Social capital, life expectancy and mortality: a cross-national examination

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Abstract

This paper analyses the relationship between social capital and population health. The analysis is carried out within an econometric model of population health in 19 countries in the Organisation for Economic Co-operation and Development countries using panel data covering three different time periods. Social capital is measured by the proportion of people who say that they generally trust other people and by membership in voluntary associations. The model performs well in explaining health outcomes. We find very little statistically significant evidence that the standard indicators of social capital have a positive effect on population health. By contrast, per capita income and the proportion of health expenditure financed by the government are both significantly and positively associated with better health outcomes. The paper casts doubt upon the widely accepted hypothesis that social capital has a positive effect on health and illustrates the importance of testing this kind of hypothesis in an extended model.

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Introduction

There has been a great deal of interest in the last 20 years in analysing the socio-economic determinants of health outcomes in individuals, regions and countries. Much of this research is based on the theory that there is an inverse relationship between income distribution and health. This theory has been developed to incorporate the argument that the negative effects of income inequality on health operate mainly through its effect on social capital. While the theoretical debate in the literature is far from resolved, the view that income inequality, and low levels of social capital, are bad for health has become an accepted piece of policy wisdom, finding its way into national health policy strategies and popular commentaries on health policy. This development is surprising given the methodological questions surrounding the population-level evidence that has been accumulated to support these hypotheses (Gravelle, 1998; Wagstaff & van Doorslaer, 2000).

This paper analyses the relationship between social capital and population health. The analysis is carried out within an econometric model of population health in 19 countries in the Organisation for Economic Co-operation and Development (OECD) countries using panel data covering three different time periods. It is, therefore, a considerable methodological improvement on much of the previous work in this area that has tended to rely mainly on the analysis of simple correlation coefficients. The model performs well in explaining health outcomes. We find very little statistically significant evidence that standard indicators of social capital have a positive effect on population health.

The purpose of the paper is to urge caution in the interpretation of population-based studies that offer mono-causal explanations of cross-country variation in life expectancy and premature mortality. The paper is not an argument against the importance of income as a primary determinant of individual health since there is convincing evidence that, within countries, lower income means poorer health and higher mortality (Davey...
Smith, Blane, & Bartley, 1994; Benzeval & Judge, 2001). All of the studies that have investigated the relationship between income and health over time find that income is significantly related to health outcomes, with income loss having a much stronger effect on health than increases in income (Judge & Paterson, 2001).

**Theory**

The basic hypothesis about the association between income inequality and health claims that the higher the level of income inequality in a society, the steeper the gradient of health inequality (Wilkinson, 1996). For example, people in Sweden live, on average, 2 or 3 years longer than people do in the US and Britain where income differences are wider. Wilkinson argues that what matters most in developed countries is not absolute income, but relative income, and the effect of income inequality on the psycho-social conditions of peoples’ lives. For given levels of economic development, health differences across developed countries are partly explained by the degree of relative deprivation within them. Relative deprivation refers not to an absolute lack of income and goods that are essential to survival, but to the absence of sources of self-respect that are deemed essential for full participation in society (Daniels, Kawachi, & Kennedy, 1999, p. 221). This hypothesis claims that it is not necessarily the richest countries which have the best health, but those with the most egalitarian distribution of income.

Kawachi, Wilkinson, and Kennedy (1999) have proposed three potential pathways by which income distribution may affect health. The first explanation, which is not addressed in this paper, focuses on the psychological consequences of income inequality. Income inequality is thought not only to affect an individual’s social environment, but to also affect the individual directly, bringing with it feelings of hopelessness, lack of control and loss of respect. These emotions are thought to influence health through their effect on stress levels. Wilkinson (1996) argued that income inequality affects health through perceptions of place in the social hierarchy based on relative position according to income. Such perceptions are thought to produce negative emotions such as shame and distrust that are translated “inside” the body into poorer health via psycho-neuroendocrine mechanisms and stress induced behaviours such as smoking. This argument is supported by evolutionary theory. For most of our evolutionary history, humans lived in societies that were egalitarian. Assuming that human health is maximised when we live under the conditions that have been beneficial to our evolution, inequalities, when and where they arise, are likely to be a hazard for our health (Deaton, 2001a).

The second explanation for a relationship between income inequality and health is the neo-material interpretation. According to this theory, the effect of income inequality on health reflects a combination of negative exposures and lack of resources held by individuals, along with systematic under-investment across a wide range of human, physical, health and social infrastructure (Lynch, Due, Muntaner, & Davey Smith, 2000). Societies that tolerate a more unequal distribution of income are ones that underinvest in human, physical, health and social infrastructure. As the rich get richer they use their own money to buy their way out of problem neighbourhoods and public schools. At the same time, they become increasingly reluctant to support public spending that benefits the whole of society. This under-investment adversely affects health by reducing the resources available to individuals as well as undermining the medical care system (Lynch, Davey Smith, Kaplan, & House, 2000). The models estimated in this paper include neo-material variables.

According to the third argument, which is the main focus of this paper, the quality of the psychosocial environment is the main explanatory mechanism for the association between income inequality and cross-country differences in population health. Increased income inequality reduces social cohesion, which in turn negatively impacts on health. As the distance between the rich and the poor widens, social cohesion begins to break down. Social cohesion or social capital has been defined as those features of social organisation—such as the extent of interpersonal trust between citizens, norms of reciprocity and voluntary group membership—that facilitate co-operation for mutual benefit. Inequality is a barrier to the development of health-inducing social relations and for that reason investment in appropriate social capital is a key strategy for public health (Wilkinson, 1999, 2000). Social networks furnish tangible assistance, such as money and informal care and may also encourage health-improving behaviour (Putnam, 2000, p. 327). The difficulty for researchers is generating cross-country measures of social capital that incorporate these various effects. Individual-level studies may be much better at generating this data than are population-based cross-country studies.

**Evidence**

A large number of studies at the individual level have found significant associations between health status and various psychosocial factors such as distrust, the quality of interpersonal relationships, participation in social events and membership of civic associations (Berkman, 1995; House, Landis, & Umberson, 1998; Kawachi, Kennedy, & Glass, 1999; McCulloch, 2001). However, little is known about whether population level measures
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