementation of the targets for education on economic growth was projected as the second step, and the third step involved the evaluation of the impact of the implementation of targets for the investment in R&D on GDP growth. The year 2011 was chosen as the base year for the model's input data, and projections were made by the year 2020. The more specific description of every step and input data calculation and extrapolation is provided below.

It should be noted that the input data of smaller EU countries were partially calculated and extrapolated as follows: 1) the population data for the years 2012–2014 and 2016–2019 were extrapolated on the basis of the Eurostat actual data for the year 2011 and projected data for the years 2015 and 2020; 2) the number and share of 20–64 working-age population were calculated for the year 2011 on the basis of the Eurostat population data by the age groups and for the year 2020 on the basis of the Eurostat population projection by the age groups; using the calculated data, extrapolation for the years 2012–2019 were made; 3) employment rate (20–64 age group) for the years 2012–2019 was extrapolated on the basis of the Eurostat data for the year 2011 and targets for employment rate under the Europe 2020 Strategy; 4) the share of early school leavers (aged 18–24) and the share of the population (aged 30–34) with completed tertiary education were extrapolated for the years 2012–2019 on the basis of the actual Eurostat data for 2011 and targets for education for the year 2020; 5) investment in R&D (as % of GDP) was extrapolated for the years 2012–2019 on the basis of the Eurostat actual data for 2011 and targets for investment in R&D for 2020.

The general methodology used to project the impact on GDP of the targets for employment, education and investment in R&D under the Europe 2020 Strategy are articulated as follows.

Step 1. The evaluation of the impact of demographic changes and implementation of employment targets on GDP growth is made by using the following formulas:

$$GDP_n^{Step\ 1} = (GDP_{2011} / (NWAP_{2011} * ER_{2011})) * (NWAP_n * ER_n), \quad (1)$$

where GDP – gross domestic product, NWAP – number of working age population (20–64 years old), ER – employment rate, n – 2012, 2013, ..., 2020.

Furthermore, calculation is done as regards the impact of demographic changes and the implementation of employment targets on GDP growth (2020 compared to 2011) in each smaller EU country by the formula:

$$\Delta\%GDP_{2011-2020}^{Step\ 1} = (GDP_{2020}^{Step\ 1} / GDP_{2011} - 1) * 100. \quad (2)$$

Step 2. The impact of the implementation of the targets for education on economic growth was calculated assuming that a 1% increase in the enrolment rate raises the GDP by 0.35% and using the formulas below:

$$GDP_n^{Step\ 2} = (((-\Delta\%SESL_n) + \Delta\%STE_n) * 0,0035 + 1) * GDP_n^{Step\ 1}, \quad (3)$$

where SESL – the share of early school leavers, STE – the share of the population with completed tertiary education, n – 2012, 2013, ..., 2020.

The formula (3) gives the possibility to calculate the impact of demographic changes and the implementation of the targets for employment and education on the GDP on an annual basis.

The impact of demographic changes and the implementation of the targets for employment and education for the year 2020, in comparison to the year 2011, were calculated as follows:

$$\Delta\%GDP_{2011-2020}^{Step\ 2} = (GDP_{2020}^{Step\ 2} / GDP_{2011} - 1) * 100. \quad (4)$$

In the calculation of the net impact of the implementation of targets for education on the GDP, the impact of demographic changes and the implementation of employment targets on GDP growth was eliminated by withdrawing the impacts calculated using formulas (1) and (2) from the impacts calculated using formulas (3) and (4), respectively.

Step 3. The impact of the implementation of targets for the investment in R&D on GDP growth was calculated by using an assumption that a 1% increase in R&D expenditure will generate a 0.07% increase in output, and the following formulas:

$$GDP_n^{Step\ 3} = (\Delta\%R\&D_n * 0,0007 + 1) * GDP_n^{Step\ 3}, \quad (5)$$

where R&D – investment in R&D in % of GDP, n – 2012, 2013, ..., 2020.

The formula (5) provides the possibility to calculate the impact of demographic changes and the implementation of targets for employment, education and R&D on the GDP on an annual basis.

