The Importance of Health and Social Well-being

for the Economy and Other Policy Areas

Report to the Northern Dimension Partnership in Public Health

and Social Well-being Secretariat

By

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1. Introduction

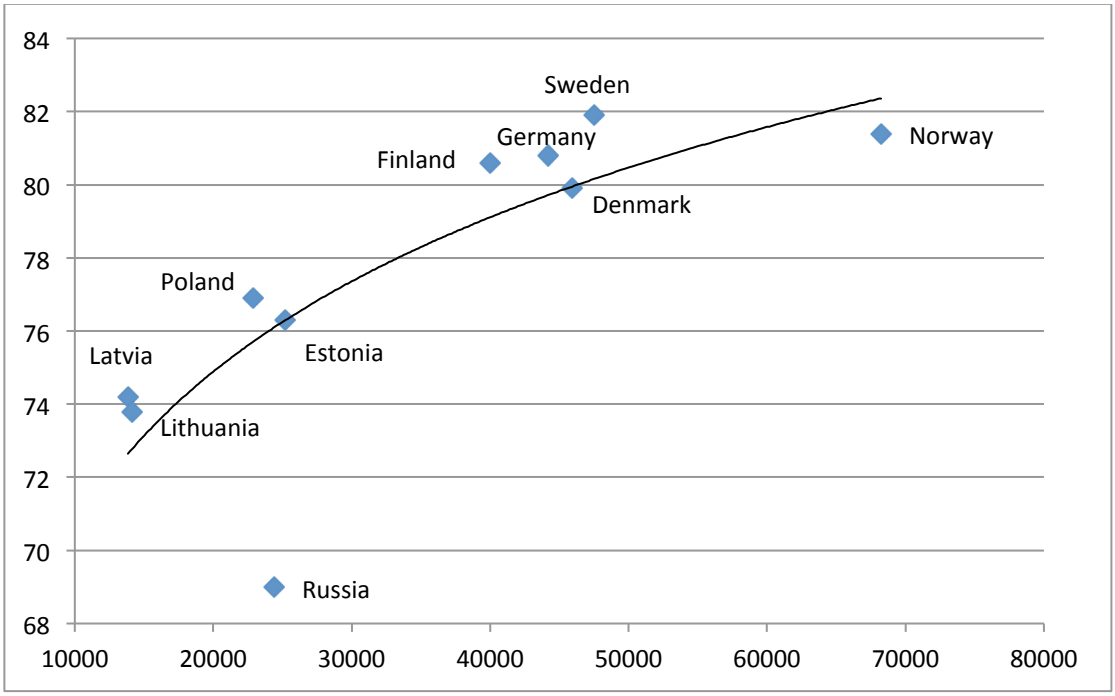
This report provides an overview of the importance of health and social well-being for economic and related progress with a geographic focus on the Baltic Sea region (see list of countries in Annex A). It specifically addresses three main sets of issues: i) the direct and indirect costs associated with ill health taking into account some key trends and processes, ii) the impact of poor health and unfavorable social background on economic progress, and iii) examples of health policies and their impact on the economy. It is based on a review of a selection of the existing evidence and data on these issues and on consultations with the NDPHS Secretariat and its broader network of experts.

Based on the overview the report argues that the health and social well-being of the populations of the Baltic Sea region have significant effects on the economy and other areas as discussed in several recent reports [1]. The main impacts include a direct effect on the fiscal positions of the governments of the region and indirect effects through education, labor markets, and social stability. Investments in public health, including actions to limit tobacco consumption, reduce non-communicable diseases, and improve mental health, in the countries of the Baltic Sea region have high returns. Before addressing the three areas noted above, the next section provides a brief overview of the relationship between health and economic progress.

2. Health, social well-being, and economic performance

There is a very strong association between health and economic development. This relationship has been found to hold for all types of country groups and for various types of health and economic measures; richer countries have better health and vice versa [2, 3]. This goes also for the countries of the Baltic Sea region (Figure 1). The chart shows a distinct pattern of countries falling into two groupings, one in the top right corner and one in the bottom left. The numbers presented in tables A.1 and A.2, however, show that these differences are not very large in this region, although they are large enough to make a clear difference. Moreover, the strong association between health and economic progress also holds when looking within countries [4, 5]. People who are better off economically have, for the most part, better health outcomes [6].

