Institute and Faculty of Actuaries

COVID-19

Economic hardship, health and COVID-19

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Abstract

The current recession is different from previous economic recessions due to severe government interventions to try and contain a pandemic outbreak including locking down the economy (nationally or locally), implementing quarantines and employing social distancing rules. The magnitude and speed of change in the UK and global economy is also unlike previous recessions. Added to this is the uncertainty around how long the current recession will persist as it is highly dependent on the epidemiology of the virus, development of medical treatments, discovery of vaccines and population behaviour.

This bulletin is focused on the economic consequences of COVID-19 on employment and subsequent mental health outcomes.

Our research suggests:

- Health inequalities are likely to widen for individuals more vulnerable to financial hardship including those in lower socio-economic groups and younger adults;
- Less affluent countries with lower GDP per capita will be more vulnerable to health and wellbeing consequences compared to wealthy countries;
- Increases in death rates of vulnerable groups (lower economic groups and younger adults), as there is a correlation between unemployment and suicides;
- Increases in alcohol consumption and drug use due to elevated mental health issues; and
- In addition to an increase in mental health issues driven by economic consequences, the pandemic itself, along with lockdown and social restrictions will also have an effect on mental health. For example, there may be long term mental health impacts for survivors of the SARS-CoV-2 virus as was the case with SARS in 2002.

We aim to create discussion within the profession regarding the impact of unemployment on population health and wellbeing, and the subsequent insurance claims implications.

This bulletin is the 2nd in a series of related topics where we plan to publish 3, 4 and 5 shortly:

1. COVID-19 and pandemic response unemployment model [1]
2. Economic hardship, health and COVID-19
3. Unemployment and impact on Income Protection and PMI business
4. Population health management and COVID-19
5. Indian experience of COVID-19, economic consequences and related mental health issues

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1 Introduction

COVID-19 is causing a severe economic recession in the United Kingdom (UK) due to unprecedented government interventions to control the SARS-CoV-2 virus that was declared a pandemic on 11 March 2020 [2]. With the UK furlough scheme coming to an end at the end of October, combined with continuing local and possible national lockdown restrictions, it is expected that unemployment will increase significantly according to Office for Budget Responsibility (OBR) and Bank of England [3] [4].

In order to understand the impact of economic hardship and health implications resulting from this recession, it is desirable to consider previous recessions to understand plausible health and wellbeing implications. The failure of key businesses and the collapse of the housing market caused by a global financial crisis triggered the last UK recession in 2008/09 and at that time was considered to be the worst financial crisis since the Great Depression (1929). Early indications suggest that the current recession will be more severe than the 2008/09 Global Financial Crisis [5].

The potential health effects of any economic crisis depend to some degree on its duration and severity as well as the UK government policy response. Not everyone who loses a job, or even a home, is thrust immediately into poverty. However, those who lack an economic foothold, or fail to regain one after a job loss or other financial setbacks, may pay a substantial price in health terms.

It has also been observed that economic recessions appear to have paradoxical effects on the mortality trends of populations in rich countries. In terms of business cycles, mortality has been observed to be pro-cyclical with increases seen during economic expansions and reductions during contractions which does appear somewhat counter-intuitive.

Our focus in this article is to consider key research papers based on previous recessions and to infer what this may mean for population health and wellbeing during and after the current recession “The Great Lockdown 2020” [5].

