Bridging vs. Bonding Social Capital and the Governance of Common Pool Resources

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Abstract:
Most papers assume that social capital is good: it enables growth, it facilitates cooperation in the use of a common pool resource (CPR) and investment in public goods. In particular, social capital is perceived as facilitating collective action and social governance in the absence of more formal institutions. But not all social capital is alike. In this paper, we develop a model that compares the effect of bridging versus bonding social capital on the management of a common pool resource, and determines how these effects vary under different governance structures.
Although bonding social capital increases vulnerability to social sanction, we find that by giving communities an outside option, bridging social capital can reduce people’s vulnerability, making them less susceptible to social sanction, and reducing the enforcement capability of the community. Therefore, if a community has high bridging social capital relative to bonding social capital, it will achieve a lower cooperative level of consumption.\footnote{Note that in this paper, we do not address the other common concern with bonding social capital in that it can limit people from wanting to deviate too far from the community norm.} We then test this finding using data from Mexican communal villages, or Ejidos, and their maintenance of communal land, and communal property, such as vehicles.

There is a growing literature on the effect of social capital on economic growth, public good provision and management of CPRs (for a good review, see Durlauf and Fafchamps 2006). Social capital, as measured by networks among communities has been shown to improve economic growth and opportunities (Fafchamps and Minten, 2002; Palloni, Masset et al 2001). This kind of social capital is often referred to as “bridging” social capital. Other studies have shown that ethnic homogeneity (Costa and Kahn, 2003b; Esterly and Levine 1997), increased vulnerability to social sanction (Anderson) and higher levels of trust (Helliwell, 1996; Knack and Keefer 1997, LaPorta et al 1997) can increase growth, public good provision and improve co-management of CPRs. Social capital that increases the strength and information flow of the network within the community is referred to as “bonding” social capital. However, these two types of social capital affect communities in very different ways.

In this paper, we model both types of social capital in the context of families facing external income (utility) shocks, such as from drought. We view bonding social capital as social capital referred to by Bowles and Gintis (2002) defined as “trust, concern for one’s associates, a willingness to live by the norms of one’s community and to punish those who do not.” Bonding social capital facilitates transfers within the community, so that if one family faces a negative shock, their neighbors in the community will help support them (Carter and Maluccio 2003). Bonding social capital is also assumed to improve information flow within the
community, allowing community members to better monitor each other’s behavior and their contribution to the public good or their consumption of the CPR.

In contrast, bridging social capital refers to the networks across groups that enable members to reach for outside sources of information, support and resources, and does not necessarily rely on stringent norms (Putnam, 2000; Narayan, 1998). Bridging social capital is modeled as the possibility of a family gaining income from outside the community. This form of transfer can be thought of as a family sending a member outside the community as a labourer, or the family having friends in other communities unaffected by the drought that are willing to send financial aid. Like bonding social capital, bridging social capital is also assumed to improve information, but in this case, it improves information flow between communities. This information can help communities improve the efficiency of the consumption of the CPR by facilitating technology transfer (Isham 2002).

Each community member’s utility is modeled as a function of the income from the CPR, and two shocks. These shocks can be thought of as either financial, such as a need for funds for medicine, or an unexpectedly large yield of vegetables from the family garden, or emotional, such as a death in the family. One shock is systematic across the village, such as good yields, and another one is idiosyncratic, affecting only the family, such as illness or injury. We assume that monitoring is costly and is endogenously chosen, whether it is done by the government or the community members. Social capital is modeled as a form of insurance, where social sanction is removing the insurance from the individual. We then use the model to solve for the optimal governance structures under different social capital endowments.

We then test these results using data from the 1991 and 2001 Ejido censuses in Mexico. We use information on the existence of community groups and language to measure bonding social capital. We use remittances, migration and involvement with national organizations as evidence of bridging social capital. We then compare the effect of these two types of social capital on the amount of communal land that is environmentally degraded, and the number of community-owned vehicles that do not function.
Our paper has several contributions. First, unlike previous theoretical literature which has focused primarily on the effect of bonding social capital we model and contrast the effect of both bonding and bridging social capital. Second, we explicitly model how social capital can affect vulnerability, which in turn, will determine the effectiveness of social sanction and the community’s ability to enforce a cooperative solution. Third, we show that under some circumstances, some types of social capital can, in fact, can nearly erode the community’s ability to manage CPRs (or provide public goods). Fourth, we explicitly model government management can crowd out local effort in CPR management; moreover, government will not achieve better results when information asymmetry is large. Fifth, we empirically test whether bridging and bonding social capital has differential effects on CPR management.