

The Economic Performance of the Nordic Countries

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Abstract

In this article, utilizing the appropriate statistical data, I analyse the economic results of the Nordic countries i.e., Denmark, Finland, Iceland, Norway and Sweden. I begin from the Human Development Index (HDI). This index describes the objective conditions, impacting upon the incomes, health and levels of education, upon which the possibility of utilizing the natural capacities of persons depend. Then I make use of the subjective evaluations of the satisfaction from life. For this I look at the results of research undertaken in the context of the economics of happiness. In approaching another type of economic analysis I look at the behaviour of variables upon which economic efficiency and justice in the Nordic countries are directly dependent. I recognize the size of GDP per capita and innovation in the economy as efficiency indicators, and as indicators of justice I rely on the intergenerational mobility of earnings, the variability of incomes, the extent of poverty and also the situation in the labour market. I present the results of national economic management in the Nordic countries against the backdrop of economically developed countries (namely the countries of continental Europe, southern Europe, Great Britain and – the United States). The analysis shows that the societies of Denmark, Finland, Iceland, Norway and Sweden managed to achieve some of the best (if not the best) results in the management of their national economies. At the same time, it is noticed that differences in the economic performance in individual Nordic countries are relatively small.

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Introduction

The commonly used term in economic literature of ‘Nordic countries’ concerns five countries of Northern Europe, namely Denmark, Finland, Iceland, Norway and Sweden. In keeping with the commonly held opinion of economists, the manner of national economic management in the Nordic countries has certain particular characteristics, which justifies the use of the term ‘Nordic Model’ in reference to their economies.

The Nordic Model began to take form in the 1930’s (see Czech 2013). Regardless of the changes to which it has been subject in the last decades, in the opinion of many observers, the Nordic Model deserves to be emulated. The newest expression of that conviction is what is known as the ‘special report’ published by the weekly *The Economist* in 2013 (see Wooldridge 2013), the authors of which name the manner of running the economy in the Nordic countries as a ‘supermodel’.

In this article, utilizing the appropriate statistical data, I analyse the economic performance of the Nordic countries, which constitutes an introduction to a more in-depth examination of the Nordic Model. I begin with the Human Development Index (HDI). This index describes, in a concise matter, the objective conditions, impacting on the incomes, health and levels of education, upon which the possibility of utilizing the natural capacities of persons depend. Then I make use of the subjective evaluations of the satisfaction from life made by the inhabitants of these countries. For this I look at the results of research undertaken in the context of the economics of happiness¹.

Defining the objectives of national economic management, economists often speak of economic efficiency and justice. In approaching this type of economic analysis I thus look at the behaviour of variables upon which economic efficiency

¹ The Human Development Index is an objective measure. It informs about these aspects of the life situation of people that decide about the state of consciousness that these people can achieve. The assessment of the life satisfaction of inhabitants of different countries is subjective. In measuring ‘happiness’, the data collected during the questionnaire surveys are – by their nature – measures of the states of consciousness. People can feel satisfaction with life and do not realize the chance of living a yet more creative and full life, the condition of which life is, for example, education, non-discrimination based on gender, and better health care (see Beckerman 2011: 108–109). The connections of the objective measures of social development and of the measures of life satisfaction (happiness) are analyzed, among others, by Anand (see Anand 2017).

and justice of national economic management in the Nordic countries are directly dependent. I recognize the size of GDP per capita and innovation in the economy as efficiency indicators², and as indicators of justice I rely on the intergenerational mobility of earnings, the variability of incomes, the extent of poverty and also the situation in the labour market³.

I present the results of national economic management in the Nordic countries against the backdrop of economically developed countries (namely the countries of continental Europe, southern Europe, Great Britain (with Northern Ireland) and – the United States.

The article ends with a Conclusion, which includes a summary of the results of the analysis.

1. What is meant by ‘Nordic countries’?

Nordic countries, and thus the three Scandinavian countries Denmark (together with Greenland and the Faroe Islands), Norway and Sweden and also Finland and Iceland, which are not part of Scandinavia, are located – more or less – around the Baltic Sea. Members of the European Union (EU) are Denmark (from 1973), Finland (from 1995) and Sweden (from 1995). Norway and Iceland do not belong to the EU. Only Finland is a member of the Euro zone.

