Social capital, capital goods, and the production of learning

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1. Introduction

The concept of social capital, according to James Coleman (1990), "blurs distinctions" between types of social structures (p. 305). Most researchers who embrace Coleman's concept choose to preserve its broad content rather than sharpen its analytic bite. In order to further develop social capital as a theory capable of explanation, the analytic contribution of the concept of 'capital' must be clarified. Trust, norms, and networks are certainly social. But should these 'features of social organization' be considered capital? And if so, should they be considered the same type of capital?

In this paper, I impose some structure on the broad concept of social capital by driving a conceptual wedge between norms and networks and then elevating information to the same (secondary) status as norms. I then attempt to build a theory by invoking a distinction between *social capital resources* and *capital goods*. In the full paper, the basic argument is followed by (1) the presentation of a toy model that introduces some helpful notation and (2) an illustration of its application to Coleman's foundational example of the effects of social capital–covariation in the production of learning and social capital endowments across different types of schools (Coleman, 1995; Coleman, Hoffer 1987; Coleman, Hoffer, Kilgore 1982). In this summary, I only provide the basic argument and the supportive conclusions from the empirical analysis.

2. Social capital resources and capital goods

In economic theory, capital goods are reproducible factors of production that reduce the unit production costs of final goods. Financial capital resources, on the other hand, are not production-directed, although they can be converted into cash and used to buy capital goods

or final goods on the open market. Financial capital resources are therefore a fungible class of assets that can be conceptually separated from production-specific capital goods.

The broad concept of social capital can be partitioned in a similar manner. The interpersonal ties embodied in a social network are social capital resources that can be invested in capital goods in order to lower the production costs of private and public goods. Social capital resources are a stock of non-specific but potentially productive resources that are accumulated as (1) cognate ties among community members or (2) noncognate ties between community members and individuals outside of the community. Social capital resources in cognate ties can be summarized for each community by network measures of social closure. Likewise, social capital resources in noncognate ties can be summarized for each community by network measures of aggregate connectedness to individuals outside of the community.

Norms and information are the two most important types of capital goods in which social capital resources can be invested. As shared maxims that guide behavior in recurrent contexts, effective norms maximize social welfare through the proscription of free-riding. The internalization of norms can further reduce production costs by alleviating some transactions costs that would otherwise arise from the monitoring and sanctioning of noncompliance. Information, on the other hand, builds knowledge about productive processes themselves, necessarily lowering costs by fostering ingenuity. By lowering production costs, the creation of norms and the acquisition of information increase production.

How can social capital resources embodied in social ties be 'invested' in norms and information? I will not offer a formal description of the process by which information is acquired through social ties. But I will note that the search for and transmission of information across social ties can only be conceptualized as an investment process if it is accepted that social ties have a limited carrying capacity. If using a set of social ties to acquire a productive piece of information entails opportunity costs in alternative information that could have been acquired, then the commitment of social capital resources to the acquisition of a subset of all possible information is an investment process.

The investment of social capital resources in norms requires more discussion. Fortunately, Coleman (1990) provides an extensive discussion of social ties and the creation of effective norms (see chapters 10–12). In brief, when social structure attaches externalities to individual behavior, demand for a norm to guide individual behavior arises (assuming that individual welfare is maximized when social welfare is maximized and that actors recognize this structural reality). Density of social ties among a group of actors lowers the costs of sanctioning noncompliance for all actors by facilitating cooperation and creating a system of reputation-benefits to reward individuals who step forward to sanction norm-violators. Based on this framework, Coleman (1990) provides a novel definition of a norm: " . . . a norm concerning a specific action exists when the socially defined right to control the action is held by others," (p. 243). The right to control the actions of others exists as the right to apply sanctions that can compel proper behavior.

Thus, according to Coleman, the existence of social ties fosters the creation of effective norms. To my knowledge, Coleman does not discuss the limited 'cooperation capacity' of social ties, nor how the creation of one norm has consequences for the potential creation of other norms. Coleman (1990) recognized that an investigation of the creation and mainte-

nance of a system of norms was beyond the framework that he had developed, writing: "The exploration of such relations constitutes a major task in itself, one that is beyond the scope of a treatment of the foundation of social systems" (p. 265). Even if the creation of one norm can either increase or decrease the costs of creating a second norm, it still seems reasonable to conceptualize the use of social ties to build norms as an investment process, based on an assertion that cooperation and reputation-benefits have limits.

