



Maladies of Prosperity

September/October 2012

Introduction

The GeoRisQ Monitor 'Maladies of Prosperity' is part of the Strategy & Change project 'Grand Challenges', which aims to identify the most pressing future challenges for Europe, and looks at how research and development can help us to better cope with these challenges.¹ The Monitor 'Maladies of Prosperity' is a preview of an overall general 'Health Monitor' that will accompany the 'Grand Challenge: Health' report for Strategy & Change.

Many of our major problems are the price we pay for progress. While the current status of health remains alarming in regions such as Sub-Saharan Africa and South Asia, people living in the Western world and particularly in Europe have experienced a steady improvement in health and living conditions over the past century: we are healthier, richer and live longer lives than ever before. Death rates attributable to a number of illnesses (e.g., childhood infectious diseases) have declined. Other diseases have been eradicated (e.g., polio). Universal access to health care services is a governing principle for most European countries.ⁱ

Yet despite these achievements, Europe continues to confront severe health challenges that threaten our future wellbeing: the so-called 'Maladies of Prosperity', as reflected in the rise of non-communicable diseases (NCDs), e.g., diabetes, cardiovascular diseases, cancer, chronic respiratory diseases and mental disorders. In this Monitor, we zoom in on a number of key drivers of such maladies. Firstly, our higher living standards seem to come hand in hand with unhealthy lifestyle choices, such as sedentary living, smoking, or excessive fat intake.ⁱⁱ Secondly, increasing life expectancy due to improvements in living conditions and advances in medical research has led to challenges of an aging society. And thirdly, our economic progress also appears to come at an environmental cost in the form of air pollution. What is more, these drivers of health challenges overburden the very systems we developed to deal with them, such as our public health care systems – thereby threatening the very basic achievements that many people now view as inalienable rights. These and other related aspects will be dealt with in more detail in the forthcoming overall Health Monitor.

¹ 'Grand Challenges' includes three other Grand Challenges next to Health, namely: Climate Change, Aging and Food Safety. For each of these other Grand Challenges, three GeoRisQ Monitors will be published in the coming months.



In this Monitor, the degrees of vulnerability to ‘Maladies of Prosperity’ in Europe are assessed by a Composite Index integrating key drivers of health challenges, namely: Unhealthy Lifestyles (reflected by Smoking, Physical Inactivity, Overweight, and Alcohol Consumption) and Aging. In calculating the Composite Index, we attributed equal weights to these two categories of drivers. Within the category Unhealthy Lifestyles itself, we attributed different weights to the four sub-factors. These decisions were based on statistics quantifying their respective impact on health. The rationale is explained in the Methodology document in more detail.² Outdoor Air Pollution appears as a separate indicator for Environmental Degradation: as its contribution to the overall burden of disease is significantly less than that of the other groups of selected drivers, we decided not to include it in the Composite Index. We have also added a map showing the Gross Domestic Product (GDP) per Capita (purchasing power parity), in order to verify whether relatively higher or lower living standards may be one explanation behind a country’s vulnerability to the maladies of prosperity.

² For more information on the method and the data selection process, we refer to the Methodology document which can be retrieved by returning to the main page and clicking the ‘Download More Info’ button.

Analysis

While encouraging our readers to explore the data of the GeoRisQ Monitor ‘Maladies of Prosperity’ interactively on the GeoRisQ Monitor site, we also present here a brief accompanying report that offers an overview of some interesting findings. The first section gathers a number of general observations regarding European countries’ exposure to our selection of indicators. The second, third, and fourth sections respectively explore each category of indicators, namely: Unhealthy Lifestyles; Aging; and Environmental Degradation. A number of general remarks conclude the report.