The impact of demographic changes and the implementation of the targets for employment, education and investment in R&D for the year 2020, in comparison to the year 2011, were calculated as follows:

$$\Delta GDP_{2011-2020}^{Step\ 3} = (GDP_{2020}^{Step\ 3} / GDP_{2011} - 1) * 100. \quad (6)$$

In the evaluation of the net impact of the implementation of target for investment in R&D on the GDP, the impact of demographic changes and the implementation of employment and education targets on GDP growth was eliminated by withdrawing the impacts calculated using formulas (3) and (4) from the impacts calculated using formulas (5) and (6), respectively.

The impact on GDP growth of the implementation of national targets in the fields of employment, education and investment in R&D under the Europe 2020 Strategy

The analysis of national targets under the Europe 2020 Strategy shows that the smaller countries of the European Union have set rather different national targets in the fields of employment and education, as well as investment in research and development. As regards the employment rate, for example, there is a 17.1 p.p. variation between the least ambitious and most ambitious goals – from the 62.9% national employment rate target chosen by Malta to the well over 80% employment rate target chosen by Sweden. The differences among the levels of early school leaving across smaller EU countries are very high and running at 24 p.p.; in this field, Slovenia is most ambitious with its 5% target, and Malta is least ambitious with its 29% national target, while in the field of higher education the variation of national targets across countries is 29.7 p.p. – from the least ambitious target of 30.3% chosen by Hungary to the most ambitious target 60% as the national objective in Ireland. According to investment in R&D, national objectives vary as much as 8 times and range from 0.5% of GDP in Cyprus to 4% of GDP in Finland and Sweden (Table 1).

According to the projections of the impact on GDP growth, which were made using the macrosimulation model and the assumptions mentioned above, and taking into account the national targets in the fields of employment, education and investment in R&D in the smaller European Union states, it could be noted that the impact on GDP growth of the implementation of national targets in the employment area will be modest, and in many smaller EU countries the GDP growth projections for 2011–2020 are estimated as less than 10%. However, during this period, the GDP will grow by 19%, 16%, 16% and 14% in Hungary, Lithuania, Luxembourg, and Latvia, respectively, while Malta's economy during this period will shrink by 3%. It should be noted that during this period the Hungarian economic growth is determined by a relatively ambitious national employment rate target – 75% in 2020 as compared to its current rate of 60.7%; the Lithuanian GDP growth was mostly influenced by the growth of the labour force level and the implementation of the national target in the field of employment; Luxembourg's economic growth is driven by an 11% increase in the working-age population, the Latvian economic growth is based on an increase in the working-age population by 3% in 2020 as compared with 2011, and on the implementation of national targets in the field of employment. Meanwhile, Malta chose the

TABLE 1. Targets of smaller European Union countries under the Europe 2020 Strategy: employment, education, and investment in R&D

	Employment rate (in %)		Early school leaving (in %)		Tertiary education (in %)		Investment in R&D (in % of GDP)	
	2011	targets 2020	2011	targets 2020	2011	targets 2020	2011	targets 2020
EU (27 countries)	68.6	75	13.5	10	34.6	40	2.03	3
Austria	75.2	77-78	8.3	9.5	23.8	38	2.75	3.76
Bulgaria	62.9	76	11.8	11	27.3	36	0.57	1.5
Cyprus	73.4	75-77	11.3	10	46.2	46	0.48	0.5
Denmark	75.7	80	9.6	<10	41.2	At least 40	3.09	3
Estonia	70.4	76	10.9	9.5	40.3	40	2.38	3
Finland	73.8	78	9.8	8	46.0	42	3.78	4
Hungary	60.7	75	11.2	10	28.1	30.3	1.21	1.8
Ireland	63.8	69-71	10.8	8	49.7	60	1.72	Approx. 2% (2.5% GNP)
Latvia	66.3	73	11.6	13.4	35.9	34-36	0.7	1.5
Lithuania	67.0	72.8	7.2	<9	45.8	40	0.92	1.9
Luxembourg	70.1	73	6.2	<10	48.2	40	1.43	2.3-2.6
Malta	61.5	62.9	23.6	29	21.4	33	0.73	0.67
Slovakia	65.1	72	5.0	6	23.4	40	0.68	1
Slovenia	68.4	75	4.2	5	37.9	40	2.47	3
Sweden	79.4	Well over 80	6.6	<10	46.8	40-45	3.37	4

Source: Eurostat data base, European Commission http://ec.europa.eu/europe2020/pdf/targets_en.pdf

least ambitious employment target which would not even be offset by the implications of demographic changes, thus leading to an economic decline (Fig. 1).