Table 1 contains information about the surface area and population of the Nordic countries in 2015.

In 2015, these countries had a total area of 1,147,000 square kilometres and not quite 27 million inhabitants, which comes to only 24 persons per square kilometre. For comparison, the area and population of the European Union comes to 4,307,000 square kilometres and 509.2 million persons, Great Britain has an area of 242,500 square kilometres and 65.1 million inhabitants and the United States covers 9,525,100

² The level of GDP is an approximate measure of the amount of goods produced using resources available to the public. It depends on the innovativeness of the economy whether, with the passage of time, these goods meet human needs better and better.

³ Intergenerational mobility of earnings is often regarded as an indicator of the intensity of the poverty inheritance and wealth inheritance processes, or as an indicator of 'equal opportunities' of citizens (Corak 2013b). The scale of domination and suffering in society depends on the scale of income disparity, the extent of poverty, and the amount of unemployment, including long-term unemployment (see Tungodden 2008, Vol. 3: 69; Duclos 2008, Vol. 5: 653).

square kilometres and has a population of 321.6 million. The population density for these areas comes to – respectively – 118,268 and 34 persons per square kilometre.

Table 1. Total area and population of Nordic countries (2015)

Country	Total Area (km ²)	Population (million people)
Denmark	43,561 ^a	5,71 ^a
Finland	338,430 ^b	5,49 ^b
Iceland	103,492	0,33
Norway	323,781	5,21
Sweden	447,435	9,85

^a Without Greenland (2,166,086 km² and 55,847 persons) and Faroe Islands (1396 km² and 48,704 persons).

^b Without Aland Islands (autonomous territory of Finland) (1581 km² and 28,916 persons).

Source: Nordic Statistics 2016: 8–9.

Generally the GDP generated in the Nordic countries constituted – respectively – 6.7% of the GDP of the European Union, 7.3% of the GDP of the United States and 48.4% of the GDP of Great Britain [Rocznik Statystyczny (Statistical Yearbook)...2016], OECD data, own calculations).

2. Human Development Index

The Human Development Index (HDI) describes the objective social conditions upon which depend people's chances on realizing innate abilities. In particular, it is the geometric mean of three partial measures measuring, respectively, the wealth, education and health of a society. According to the design of the HDI index, it takes values from 0 to 1 (Human... 2017a: 1–2; Human... 2017b: 2–3).

The Human Development Report 2016 published by the United Nations Development Program on March 21, 2016, provides information on HDI levels in 188 countries around the world for 2015. The top ten countries with the highest level of development included three of the five Nordic countries: Norway is in first place, Denmark in fifth, and in ninth place – Iceland. Sweden is in the fourteenth place and Finland is twenty-third (see Table 2 and the accompanying illustration). The HDI variation level in the Nordic countries is 1: 1.06 (the same as in the regions referred to in Table 3).

Table 2. Human Development Index (HDI) in Nordic countries (2015)

Denmark	Finland	Iceland	Norway	Sweden
0.925	0.895	0.921	0.949	0.913

Source: Human... 2017a: 202.

Table 3, in turn, contains information about the average level of the social development index in selected countries and groups of countries in the world in 2015. In grouping countries into regions, in this and the following tables I used a modified method of Lars Calmors' work, *How well is the Nordic model doing? Recent performance and future challenges* (Valkonen, Vihriälä 2014: 17–89). This data makes it possible to compare the situation in the Nordic countries to other groups of highly developed economies. It shows that the level of social development in the Nordic countries (0.921) was higher than in other highly developed countries and slightly higher than the level of development in the United States (0.920).

