DIFFERENCES IN AMOUNTS OF SAVING GENERATED BY SELECTED EUROPEAN COUNTRIES

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Abstract: The aim of the paper is to estimate – for twenty-four selected European countries – the influence of the deviations of two factors on the deviation of annual gross national saving per capita. In order to do so, causal analysis has been conducted. The amount of annual gross national disposable income per capita and the average propensity to save have been adopted as the variables affecting the value of saving per capita. Three research hypotheses have been verified in this paper. Data concerning 2021 and 2022 have been used for calculations.

Keywords: saving per capita, income per capita, propensity to save

JEL classification: C65, E21, O11

INTRODUCTION

Saving is regarded by economists as one of the foundations of economic growth and development. Research tasks associated with saving can be considered in the micro-, meso- and macroeconomic dimensions, as well as at the global level. Saving is – to a larger or smaller extent – the subject of interest of many scientific disciplines, which investigate this matter from various perspectives [Alam et al. 2023; Costa-Font et al. 2018; Heckman, Hanna 2015; Rudzinska-Wojciechowska 2017]. The issue of saving is particularly important for governments and economic policymakers. Problems related to saving also have a special place in the field of practical and theoretical economics and finance.

Saving is called a flow variable because it is measured per unit of time. In contrast, savings are a stock variable and – as such – defined at a point in time. It can be said that the flow of saving equals the rate of change in the stock of savings.

In deciding how much to consume and save, a household must weigh the benefits of enjoying more consumption today against the benefits of putting aside some of its income as saving for the future. In making this trade-off, households must take into account their expectations about the future of the economy, including expectations about government policy.

In general, the value of saving in any country is the country's current income minus its spending on current needs. From the point of view of the economy as a whole, the importance of national saving is that it provides the funds needed for investment. Investment, in turn, is critical in increasing average labor productivity and then improving living standards [Frank, Bernanke 2013]. If an economy is to grow, it must invest, and funds for investment come from saving. But to raise standards of living over time, an economy must devote some fraction of its current output to increase future output. McConnell and others [2012] aptly point out that increased saving can only come at the price of reduced current consumption.

Investment can be financed either by domestic saving or funds from savers abroad [Colander 2013]. If capital were perfectly mobile, changes in domestic investment would be independent of changes in domestic saving [Feldstein, Horioka 1980]. However, Rodrik [2000] stresses that in practice, foreign capital flows can serve only to a limited extent as a substitute for domestic saving. Excessive reliance on foreign saving, he argues, would imply running a persistent current account deficit. Moreover, if national saving is not sufficient to meet the investment needs of enterprises and to finance the budget deficit, the economy becomes increasingly dependent on foreign investors, which poses significant risks. Furthermore, there is no certainty that foreigners would not, at some point, refuse to lend more money.

It is also worth adding that national saving is one of the automatic stabilizers that protect economies from extremes of business cycles, in particular from recession and inflation. Slavin [2011] notes that saving, as an automatic stabilizer, can help the economy to cruise along fairly smoothly during severe economic turbulences.

AIM OF THE PAPER AND HYPOTHESES

The aim of this study is to determine the influence of specific factors on the diversity of selected[1] European countries in terms of the scale of annual national saving per capita. The article will analyze two factors affecting the value of gross

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[1] Eurostat data regarding the value of gross national saving in 2021 and 2022 are available for twenty-four countries. These countries are as follows: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, and Sweden.

national saving per person[2], namely gross national disposable income per capita[3] and the share of saving in income. The first factor measures the wealth of a given country, and the latter represents the average propensity to save in the economy of the examined country [Turczak 2017]. Mean values for a group of twenty-four European countries have been adopted as the basis for all comparisons.

Three research hypotheses have been formulated in this paper. The first one states that European countries achieving a level of saving per capita higher than the mean are also characterized by a higher level of income per capita. This means that among the discussed countries, there will not be any country capable of generating higher saving per person than average, despite the fact that such a country is relatively poor compared to other European countries.