2 Samuel Preston

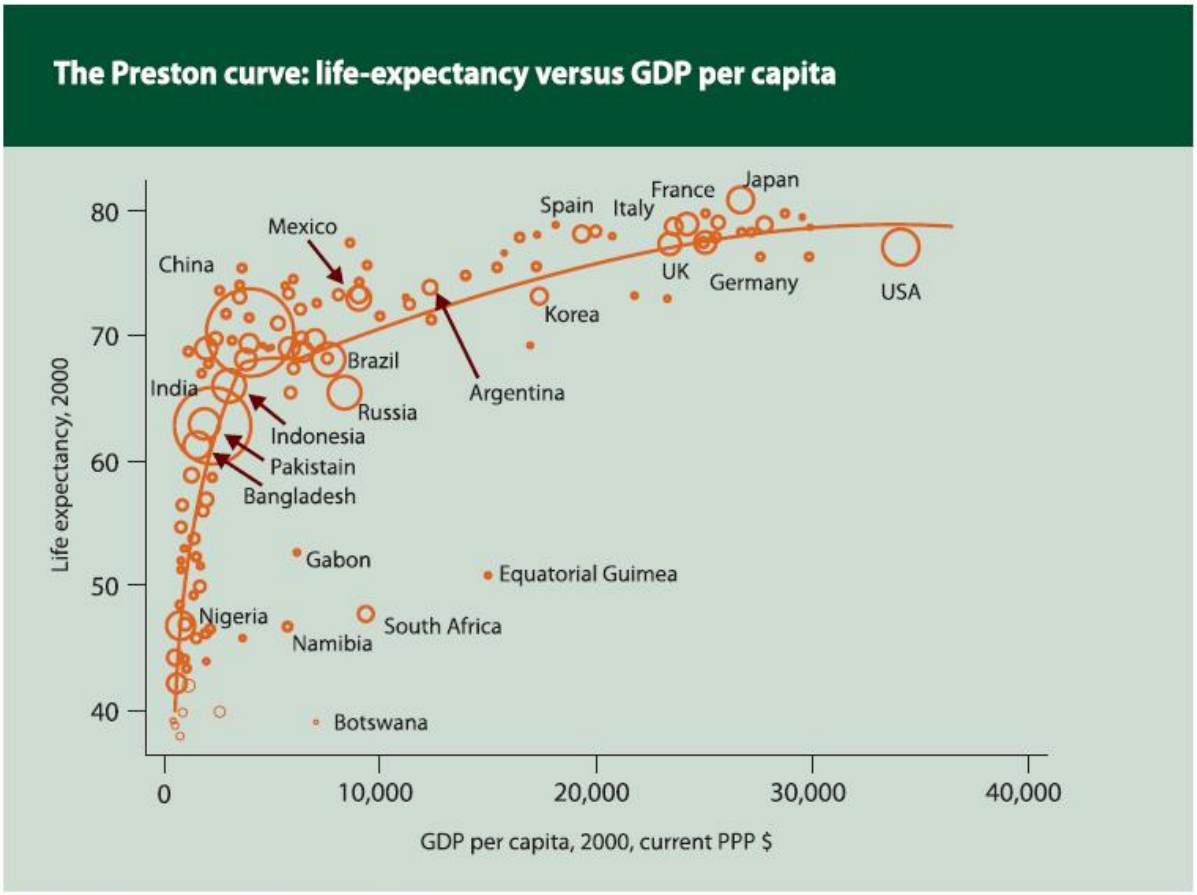
Samuel Preston, a leading US demographer, described the association between life expectancy and real per capita income (Figure 1). Preston studied the relationship between mortality and economic development for the 1900s, the 1930s and the 1960s and published the initial article ‘The changing relation between mortality and level of economic development’ in 1975 in the journal Population Studies [6].

The Preston Curve indicates that individuals born in richer countries can, on average, expect to live longer than those born in poor countries.

As illustrated, however, the link eventually flattens out indicating that at low levels of per capita income, further increases in income are associated with large gains in life expectancy whereas at high levels of income, increased income has little associated change in life expectancy.

It remains a point of debate as to whether there is an implied causal link from wealth to health, or whether there is a possibility that the link could also run in the reverse direction. The reverse would imply improving health leads to higher incomes; i.e. healthier workers are more productive, have longer lifespans with healthier children who are more likely to attend school regularly.

Figure 1: The Preston Curve Source: [6]



Recent commentators have speculated that Preston's conclusions are "likely to apply even more in today's increasingly globalized world", "provide support for the importance of social interventions" and that the 1975 paper "remains a cornerstone of both global public health policy and academic discussion of public health" [7].

3 The 2008 Economic Crisis

Following the 2008 recession, there were several research projects undertaken to assess its impact on population health. Suhrcke and Stuckler [8] prepared a review for the University of East Anglia which concluded that it is probably unlikely that the economic recession would have major negative effects on overall population health indicators. They suggested that the effects may even be positive on average following examination of country level evidence.

Nevertheless, they observed that those parts of the population particularly hard hit in economic terms, for example through job losses, were likely to suffer health-wise in absolute and/or relative terms. This would therefore potentially lead to an increase in health inequalities between socioeconomic groups. There was also some suggestion that there may be more health damaging effects if the economic crisis were to increase in severity in comparison to economic fluctuations which have been found to have either positive or no health-related effects.