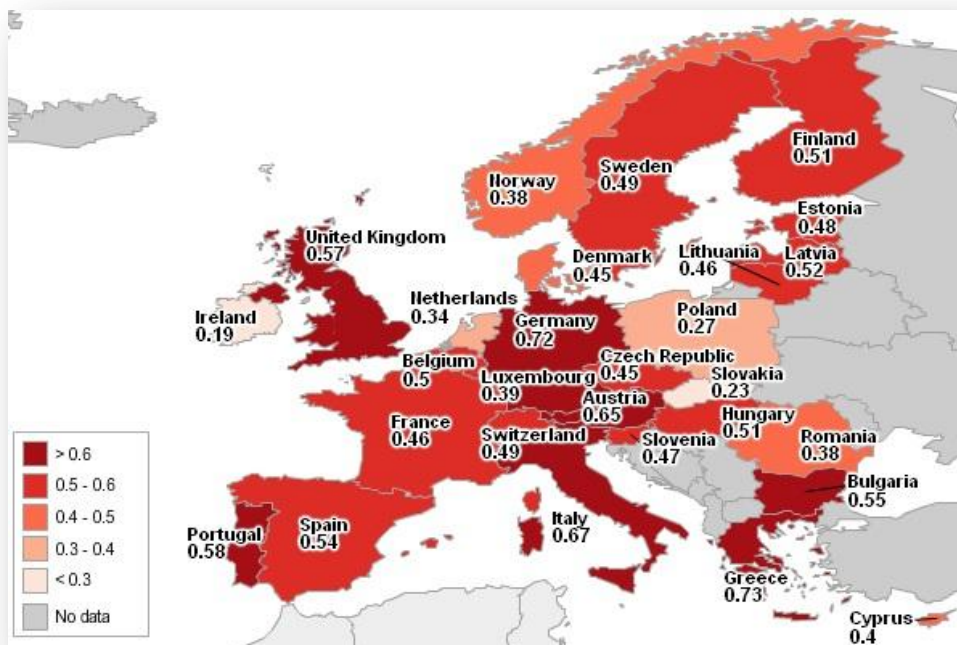


Figure 1: Maladies of Prosperity: Composite Index, including indicators of health risks in the following categories: Unhealthy Lifestyles and Aging. Darker red shades represent higher vulnerability to the selected Maladies of Prosperity.

1.1 General picture

Figure 1 illustrates how our selected Maladies of Prosperity affect different parts of Europe. The first striking observation is the wide range of values across Europe – from 0,19 in Ireland to 0,73 in Greece. Secondly, the patterns behind that range seem to cut across the usual categorizations of Europe in ‘New’ and ‘Old’, ‘Rich’ and ‘Poor’, ‘North’ and ‘South’, etc. Eight out of the ten European nations most strongly affected by maladies of prosperity are located in Western/Southern Europe, most of them being ‘old’ EU Members, with affluent Germany being particularly – and surprisingly – exposed. But so are a number of (poorer) Southern European – Greece, Italy, Portugal and Spain – and Central European countries such as Bulgaria, and Latvia. At the same time, we also see that a few Central European countries such as Slovakia, Poland or Romania (a recent EU Member, with the



lowest GDP per capita) prove less exposed than a number of richer countries such as France, or even Sweden and Switzerland. It is interesting to note that Scandinavian countries appear more diverse and less successful on this health-based composite index than they do in many of today's popular world rankings of human and socioeconomic development.

Ireland stands out as the least vulnerable country in the face of key drivers of health challenges, possibly due to its young population and in spite of a poor score on unhealthy lifestyles (mostly due to alcohol consumption and physical inactivity). The excellent score of Slovakia is also conspicuous and can be attributed to its physically active and young population, in spite of its overall struggle with most of the selected unhealthy habits. The Netherlands ends up in the top-four countries that are least vulnerable to maladies of prosperity, particularly owing to its population's healthy lifestyle. This is confirmed by, for instance, Bloomberg's Ranking on "The World's Healthiest Countries" in which The Netherlands features as one of the healthiest European nations.ⁱⁱⁱ Germany's poor score, on the other hand, is due to its aging population (the oldest among our selection of countries) and prevalence of overweight.

Let us now take a closer look at the components of this composite index, and the impact of environmental degradation.

1.2 Unhealthy lifestyles

With regard to unhealthy lifestyles, the overall picture (see Figure 2 below) again shows a mottled pattern that cuts across the usual dividing lines between European states. We observe that some populations in Western and Southern European countries lead unhealthy lives – in particular in 'old' EU Members, as well as in a few countries with high levels of economic development, e.g., Austria, the United Kingdom (UK), and Luxembourg. But also a number of relatively poorer countries such as the Baltic countries or Bulgaria appear highly vulnerable to our maladies. Here as well, the spread of values – from 0,25 in The Netherlands to 0,64 in Greece – is quite large.