According to the second research hypothesis, the fact that a given European country has a level of saving per capita above the average is mainly affected by its wealth, and the second factor – the propensity to save – is of less influence.

The third research hypothesis claims that the wealthiest European countries, with income per capita considerably higher (i.e. at least 40% higher[4]) than the average, also have a larger propensity to save than the average in the set of twenty-four countries taken together. This hypothesis will be considered true when none of the analyzed economies has income per capita at least 1.4 times higher and, at the same time, a smaller propensity to save than the average in the whole group of discussed countries.

METHODOLOGY USED

In order to establish appropriate ratio equality, it was assumed that the examined variable, denoted as a (annual gross national saving per capita), can be presented as the product of two factors, b (annual gross national disposable income per capita) and c (the quotient of saving and income). The mean value of variable a for the group of twenty-four countries considered in this study will serve as the reference point and shall be marked as $\bar{a}$. In turn, the value of this variable computed for the i-th economy will be denoted as a_i. Since a_i can be expressed as $b_i \cdot c_i$ and $\bar{a}$ as $\bar{b} \cdot \bar{c}$, when dividing a_i by $\bar{a}$, the obtained result is:

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[2] Further in this paper terms 'gross national saving', 'national saving' and 'saving' will be used interchangeably.

[3] Further in this paper terms 'gross national disposable income', 'national income' and 'income' will be used interchangeably.

[4] The decision was made to set a ceiling of 40% in order to ensure that this hypothesis would not be applicable solely to the three countries with the highest deviation in income per capita from the average (i.e., Luxembourg, Ireland, and Denmark). Selecting the 40% threshold allowed for the inclusion of an expanded set of five countries in the considered category, thereby also categorizing Sweden and the Netherlands among the wealthiest European nations.

$$A_i = B_i \cdot C_i, \tag{1}$$

where $A_i = \frac{a_i}{\bar{a}}$, $B_i = \frac{b_i}{\bar{b}}$, and $C_i = \frac{c_i}{\bar{c}}$.

Taking the logarithms[5] of both sides of equation (1), the following expression can be obtained:

$$1 = \log_{A_i} B_i + \log_{A_i} C_i, A_i \neq 1. \tag{2}$$

The final step is to multiply both sides of equation (2) by the deviation $\Delta_i = a_i - \bar{a}$ calculated for the i-th country. This results in the equation:

$$\Delta_i = \Delta_i \cdot \log_{A_i} B_i + \Delta_i \cdot \log_{A_i} C_i, \tag{3}$$

where:

$\Delta_i \cdot \log_{A_i} B_i$ − the deviation of the a variable caused by the deviation of the b factor,
$\Delta_i \cdot \log_{A_i} C_i$ − the deviation of the a variable caused by the deviation of the c factor.

The methodological procedure proposed in the paper has a broad range of applications and is valuable for researchers across various fields. Specifically, it can be beneficial for those involved in comparative studies and causal analysis. Decomposing the deviations in annual gross national savings per capita using the logarithmic method and categorizing countries into four groups based on the obtained results is the author's original concept.

RESULTS

Comparing the gross national saving per capita

The first task is to assess the scale of saving per capita in each of the studied countries in relation to the mean value calculated for the group of twenty-four European countries taken together. Table 1 contains results of the relevant calculations.

Table 1. Annual gross national saving per capita (in euro per person)

Country	2021	2022	Country	2021	2022
Ireland	31 860	34 488	Estonia	7225	7635
Denmark	19 347	24 109	Czechia	6329	7107
Luxembourg	25 744	23 226	Slovenia	6301	6639
Sweden	16 900	17 856	Spain	5762	6226
Netherlands	16 732	16 513	Lithuania	4182	5070
Austria	12 876	13 683	Hungary	4247	4592
Germany	13 480	13 622	Portugal	4095	4500
Belgium	11 482	11 998	Croatia	3661	4384
Finland	11 191	11 769	Latvia	3686	4023
Mean (24)	9548	10 002	Poland	3204	3750
Malta	8254	8891	Cyprus	2927	3296
France	8647	8729	Slovakia	3640	3191
			Bulgaria	2101	2830

Source: own computation based on Eurostat database (access: 12.10.2023)

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[5] The logarithm with the base A_i was taken.

