

**Preliminary Draft: Do Not Quote
Comments Welcome**

**NOTES ON
“ECONOMICS OF SOCIAL INTERACTIONS”**

Ronald Wintrobe

Department of Economics

University of Western Ontario

June 6, 2000

Prepared for presentation at:

IMAD Conference on Institutions in Transition,

Portoroz, Slovenia, June 23-25, 2000

- 1) OUTLINE
2. Abstract
3. Basic Ideas
4. Social Questions: Community in Crime and Lending
5. Politics: The Strength of Democracy (Political
Extremism and Participation)
6. International: International Regimes, Herd Behaviour in International Finance
7. Economic Issues: The Transition From Communism
8. Summary and Policy Implications

ABSTRACT

ECONOMICS AND SOCIAL INTERACTIONS

This paper originates from work on a new book, tentatively entitled "Economics and Social Interactions". In the book, I consider a number of problems, the answers to which have vexed social scientists. The standard way of looking at these problems in rational choice theory is individualistic. It does not take account of the social interactions among the participants. By social interactions I refer to the idea that what one person does depends on what other people do: either positively (the more they do it, the more you want to do it, as in conformist behaviour or in so-called network externalities), or negatively (the more they do it, the less you want to do it (as in snobbery or status). It has long been known that social interactions can play havoc with traditional economic models: for example, bandwagon effects can cause demand curves to slope upwards. But such effects remain little understood. I suggest that understanding and incorporating social relations into rational choice theory is the key to understanding a number of otherwise seemingly unrelated puzzles in economics and politics, for example, why high penalties can be counterproductive in deterring crime, how political extremism originates and spreads, herd behaviour in the international financial system and the problems of transition for the Russian economic system.

The book first develops a general approach, and then applies it with chapters on each of several diverse subject areas: social issues (crime, poverty and microfinance), political issues (extremism, political participation), international issues (herd behaviour in international financial markets), and structural economic issues (the problem of transition from Communism). The basic idea is that in each case, considering social interactions illuminates the problem, shows what is wrong with the standard way of thinking, and suggest a different policy prescriptions than would be considered otherwise. In addition some attempt is made to integrate the diverse contributions which have been made to each of these problems are integrated together into a simple yet general picture of what economics can say about social relations and how incorporating them into economics challenges conventional models.

B) BASIC IDEAS

I consider a number of social problems, the answers to which have traditionally vexed social scientists. The standard way of looking at these problems is individualistic. I change this by incorporating social interactions. This section reviews some of the most important general models of social interactions, and gives a general statement of the approach to be followed here. The next section (C) begins a series of discussions of specific examples of social interactions, namely those concerned with social questions—crime and poverty alleviation. Section D turns to social interactions in politics and looks at the issues of political extremism and political participation. Section E turns to social interactions in international finance (herd behaviour and corruption) and F to how the problem of the transition from communism is complicated by the existence of social networks. Section G presents a table which summarizes and tries to generalize about these examples.

One can distinguish at least three types of social interactions:

1. In *social interdependencies*, what I do depends on what you do. For example, in herd behaviour in financial markets, creditors act on the basis of the actions of other creditors, not on the basis of the debtor's fundamentals as perceived by the individual investors. Or in conformist behaviour, I may do the same thing as you simply because my utility depends positively on doing so.
2. In *social capital* or *networks* (as described in Coleman (1990) and in the context of bureaucracy in Breton and Wintrobe (1982)), what I do depends on the degree of confidence or *trust* I have that you will fulfill an obligation.
3. With the *emotions*—eg, sympathy, antipathy—towards others, as discussed perhaps most notably by Robert Frank (1988) what I do depends on whether I am positively or negatively inclined towards you.

General theories of social interactions in modern economics probably begins with Becker's (1974) paper. Becker has continued to work on these problems (see the essays reprinted in Becker (1996)).

The term “social capital” was widely introduced into economics by a sociologist, Jim Coleman, in his magisterial *Foundations of Social Theory* (1990). More recent general work includes first rate papers by Bernheim (1994) on conformity and Banerjee (1992) on herd behaviour. However, social relations is a vast subject, and general models which try to apply to all situations can only take us so far. Much interesting work has also been done in recent years incorporating some form of social relation into the consideration of a specific problem. For example, there is Glaeser, Sacerdote and Scheinkman’s (1996) interesting empirical work showing the importance of social interactions in explaining crime rates; Diamond and Dybvig’s (1983) model of financial panics, and the work of Chong (1991), Morton (1991) and Uhlaner (1989) using social interactions to explain political participation.