Table 3. Human Development Index (HDI) in Nordic countries and in other countries (2015)^a

Nordic countries	Continental Europe	Southern Europe	UK	US
0.921	0.907	0.870	0.909	0.920

^a Here and in the next tables the data for groups of countries refers to arithmetical averages. 'Continental Europe' refers to Austria, Belgium, France, Germany and the Netherlands. 'Southern Europe' refers to Greece, Spain, Portugal and Italy. The 'UK' refers to England, Northern Ireland, Scotland and Wales.

Source: As for Table 2; author's own calculations.

3. Life Satisfaction

The information obtained through the use of the Human Development Index is supplemented by the results of economic research in the field of the economics of happiness which offer the picture of the subjective feelings of the inhabitants of the Nordic countries. According to the renowned World Happiness Report 2017, published by the Sustainable Development Solutions Network on March 20, 2017, all Nordic countries are among the top ten countries whose residents feel the highest life satisfaction. The report encompasses 155 countries and the years 2014–2016. The level of life satisfaction of residents in the Nordic countries turns out to be very high.

In the first three places in the ranking there were – respectively – Norway, Denmark and Iceland, the fifth was Finland, and Sweden was ranked 10th. The diversity of the level of happiness in the Nordic countries is – again – relatively small and amounts to 1: 1.03 (in the case of the regions, which are referred to in Table 5, it equals 1: 1.3). Detailed information is provided by Table 4 and the illustration.

Table 4. Life satisfaction in Nordic countries (2014–2016)^a

Denmark	Finland	Iceland	Norway	Sweden
7.522	7.469	7.504	7.537	7.284

^a The scale ranges from 0 to 10.

Source: Helliwell, Layard, Sachs (2017): 20.

Table 5, on the other hand, contains information that makes it possible to compare the situation in the Nordic countries and in other groups of highly developed economies. These data show that the level of life satisfaction in the Nordic countries (7.463) was higher than in other regions of the world and significantly exceeded the level in the United States (6.993) and in continental Europe (6.933), amongst other places.

Table 5. Life satisfaction in Nordic countries and in other countries (2014–2016)^a

Nordic countries	Continental Europe	Southern Europa	UK	US
7.463	6.933	5.697	6.714	6.993

^a The scale ranges from 0 to 10.

Source: As for Table 4; author's own calculations.

Now let's go to an analysis of classic economic indicators.

4. Gross Domestic Product per Capita

All Nordic countries are characterized by a very high level of GDP per capita. According to this criterion, they were respectively – in fourth (Norway), seventh (Iceland), ninth (Denmark), tenth (Sweden) and fifteenth (Finland) places among OECD countries (source: OECD data, see below).

The variation in the level of GDP per capita in the Nordic countries group (1: 1.37) is caused, firstly, by the relatively low level of GDP per capita in Finland and, secondly, by Norway's significant income from oil exports. For comparison, the variation in the level of GDP per capita in the regions referred to in Table 7 is much higher and amounts to 1: 1.75.

Table 6. Gross domestic product per capita in Nordic countries (2016)^a

Denmark	Finland	Iceland	Norway	Sweden
49,810	43,364	51,122	59,350	49,410

^a US dollars, PPP.

Source: OECD (2017), Gross domestic product (GDP) (indicator). doi: 10.1787/dc2f7aec-en (accessed 24th September 2017).

In terms of GDP per capita in 2016, the Nordic countries (\$ 50,611 PPP) were only behind in relation to the US (\$ 57,591 PPP), although the difference between them and continental Europe (\$ 47,718 PPP) is relatively small and results mainly from the special situation of Norway.

Table 7. Gross Domestic Product per capita in Nordic countries and in other countries (2016)^a

Nordic Countries	Continental Europe	Southern Europa	UK	US
50,611	47,718	32,976	42,651	57,591

^a US dollars, PPP.

Source: As for Table 6; author's own calculations.

5. Innovativeness of the Economy

The index of innovation in economies commonly used by economists is the *Global Innovation Index* (GII) calculated every year by Cornell University from the United States, by INSEAD (the *Institut Européen d'Administration des Affaires*) – one of the world's largest and most reputable business schools – and one of the UN's sixteen specialized agencies, the *World Intellectual Property Organization* (WIPO) from Geneva, in cooperation with other institutions.