Figure 1. Life expectancy at birth (years) and GDP per capita (USD), Baltic Sea Region, 2014 or nearest year available

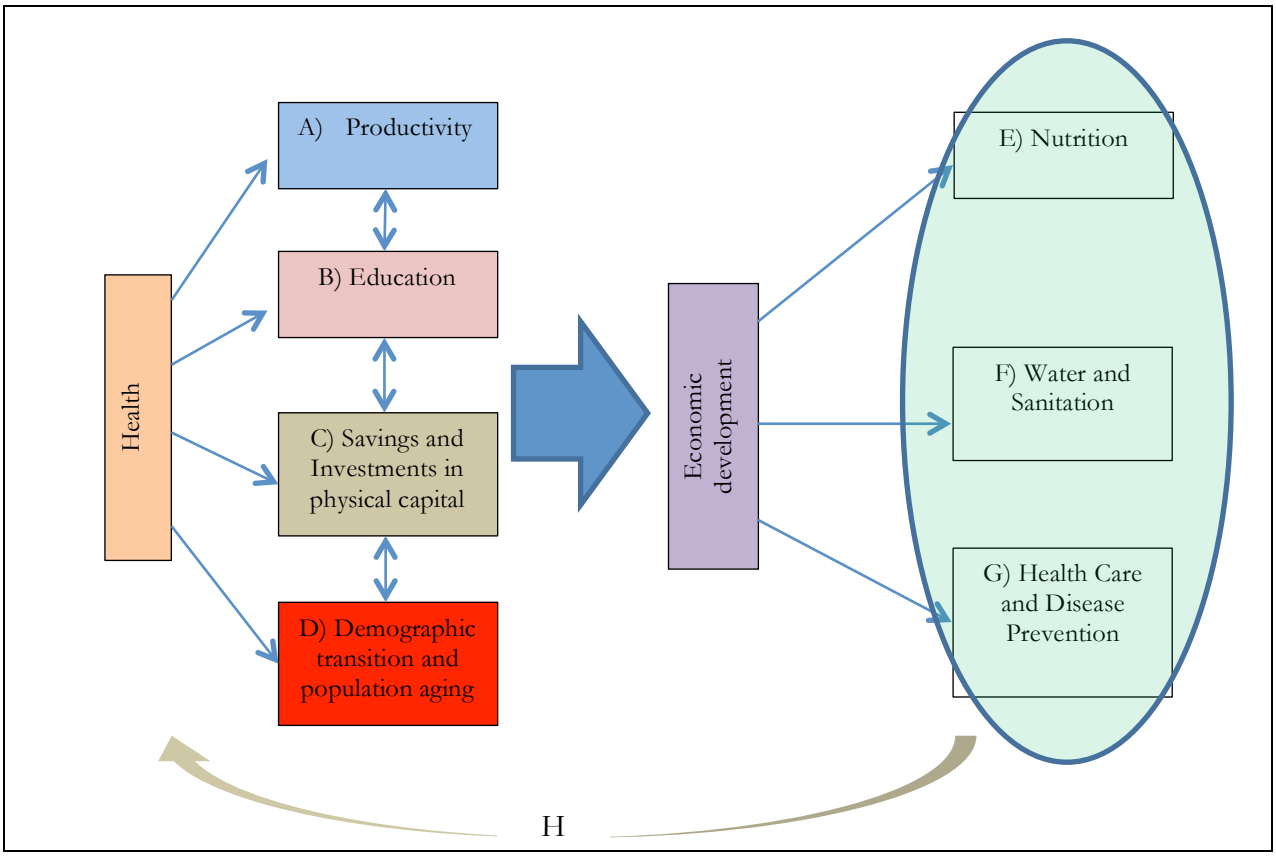


Source: OECD Health Statistics. World Bank database for LEB for Latvia and Lithuania.

However, the relationship, while strong, is not perfect, nor is it a linear association. For example, as can be seen from the figure, Russia and Norway have worse health than would be suggested by their income levels, while Sweden and Poland among others display the opposite situation. To understand these deviations each country needs to look at their particular context with respect to public health and disease to see how those factors translate into economic progress.