The highest value of saving per capita of all the studied countries has been observed in Ireland – in 2021, saving per capita in Ireland was 3.3 times (in 2022 – 3.4 times) higher than the mean value obtained for the whole group of countries. The lowest saving per person was recorded in Bulgaria – in 2021, the value of this variable in Bulgaria equaled only 22% of the European mean (in 2022 – 28%).

Poland generated less saving in relation to the number of its inhabitants than it was on average in the set of twenty-four European countries selected for the study. In 2021, the annual saving per capita in Poland amounted to 3204 euro (in 2022 – 3750 euro) and that was approximately 1/3 of the European mean.

Comparing the gross national disposable income per capita

The second task carried out is the evaluation of the gross national disposable income per capita in each of the analyzed countries against the mean value computed for the whole group of them. The calculation results are listed in Table 2.

Table 2. Annual gross national disposable income per capita (in euro per person)

Country	2021	2022			
			Spain	25 726	28 011
Luxembourg	79 412	80 189	Slovenia	24 054	27 245
Ireland	63 277	69 841	Cyprus	24 069	26 995
Denmark	59 940	66 036	Estonia	23 228	26 199
Sweden	52 863	54 607	Czechia	21 483	24 417
Netherlands	50 075	53 299	Portugal	21 233	23 533
Austria	45 296	49 088	Lithuania	19 367	22 797
Finland	45 460	48 290	Latvia	17 613	20 581
Germany	44 519	47 396	Slovakia	17 985	19 766
Belgium	43 126	47 161	Croatia	15 405	18 053
France	37 073	38 781	Hungary	15 214	16 972
Mean (24)	34 393	37 131	Poland	14 517	16 958
Malta	26 259	28 717	Bulgaria	10 005	12 930

Source: own computation based on Eurostat database (access: 12.10.2023)

Among all the examined countries, the highest value of gross national disposable income per capita has been observed in Luxembourg – income per person in this country was more than twice the mean value computed for the entire group of twenty-four countries taken together. In turn, Bulgaria recorded the lowest value of gross national disposable income per capita at that time – in 2021, income per capita in Bulgaria was 71% lower (in 2022 – 65% lower) than the European mean.

In 2021, in Poland, the annual income per capita amounted to 14 517 euro (in 2022 – 16 958 euro), while the average income equaled 34 393 euro (in 2022 – 37 131 euro). It means that the value of the variable in Poland was less than a half of the mean value regarding the set of twenty-four European countries.

Comparing the propensity to save

The third task is to compare the saving value in relation to the income value in the economies of the discussed countries. The obtained results are presented in Table 3.

Table 3. Gross national saving in relation to gross national disposable income (in %)

Country	2021	2022			
Ireland	50.4	49.4	Belgium	26.6	25.4
Denmark	32.3	36.5	Finland	24.6	24.4
Sweden	32.0	32.7	Slovenia	26.2	24.4
Netherlands	33.4	31.0	Croatia	23.8	24.3
Malta	31.4	31.0	France	23.3	22.5
Estonia	31.1	29.1	Lithuania	21.6	22.2
Czechia	29.5	29.1	Spain	22.4	22.2
Luxembourg	32.4	29.0	Poland	22.1	22.1
Germany	30.3	28.7	Bulgaria	21.0	21.9
Austria	28.4	27.9	Latvia	20.9	19.5
Hungary	27.9	27.1	Portugal	19.3	19.1
Mean (24)	27.8	26.9	Slovakia	20.2	16.1
			Cyprus	12.2	12.2

Source: own computation based on Eurostat database (access: 12.10.2023)

The highest saving-income ratio was observed in Ireland – in 2021, the quotient of saving and income was as high as 181% of the average value (in 2022 – 184%). In turn, the lowest flow of saving in comparison with the flow of income was noted in Cyprus – in 2021, the considered quotient was only 44% of the value of the relevant measure calculated for the entire group of twenty-four European countries (in 2022 – 45%).