Falagas et al [9] found a strong argument in favour of a positive association between mortality and economic crises in less affluent countries which is potentially attributed to increased psychosocial stress during such periods. By contrast, more affluent countries are relatively protected from the more

acute aspects of economic shock due to high standards of living, good public infrastructure and access to effective healthcare and education. However, according to this team, health outcomes disparities between the rich and poor in affluent countries were likely to widen as a consequence of economic downturns.

Stuckler and colleagues reviewed the experience of three major economic crises in the 20th century: the Great Depression (1929), the Post-communist Depression (early 1990s) and the East Asian financial crisis (late 1990s) to understand the impact of the 2008 crisis on the health of the people of Northern Ireland [10].

Certain key findings emerge:

- The rapidity of economic change appears to be a key hazard to health. The direction of change seems less important.
- The extent to which economic changes impact on health depends on the extent to which people are protected from harm. Three issues are relevant: exposure to risk factors; social cohesion (informal welfare); and social protection (formal welfare).

Chang et al [11] investigated the impact of the 2008 global economic crisis on international trends in suicide. Their findings suggest that across the 54 countries studied, rates of suicide increased, with the greatest increase rates observed in European men aged 15-24, and in American countries for men aged 45-64 years.

In addition, Ben Barr and colleagues [12] sought to determine whether English regions worst affected by the economic recession in the United Kingdom in 2008-10 have had the greatest increases in suicides. They found that:

- Before the economic crisis in 2008, the rate of male suicides was declining in England by 57 suicides per year (95% confidence interval 56 to 58), from 2000 to 2007; female suicides decreased by 26 suicides per year (24 to 27) in the same period (Table 1).
- The researchers estimated 846 more suicides among men (818 to 877) and 155 more suicides among women (121 to 189) than would have been expected if these trends had continued in the period 2008-10.

Table 1: Time trend analysis of excess suicides, in England, during the economic recession in 2008-10, by gender

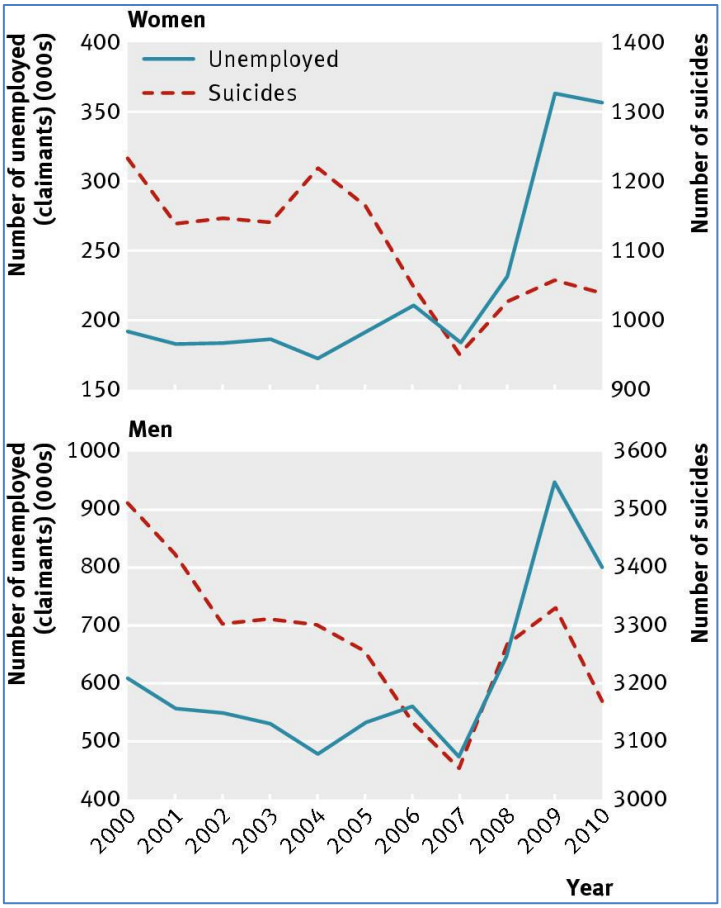
	Number of excess suicides (95% Confidence Intervals)	
Covariate	**Male suicides**	**Female suicides**
Expected annual trend, 2000-10	**−57 (−56 to −58)**	**−26 (−24 to −27)**
Estimated excess suicides during recession, 2008-10[1]	**846 (818 to 877)**	**155 (121 to 189)**

Source: [12]

In Figure 2 you can observe that levels of unemployment correlated strongly with suicides among men and women in the period studied.