In 2017, the ranking was based on data from 2016 or on the most current data available. Of the 127 countries included, Sweden was ranked second, Denmark ranked sixth, Finland eighth, Iceland thirteenth and Norway nineteenth. Thus, all the Nordic countries are among the world's leaders in terms of innovation measured by the Global Innovation Index (GII).

The diversification of the Global Innovation Index in the Nordic countries is equal to 1: 1.2 (compared to 1: 1.36 for the regions included in Table 9). More detailed data is provided in Tables 8 and 9.

Table 8. Innovativeness in Nordic countries, GII (2016)^a

Denmark	Finland	Iceland	Norway	Sweden
58,70	58,49	55,76	53,14	63,82

^aThe scale ranges from 0 to 100.

Source: Cornell University, INSEAD, and WIPO (2017): *The Global Innovation Index 2017: Innovation Feeding the World*, Ithaca, Fontainebleau, and Geneva, p. XVIII.

Table 9. Innovativeness in Nordic countries and in other countries, GII (2016)^a

Nordic countries	Continental Europe	Southern Europa	UK	US
57,98	55,78	45,17	60,89	61,40

^aThe scale ranges from 0 to 100.

Source: As for Table 8; author's own calculations.

The global innovation index, GII, is a weighted average of several dozen sub-indices (in 2017 it included 81 indicators). The range of circumstances on which its level depends is thus dependent upon the ability to innovate (e.g. R & D expenditures) as well as specific achievements in the field of innovation (e.g. number of patents submitted). Its natural complement is a measurement with a narrower 'field of view', e.g. the number of so-called triple patent families, i.e. the groups of patent applications protecting the same invention filed in all three of the most important patent offices in the world: EPO, USPTO and JPO [respectively: the European Patent Office, the United States Patent and Trademark Office and the Japanese Patent Office (see: Sternitzke 2009)].

Appropriate information on the total number of triple patent families reported by applicants from individual countries and regions is provided in Table 10 and Table 11.

Table 10. Innovativeness in Nordic countries (triadic patent families, 2014)^a

Denmark	Finland	Iceland	Norway	Sweden
52.86	52.82	5.45	17.89	66.24

^aThe total number of patent applications per million population.

Source: OECD (2017), Triadic patent families (indicator). doi: 10.1787/6a8d10f4-en (accessed 26th August 2017), Eurostat, United States Census Bureau; author's own calculations.

In comparison with other regions of the world, the Nordic countries are located in the middle of the measurement (the position of these countries is better than the position of Great Britain and southern Europe, but worse than the position of the United States and continental Europe). However, after the elimination of Iceland (0.33 million inhabitants at the end of 2014) and Norway (5.6 million inhabitants at the end of 2014) from the set of Nordic countries taken into account, the situation changes and the Nordic countries (i.e. now only Denmark, Finland and Sweden) are definitely in the lead.

Table 11. Innovativeness in Nordic countries and in other countries (triadic patent families, 2014)^a

Nordic countries ^b	Continental Europe	Southern Europe	UK	US
39.05	49.79	5.62	27.86	46.72

^aThe total number of patent applications per million population.

^b Without Iceland – 47,45; without Iceland and Norway – 57,31.

Source: As for Table 10; author's own calculations.

Attention is drawn to the strong diversification of patent activity in the Nordic countries (the scale of this variation is 1: 12.15 as compared to 1: 8.86 in the group of regions referred to in Table 11). From a very high average in Sweden (66.24), Denmark (52.89) and Finland (52.82), the numbers of reported triadic patent families in small Iceland (5.45) and also in Norway (17.89) diverge.

6. Equal Opportunities

Intergenerational income mobility in various countries shows a significant positive correlation with income equality. A popular illustration of this is known as the Great Gatsby Curve (Cornak 2013b: 80–82). However, information on this mobility is an

important complement to the Gini coefficients from Tables 14 and 15. In particular, the coefficients of intergenerational earnings elasticities can be treated as an approximate indicator of intensity – denying the ideal of ‘equal opportunities’ – of the process of the ‘inheritance’ of poverty and wealth in society (concerning the transmission of income inequalities from parents to children).