Furthermore, while the relationship illustrated in Figure 1 is compelling, it does not suggest a particular direction of causality. Indeed, an expanding body of evidence over the past decade or so has shown that **the relationship between health and economic development is complex and runs in both directions: economic prosperity is good for health and good health outcomes favor economic growth and development** [6-9]. Figure 2 illustrates some of the main mechanisms in the relationship between health and economic progress.

Figure 2. From Health to Wealth…and back.



Various aspects of **population health have been found to affect some of main drivers of economic growth**, including levels of labor productivity, educational attainment, and savings and investments in countries. In turn, economic development enables improvements in nutrition, access to clean water and sanitation, and effective health care and disease prevention. These factors are all strong determinants of individual and population health (H in figure 2). In addition, one of the strongest factors for economic progress is demographics, which is partly affected by health outcomes (including through mortality and fertility rates). In particular, the aging societies of these regions will have significant impacts on the health care systems and the broader economies. In the Baltic Sea region, Latvia is an important case which has experienced a shrinking population over the past decade or so due to low fertility rates and high rates of emigration.[1]

[1] See, for example, http://www.debatingeurope.eu/2015/04/07/ready-cope-ageing-europe/#.VZIzVEa09mo and the references therein.

Importantly, the relationship is not circular as improved health leads to higher incomes, which in turn, leads to even better health outcomes suggesting an upward "spiral" relationship. Conversely, poor health can have a negative effect on the economy, which, by similar and opposing processes, can lead to worse population health outcomes. At the aggregate level, such a negative spiral can pose significant burdens on individuals, households, communities, and whole economies.

3. Health, illness, and economic costs to society

Various aspects of people's health have significant direct and indirect effects on economic costs. Ill health and disease have direct effects on health care spending. For example, total expenditure for **diabetes** in the European Region was around USD 105.5 billion (EUR 95.5 billion) in 2010 [10]; see also Graph 1 in the Annex. The costs of **asthma**, **allergy**, **rhinitis**, and **food sensitivity** were estimated at SEK 10 billion (EUR 1.05 billion) in Sweden in the mid-2000 [11].

However, the direct costs of illness are only part of the total costs and may not be the largest share. Indirect costs are often very large and include the loss of resources due to mortality and morbidity, such as reduced labor productivity, absenteeism, and informal care [12, 13].

The economic burden of **non-communicable diseases** (NCD) has been estimated to be considerable on the global scale [14]. This burden consists both of the direct treatment costs of the diseases, which are frequently life-long, and the indirect costs due to lost productivity and income. Furthermore, **the economic costs due to NCDs are expected to continue to increase over the coming decades and reach some USD 30 trillion (EUR 27.15 trillion) or 48 percent of global GDP** [15].

Tobacco and **alcohol** consumption constitute two of the most costly modifiable health related behaviors. A recent estimate of the **social cost of alcohol use in Europe put the figure at EUR 156 billion per year, or around 1.6 percent of GDP on average**.[2] The drivers of these costs include mortality, workers absenteeism, crime, direct health impacts, and treatment and prevention.

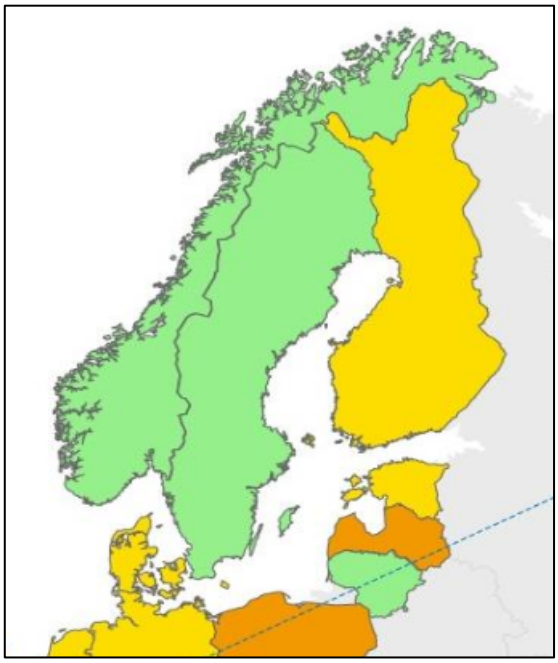
Smoking, the most common form of tobacco use, in particular presents a large economic burden on economies. One estimate puts the global economic drain on the economy at 3.6 percent of GDP [16]. The **economic burden of smoking in Europe has been estimated to be EUR 544 billion, or 4.6 percent of the EU's GDP**. Tobacco smoking alone constitutes one of the largest direct causes of poor health and death and also indirectly contributes to many other chronic conditions. For instance, a recent study suggests that some 43 percent of Polish men between 35 and 69 were found to die prematurely from smoking-related illnesses [17].