It is worth emphasizing that in 2021 in Ireland only 49.6% of the national income was spent on consumption, and the remaining 50.4% constituted saving (in 2022 – 50.6% and 49.4%, respectively)[6]. The proportion for Europe as a whole was as follows: in 2021, 72.2% of the income was consumed and 27.8% saved (in 2022 – 73.1% and 26.9%, respectively). In the case of Cyprus, as much as 7/8 of the income was spent on current consumption, and only 1/8 was put aside.

Poland had a slightly lower propensity to save (and a higher propensity to consume) than it was on average in the group of twenty-four countries constituting the basis of reference. In 2021, Poland saved 22.1% (in 2022 – 22,1%) of its national disposable income, whereas the mean based on the whole set of twenty-four countries was 5.7 percentage points more (in 2022 – 4.8 percentage points more).

Estimating the impact effects of the two discussed factors

The last task to be carried out is the evaluation of the influence of deviations of the two factors on the deviation of gross national saving per capita in the examined countries from the European mean. Table 4 presents the equations (1) and (3) estimated for each of the twenty-four countries considered.

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[6] Assuming that the sum of the propensity to consume and the propensity to save is equal to one [compare Bohdalová, Pažický 2019].

Table 4. The importance assigned to the causes of the occurring deviations regarding the response variable