Following the assessment of the impact of demographic changes and national targets for employment on the GDP growth in smaller European Union States, it could be concluded that this will compensate for the negative impact on GDP by the working-age population decline, thus ensuring economic growth solely by the implementation of employment goals.

Analysing the impact of the implementation of the national objectives in the field of education (the share of early school leavers aged 18–24 and the share of the population aged 30–34 having completed tertiary education) on GDP, one can see that this area shows quite a significant variation.

A more marked 15–20% economic growth in 2020 compared to 2011 would be observed in less than a third of selected countries – in Slovakia, Ireland, Austria, Bulgaria – by setting up relatively ambitious national goals on higher education for the year 2020 in comparison with their actual values for 2011; 11% of GDP growth in Malta

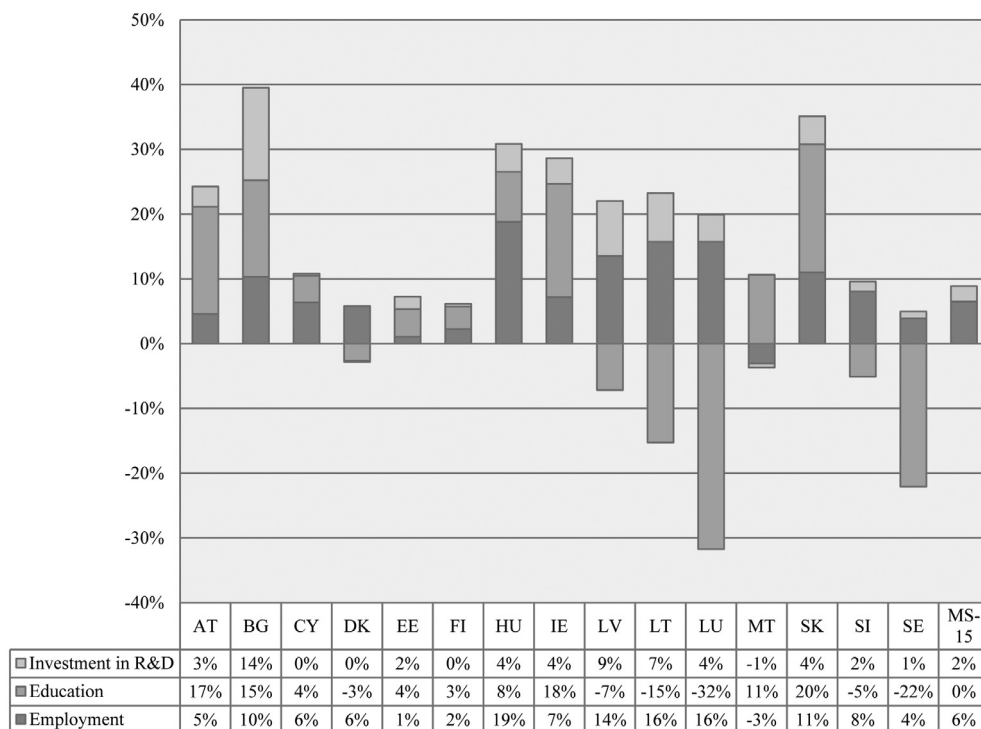


FIG. 1. Impact on GDP: impact of demographic changes and implementation of national targets in employment, education, and investment in R&D (2020 versus 2011)

Source: projections made by author.

by the modest size of these indicators' actual data in 2011, in comparison with other smaller EU countries. Meanwhile, in six countries – Luxembourg, Sweden, Lithuania, Latvia, Slovenia and Denmark – the unambitious national goals for higher education shrink their economies by 32%, 22%, 15%, 7%, 5% and 3%, respectively (Fig. 1). It should be noted that Finland by its national goal for higher education is also at the forefront of the countries whose economies are on the shrink factor of change, but it managed thanks to its relatively ambitious national target at the early school leavers. Finland's target for the year 2020 is an 8% share of early school leavers aged 18–24 versus 9.8% of its actual value for the year 2011.