One emerging challenge in the Baltic Sea region and elsewhere is the problem of less effective drugs and health care related infections.

Figure 3 shows that the situation around the Baltic Sea region is mixed.

[2] See Rahm and Shield (2012) available at: http://amphoraproject.net/w2box/data/AMPHORA%20Reports/CAMH_Alcohol_Report_Europe_2012.pdf.

Figure 3. Percentage of invasive isolates resistant to third generation cephalosporins (antibiotic), Baltic Sea region, 2012.



Source: ECDC annual epidemiological report 2014, fig 1, p. 4. Green: 1%-5%; Yellow: 5%-10%; Orange: 10%-25%.

Antimicrobial resistance (AMR), which is estimated to kill around 25 000 people in the EU every year, is a growing problem [18]. **The associated costs of AMR in the EU region are estimated at over a billion euro per year of which loss of production is around EUR 150 million** [19]. Moreover, while NCDs and chronic diseases constitute major challenges with significant impacts on the economy and other sectors in the Baltic Sea region, the problems of communicable diseases remain, including those of AMR, health care related infections, STD (including HIV and chlamydia), and respiratory tract infections [20, 21].

As noted in figure 2, one strong underlying trend that is affecting the broader societies of the Baltic Sea region is **the aging of the populations**. In combination with the epidemiological transition that is also taking place, the demographic changes will have profound impacts on the economies. Among other things, the pressure and demand on health care will go up and relatively fewer people will enter the labor market. Similarly, the costs to society and individuals of occupational health and safety are large, perhaps upward of 2 percent of GDP. [3]

Obesity is another critical public health challenge in Europe and elsewhere. It has been estimated that around half of all adults in Europe are overweight and that around one-quarter of men and women are obese. Furthermore, around one-third of children in Europe are either overweight or obese. **The economic cost of obesity and overweight in Europe is significant at some EUR 59 billion in direct health care costs and between EUR 118 and EUR 236 billion in total costs**.[4] In addition to the human suffering, these figures will translate into significant impacts on health system and the broader economies over the coming decades.

4. Health, social status, and economic impacts

There is considerable evidence that individuals and families in the lower social groups are particularly strained by ill health and disease [22]. First, as noted above, those with lower income and education tend to be in worse health, placing them in a more unfavorable starting position.

[3] See http://www.ilo.org/safework/info/publications/WCMS_207690/lang--en/index.htm for most recent estimates.
[4] See https://euobserver.com/news/21720 and the references therein.

Second, with fewer resources available come fewer options to make healthy investments, such as living in environments with better sanitation, consuming more nutritious food, and obtaining an education. And third, households in lower socioeconomic groups tend to live in environments with reduced social capital. Social capital has been found to have a strong positive association with both health and general wellbeing, as well as economic progress [23-27].

Health, social status and labor market outcomes

There is a fairly compelling body of evidence that shows that poor people with poor health and subdued social status have worse labor market outcomes [28, 29]. Various analyses of the effect of low birth weight, for example, suggest that early health shocks can have significant impact on health in later life and, subsequently, reduced labor productivity [5]. More specifically, strong evidence suggests that there is a robust causal relationship between iron deficiency and reduced labor productivity (ibid., page 22). The mechanisms are complex and most likely include iron's inter-relationship with general energy efficiency.

Health, social status, and schooling

There is convincing evidence that the health of children has strong effects on educational attainment and subsequent social wellbeing [30]. The link between reading skills in childhood and income is strongest for those from poorer backgrounds. Furthermore, in a recent report on the role of socioeconomic status and schooling in Sweden the author finds that the social status of students and of their parents has an effect on school outcomes [31]. Many of these results have also been found in other European countries, including many in the Baltic Sea region. For example, in Denmark, around half of all students in work oriented high school programs fail to complete their studies (ibid., page 19).