Table 12. Intergenerational earnings mobility in Nordic countries^a

Denmark	Finland	Norway	Sweden
0.15	0.18	0.17	0.27

^a Coefficients of intergenerational elasticity in earnings of the sons and earnings of the fathers. For example, an intergenerational elasticity in earnings of .6 tells us that if one father makes 100% more than another then the son of the high income father will, as an adult, earn 60% more than the son of the relatively lower income father. A lower elasticity means a society with more mobility.

Source: Corak (2013a) [in: Corak (2016)].

Data from Table 12 indicates that at the turn of the 20th and 21st century intergenerational earnings mobility in the Nordic countries (due to the lack of data, Iceland is not included) was significant and moderately diversified (1: 1.8) (compared to 1: 1.259 in other regions, see Table 13).

Table 13. Intergenerational earnings mobility in Nordic countries and in other countries

Nordic countries	Continental Europe	Southern Europe	UK	US
0.193	0.365	0.450	0.500	0.470

Source: As for Table 12; for Nordic countries without Iceland; for continental Europe without Austria, Belgium and the Netherlands (no data available), for southern Europe without Greece and Portugal; author's own calculations.

In turn, the information contained in Table 13 documents a strong differentiation between the intergenerational mobility of earnings at the turn of the 20th and 21st centuries in individual groups of countries. Practically everywhere it was several times smaller than in the Nordic countries. The smallest difference is in the case of continental Europe (89.1%). However, in the case of the Great Britain, it exceeds 159%.

7. Diversification of Income

Measured by the Gini coefficient, the net income inequality for individual Nordic countries is very small⁴. Among the OECD countries in 2014, they ranked respectively in first (Iceland), fourth (Denmark), sixth (Norway), seventh (Finland) and tenth (Sweden) positions (see OECD data: <http://www.oecd.org/social/income-distribution-database.htm>; accessed September 29, 2017). Also the differences in the situation in Denmark, Finland, Iceland, Norway and Sweden are not large (the scale of this variation is 1: 1.16 compared to 1: 1.52 for the regions referred to in Table 14) (see Tables 14 and 15).

Table 14: Gini coefficient for disposable income in Nordic countries (2015)^a

Denmark	Finland	Iceland	Norway	Sweden
27.4	25.2	23.6	23.9	25.2

^a The scale ranges from 0 to 100, net income (after taxes and transfers).

Source: Eurostat (accessed 17th August 2017).

Against the background of the Nordic countries, the situation in other regions is more dramatic. It is true that in the countries of continental Europe in 2015, the appropriate Gini coefficient was only 27.9. However, in other regions it exceeded 30.0, and in the United States it reached as much as 39.0 compared to the average of 25.6 in the Nordic countries (Table 15).

Table 15. Gini coefficient for disposable income in Nordic countries and in other countries (2015)^a

Nordic countries ^b	Continental Europa	Southern Europa	UK	US
25.6	27.9	33.8	32.4	39.0

^a The scale ranges from 0 to 100, net income (after taxes and transfers).

Source: Eurostat, <http://stats.oecd.org/index.aspx?queryid=66670> (accessed 23rd August 2017), author's own calculations.

⁴ Among other things, this is what makes that – according to the criterion that takes into account what is known as the inequality-adjusted Human Development Index (IHDI), the Nordic countries occupy higher positions in the global ranking than would result from the application of the HDI criterion (the IHDI design is described in: Human... 2017b: 2–5). According to the IHDI criterion, in 2015 Norway was ranked first, and Iceland was the second. Denmark, Finland and Sweden were, respectively, ranked seventh, eighth and tenth (Human... 2017a: 206).

8. Poverty

Poverty analysis in the Nordic countries reveals that its range is relatively small. Among the OECD countries they occupy the first, (Denmark), third (Iceland), fourth (Finland), eighth (Norway), and eleventh (Sweden) positions respectively [see Poverty rate (indicator). Doi: 10.1787/0fe1315d-en (accessed on September 29, 2017)].