Why separate social capital resources and capital goods? The distinction lends flexibility and strength to Coleman's theory of social capital. Communities have multiple and some-times contradictory production goals that must be pursued in the same social space. Unlike the neoclassical firm in economic theory, communities cannot always separate heterogeneous production regimes into discrete enterprises. Thus, capital goods that are adopted to decrease the production costs of one good may increase the production costs of another good. Without taking account of the interdependencies among production processes of a community, few conclusions can be drawn about the contribution of social capital, as defined by Coleman and his followers, to individual or community welfare.

3. The production of learning when norms and information are substitutes

Schools and the communities that surround schools invest social capital resources in capital goods in order to reduce the costs of producing learning among their students. The investable social capital resources available to schools exist in the ties embodied in the social networks between students, teachers, parents, and other adults. Because schools are local institutions set in communities that are cells of a larger society, social capital resources exist in cognate ties among members of the school community and in noncognate ties to individuals outside of the school community.

Because of time and energy constraints of individuals—in this case, parents—I assume that aggregate measures of social closure and network bridges are negatively correlated across different types of communities. Investing time and energy in the creation and maintenance of ties to members of one's own community necessarily entails opportunity costs in the creation and maintenance of ties to individuals outside of one's community.

Achievement norms can be created and strengthened through the investment of social capital resources in the closed social networks of parents within the same community. Aggregate information flows into the community can be increased through the investment of social capital resources that exist in the networks of noncognate ties that parents share with other adults outside of the community. For example, many parents have close ties to adults with whom they work but who send their children to different schools.

Discipline can be increased through the creation and internalization of achievement norms (by reducing the costs of enforcement) while ambition/effort and ingenuity/creativity can be increased through exposure to heterogeneous information (by lowering the costs of inducing motivation). Both sets of goods can contribute to learning. However, achievement norms stifle ingenuity/creativity and heterogeneous information breaks down discipline.

4. Findings

Following an investigation of reading and mathematics achievement levels of student respondents to the National Education Longitudinal Study (U.S. Dept. of Education, 1996), I conclude that the association between social closure among parents and achievement in mathematics and reading is either positive for middle school students and zero for high school students or zero for middle school students and negative for high school students, depending on which set of models one favors. When these findings are combined with the claim that students who attend middle schools with high social closure are more likely to go on to attend high schools with high social closure, the findings suggest that learning gains in high school are negatively associated with social closure, matching the results of Morgan and Sørensen (1999a, 1999b) based on alternative models of the same data source.

The conceptual separation of social capital into two components permits an explanation for divergent associations between social closure among parents and student learning across school levels. Communities engage in the simultaneous production of learning among students of all ages. Social capital resources in the cognate and noncognate ties of a community can be invested in alternative capital goods. Capital goods that increase the production of learning among middle school students may not be as effective in promoting learning among high school students, and *vice versa*.

Communities for whom social closure is high are able to induce learning among elementary and middle school students by using social capital resources in cognate ties to build and enforce norms of achievement. However, these same communities, by virtue of the negative population correlation across communities between aggregate social capital resources in cognate and noncognate social ties that I assert above, do not invest as much in capital goods in the form of heterogeneous information. If information is relatively more crucial for inducing achievement among high school students, communities that foster high achievement among elementary and middle school students may retard the achievement gains of these same students when they enter high school.

In the language of Morgan and Sørensen (1999a, 1999b), social closure increases learning among elementary and middle school students through the creation of a norm-enforcing environment that compels diligence. However, social closure inhibits learning among high school students because it denies them a horizon-expanding environment that could more capably motivate them to learn.

References

Coleman, J.S., 1990. Foundations of Social Theory. Harvard University Press, Cambridge.

Coleman, J.S., 1995. Achievement-Oriented School Design. In: Hallinan, M.T. (Ed.), Restructuring Schools: Promising Practices and Policies. Plenum, New York, pp. 11–29.

Coleman, J.S., Hoffer, T., 1987. Public and Private Schools: The Impact of Communities. Basic Books, New York.

Coleman, J.S., Hoffer, T., Kilgore, S., 1982. High School Achievement: Public, Catholic, and Private Schools Compared. Basic Books, New York.

Morgan, S.L., Sørensen, A.B., 1999a. Parental networks, social closure, and mathematics learning: A test of Coleman's social capital explanation of school effects. American Sociological Review 64, 661–681.

Morgan, S.L., Sørensen, A.B., 1999b. Theory, measurement, and specification issues in models of network effects on learning: Reply to Carbonaro and to Hallinan and Kubitschek. American Sociological Review 64, 694–700.

U.S. Dept. of Education, National Center for Education Statistics, 1996. National Education Longitudinal Study: 1988–94 [CD-ROM]. U.S. Dept. of Education, Office of Educational Research and Improvement [producer and distributor], Washington, DC.