5. Examples of policies for better public health and economic performance

Based on the above review the final section of the report discusses the question: What can decision makers do to improve peoples' health for enhanced economic performance? The short answer to this question is that governments, parliamentarians, and other policy makers can do many things to improve the health of citizens, both at the overall policy level and at the regional level. Importantly, policies to improve peoples' health need to cut across many sectors and are not just the responsibility of ministries of health. Indeed, economic and finance policies have a critical role to play, including to raise and introduce taxes and subsidies to give individuals the incentives to make better health decisions [22, 32]. Broader approaches to planning and construction of infrastructure, housing, and common spaces will also be needed.

Policies at the national level

Policymakers can affect peoples' health related behaviors by providing positive and negative incentives to people. One of the most cost-effective measures for better public health is to impose or increase the excise tax on harmful products, such as alcohol and tobacco [33, 34]. Global evidence suggests that a 10 percent increase in the excise tax on cigarettes would reduce smoking prevalence of between 4 percent and 8 percent (ibid.).

Data from the Baltic Sea countries show that on average the tobacco tax is around 75 percent with a low of 40 percent in Russia and a high of 84 in Estonia.[5] There is some suggestion also in this sample of countries that a higher tobacco tax is associated with lower smoking prevalence rates (see Graph A.2. in Annex). While the tobacco tax cannot be raised indefinitely there would seem to be some scope for increasing the tobacco tax in the Baltic Sea region. However, such measures need to be combined with other interventions, such as subsidizing smoking cessation products, expanding smoking bans, limiting advertisements, and making it more difficult to smuggle tobacco from neighboring areas.

[5] Source: http://www.who.int/tobacco/surveillance/policy/country_profile/en/#N.

More generally, taxes and subsidies can be used to give people better incentives to reduce their consumption of harmful products and increase their use of beneficial products and services. For example, in 2013, Denmark introduced a "fat tax" to limit peoples' consumption of food products containing unhealthy quantities of saturated fats; a type of "sin tax" on unhealthy behaviors and consumption. Although the tax was subsequently removed, there is some evidence of a positive effect on consumption of the targeted goods [35].

In many Baltic Sea states employers are encouraged to provide their staff with enhanced opportunities for physical exercise through various types of subsidies and tax-breaks. Patients suffering from over-weight can obtain a doctor's prescription for physical exercise and alternative diet. These and other policies are examples of ways that national policy makers can do to contribute to improved population health, which will benefit the economy and other sectors by generating savings to central and regional health budgets.

As noted above, the issue of antimicrobial resistance is an emerging challenge to the Baltic region. This is an area where governments and policy makers need to take decisive action across several fields, including health and agriculture. It is also an example of an area that requires international collaboration to facilitate learning and innovation, strengthen efforts for disease control, and to ensure effective information sharing.

Policies at the regional and local level

Along with the aggregate level policies, local communities and regions can take further action to improve opportunities for people to make healthy choices. For example, local and regional **physical planning** needs to include alternative communication modes, including bicycle lanes, walking areas, and public transportation. In particular, such **infrastructure investments** need to be made away from motorized transportation systems. Much evidence suggests that people are physically and mentally better off if they live removed from noisy environments [36]. Critically, measures of general well-being often include issues related to **living and working environments** [37]. These policy options also have the added advantage as being generally highly equitable, meaning that they tend to benefit a very broad range of the population with few inefficiency downsides.

There is also some evidence that regional and local planning can make better choices with respect to building or supporting **social capital** in otherwise marginalized neighborhoods [38]. These measures include the construction of natural meeting places, the creation of natural environments, ensure safety, and support the reputation of certain socially disadvantaged communities.

Health and social well-being form critical dimensions of the continued human and economic development of the Baltic Sea region. While health outcomes are better or at par with those of other parts of the wider region, several emerging challenges can be identified, including demographic transitions, emerging non-communicable diseases, and antimicrobial resistance. Addressing these and other challenges will require concerted efforts of international co-operation and regional co-ordination. The European Union and its institutions and structures, as well as organizations and agencies such as WHO and NDPHS have important roles to play along with development institutions, such as the Nordic Investment Bank (NIB).

