

# Social Capital

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# Outline

## 1 Economic Analysis of Social Interactions

- Theoretical Development
- Empirical Research
- Main Elements of economic thinking on social interactions
- Social Interactions in Sociology

## 2 Can we trust Social Capital?

- Bowling Alone
- Is social capital capital?
- Institutions

## 3 An Economic Approach to Social Capital

### References

# Economic Analysis of Social Interactions

*Journal of Economic Perspectives—Volume 14, Number 3—Summer 2000—Pages 115–136*

## Economic Analysis of Social Interactions

Charles F. Manski

**E**conomists have long been ambivalent about what social interactions constitute the proper domain of the discipline. The narrower view has been that economics is primarily the study of markets, a circumscribed class of institutions in which persons interact through an anonymous process of price formation. The broader view has been that economics is defined fundamentally by its concern with the allocation of resources and by its emphasis on the idea that people respond to incentives. In this view, economists may properly study how incentives shape all social interactions that affect the allocation of resources.

INSTITUTIONAL  
SCIENCE

- 1<sup>st</sup> half of the century: institutional economics thought *broadly but loosely* about social interactions.
- Neoclassical theory of gen compet. eq. → nonmarket interactions were not phenomenon of intrinsic interest.
  - viewed as problems of incomplete markets that may prevent the economy from achieving a social optimum.
  - Externalities created by nonmarket interactions should be eliminated by setting property rights that would permit trade.

Since then (1970s), a new phase has been underway, in which the discipline seeks to broaden its scope while maintaining the rigor that has become emblematic of economic analysis.

- Theoretical developments in microeconomics, labor economics, and macroeconomics played role in launching this phase.
- 1. Micro: adoption of noncooperative game theory (particularly dynamic game theory) → include a broad range of market structures; new life to the field of industrial organization.
  - all interactions as games, with markets as special cases.
- 2. Labor economics: from narrowly concerned with work to one broadly concerned with the production and distributional decisions of families and households (e.g. Becker, 1991).

3. Emergence of macroeconomics of endogenous growth theory.
  - Classical growth theory: production technology is exogenous;
  - Endogenous growth theory: today's technology depends on earlier investments in human capital and R&D.
  - naturally engendered research on “spill-overs in the production of human capital”  
E.g. children learn from their peers; benefit from educated parents (nonmarket interactions and effects)
  - A concern for externality that was absent in classical growth theory

# Empirical Research on Social Capital

- Dearth of clear thinking in the empirical literature
- Jargons from sociology and social psychology (“peer influences”, “neighborhood effects,” “social capital”...)
- Failure to define these concepts with precision
- Little to no connection to economic theory
- The weak state of empirical research on social interactions should be a matter of concern both to economists with a policy focus and those with a theoretical focus.

# Empirical Research on Social Capital

- Empirical research needs to be more specific.
- Need for:
  - (1) well-designed experiments in controlled environments, and
  - (2) from careful elicitation of person's subjective perceptions of the interactions in which they participate

- Coherent study of social interactions requires a clear conceptualization of interaction processes.
  - What are the units that interact with one another?
  - How do they interact?

## Main elements of economic thinking on social interactions

1. Conceptualization of agents as decisionmakers endowed with preferences, forming expectations, and facing constraints.
- Formal expressions of pref: utility functions; expectations: subjective probability distribution; constraints: choice sets
- Agent can be individual, firm, organization, govt (not physical form but status as decisionmaker)

## Main elements of economic thinking on social interactions

2. Constrained Interactions
  - Market analysis: budget constraints;
  - congestion analysis: time constraints (road travel, web surfing, restaurant dining)
  - The decisions of agents to engage in these activities collectively determines the activity bundles that are feasible for agents to choose.

## Main elements of economic thinking on social interactions

### 3. Expectations Interactions

- Agent facing a decision problem will form expectations of the outcome that would follow from choosing different actions.

### 4. Preference Interactions

- An agent's preference ordering depends on the actions of other agents (e.g. Schelling's residential segregation model; ECW/Storr's post-disaster community return)

### 5. Equilibrium

- Words do not suffice; economists commonly pose formal models of agent behavior and explicit specifications of the manner in which chosen actions may affect constraints, expectations, and preferences.

economics with sociology. The sociologist Charles Camic (1987) has written engagingly on how the discipline of sociology emerged out of economics. According to Camic, separate university departments of sociology came into being as a consequence of the triumph of neoclassical economics over institutional economics in the 1920s and 1930s. As neoclassical economists sought to formalize the analysis of market interactions, they disparaged the broad but loose study of social interactions characteristic of institutional economics. Sociology departments emerged to study the range of nonmarket interactions that neoclassical economists judged to be outside the proper domain of the discipline of economics.