Higher income per capita and higher part of saving in income			
Ireland:	I	$3.337 = 1.840 \cdot 1.814$	$(+22\ 313) = (+11\ 288) + (+11\ 024)$
	II	$3.448 = 1.881 \cdot 1.833$	$(+24\ 485) = (+12\ 497) + (+11\ 988)$
Luxembourg:	I	$2.696 = 2.309 \cdot 1.168$	$(+16\ 197) = (+13\ 664) + (+2533)$
	II	$2.322 = 2.160 \cdot 1.075$	$(+13\ 224) = (+12\ 085) + (+1138)$
Denmark:	I	$2.026 = 1.743 \cdot 1.163$	$(+9799) = (+7708) + (+2091)$
	II	$2.410 = 1.778 \cdot 1.355$	$(+14\ 107) = (+9232) + (+4875)$
Sweden:	I	$1.770 = 1.537 \cdot 1.152$	$(+7352) = (+5535) + (+1817)$
	II	$1.785 = 1.471 \cdot 1.214$	$(+7854) = (+5227) + (+2627)$
Netherlands:	I	$1.752 = 1.456 \cdot 1.204$	$(+7184) = (+4811) + (+2374)$
	II	$1.651 = 1.435 \cdot 1.150$	$(+6511) = (+4694) + (+1817)$
Germany:	I	$1.412 = 1.294 \cdot 1.091$	$(+3932) = (+2942) + (+990)$
	II	$1.362 = 1.276 \cdot 1.067$	$(+3620) = (+2860) + (+759)$
Austria:	I	$1.349 = 1.317 \cdot 1.024$	$(+3328) = (+3065) + (+263)$
	II	$1.368 = 1.322 \cdot 1.035$	$(+3681) = (+3279) + (+401)$
Higher income per capita and lower part of saving in income			
Belgium:	I	$1.203 = 1.254 \cdot 0.959$	$(+1934) = (+2373) + (-438)$
	II	$1.200 = 1.270 \cdot 0.944$	$(+1996) = (+2623) + (-627)$
Finland:	I	$1.172 = 1.322 \cdot 0.887$	$(+1643) = (+2887) + (-1244)$
	II	$1.177 = 1.301 \cdot 0.905$	$(+1767) = (+2854) + (-1088)$
France:	I	$0.906 = 1.078 \cdot 0.840$	$(-901) = (+682) + (-1583)$
	II	$0.873 = 1.044 \cdot 0.836$	$(-1273) = (+407) + (-1680)$
Lower income per capita and higher part of saving in income			
Malta:	I	$0.865 = 0.763 \cdot 1.132$	$(-1294) = (-2398) + (+1104)$
	II	$0.889 = 0.773 \cdot 1.149$	$(-1111) = (-2425) + (+1313)$
Estonia:	I	$0.757 = 0.675 \cdot 1.120$	$(-2323) = (-3270) + (+948)$
	II	$0.763 = 0.706 \cdot 1.082$	$(-2368) = (-3057) + (+689)$
Czechia:	I	$0.663 = 0.625 \cdot 1.061$	$(-3219) = (-3684) + (+465)$
	II	$0.711 = 0.658 \cdot 1.081$	$(-2895) = (-3551) + (+656)$
Hungary:	I	$0.445 = 0.442 \cdot 1.006$	$(-5300) = (-5337) + (+37)$
	II	$0.459 = 0.457 \cdot 1.004$	$(-5410) = (-5441) + (+31)$
Lower income per capita and lower part of saving in income			
Slovenia:	I	$0.660 = 0.699 \cdot 0.944$	$(-3247) = (-2793) + (-454)$
	II	$0.664 = 0.734 \cdot 0.905$	$(-3363) = (-2540) + (-823)$
Spain:	I	$0.603 = 0.748 \cdot 0.807$	$(-3786) = (-2176) + (-1610)$
	II	$0.622 = 0.754 \cdot 0.825$	$(-3776) = (-2245) + (-1531)$
Lithuania:	I	$0.438 = 0.563 \cdot 0.778$	$(-5365) = (-3733) + (-1633)$
	II	$0.507 = 0.614 \cdot 0.826$	$(-4933) = (-3541) + (-1392)$
Portugal:	I	$0.429 = 0.617 \cdot 0.695$	$(-5453) = (-3106) + (-2347)$
	II	$0.450 = 0.634 \cdot 0.710$	$(-5503) = (-3142) + (-2361)$
Latvia:	I	$0.386 = 0.512 \cdot 0.754$	$(-5861) = (-4122) + (-1740)$
	II	$0.402 = 0.554 \cdot 0.726$	$(-5979) = (-3874) + (-2105)$
Croatia:	I	$0.383 = 0.448 \cdot 0.856$	$(-5886) = (-4933) + (-954)$
	II	$0.438 = 0.486 \cdot 0.901$	$(-5619) = (-4912) + (-707)$
Slovakia:	I	$0.381 = 0.523 \cdot 0.729$	$(-5908) = (-3972) + (-1936)$
	II	$0.319 = 0.532 \cdot 0.599$	$(-6811) = (-3759) + (-3052)$
Poland:	I	$0.336 = 0.422 \cdot 0.795$	$(-6344) = (-5011) + (-1333)$
	II	$0.375 = 0.457 \cdot 0.821$	$(-6252) = (-4994) + (-1258)$

Table 4. The importance assigned to the causes of the occurring deviations regarding the response variable *(continued from previous page)*

Lower income per capita and lower part of saving in income			
Cyprus:	I	0.307 = 0.700 · 0.438	(−6621) = (−1999) + (−4623)
	II	0.329 = 0.727 · 0.453	(−6707) = (−1926) + (−4781)
Bulgaria:	I	0.220 = 0.291 · 0.757	(−7446) = (−6074) + (−1372)
	II	0.283 = 0.348 · 0.812	(−7173) = (−5993) + (−1180)

I – results for 2021   II – results for 2022

Source: own computation based on Tables 1, 2, and 3

As an example, the values obtained in 2022 for Poland shall be interpreted. Poland saved per capita 6252 euro less (i.e. 62.5% less) than saved on average the twenty-four European countries. Had Poland generated income per capita at the mean level, the annual saving per capita in this country would have been 1258 euro lower than it was on average in the European countries, only due to the lower propensity to save. If, however, the part of saving in income had been in Poland at the mean level, the annual saving per person in Poland would have been 4994 euro lower than the mean value obtained for all the discussed countries, which would have been a result solely of the lower income per capita.