Annex. Key data tables and graphs.

Table A.1. Key economic indicators, Baltic Sea region, most recent.

	Economy, education, and labor markets (OECD)			
Baltic Sea countries	**GDP/capita (2014 or most recent; OECD; EUR)**	**Average annual real GDP per capita growth 2005-2014; %**	**Educational attainment, % pop with tertiary education; OECD**	**Unemployment rate (most recent; %)**
Denmark	41327	0.025	34.78	7.0
Estonia	22630	0.041	37.28	9.0
Finland	35998	0.22	39.66	8.5
Germany	39797	0.3	28.12	5.1
Latvia	12453	0.0274	29.23	15.0
Lithuania	12733	0.0311	49.70	13.4
Norway	61412	0.028	38.56	3.5
Poland	20552	0.044	24.51	9.9
Russia	21956	0.059	53.49	6.6
Sweden	42739	0.027	35.70	8.0

Source: OECD Database; World Bank WDI for Latvia and Lithuania.

Table A.2. Key health indicators, Baltic Sea region, most recent.

	Health (OECD Health at a Glance 2014)			
Baltic Sea countries	**Life-expectancy at birth (LEB; years)**	**Diabetes prevalence; % of total population**	**Smoking prevalence, % daily adult smokers**	**Alcohol consumption among adults, liters per capita**
Denmark	79.9	4.4	20	10.6
Estonia	76.3	7.2	26.2	12
Finland	80.6	6	17.8	9.8
Germany	80.8	5.5	21.9	11.7
Latvia	74	3.68	34	10.18
Lithuania	74	2.79	30	12.66
Norway	81.4	4.8	17	6.6
Poland	76.9	9.2	23.8	10.4
Russia	69	10	33.8	11.5
Sweden	81.9	4.4	13.1	7.4

Source: OECD Health-at-a-Glance 2014; WHO for Latvia and Lithuania. Both Diabetes 1 and 2.

Table A.3. Key social wellbeing indicators, most recent.

	Social/Human Well-being		
Baltic Sea countries	**HDI score (UNDP)**	**OECD Wellbeing mean score**	**Cantril ladder score of happiness, mean value 2010**
Denmark	0.9	7.31	7.8
Estonia	0.84	5.30	5.1
Finland	0.879	7.18	7.4
Germany	0.911	7.34	6.7
Latvia	0.81	n.a.	n.a.
Lithuania	0.834	n.a.	n.a.
Norway	0.944	8.03	7.6
Poland	0.834	4.26	5.8
Russia	0.778	n.a.	5.3
Sweden	0.898	7.63	7.5

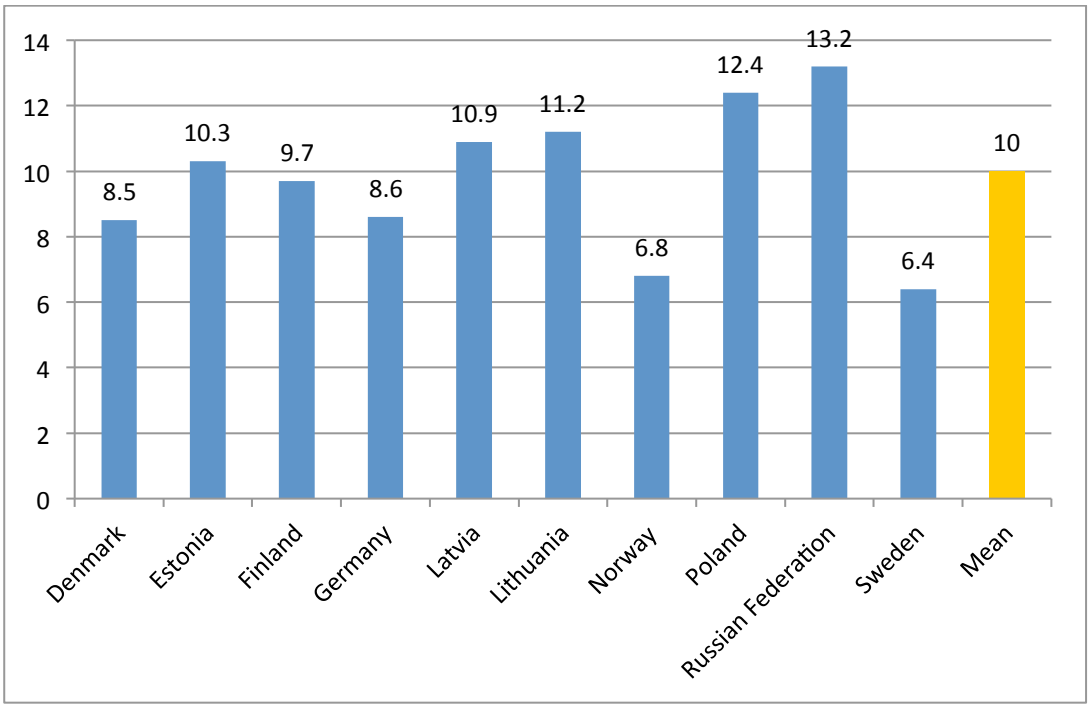
Source: UNDP, OECD How's life, 2013. HDI-Human Development Index; *Cantril ladder* is a way of measuring things like well-being or happiness.