[1] Calculated as the difference between observed and expected suicides if time trends in 2000-07 had continued during 2008-10

Figure 2: Trends in the numbers of suicides and unemployment claimants in England, 2000-10, by sex



Source: [12]

Further, this study reports that between 2000 and 2010, each annual 10% increase in the number of unemployed men was associated with a 1.4% increase in the number of male suicides (95% confidence interval 0.5% to 2.3%). For women, these short-term associations were not significant (0.7% increase, −1.5% to 3.0%). (Table 2)

Table 2: Association of unemployment with suicide rates (%) in 93 local areas of England in 2000-10, by gender

	Suicide rate (95% Confidence Interval)	
	Male	**Female**
10% rise in no of male claimants	**1.4%* (0.5% to 2.3%)**	**-**
10% rise in no of female claimants	**-**	**0.7% (−1.5% to 3.0%)**

Source: [12]

*P<0.001.

4 Health Behaviours

Concerns have also been expressed regarding the change in health behaviours which may be experienced during and following periods of economic recession.

- Increases in mental health problems associated with drug and alcohol use were reported in the UK after the 2008 recession [13].
- Evidence has suggested that an economic downturn may lead to a change in alcohol consumption behaviour, i.e., home drinking versus visiting a bar which in turn may lead to increased alcohol consumption per se [14].
- Alcohol consumption may increase or decrease in response to economic-related stress. People do not necessarily need to lose their jobs in order to feel stress and diminished levels of happiness could lead to increased levels of alcohol consumption or the type of alcohol consumed. Anderson and Moro [15] suggested that there is evidence that people may turn to alcohol, especially beer (cheaper) and spirits (more potent) in recessions compared to prosperous times.
- Service providers in New Zealand reported increased demand for mental health services associated with increase in drug and alcohol use during economic downturn [16].
- Kendzor et al [17] reported lower rates of quitting smoking in those from lower socioeconomic groups during times of economic hardship.

5 What about those still in work?

It's worth also considering the health outcomes in those remaining in potentially more advantageous situations, i.e. remaining in employment and able to meet their needs through adequate finances.

Finnish data has been investigated in order to attempt to understand the potential associations with work-place stress through analysis of sickness absence data collected in three time periods; 1990-1991, before the recession; 1993, worst slump during the recession; and 1993-1997, a period after changes [18]. Findings suggest that changes in work characteristics, such as job control, job demands and social support at work are important predictors of sickness.

6 Mental health impact

We can derive some understanding of the potential impact that COVID 19 might have on mental health from the experiences that occurred following the outbreak of SARS in 2002. In 2004, analysis conducted by Maunder [19] examined the stress level and psychological distress of severe acute respiratory syndrome (SARS) survivors 1 year after the outbreak.

Using the GHQ-12. (General Health Questionnaire: measures of depression, anxiety, and posttraumatic symptoms), in a total group of 175 participants who had recovered from SARS, it was reported that one year after the outbreak, SARS survivors still had elevated stress levels and worrying levels of psychological distress.

Mak et al [20] report persistent and significant prevalence of psychiatric disorders in survivors of SARS who had been admitted to a Hong Kong hospital. The post-SARS cumulative incidence of any

DSM-IV diagnosable psychiatric disorder was 58.9%. The current prevalence of psychiatric disorders 30 months after SARS remained high, with up to one-third of subjects still suffering from various psychiatric diagnoses.

The researchers conclude that the pattern of longer-term psychiatric morbidity in SARS was comparable to that of other disasters indicating longer term psychiatric morbidity in a relatively stable SARS survivor cohort.

7 Conclusion

The overwhelming consensus, it seems, suggests that a sustained period of economic crisis will have some degree of negative impact on health and mortality in less affluent countries with some attenuation in more affluent countries which are likely to experience a widening of health inequalities.

The current recession is different from previous economic recessions due to severe government interventions to try and contain a pandemic outbreak, including locking down the economy (nationally or locally), implementing quarantines and employing social distancing rules. The magnitude and speed of change in the UK and global economy is also unlike previous recessions. Added to this is the uncertainty around how long the current recession will persist as it is highly dependent on the epidemiology of the virus, development of medical treatments, discovery of vaccines and population behaviour.

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