DISCUSSION

Saving is a key economic variable because it is closely related to the rate of wealth accumulation [Fenton-O'Creevy, Furnham 2022]. To save means to reduce consumption today in order to raise income and consumption in the future. The more a country saves, the more it invests [Buzatu 2015], and countries that invest more have higher standards of living. The importance of national saving in the process of economic development has been emphasized by many outstanding economists [see Aghion et al. 2009]. One of the central problems of their interests was to understand the relationship between saving and income. According to the Solow growth model[7], if a nation devotes a large fraction of its income to saving and investment, it will benefit the economy by a great capital stock and a high level of income per capita. Conversely, if a nation saves and then invests only a small fraction of its income, its capital stock and income will be low [Zhang 2012].

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[7] The Solow model was developed by the Nobel Prize Laureate Robert Solow, a researcher at the Massachusetts Institute of Technology, who received the Nobel Prize in 1987. The key conclusion drawn from Solow's work is that an increase in the saving rate leads to a permanent rise in the level of output per capita, but it does not result in a sustained increase in the economy's growth rate. The elevated saving contributes to the growth of the capital stock, causing an increase in capital depreciation that necessitates replacement. Consequently, larger amounts of gross investment are required merely to maintain the capital stock at its new, higher level.

Nevertheless, the Solow model implies, and it is worth emphasizing, that a higher saving rate affects a higher future standard of living but does not influence long-term growth – the increase in the growth rate is only temporary. The long-term growth of the economy can be caused exclusively by faster technological progress [Carlin, Soskice 2006].

FINAL CONCLUSIONS AND RECOMMENDATIONS

As presented in Table 1, there are huge differences between European countries when it comes to the scale of saving they have achieved. Moreover, based on Tables 2 and 3, it can be stated that the countries form a very heterogeneous group as far as the flow of income and the propensity to save are concerned.

Three research hypotheses have been formulated in this paper. According to the first hypothesis, the European countries generating saving per capita higher than the European mean are also characterized by higher income per capita[8]. This hypothesis has been positively verified, as there was no country among the examined ones that generated higher saving per person than mean despite the fact that such a country is relatively poor compared to the whole group of European countries. All nine economies with saving per person above average[9] ($A_i > 1$) also had the income per capita higher than the average level in the set of twenty-four countries ($B_i > 1$).

The aforementioned statement is equivalent to the following: the European countries characterized by income per capita below average also generate lower saving per capita. This hypothesis is still true, as there was no country among the twenty-four examined that was, compared with the European mean, relatively poor and at the same time achieved higher saving per person than the European mean level. All fourteen economies[10] with income per person lower than the mean ($B_i < 1$) also had saving per capita lower than it was on average in the studied European countries ($A_i < 1$).

The second hypothesis stated that if a given European country has the flow of saving per capita above average, it is mainly a result of wealth, and the impact of the second factor – namely propensity to save – is smaller. This hypothesis can be verified positively, as for each of the nine countries with saving per capita higher than the mean, the impact effect of the first factor under consideration was larger than the impact effect of the second factor[11]. In the group of these nine countries,

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[8] However, countries with higher income per capita do not necessarily generate higher saving per capita than the European average (as in the case of France).

[9] These countries are: Austria, Belgium, Denmark, Finland, Germany, Ireland, Luxembourg, Netherlands, and Sweden.

[10] These countries are: Bulgaria, Croatia, Cyprus, Czechia, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Slovakia, Slovenia, Spain.

[11] Mathematically, this can be written as follows: $\left| \Delta_i \cdot \log_{A_i} B_i \right| > \left| \Delta_i \cdot \log_{A_i} C_i \right|$.

there was not a single exception where the impact of the first factor (i.e., income per capita) was weaker than the impact of the second factor (propensity to save).

