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Review

Health, economic crisis, and austerity: A comparison of Greece, Finland and Iceland

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ABSTRACT

Reports have attributed a public health tragedy in Greece to the Great Recession and the subsequent application of austerity programs. It is also claimed that the comparison of Greece with Iceland and Finland—where austerity policies were not applied—reveals the harmful effect of austerity on health and that by protecting spending in health and social budgets, governments can offset the harmful effects of economic crises on health. We use data on life expectancy, mortality rates, incidence of infectious diseases, rates of vaccination, self-reported health and other measures to examine the evolution of population health and health services performance in Greece, Finland and Iceland since 1990–2011 or 2012—the most recent years for which data are available. We find that in the three countries most indicators of population health continued improving after the Great Recession started. In terms of population health and performance of the health care system, in the period after 2007 for which data are available, Greece did as good as Iceland and Finland. The evidence does not support the claim that there is a health crisis in Greece. On the basis of the extant evidence, claims of a public health tragedy in Greece seem overly exaggerated.

1. Introduction

There is a strong interest in the public health literature to assess the effects on health of the Great Recession—which started in the late years of the past decade and painfully lingered in a number of European countries. Somewhat surprisingly, some studies have referred to very harmful effects of the Great Recession on health and health care in the European countries [1], while others have found that the recession is having beneficial effects on health [2,3], particularly on major indicators of population health, including general mortality rates [4].

A special case is that of Greece, where the Great Recession has been particularly severe and protracted. According to early reports by Bonovas and Nikolopoulos [5] and by Kentikelenis et al. [6], a public health tragedy was developing in Greece as a consequence of the economic crisis. Though these reports were considered an exaggeration by some authors [7], Kentikelenis et al. have insisted in the idea of a major health tragedy in Greece, presenting what they consider "mounting evidence" of a health crisis that would be the consequence of "one of the most radical programmes of welfare-state retrenchment in recent times" [8, p. 752].

Reports on health problems in Greece related to the economic crisis have indeed appeared in many journals. According to a systematic review of publications on the economic crisis in Greece appeared in health journals between 2009 and 2013, the literature has reported reductions in public health expenditure and changes in

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healthcare services and the pharmaceutical market, with an increasing number of admissions in hospitals of the public sector [9]. The literature also reported "post-crisis deterioration of public health with increasing rates of mental health (*sic*), suicides, and epidemics, and deterioration of self-rated health" [9].

Besides asserting that a health tragedy is developing in Greece, Kentikelenis et al. claimed that the contrast between such health crisis in Greece, where austerity policies have been applied, and the good evolution of health in other countries such as Finland and Iceland where austerity was not applied, demonstrate a clear and discernible effect of austerity on health [8]. As stated by these authors, the experience of Greece compared with that of Iceland and Finland indicate that "by ring-fencing health and social budgets" when cutting public spending, the harmful effects of crises on population health can be avoided [8, p. 751].

Much of existing research on macroeconomic fluctuations and health does not support the idea that recessions have harmful effects on health. Research using individual data [10–14] has shown that unemployment has harmful consequences on both the physical and the mental health of the unemployed. However, a number of studies with aggregate data have also revealed that overall, as measured by mortality rates, recessions—which are periods when unemployment rates are rising—tend to have a mild beneficial effect on population health, and it is in economic expansions, not in recessions, when death rates tend to increase above trend [3,4,15–21]. For these reasons, and to better understand to what extent and in what direction the Great Recession may have had effects on population health and health care, we have systematically compared Greece, Finland and Iceland examining the evolution of key indicators in these three countries. The purpose of this comparison is to investigate if the evidence suggests or demonstrate (a) that there is a health crisis in Greece, and (b) that the evolution of health indicators in Greece in recent years has been worse, as it has been claimed, than in Finland and Iceland.

2. Data and methods

We use data beginning in 1990 until the most recent year available—2010, 2011 or 2012, depending on indicators. Most data we used are from the World Health Organization [22,23], though for some particular outcomes we have used statistics from other reputable sources [24,25]. Our main purpose is to compare Greece, Iceland and Finland in terms of population health and health care to examine the evidence that may support the assertions that there is a health crisis in Greece, and that in terms of health, Greece is doing much worse than Iceland and Finland. Though we present indicators on morbidity, vaccinations rates, self-reported health, and financing of health care, we focus particularly on mortality rates and mortality-based indicators like life expectancy, as they are the most reliable indicators of population health. We present graphs which provide all available information on the evolution of the indicators during a period of more than 20 years. We graphically examine the evolution of indicators in the three countries to establish whether they are or not departing from trend or whether they differ meaningfully between the three countries. Occasionally, to put comparisons in a wider context, we mention data from other European countries.

For each health indicator we compared the slope of the linear trend for the years before and after the recession started. To conclude that the evolution of a given indicator improved, deteriorated, or did not change in the years 2008–2012 compared with the years 2003–2007, we tested the null hypothesis that there is not a trend break in the time series of the health indicator. For that purpose we used a trend-break regression model, which is common in the literature to analyze structural breaks [26,27]. Our model, for each health indicator and each of the three countries is $H_t = \alpha + \beta_1 \cdot t + \beta_2 \cdot (t - 2008) \cdot D + \varepsilon_t$ in which H_t is a health indicator for year t and D is a dummy variable $D = 0$ if $t < 2008$ and $D = 1$ if $t > 2008$. The term $(t - 2008) \cdot D$ is a linear spline specification that breaks the time trend in the year 2008. The coefficient β_2 allows for a direct statistical testing of the slope change of H_t. The P-value corresponds to the t-test in which the null hypothesis is $\beta_2 = 0$. We report P-values only for the cases in which the change in slope is statistically significant (for methodological details see the Online Appendix, where Table A1 provides all P-values obtained in the tests).

According to OECD statistics [24], in Greece and Finland the growth of the gross domestic product (GDP) was negative during three of the four quarters of 2007, while in Iceland there were two quarters of negative GDP growth in 2007 (Online Appendix, Table A2). The three countries had three quarters of negative GDP growth in 2008. For these reasons the year 2007 was chosen as the year in which the expansion ended and the recession started. The unemployment rate rose in 2008 in Iceland and in 2009 in Greece and Finland (Fig. 1), which illustrates how the unemployment rate is a lagged indicator of the business cycle, i.e., it starts rising several quarters after the recession is manifest in terms of contraction of trade and industrial activity as indicated by the contraction of GDP [28,29].

3. Results

3.1. Comparison of the recession and austerity policies in the three countries

The severity of the Great Recession in Greece is illustrated by the rise of the unemployment rate, which grew quickly since 2008 to reach 17.7% in 2011 and 24.5% in 2012 (Fig. 1, top left panel), and by the contraction of GDP all the years since 2008 to 2013 [25]. In Iceland unemployment started rising in 2008 and reached a peak of 7.6% in 2010, but then declined in 2011 and 2012. In Finland unemployment also rose slightly to reach 8.4% in 2010, but then declined. In Iceland GDP growth was negative in 2008 and 2009, while in Finland it was negative in 2009 and again in 2012 and 2013. These figures show that the crisis of the world economy that has been called Great Recession had a severe and long impact in Greece, where recent estimates put unemployment rates still above 20%. The Great Recession had only a mild impact in Finland and in Iceland the recession was sharp but brief.