Table 16. Poverty rate in Nordic countries (2014)^a

Denmark	Finland	Iceland	Norway	Sweden
0.055	0.068	0.065	0.081	0.090

^a The poverty rate is the proportion of people in the working-age (18–65) population whose income is less than a half of median household income.

Source: OECD (2017), Poverty rate (indicator). doi: 10.1787/0fe1315d-en (accessed 29th September 2017).

Against the background of the Nordic countries, the situation in other regions is definitely more dramatic. Although in Europe, the poverty rate in 2016 was only 23.4% higher, in the case of the United States, the difference was as high as 150% (Table 17).

Also the differentiation of poverty rates within the Nordic group is moderate (1: 1.64) compared to the regions covered by Table 17 (1: 2.37).

Table 17. Average poverty rate in Nordic countries and in other countries (2014)

Nordic countries	Continental Europe	Southern Europa	UK	US
0.0708	0.0874	0.143	0.109*	0.168 ^a

^a 2015.

Source: As for Table 16; author's own calculations.

9. Unemployment

Table 18 contains information on the average unemployment rates in individual Nordic countries in 2006–2016. After considering that a significant part of this period

consists of the years of economic recession, they can be seen as relatively low. The Table points out that the average level of unemployment rates in the Nordic countries (5.94% of the labour force) was the lowest in all analysed regions in this period (Table 19). However, this advantage was not significant (only southern Europe with an unemployment rate equal to 14.19% did not fit this picture).

Table 18. Average unemployment rate in Nordic countries, 2006–2016 (percentage of labour force)

Denmark	Finland	Iceland	Norway	Sweden
5.97	8.00	4.82	3.39	7.51

Source: OECD (2017), Unemployment rate (indicator). doi: 10.1787/997c8750-en (accessed 23rd August 2017).

The diversification of average unemployment rates in the Nordic countries was significant and amounted to 1: 2.36. However, in the case of other regions of the world, which is indicated in Table 19, it was even larger (1: 2.39).

Table 19. Average unemployment rate in Nordic countries and in other countries, 2006–2016 (percentage of labour force)

Nordic countries	Continental Europe	Southern Europa	UK	US
5.94	6.73	14.19	6.48	6.79

Source: As for Table 18; author's own calculations.

As regards long-term unemployment, in 2015 in the Nordic countries it was very low and its level was moderately varied in this region. The difference between extreme cases of Norway and Denmark was 1: 2.3 (Table 20), compared to 1: 3.22 for the economic regions included in Table 21.

Table 20. Long-term unemployment, percentage of total unemployment in Nordic countries (2015; %)^a

Denmark	Finland	Iceland	Norway	Sweden
26.9	25.1	16.1	11.7	17.6

^a 12 months or longer.

Source: OECD (2017), Long-term unemployment rate (indicator). doi: 10.1787/76471ad5-en (accessed 24th August 2017).

A slightly lower percentage of long-term unemployed among all the unemployed than the average in Denmark, Finland, Iceland, Norway and Sweden was only in the United States. In other regions, long-term unemployment was much higher (Table 21).

Table 21. Long-term unemployment, percentage of total unemployment in Nordic countries and in other countries, 2015

Nordic countries	Continental Europe	Southern Europe	UK	US
19.48	42.26	60.25	30.7	18.7

Source: OECD (2017), Unemployment rate (indicator). doi: 10.1787/997c8750-en (accessed 23rd August 2017).

Conclusion

The analysis shows that – in comparison with many other economically developed regions of the world – the societies of Denmark, Finland, Iceland, Norway and Sweden managed to achieve some of the best (if not the best) results in the management of their national economies. It is about efficiency and justice, that is, a high standard of living and a small disparity in development opportunities, as well as limiting suffering and domination in society. At the same time, it is noticed that differences in the economic performance in individual Nordic countries are relatively small.

Of course, these economic successes and this similarity require explanations. Their co-occurrence in the Nordic countries suggests, after all, that there is a separate and specific type of economy in this region of the world, namely – the Nordic Model.

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