Sociology has had a substantial period of time within which to develop as a separate discipline, so one might expect a coherent sociological analysis of social interactions to have developed by now. Not so. Examination of recent sociological research does not reveal a shared, discipline-wide perspective. Some sociologists

research does not reveal a shared, discipline-wide perspective. Some sociologists describe interactions in language that suggests economic thinking. Others give prominence to concepts that play little or no role in modern economics: class, community, culture, influence, status, gender roles, and so on. Indeed, an economist reading sociological research is struck by the sheer number of concepts that sociologists employ. Economics has sufficed with a remarkably small set of basic concepts: preferences, expectations, constraints and equilibrium. Why does sociology require so many more concepts?

I believe that the abundance of concepts in sociology is connected closely to the dearth of formal analysis in the discipline. Whereas the typical research article

“The problem with the analysis of social capital is that it is ill-defined, with different authors attributing different meanings to the concept. Part of this ambiguity concerns whether social capital is defined in terms of its effects or in terms of its characteristics. The problem with a functional definition is ... that an individual’s social capital “consists of the collection and pattern of relationships in which she is involved and to which she has access.”

Durlauf, 1999, p. 2

“... the relevant question for economics is whether “social capital,” “community,” and other sociological concepts convey ideas that are missing in modern economic thought – ideas that cannot be expressed using the core concepts of preferences, expectations, constraints, and equilibrium. If so, the ongoing efforts to interpret “social capital” may be productive. If not, economists should use “social capital” only as a lesson in the ambiguity of words.

Manski, 2000, p. 123

# Why do members of the same group tend to behave similarly?

- Many hypothesize that empirical regularity is due to **interactions** in which the propensity of an agent to behave in some way varies positively with the prevalence of this behavior in the group.
  - “social norms,” “peer influences,” “neighborhood effects,” “conformity,” “imitation,” “contagion,” “epidemics,” “bandwagons,” or “herd behavior.”

# Why do members of the same group tend to behave similarly?

- Empirical research distinguishes three hypotheses:
  1. *Endogenous interactions*, wherein the propensity of an agent to behave in some way varies with the behavior of the group;
  2. *Contextual interactions*, wherein the propensity of an agent to behave in some ways varies with the exogenous characteristics of the group members;
  3. *Correlated effects*, wherein agents in the same group tend to behave similarly because they have similar individual characteristics or face similar institutional environments (non-social phenomenon).

# Example

- **High school achievement of a teenage youth**
  1. *Endogenous interactions*: if individual achievement tends to vary with the average achievement of the students in the youth's high school, ethnic group, or other reference group;
  2. *Contextual interactions*: if achievement tends to vary with the socioeconomic composition of the group;
  3. *Correlated effects*: if they are taught by the same teachers or have similar family backgrounds.
- analogous to bonding, bridging, linking social capital?

# Reflection Problem

- Outcome data do not readily differentiate among endogenous interactions, contextual interactions, and correlated effects.
- Identification problem arises because the mean behavior in the group is itself determined by the behavior of group members.
- Does the mirror image cause the person's movements or reflect them?

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*Journal of Economic Literature*  
Vol. XL (March 2002), pp. 139–154

# Can We Trust Social Capital?

JOEL SOBEL<sup>1</sup>

## 1. *Introduction*

SOCIAL CAPITAL describes circumstances in which individuals can use membership in groups and networks to secure benefits. This formulation follows the definition offered by Pierre Bourdieu (1986): “Social capital is an attribute of an individual in a social context. One can acquire social capital through

This formulation treats social capital as an attribute of an individual that cannot be evaluated without knowledge of the society in which the individual operates. The extent to which an individual has access to resources through social capital depends on the person’s connections (whom they know, but also connections through common group membership), the strength of these connections, and

# Can we trust Social Capital?

Pierre Bourdieu (1986): “Social capital is an attribute of an individual in a social context.”

- Acquire social capital through purposeful actions;
- Can be transformed into conventional economic gains;
- Bourdieu definition fits into strategic models of economic behavior.
- SC as an attribute of an individual that cannot be evaluated without knowledge of the society in which the individual operates.