Table A.4. Excise tax on tobacco, Baltic Sea region.

Baltic Sea countries	**Tobacco excise tax rate (WHO; % of retail price)**
Denmark	80.61
Estonia	84.38
Finland	80.7
Germany	75.91
Latvia	81.28
Lithuania	78.39
Norway	73
Poland	84.28
Russia	40
Sweden	80.83
Average	**75.94**

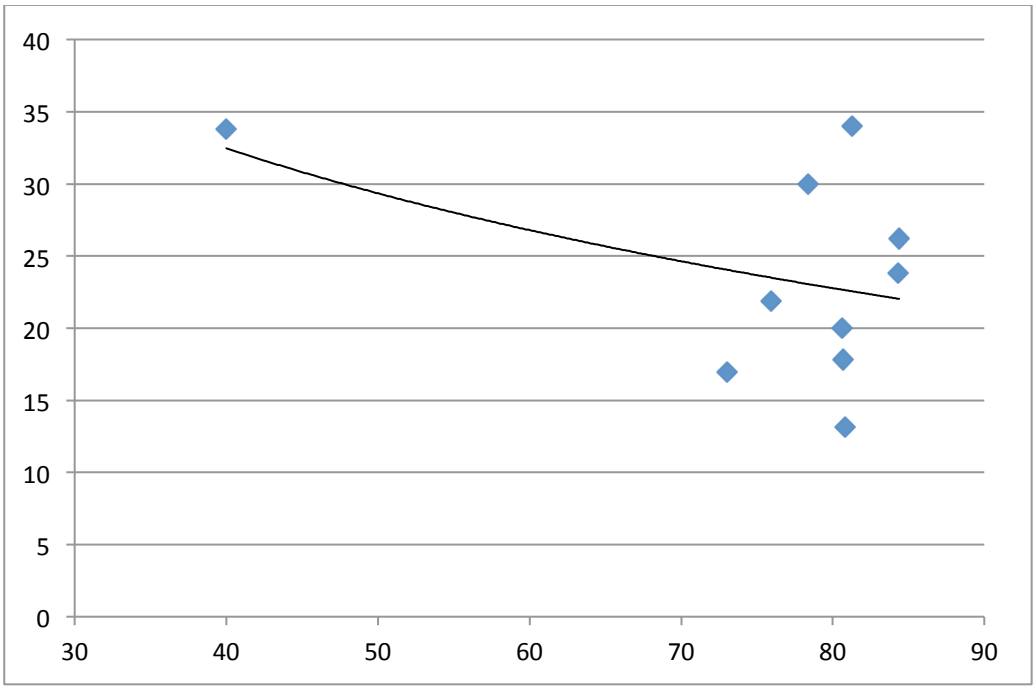
Source: WHO Tobacco database and country pages.

Graph A.1. Diabetes spending, % of total health expenditure, 2011.



Source: European Commission – Health and Consumer Directorate. Both Diabetes 1 and 2

Graph A.2. Tobacco tax rate and smoking prevalence (%), Baltic Sea region.



Source: data from tables A.2. and A.4. above.

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