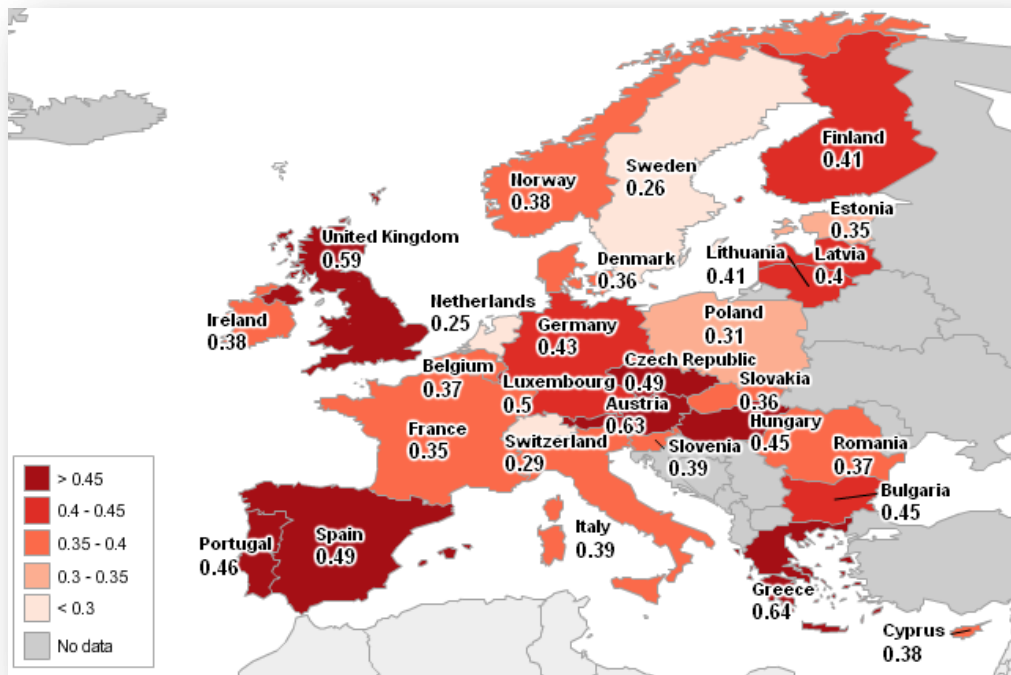


Figure 2: Unhealthy Lifestyles: Composite Score, including the following risk factors: Smoking, Physical Inactivity, Overweight, and Alcohol Consumption. Populations of countries that stand out in darker red shades are likely living unhealthy lives.

Looking at each risk factor separately and more closely, a diverse picture of underlying patterns emerges.

1.2.1 Smoking

Smoking is one of the biggest health threats and an enormous driver for the rise of NCDs – especially cardiovascular diseases and respiratory system illnesses.^{iv} The share of adults who smoke appears as generally lower among richer (Western) European countries, e.g., in the UK, where various preventive policies or bans (including high taxes on tobacco^v) appear more efficiently enforced. In general, smoking rates are the highest among Central European countries (e.g., Hungary, Bulgaria and the Czech Republic), including the Baltic States (e.g., Latvia and Lithuania). For the former group, which has a lower GDP on average, this troublesome statistic can be partially explained by, amongst other things, low cigarette prices and ineffective preventive policies^{vi} as well as cultural norms that encourage smoking. However, it is hard to draw any firm conclusions owing to the relative dearth of empirical studies on tobacco control and smoking behaviors.^{vii} At the country level, Greece stands out as Europe’s biggest smoking nation in 2009 with 52% of the population smoking.

1.2.2 Physical inactivity and overweight

Diseases associated with physical inactivity are breast and colon cancers, diabetes and ischaemic heart diseases.^{viii} According to the WHO, overweight and obesity are ranked fifth on the list of global risks of mortality. Common health consequences are cardiovascular diseases, mainly heart diseases and strokes,^{ix} hypertension, strokes, respiratory diseases, arthritis and certain types of cancer.^x



Overall, inactive lifestyles seem to be mostly prevalent in Western European countries, including the UK, Italy, Ireland, Portugal, Spain, Luxembourg and even most Scandinavian countries, but with some intriguing examples such as France, Germany and – strikingly – The Netherlands. On the other hand, based on currently available statistics, the majority of Eastern European and Baltic countries – those with lower incomes as shown in the GDP map – appear to have more active populations. What is especially noteworthy with respect to physical activity is that the range of values is higher than for any other risk factor of unhealthy lifestyles: from only 17,8% of the population that exercises regularly in Greece to 66,5% in the UK. Even close neighbors like Belgium and Luxembourg (about 47%) and The Netherlands (20%) obtain very different scores here – suggesting ample room for targeted policy initiatives.

