



## Social capital externalities and mortality in Sweden

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### Abstract

We conceptualize social capital as an aggregate factor affecting health production and analyze the effect of community social capital (CSC) externalities on individual mortality risk in Sweden. The study was based on a random sample from the adult Swedish population of approximately 95,000 individuals who were followed up for 4–21 years. Two municipality-level variables – registered election participation rate and registered crime rate – were used to be a proxy for CSC. The impact of CSC on mortality was estimated with an extended Cox model, controlling for the initial health status and a number of individual characteristics. The results indicate that both proxies of CSC were associated with individual risk from all-cause mortality for males older than 65+ ( $p = 0.013$  and  $p = 0.008$ ) but not for females. A higher election participation rate negatively and significantly associated with the mortality risk from cancer for males ( $p = 0.007$ ), and may also have exerted protective associations for cardiovascular mortality ( $p = 0.134$ ) and deaths due to “suicide” ( $p = 0.186$ ) or “other external causes” ( $p = 0.055$ ). Similar associations were observed for the crime rate variable. The findings were robust to alternative specifications examined in the sensitivity analysis.

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### 1. Introduction

Social interactions in various forms and degrees are universal to all economic agents, and externalities are a fundamental feature of modern interdependent societies (Liu and Turnovsky,

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2003). Individuals living in a society interact with one another, and their decisions may influence other individuals directly and/or indirectly through both market and non-market activities. In economics, the role of externalities has been widely studied in many contexts (Marshall, 1890; Lucas, 1988). By comparing the wages of workers in US cities possessing different overall levels of human capital (education) and controlling for workers' individual characteristics, Moretti (2004) showed that human capital spillover increases productivity over and above the direct effect of human capital on individual productivity. As a social characteristic, the effects of social capital have been hypothesized to influence various aspects of society, including health. Research into social capital has extended across various social science disciplines, such as economics and public health. However, debate is still ongoing regarding both the measurement of social capital and the mechanisms by which social capital generates health benefits for individuals.

There is still dissent over whether social capital is an individual attribute or a community characteristic which operates as a public good. The post-Coleman (1990) literature commonly views social capital as an attribute of communities, and one which arises from social interaction (Glaeser et al., 2002). Anderson et al. (2004) recently found evidence to support the understanding of social capital as both a group and an individual attribute. Individual social capital (ISC) can be viewed as a person's social characteristics (Glaeser et al., 2002), and operationalized by the level of trust, membership in a network, civic participation, or participation in different community groups or activities. Community social capital (CSC) can be defined as the density of networks, groups, civic participation, or trust within a certain community (Paldam, 2000). CSC may include all of the cross-person externalities formed by the different types of ISC produced within a community (Glaeser et al., 2002).

There is continuing debate concerning the sources and determinants of social capital, and the ways in which different conceptualizations of social capital should be measured. A range of potential sources and factors of social capital can be identified in the literature. For example, two major international organizations, the World Bank (1998) and the OECD (2001), identify eight sources (the family, schools, local communities, firms, civil society, the public sector, gender, and ethnicity) as being pertinent for the advancement of social capital. The Australian Institute of Family Studies (AIFS) has developed a conceptual framework of social capital where they recognize that social capital can have a range of possible determinants (similar to those identified by the World Bank and the OECD) and outcomes (e.g. individual/family wellbeing, public health, reduced crime, political quality of governance, etc.; Stone and Hughes, 2002).

Social capital indicators can be classified in a number of ways, including a division into 'proximal' and 'distal' categories. 'Proximal' indicators of social capital are seen as consequences of social capital related to its core components of trust, networks and reciprocity, whereas 'distal' indicators are outcomes of social capital which are not directly, but rather indirectly, associated with its key components (e.g. interpersonal mistrust — a component of social capital — influences crime rates, and crime rates influence health) (Stone, 2001). Nonetheless, one general feature of social capital is that there may be complex feedback effects between its causes (sources) and effects, resulting in 'virtuous circles' of social capital creation (Productivity Commission, 2003).<sup>1</sup> Though the practice is not beyond criticism, proximal and distal indicators of social capital are frequently used in those studies which are dependent on secondary data for social capital indicators (Stone, 2001).

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<sup>1</sup> In particular, at the individual level, education seems to be an important factor in individuals' access to social capital; and, simultaneously, good access to social capital may increase individuals' educational prospects.

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