Analysing the impact of the national goals of smaller EU States for investment in R&D for the year 2020 on GDP growth, the fastest economic growth is expected in three Member States – 14% in Bulgaria, 9% in Latvia, and 7% in Lithuania, but this growth is driven not by ambitious national objectives in this area, but by their initial starting points: investment in R&D in Bulgaria accounted for only 0.57% of GDP in 2011 and the target for 2020 is only 1.5% of GDP, i.e. twice smaller than the 3% GDP of the EU target

in this field; the Latvian investment in R&D amounted to 0.7% of GDP in 2011, and the selected national target is similar to that of Bulgaria – 1.5% of GDP; investment in R&D in Lithuania amounted to 0.92% of GDP in 2011, and the national target for 2020 is more demanding than in Bulgaria and Latvia, but less than 2% of GDP. Meanwhile, the most ambitious (4% of GDP investment in R&D) goals have been set in Finland and Sweden where the current significant investment in R&D and the setting up of ambitious goals in this field could not ensure a significant economic growth for these countries, but it could help to maintain a high level of GDP. It should also be noted that two selected countries – Malta and Denmark – due to relatively unambitious national objectives in this field as compared to their actual investment in R&D (0.73% of GDP in 2011 versus 0.67% of GDP for 2020 in Malta; 3.09% of GDP in 2011 versus 3% of GDP for 2020 in Denmark) programmed a negligible economic contraction (Fig. 1, Table 1).

The analysis of the overall impact of the five factors – demographic, employment, early school leaving, tertiary education, investment in R&D – on the GDP growth of the individual smaller EU states has shown that three countries – Bulgaria, Slovakia and Hungary – by setting rather ambitious national targets as compared with their actual size in 2011, programmed more than a 30% increase in their GDP for the period 2011–2020; about 1/4 increase in GDP was programmed in Ireland and Austria, and GDP growth in other selected countries will be more modest, including Lithuania, where GDP increase was only 8% during the period, as regards their national goals. Also, it should be noted that the economic contraction of 17% in Sweden and 12% in Luxembourg for the period 2011–2020 results from the choice of unambitious goals in the field of education (Fig. 2).

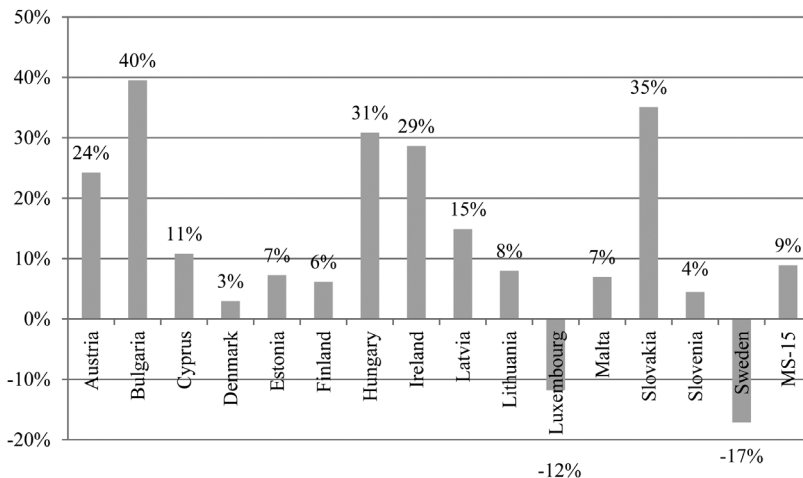


FIG. 2. Impact on GDP: overall impact of demographic changes and implementation of national targets in employment, education, and investment in R&D (2020 versus 2011, in %)

Source: projections made by author.

To summarize the projected results, the fastest GDP growth was projected in Bulgaria, Slovakia, and Hungary, but not due to the selected ambitious national targets for employment, education, and investment in R&D under the Europe 2020 Strategy, but due to the relatively low rate of these indicators in 2011.

Lost potential economic growth due to the unambitious national objectives in the fields of employment, education, and investment in R&D

As mentioned above, the variation of national objectives in employment, education, and investment in R&D across the smaller EU countries is considerable. It can, therefore, be said that the countries that chose unambitious national targets and less ambitious policies in employment, education, and investment in R&D areas will certainly experience less economic growth.

If losses of the potential economic growth will be projected as a gap between the projections of the impact on the GDP of the achievement of the most ambitious goals chosen by Denmark, Sweden, Slovenia, Ireland, and Finland (80% on employment rates in Denmark and Sweden, 5% of the share of early school leavers in Slovenia, 60% on higher education in Ireland, 4% of GDP on investment in R&D in Finland and Sweden), and the projections of the impact on GDP of national targets in each of the smaller European Union countries, it can be seen that the greatest losses of the potential economic growth have been caused mainly by the lack of attention to education and investments in R&D (Fig. 2).