# Can we trust Social Capital?

The extent to which an individual has access to resources through SC depends on:

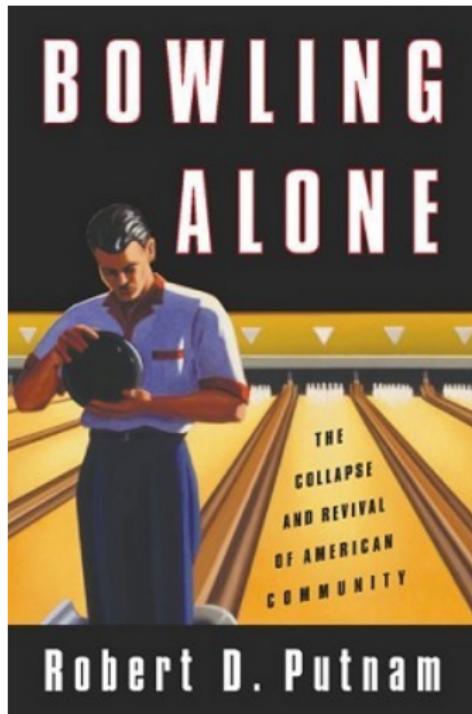
1. the person's connections
2. the strength of these connections
3. resources available to their connections.

Individual choice can to some extent determine the strength and extent of connections, although not all of these connections are subject to choice.

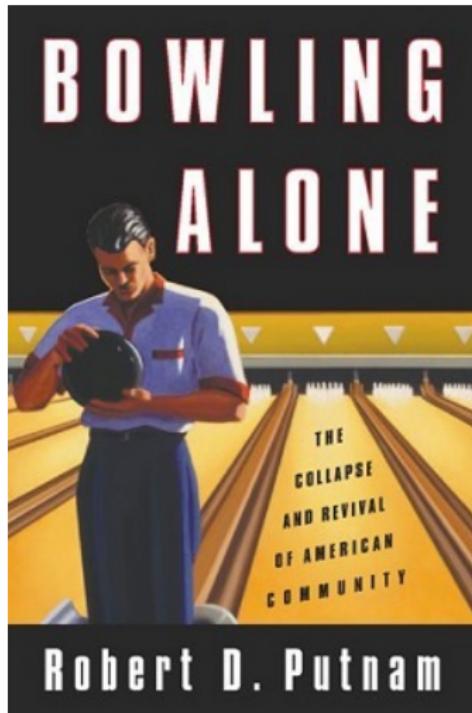
# Can we trust Social Capital?

Robert Putnam's short article with a big idea ("Bowling Alone: America's declining social capital" *J. Democracy*)

- dramatic decline in the level of participation in group activities in the US
- the decline threatened the quality of democracy and the quality of life
- stimulated a broad range of research activities: cross-national studies of social capital, research into the social capital of firms; and work investigating how trust is created in neighborhoods and in transition economies; health, psychology, recently in disaster studies.



- Documents downward trends in civic involvement.
- decline has far-reaching negative effects, from destabilizing democratic institutions, to lowering the effectiveness of schools, to reducing the magnitude of powerful forces that improve collective health and well-being.
- Identifies and begins to exploit large data sets on social interactions.
- Sobel: rhetoric often overwhelms logic.



Barrage of evidence that involvement in groups has been dropping over the past 40 years.

"We are bowling alone and not in leagues. We are voting at lower rates. We belong to fewer clubs and participate in those we do belong to at lower rates. We are less likely to participate in organized religion. We are joining unions and professional organizations at lower rates. We are spending less time socializing. We donate less to charity (as a percentage of income). We trust our neighbors less. More of us are lawyers."

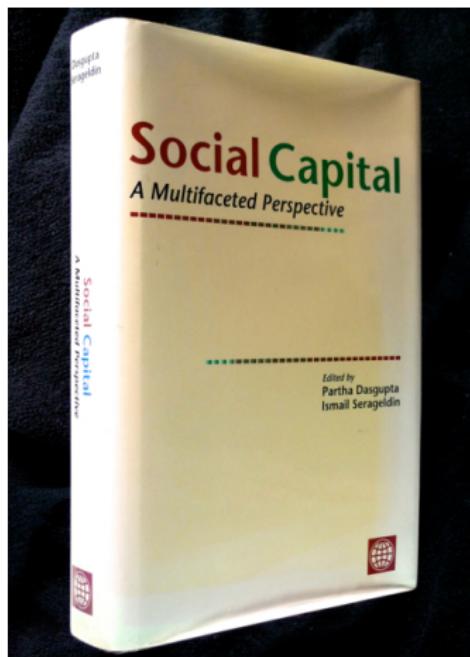
# Can we trust Social Capital?