With respect to overweight, in 2010 the Western part of Europe seems to be divided between bad performers (UK, Germany, Finland) and healthier nations (France, Italy, The Netherlands). However, looking at the whole of Europe, overweight emerges as a more considerable issue in significantly higher income countries like Luxembourg and Switzerland, than in European countries with the lowest GDPs – such as Romania, Latvia or Estonia.

Singling out a few countries, one cannot but be struck by the extreme situation of Greece. Despite being the best performer in terms of physical activity in 2008 and having a more moderate alcohol consumption relatively to its neighbors, the country still appears to have an unusually large weight problem. Slovaks do not seem to be particularly physically inactive either, yet a substantial share of the population is overweight. This suggests that the correlation between overweight and physical inactivity may be more complicated than one might think at first glance.

1.2.3 Alcohol consumption

Alcohol consumption is the EU's third-largest risk factor for disease burden, and is associated with cardiovascular diseases, cirrhosis of the liver and various cancers.^{xi} We once again note surprisingly large divergence – from Norway with 6,6 liters of pure alcohol consumed per year to Estonia with more than twice that amount (16,2 liters) – but with a relatively small standard deviation (2,2). Norway and Sweden – with more restrictive alcohol policies – are the healthy outliers here, as is Italy. The majority of European nations appear to cluster between 10 and 12 liters in 2005, which is more than in most Scandinavian countries. Many Central European countries score above average, though on a level that is comparable to most Western European countries. Estonia and the Czech Republic's poor overall scores can largely be attributed to their populations' considerable alcohol consumption. They are followed by two Western European countries, namely Ireland and France, with deeply – albeit differently – ingrained drinking cultures. Overall, there does not seem to be a correlation between the levels of GDP and those of alcohol consumption. Furthermore, we have to note that the way in which alcohol is consumed also varies from one country to another, with for instance binge drinking being much more of an issue in the UK and along Europe's Northeastern rim than in Italy or Spain.^{xii}



1.3 Aging

Associated with aging are several NCDs and chronic conditions (including asthma and diabetes), neurodegenerative diseases, cancers as well as mental health disorders.^{xiii} Aging is an indicator where we see notably less variability across European countries, but still with a range from 11,3% of the population being older than 65 in Ireland, to almost twice the amount (20,7%) in Germany. Most European countries, however, hover around the mean of 16,3% with Central European countries generally having younger populations (e.g., Slovakia, Poland) and an interesting 'aging belt' running from North to South in the center of Europe from Sweden to Italy and Greece.

1.4 Environmental degradation

As explained in the Methodology, we selected outdoor air pollution – measured by particulate matter (PM) – as a driver of environmental health problems. It is a useful proxy to assess the impact of environmental factors on health in Europe. On this indicator, we do clearly see clusters of countries with different scores, with a striking division between Western European and Scandinavian countries and the Southern Central and Eastern parts of Europe. Looking at the GDP map, there seems to be a correlation between outdoor air pollution and the level of economic development. While Western European countries like Ireland or Luxembourg have the lowest levels of air pollution, the ten countries that face the most severe challenge in this respect are all Southern, Central or Eastern European (in particular Bulgaria and Cyprus). Populations within this cluster are likely to become relatively more vulnerable to the rise of NCDs associated with such high concentrations of particulates, e.g., respiratory diseases such as asthma or bronchitis.^{xiv}



Conclusion

This brief analysis as a preview of a more comprehensive analysis of Health as a Grand Challenge yields three main conclusions.

First, the excellent current relative status of health in Europe compared to the rest of the world offers no excuse for complacency. Indeed, due to drivers that are particularly prevalent in developed economies – such as unhealthy lifestyles or aging – the wellbeing of European populations is increasingly jeopardized. This suggests the issue should remain at the top of the EU agenda.