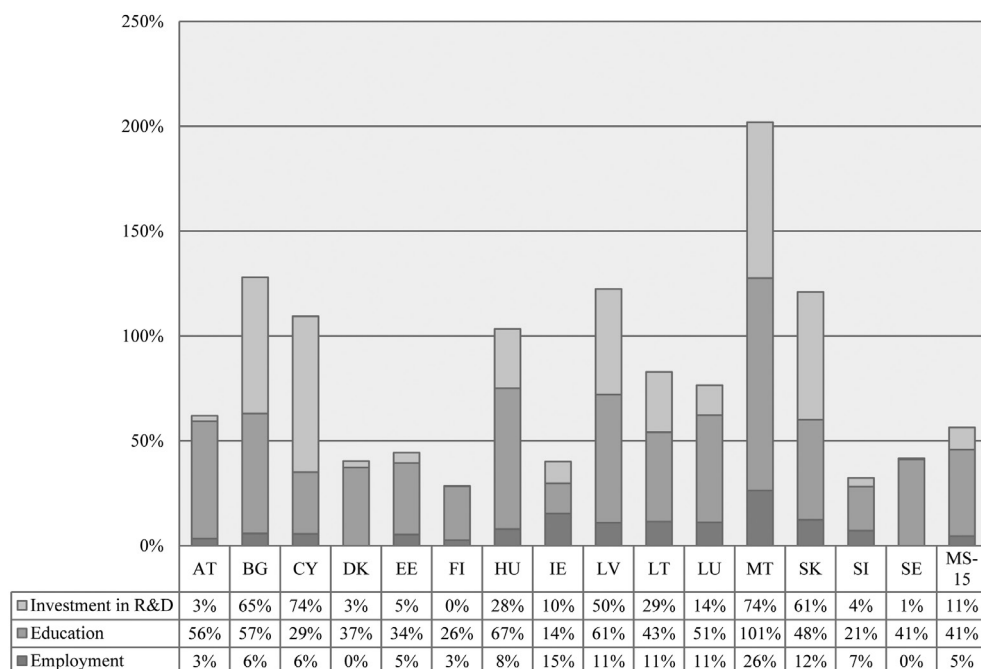


FIG. 3. Losses in the potential GDP growth (2020 versus 2011, in %)

Source: projections made by author.

The analysis of the impact of losses on the potential GDP growth by individual factors has shown that the employment target was relevant in this sense in all the selected countries. Given the fact that the most ambitious targets for employment were opted by Sweden and Denmark, their economic growth was best programmed by the employment factor, and in this case they will fully exploit it in a positive impact on economic growth. The national targets in the field of employment in the other selected countries demonstrate from 3% up to 15% (including 11% in Lithuania) losses of economic growth in the period 2011–2020, with the exception of Malta whose goal in this field is relatively unambitious considering the 26% idle potential economic growth.

It should be noted that if the smaller European Union countries selected more ambitious targets in employment (except Sweden and Denmark), their GDP would grow annually on average from 0.3% in Finland to 2.7% in Malta as compared to the implementation of national targets on employment; selecting a more ambitious target in employment would increase the Lithuanian GDP by 1.1% annually as compared to the implementation of the current national target (Table 2).