According to the third research hypothesis, the wealthiest European countries, with income per capita considerably higher than the European mean (i.e., $B_i > 1.4$), also have a propensity to save bigger than it is on average in the entire group of twenty-four countries (meaning C_i for them was never lower than 1). This hypothesis may be deemed true, as none of the five economies[12] for which $B_i > 1.4$, had propensity to save smaller than the European mean.

Poland is relatively poor and this is the main obstacle to increasing the amount of its flows of saving. In the case of Poland, the income per person is much lower than average, which results in saving per person also lower than the average in the group of twenty-four countries taken together (as the first hypothesis states). Thus, the only way to raise national saving in that country is the above-average increase in the propensity to save, facilitating the growth of income in the long-term perspective (see Solow model of economic growth [Solow 1956]). Poland is on track to achieve this goal, as the propensity to save in that economy is approaching the European average. The only proper recommendation for that country seems to be a constant stimulation of the growth of its national saving rate, which would result in the increase of national income in the subsequent periods, followed by further growth in national saving[13] and other positive changes in income. The data analysis shows that ratios A_i and B_i for Poland were growing. It is justified to expect that its national income will become closer and closer to the mean European level.

The lowest value of saving per capita of all the studied countries has been observed in Bulgaria. There are two reasons for the modest value of the country's saving – both the relatively low income and the small propensity to save compared to other countries. Income growth will not accelerate if Bulgaria does not limit current consumption for the sake of raising the amount of saving.

The highest saving per person was recorded in Ireland. Thus, it is clear that Ireland also recorded income per capita higher than average (as the first hypothesis provides for). In 2021, the level of income per capita in Ireland was over 1.8-fold higher (in 2022 – nearly 1.9-fold higher) than in Europe as a whole, which also means that the propensity to save in that country was above average. This relationship – as the third hypothesis statement – has already been identified. Additionally, the fact that saving per capita in Ireland was higher than the average mostly resulted from its being wealthier than the others[14].

However, it should be clarified that higher saving leads to faster growth in the Solow model, but only temporarily. An increase in the rate of saving raises growth

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[12] These countries are: Denmark, Ireland, Luxembourg, Netherlands, and Sweden.
[13] Keynes [1936] argued that "(...) a higher absolute level of income will lead, as a rule, to a greater proportion of income being saved". For detailed explanations, refer to Kahn [1984].
[14] This is a general principle identified in the countries discussed in this paper (see the verification of the second hypothesis).

until the economy reaches the new steady state – the point where the additional saving is devoted entirely to maintaining the higher level of output. Thus, if the economy maintains the increased saving rate, it will sustain the larger capital stock and the higher level of output, but it will not sustain the higher rate of growth forever.

In summary, according to the Solow model, a change in the saving rate has a level effect rather than a growth effect. And indeed, as practice shows, only alterations in the rate of technological progress exhibit long-term growth effects, while all other changes merely manifest as level effects.

It is essential to stress that the research carried out is only a certain contribution for the sake of conducting further studies on the role of saving in the long-run development of the European economies. The article analyzed two factors directly influencing the amount of national saving per capita, i.e. national disposable income per capita and the average propensity to save. These factors, in turn, are affected by a multitude of various determinants which – indirectly – also shape the value of national saving. Such determinants include: fiscal policy of governments, distribution of wealth and income within societies, interest rates, existing investment opportunities, ease of access to banking facilities, financial market sophistication, and many other sub-factors that saving depends on. In further studies, the author is going to address the question of whether relationships exist between the level of saving and the severity of turbulences caused by economic and other crises.

The novelty of this paper is manifested in the employed methodological concept. The primary strength of the proposed methodology lies in its potential for theoretical development and its applicability to the detailed identification of various research problems. It is noteworthy that, instead of comparing deviations from the average, one can juxtapose deviations from values in previous periods. In this case, the denominators for ratios A_i, B_i, C_i will not feature average values but values for the same country in previous years. An additional possibility is that changes over time can be analyzed using either individual or aggregate indices. Furthermore, equations (2) and (3) presented in this paper can be extended to incorporate more than just two factors.

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