- Sobel: Putnam provides more than enough data to convince even a skeptic that something is going on and that there may even be a common cause of the trend.
- Convinces a skeptical reader that something interesting is happening; but not the details of Putnam's argument.
- The book often confuses cause and effect.

# Can we trust Social Capital?

- No analytical framework to evaluate if the apparent trends are related (technology, internet, nature of jobs)
- Putnam allocates that largest share of the blame to generational differences, but he views increases in television viewing, commuting times, and female labor-market participation as significant factors in the decline of social capital.
- “The jobs of social capital are getting done in other ways, and the price needed to maintain the past forms is just too high.”

# Is social capital capital?



Collection of essays on social capital by notable economists (Arrow, Solow, Stiglitz, Ostrom).

- Solow: “an attempt to gain conviction from a bad analogy.”
- Arrow: three characteristics of physical capital:
  - (1) extension in time (stock at time  $t$ );
  - (2) deliberate sacrifice for future benefit;
  - (3) alienability.

# Is social capital capital?

- Investment: calculated decisions to join clubs, do favors, and make/maintain relationships w/ an eye toward future benefits.
- Stretch to view social capital derived from childhood friendships as a product of conscious calculation?
- Transfer: possible to transfer ownership of the shop without destroying the faith of customers.
- Solow: physical capital has a rate of return; can be measured by summing past investment of depreciation.
- Ostrom: unlike physical capital, social capital appreciates with use.
- Dasgupta: social capital is useful insofar as it draws our attention to those particular institutions serving economic life that might otherwise go unnoticed.

# Institutions

- Institutional environment:  
context in which decisions are made
- “...the set of fundamental political, social, and legal ground rules that establish the basis for production, exchange and distribution” (Douglas North, 1971).
- specifies the “rules of the game” or the strategy sets of the players.
- the value and uses of SC depend on the institutional environment.

# Example

Goods and services provided through one form of social capital can be obtained through other mechanisms. Jane Jacobs (1961, p. 60), who was one of the first to use the term social capital,<sup>20</sup> relates the story of the aptly named Joe Cornacchia. Joe runs a delicatessen near Jacobs's New York City home. He acts as a custodian for apartment keys. People in the neighborhood give Joe their keys with instructions to pass them to workers or friends who may need entry into the apartment. Jacobs says that "a service like this cannot be formalized. Identifications . . . questions . . . insurance against mishaps. The all-essential line between public service and privacy would be transgressed by institutionalization. Nobody in his right mind would leave his key in such a place. The service must be given

- In the deli days, the neighborhood probably responded to Joe's service by purchasing regularly at his store and giving him gifts at Christmas.
- Now the rent may include money to pay the doorman's salary.
- The key-storing service is formalized.
- "There are many ways to solve a problem. Documenting a change does not document a crisis."

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## AN ECONOMIC APPROACH TO SOCIAL CAPITAL\*

*Edward L. Glaeser, David Laibson and Bruce Sacerdote*

A standard optimal investment model can be used to analyse an individual's decision to accumulate social capital. We analyse six facts that support the predictions of this individual-based approach: (1) social capital first rises and then falls with age, (2) social capital declines with expected mobility, (3) social capital rises in occupations with greater returns to social skills, (4) social capital is higher among homeowners, (5) social connections fall sharply with physical distance, (6) people who invest in human capital also invest in social capital. We fail to find robust evidence that social capital investments fall with the value of time or that geographic/religious groups generate social capital complementarities.

A growing body of research documents significant correlations between 'social capital' variables, such as membership in organisations, and important economic outcomes.<sup>1</sup> Putnam (1993) jump-started the research on social capital when he found a strong correlation between measures of civic engagement and government quality across regions in Italy. Many authors have contributed to this literature. For



Edward Glaeser  
Talk @ NDSU: Dec. 3 (Thurs)— 3:00 - 4:30 p.m.