TABLE 2. Annual economic impact on GDP

	Implementation of national targets				Implementation of more ambitious targets in comparison with national targets			
	Employment	Education	Investment in R&D	Total	Employment – 80%	Education – 5%/60%	Investment in R&D – 4% of GDP	Total
Austria	0.5%	1.7%	0.3%	2.4%	0.4%	4.3%	0.1%	4.7%
Bulgaria	1.1%	1.4%	1.2%	3.8%	0.6%	4.2%	3.0%	7.8%
Cyprus	0.7%	0.4%	0.0%	1.1%	0.6%	2.6%	4.9%	8.0%
Denmark	0.6%	-0.3%	0.0%	0.3%	0.0%	3.5%	0.3%	3.8%
Estonia	0.1%	0.5%	0.2%	0.8%	0.6%	3.0%	0.3%	4.0%
Finland	0.2%	0.4%	0.0%	0.7%	0.3%	2.4%	0.0%	2.7%
Hungary	1.9%	0.7%	0.4%	3.0%	0.7%	4.7%	1.4%	6.9%
Ireland	0.8%	1.7%	0.4%	2.8%	1.5%	1.0%	0.7%	3.1%
Latvia	1.4%	-0.7%	0.9%	1.6%	1.0%	4.9%	2.6%	8.5%
Lithuania	1.6%	-1.6%	0.8%	0.9%	1.1%	3.8%	1.7%	6.6%
Luxembourg	1.6%	-3.6%	0.5%	-1.4%	1.0%	5.2%	0.9%	7.1%
Malta	-0.3%	1.2%	-0.1%	0.7%	2.7%	6.5%	3.5%	12.6%
Slovakia	1.2%	1.9%	0.4%	3.4%	1.2%	3.2%	3.2%	7.6%
Slovenia	0.9%	-0.5%	0.2%	0.5%	0.7%	2.0%	0.3%	3.1%
Sweden	0.4%	-2.6%	0.1%	-2.1%	0.0%	4.5%	0.0%	4.5%
MS-15	0.7%	0.0%	0.2%	1.0%	0.5%	3.6%	0.7%	4.8%

Source: projections made by author

Analysing the losses in the potential GDP growth, which were caused by unambitious national targets in the field of education, and taking into account that the most ambitious targets in this field were set by Slovenia and Ireland – the 5% share of early school leavers in Slovenia and 60% on tertiary education in Ireland, which are used to evaluate the gap between the projections of the impacts of most ambitious and national targets on GDP growth in the selected smaller EU countries, it can be seen that even the countries that chose most ambitious targets do not fully avail the potential economic growth. Minimal 14% losses of the potential economic growth in the period 2011–2020 are projected for Ireland and the largest (101%) for Malta, and on average losses from 1% in Ireland to 6.5% in Malta (3.8% in Lithuania) of the annual GDP growth caused by the lack of ambitious national goals in education (Fig. 3, Table 2).

While evaluating the losses of the potential economic growth, which were programmed by the implementation of unambitious targets in the field of the investment in R&D, it should be kept in mind that the most ambitious targets in this field are set by Finland and Sweden (4% of GDP); therefore, these countries fully exploit this factor in the economic growth. A detailed analysis of the data shows that the vast majority of smaller EU countries which joined the European Union in 2004 and later (Cyprus, Malta, Bulgaria, Slovakia, Latvia, Lithuania, Hungary) chose the national targets on investment in R&D which were not ambitious enough, resulting in a smaller GDP growth in 2020 as compared to 2011 (from 28% in Hungary to 74% in Cyprus and Malta), or on average by 1.4% in Hungary to 4.9% in Cyprus (1.7% in Lithuania) slower annual GDP growth as compared to what it could be if they chose a more ambitious 4% of GDP investment in R&D as a national target. Meanwhile, the other EU Member States which joined the EU much earlier (with the exception of Luxembourg and Ireland), and Estonia and Slovenia, following the example of Finland and Sweden and choosing much more ambitious targets on investment in R&D, over the period 2011–2020 could boost its economic growth only up to 5% till 2020 versus 2011, or 0.3% annually (Fig. 3, Table 2).

Analysing the overall selected factors – employment, education, investment in R&D – and programmed losses of the potential GDP growth in the selected countries, which were caused by the lack of ambition in choosing national targets, it can be seen that many of the smaller EU countries which joined the EU in 2004 or later (Bulgaria, Latvia, Slovakia, Cyprus, Hungary) could have had their GDP doubled (and more than tripled in the case of Malta) by selecting more ambitious targets. Another group of countries – Lithuania, Luxembourg, and Austria – could have programmed the 62% to 83% greater economic growth for the period 2011–2020 by choosing more ambitious targets. The remaining six countries could have programmed a higher GDP growth (from 29% in Finland to 44% in Estonia) for the period 2011–2020 by choosing more ambitious goals (Fig. 4).