Second, we note the great – and interesting – differences within Europe with respect to most drivers of the maladies of prosperity. It proved generally difficult to systematically identify patterns or clusters along the traditional ‘categories’ that we use to divide up Europe – e.g., between the most developed Western European nations and their Central European neighbors. We also observed interesting differences between the various drivers with respect to which countries score well and which ones score poorly. This suggests that there is ample room for learning from one another – sometimes even from unexpected sources. Although these were not the focus of this GeoRisQ Monitor, many interesting lessons could be drawn from anti-smoking, -alcohol or even -fat-food policies that were implemented in some European countries with different degrees of success. Overall, these lessons reflect the nascent paradigm shift away from response to prevention with a greater focus on individual responsibility and patient empowerment, which nicely feeds into our final concluding observation.^{xv}

Third, both fundamental and applied health research will be instrumental in bringing about this paradigm shift. While the focus of health research will continue to be on improving our ability to cure, care and prevent diseases, it will have to increasingly integrate insights from ‘hard’ and ‘soft’ sciences and consider the overall system in which health care delivery takes place. Our upcoming report on ‘Grand Challenge: Health’ that will accompany the overall GeoRisQ Monitor explores a number research areas that merit more attention from the EU, Member States, research institutes, and private sector organizations, and provides several avenues for reflection on the coming paradigm shift in health and health care.

ⁱ Markus Würz, Thomas Foubister, and Reinhard Busse, "Access to Health Care in the EU Member States," *Euro Observer, The Health Policy Bulletin of the European Observatory on Health Systems and Policies* 8, no. 2 (Summer 2006): 1–8.

ⁱⁱ The so-called 'modern civilization illnesses' are expected to contribute to the rise of diseases associated with unhealthy diets (fast food culture, high calorie culture), tobacco smoking, alcohol and substance abuse, a lack of physical activity and the increase of stress in our lives. European Commission, *Establishing a Health for Growth Programme, the Third Multi-annual Programme of EU Action in the Field of Health for the Period 2014–2020*, 2011, http://ec.europa.eu/health/programme/docs/prop_prog2014_en.pdf.

ⁱⁱⁱ Bloomberg, "The World's Healthiest Countries," *Bloomberg*, May 22, 2012, http://images.businessweek.com/bloomberg/pdfs/WORLDS_HEALTHIEST_COUNTRIES_V2.pdf.

^{iv} Colin Mathers and World Health Organization, *WHO global report mortality attributable to tobacco* (Geneva, Switzerland: World Health Organization, 2012), http://whqlibdoc.who.int/publications/2012/9789241564434_eng.pdf.

^v Tobacco Manufacturers' Association, "Taxation", 2012, <http://www.the-tma.org.uk/policy-legislation/taxation/>.

^{vi} *EU Price Differentials Based on Packs of 20 Premium Cigarettes* (The Tobacco Manufacturers' Association, July 2011), <http://www.the-tma.org.uk/tma-publications-research/facts-figures/eu-cigarette-prices/>.

^{vii} "Project: Smoking Prevention in the Balkans (SPiB)," *South-East European Research Centre*, n.d., http://www.seerc.org/index.php?option=com_entities&view=project&layout=details&id=23.

^{viii} World Health Organization, "Physical Activity," *Global Strategy on Diet, Physical Activity and Health*, 2012, <http://www.who.int/dietphysicalactivity/pa/en/index.html>.

^{ix} WHO Media centre, "Obesity and Overweight - Fact Sheet N°311," *World Health Organization*, May 2012, <http://www.who.int/mediacentre/factsheets/fs311/en/>.

^x *The Challenge of Obesity in the WHO European Region and the Strategies for Response* (World Health Organization Europe, 2007), 20, http://www.euro.who.int/__data/assets/pdf_file/0010/74746/E90711.pdf; "Combating Obesity in Europe," *European Commission Research & Innovation*, n.d., http://ec.europa.eu/research/leaflets/combating_obesity/article_2766_en.html.

^{xi} WHO Media centre, "Alcohol - Fact Sheet," *World Health Organization*, February 2011, <http://www.who.int/mediacentre/factsheets/fs349/en/index.html>.

^{xii} "Alcohol Policy: On the Floor," *The Economist*, March 31, 2012, Print edition, <http://www.economist.com/node/21551517>.

^{xiii} European Foresight Monitoring Network, *Special Issue on Healthcare: Healthy Ageing and the Future of Public Healthcare Systems*.

^{xiv} WHO Europe, "Air Pollution and Health."

^{xv} "Patient, Heal Thyself: A Bottom-up Approach to the Biggest Problem in Government," *The Economist*, March 17, 2011, Print edition, <http://www.economist.com/node/18359932>.