

## Are there Health Effects of an Economic Crisis? Conflicting Evidence and Murky Definitions

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### Abstract

Both suicide and economic crisis as terms are defined differently in scientific studies. Suicides before the crisis have several causes and would continue to occur during a crisis. The proportion of such suicides during a crisis is unknown. Calculating these suicides as part of the purported economic crisis-induced suicides may exaggerate the increase in the suicide rate. Inadequate registration of suicides has been changed during the crisis with increased focus on health effects of a recession. Several years may pass before the economic crisis to make people conclude with a wish to and an act of committing suicide. Economic growth periods correlate negatively with mortality. This commentary attempts to illustrate such conflicting evidence.

### Introduction

Intuitively sudden or large changes of circumstances in life may influence personal or population health. A priori the direction of the influence is not obvious, although popular thinking presupposes a detrimental effect if the circumstance is an economic crisis. The road to and reason for a suicide is complex and not fully understood, and reporting is unreliable [1]. During the last hundred years Europe and the US have experienced several economic downturns, the very last being the financial crisis of 2007-2008 in Europe. The last crisis has spurred interest among scientists and politicians alike to understand purported health effects of an economic crisis. A group under the auspices of Ralph Catalano warns that although undesirable job and financial experiences increase the risk of psychological and behavioural disorders, many other suspected associations as cardiovascular disease, depression and suicide remain poorly studied or unsupported [2]. While WHO firmly discourages the practice of straight data comparisons between countries, nobody actually seems to care [1]. An economic down turn or crisis has an impact on suicide rates and often also on the unemployment rate. Both terms may interact during a crisis, but empirical studies vary widely.

### Diverging Results of Studies

Life expectancy improved during major economic recessions, like the Great Depression in the US from 1929 to 1932 and in the crisis in Europe in 2007-2009 according to a study from 2012 [3]. The authors also show that in 2009 life expectancy increased most rapidly in European countries where the decrease in gross domestic product was greatest, i.e. in Estonia, Latvia and Lithuania. These results could give important information in planning and administering changes relevant for extending life expectancy without essential costs. In a study by Laanani et al. unemployment and suicide rates were found to be statistically associated but very weakly [4]. A "crisis effect" was inconsistent across countries and was interpreted as an argument against a causal effect. Impact of unemployment on suicide rates is shown to be offset by the presence of generous state social and unemployment benefit programs (as in Norway), though effects are small or inconclusive [5,6]. Another study using historical life expectancy and mortality data to examine associations of economic growth with population health for the period 1920 to 1940 found that the population health did not decline during 1930-1933 [7]. On the contrary population health generally improved during the 4 years of the Great Depression 1930-33, with mortality decreasing for almost all ages, and life expectancy increasing by several years in males, females, whites and non-whites. Mortality tended to peak during years of strong economic expansion in the time period

1920 to 1940. The only exception was suicide mortality that increased during the Great Depression. Although the rate increased, suicides comprised only 2% of all deaths. Suicides are often connected to the medical condition depression, but suicides do occur also among people without a trace of depression. Whereas women in rural India commit suicide out of poverty and harsh family relations using pesticides, old men in Norway (suicide rate above 70 years 29.8/100000 in one study [8]) and other European countries find their lives useless and have a rate higher than in the working age groups. When suicide is not accepted in society, even national statistics may be inaccurate. An eruption of publications started in the light of the Orthodox Church in Greece stating that suicide is a deplorable moral act and an ensuing underestimation of suicide cases in the public statistics. This was very prominent when the economic downturn of 2007 made living conditions deteriorate.

Several articles have highlighted the impact of the crisis on mental health, usually through suicide, although mental health problems are not the only reason for a suicide during a crisis. Several papers concentrate on the increasing suicide rates in Greece after 2008 [9-15]. In a new study by the group around Kentikelenis and Stuckler the text gives an increase in suicide rates from 2007 to 2011 of 45%, but the accompanying figure shows in men a decrease from 2006 to 2007 and the increase during the period read from the figure is from 280 to 380 during from 2007 to 2011, i.e. an increase of 35% [16]. The numbers are very low compared to for instance Norway with near double rates without a crisis and with less than half the population.

Including all suicides among the health consequences of an economic downturn would therefore be inaccurate. Stuckler et al. used another dataset to study mortality during the Great Depression in urban populations [17]. Cause specific mortality was linked to bank suspensions and income data. Incidentally the authors did not

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Received May 22, 2015; Accepted July 27, 2015; Published July 29, 2015

Citation: Berg JE (2015) Are there Health Effects of an Economic Crisis? Conflicting Evidence and Murky Definitions. Review Pub Administration Manag 3: 159. doi:10.4172/2315-7844.1000159

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report the number of bank suspensions they based their analysis on. They found reductions in all-cause mortality for pneumonia, flu and respiratory tuberculosis, but an increase for heart disease, cancer and diabetes. They maintain that only heart disease can plausibly relate to the contemporaneous economic shocks. But even this factor may not be plausibly related to an economic crisis, as the notion of heart disease is a too complex one. Heart disease is the result of a long time development of risk for sudden or gradual death. It may thus quite accidentally occur during an economic crisis.

## Conclusion

Time lag between the start of a crisis and the documented health effect may be long; often many years, and thus show its effect long time after the crisis has subsided. An increase in suicides during a crisis would be the sum effect of health and life circumstances before and during the crisis. No studies have been found showing the separate effect of these two factors.

The untoward use of specific diagnostic entities in studies of health effects of an economic crisis give the impression of causal relationship between the crisis and the purported health effects. What are often shown are correlations without proof of a psycho-biological explanation of findings. Different disease categories have distinct developmental paths. Correlations found must be studied in depth to ascertain a causal link between the disease and the economic crisis.

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