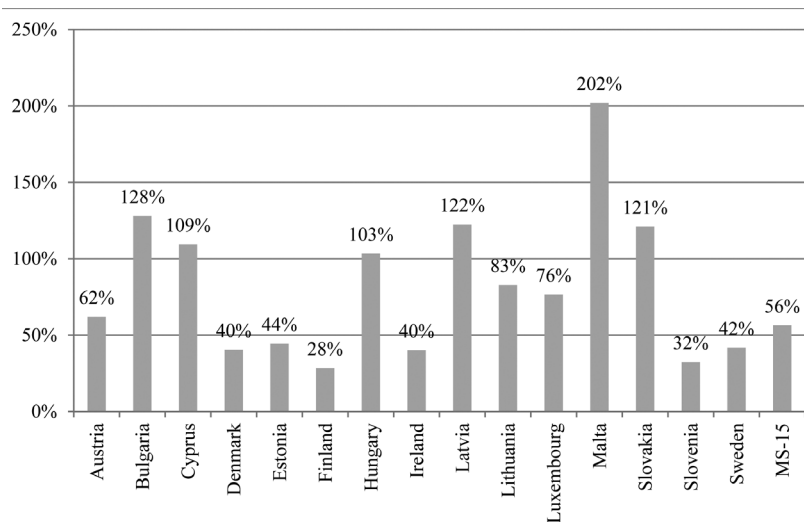


FIG. 4. Losses in the potential GDP growth: the impact of ambitious targets compared to the impact of national targets (2020 compared to 2011, in %)

Source: projections made by author.

Assessing the losses of the potential economic growth in the selected smaller European Union countries, which were caused by a lack of ambition in choosing national targets in the fields of employment, education, and investment in R&D, it can be concluded that on average their losses could be 4.8% of GDP per year, the biggest being 12.6% projected for Malta and the lowest being 2.7% in Finland. Lithuania, by choosing more ambitious targets, could have increased its annual GDP growth by 6.6% during the whole period 2011–2020.

Summarising the projected assessment results, it could be concluded that many of the smaller European Union countries choose not to be ambitious enough in their national objectives of employment, education, and investment in R&D under the Europe 2020 Strategy, and during the 2011–2020 period they will show on average a 4.8% lower GDP growth than it could potentially be.

Conclusions

Many of the smaller European Union countries choose not to be too ambitious in their national objectives of employment, education, and investment in R&D under the Europe 2020 Strategy and during the period 2011–2020 will show the GDP growth on average by 4.8% per year lower (Lithuania 6.6%) than if more ambitious goals were chosen.

The assessment of the potential economic growth losses, with the gap between the projections of the impact on GDP of the achievement of most ambitious goals – 80% in the employment rate, 5% of the share of early school leavers, 60% on higher education,

4% of GDP on investment in R&D – leads to the conclusion that the greatest losses of the potential economic growth are caused mainly by the lack of attention to education and investments in R&D in the selected countries. Unambitious targets:

- in employment rate cause on average a 0.5% lower annual GDP growth (1.1% in Lithuania);
- in the field of education cause on average a 3.6% lower annual GDP growth (3.8% in Lithuania);
- on investment in R&D cause on average a 0.7% lower annual GDP growth (1.7% in Lithuania).

Many of the smaller EU countries which joined the EU in 2004 or later (Bulgaria, Latvia, Slovakia, Cyprus, Hungary) could double their GDP by 2020 and increase it more than threefold in Malta by choosing more ambitious targets in the fields of employment, education, and investment in R&D; Lithuania, Luxembourg and Austria could increase their economic growth by 62% to 83% by choosing more ambitious targets; the remaining six countries could increase their GDP from 29% in Finland to 44% in Estonia during the period 2011–2020 by selecting more ambitious goals.

REFERENCES

Europe 2020: A strategy for smart, sustainable and inclusive growth. Communication from the Commission, European Commission, Brussels, 3.3.2010, COM (2010) 2020, final.

European Council conclusions, Brussels. 17 June 2010, EUCO 13/10.

Griffith, R. (2000). How important is business R&D for economic growth and should the government subsidize it? – Briefing Notes. Institute for Fiscal Studies, London, 15 p.

Stevens, Ph., Weale, M. (2003). Education and Economic Growth – National Institute of Economic and Social Research, London, 29 p.

EC website:

<http://ec.europa.eu/europe2020/pdf/targets_en.pdf>

Eurostat website:

<<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&language=en&pcode=tps00001&tableSelection=1&footnotes=yes&labeling=labels&plugin=1>>

<http://epp.eurostat.ec.europa.eu/portal/page/portal/science_technology_innovation/data/database>

<<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tps00002&plugin=1>>

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=t2020_10>

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&plugin=1&language=en&pcode=t2020_40>

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&plugin=1&language=en&pcode=t2020_41>