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## An Economic Approach to Social Capital

- No consensus on a common theoretical framework within economics
- ... *because economists have by and large adopted social capital frameworks that are based on aggregate analyses*
- > E.g. Putnam defines it as networks;
- > Coleman (1990) as a community-level attribute.
- Glaeser et al (2002) analyse the formation of social capital using a *model of optimal individual investment decisions*.

“We define individual social capital as a person’s social characteristics – including social skills, charisma, and the size of his Rolodex – which enables him to reap market and non-market returns from interactions with others.”

- > Social component of human capital.

- Individual membership in a network tends to generate a positive externality while individual status may generate a negative externality.

In theory, aggregate social capital incorporates all of the cross-person externalities generated by the different types of individual social capital.

- Aggregate SC measures characteristics that yield both market and non-market returns to a society
- Problem: the path from individual social capital to aggregate is difficult (Glaeser says: b/c of the extraordinary importance of social capital externalities)

## Two Objectives:

1. Describe an economic approach to investment in social capital
  - > adapts the traditional models of investment in human and physical capital
2. Present basic evidence testing the implications of this framework
  - Contribution comes from linking the evidence with a simple economic model of social capital investment.

# Individual Approach to Social Capital

- Start with a simple investment problem: Social capital as a stock variable,  $S$ , and aggregate per-capita social capital is represented as a stock variable  $\hat{S}$ .
- Each individual receives a per-period utility flow of  $S R(\hat{S})$ , where  $R(\hat{S})$  is a differentiable function with aggregate per-capita social capital as its argument.
- The flow pay-off to the individual,  $S R(\hat{S})$ , reflects both market returns and non-market returns.
  - > Market returns: higher wages or better employment prospects
  - > Non-market returns: improvements in the quality of the individual's relationships, improvements in his health, and even direct happiness.

# Individual Approach to Social Capital

- There are positive complementarities to accumulation of social capital across individuals.

i.e.  $R'(\hat{S}) > 0$

- SC dynamic budget constraint:  $S_{t+1} = \delta S_t + I_t$
- $\delta < 1$ , SC falls due to depreciation.  $1 - \delta$  is the depreciation rate;  $\delta S_t$  carries over the next period.
- The level of investment,  $I_t$ , has a time cost  $C(I_t)$ , where  $C(\cdot)$  is increasing and convex.
- Opportunity cost of time is  $w$ , representing the wage rate of the value of leisure.

# Individual Approach to Social Capital

- Assume individuals have a known lifespan of  $T$  periods; discount the future by factor  $\beta$ .
- $\theta$  is the probability the individual leaves the community
- $\phi$  is the depreciation factor arising from mobility.
- Leave  $\rightarrow$  SC depreciates, falling to proportion  $\lambda < 1$  of its previous value (i.e. much SC investment is community specific).
- Let  $\phi = (1 - \theta) + \theta\lambda$
- The individual's maximization problem:

$$\max_{I_0, I_1, \dots, I_T} \sum_{t=0}^T \beta^t [S_t R(\hat{S}_t) - w C(I_t)],$$

$$s.t. \quad S_{t+1} = \delta \phi S_t + I_t, \quad \forall t.$$

# Individual Approach to Social Capital

$$\max_{I_0, I_1, \dots, I_T} \sum_{t=0}^T \beta^t [S_t R(\hat{S}_t) - w C(I_t)],$$
$$s.t. \quad S_{t+1} = \delta \phi S_t + I_t, \quad \forall t.$$

The individual maximizes her objective function, taking aggregate per-capita social capital,  $\hat{S}_t$ , as fixed.

FOC associated with this investment problem:

$$w C'(I_t) = \frac{1 - (\beta \delta \phi)^{T-t+1}}{1 - \beta \delta \phi} R(\hat{S}).$$

# Comparative Static Results

- Social Capital investment:
  1. rises with discount factor,  $\beta$
  2. declines with mobility,  $\theta$
  3. declines with the opportunity cost of time,  $w$ ,
  4. increases with the occupational returns to social skills,  $R(\cdot)$ ,
  5. declines with the rate of social capital depreciation,  $(1 - \delta)$ ,
  6. rises in communities with more aggregate social capital,  $\hat{S}$ ,
  7. declines with the rate of social capital depreciation due to relocation,  $(1 - \lambda)$ ,
  8. declines with age,  $t$ .

## Two special properties stand out:

1. Social capital tends to be highly community specific.
2. Social capital has strong interpersonal complementarities
  - suggests large social multipliers
  - effects of changes in individual parameters <<< effects of changes in aggregate parameters

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