The simplest way to generate contagious behaviour is via the assumption of interdependent preferences. Thus, characteristics of others, eg, what clothes they are wearing, what restaurants they eat at, enter one’s utility function. Or, as in Becker’s (1974) paper on social interactions, the “relevant characteristics of others” enter as part of an individual’s “social income” rather than entering his utility function. One commonly modeled type of independent preferences is conformism. For example, Jones (1984) has modelled the utility function of employees deciding on the level of effort. He argues that, because of workplace pressures, workers dislike supplying a level of effort that is far from the output levels of other members of the working group. (Jones (1984), p. 42). Consequently, in his model, the utility of a worker depends, in addition to the standard arguments, on the argument $d(Q_i - Q_j)$, where d is the distance between individual i ’s output and the output of levels of the other (j) members of the group.

Alternatively, as in Bernheim’s (1994) model, it may be that individuals care about esteem (status or popularity). Esteem depends on how one is perceived. In Bernheim’s formulation this is determined by public perceptions of an individual’s type. However, an individual’s type is not directly observable, and so others must infer his type from his choices or actions. The key variable in his model is the effect of an individual’s actions on the esteem she is held in by others, vs their effect on direct utility. The larger the

first (status) relative to the second (direct utility), for example, the more it is likely that an individual's behaviour will be governed by a norm of behaviour.

It is important to note that, in this model, concern over popularity does not explain conformity by itself. More precisely, one can get the result that the distribution of agents is more concentrated as a result of this concern, but no *clustering* at any point, i.e., no two distinct types of agents make the same choice. A pooling equilibrium (conformity) arises whenever status is sufficiently important relative to direct utility. The key assumption which generates this result is that the esteem function is a discontinuous function of action. So agents are penalized significantly for *any* deviation from the social norm, no matter how small, because an observed deviation is assumed to mean the individual is the "extreme" type.

In Becker's more recent (1996) work, he uses the concept of *social capital* to refer to the dependence of an individual's consumption (C_i) on that of another individual (C_j). He also introduces the concept of habit or "personal capital": an individual i 's consumption in period t (C_{it}) depends on his consumption in a previous period ($C_{i,t-1}$). Becker showed that these two variables, especially in combination, can generate very large elasticities of demand and instability. One nice illustration is the consumption of addictive drugs. Suppose that the price of an addictive consumption good, C , rises. Then i 's consumption C_i falls; so does C_j . In the next period, C_i falls further both because $C_{i,t-1}$ has fallen and because C_j has fallen. These falls generate further diminutions and so on, until a "corner" solution (e.g., zero consumption) has been reached. At the other extreme, something which triggers an increase in the consumption of the good by one or more individuals can lead, by the reverse process, to the opposite corner, i.e., addiction.

In the works just mentioned, contagion is the result of interdependent preferences. However, contagious behaviour is not limited to these situations and in fact there are a number of other ways it can arise, including network externalities (see eg, Katz and Shapiro (1985)), asymmetric information (Mishkin

(1987) explains the East Asian crisis this way), information cascades (Bikhchandani, Sushil, David Hirshleifer, and Ivo Welch (1992)), winner take all markets (Frank (1988), and self fulfilling prophecies (Farmer).

One particularly insightful model of contagion based on informational considerations is that of Banerjee(1992). In his model, a person observes the decisions made by other people and chooses whether to use her own information, or to follow the decisions made by others. Banerjee shows that a person's decision to follow the herd rather than rely on her own information inflicts a negative externality on the rest of the population. If she had used her own information, her decision provides information to others, which in turn encourages them to use their own information as well. But when she simply conforms, her own information is lost. Banerjee refers to this as a "herd externality".

Another well known source of contagion is network externalities (see, eg., Katz and Shapiro (1985)). The key reason for the appearance of network externalities is the complementarity between the components of a network. Because the value of membership to one user is positively affected when another user joins and enlarges the network, such markets are said to exhibit "network effects," or network externalities.". For example, in a communications network, such as a network of electronic-mail users or a network of people who exchange files, each user desires to link directly to other users. So, as has long been recognized, the demand for a network good is a function of both its price, and the expected size of the network.

Because of network externalities, an increase in the quantity of a good bought raises the value to each user, which tends to raise the demand price, contradicting the substitution and (normal) income effects, and possibly causing the demand curve to slope upwards. Note that the demand price depends on the expected number of users, not the actual number. One can derive a stable equilibrium if the network effect is ultimately diminishing, so that the the price effect ultimately outweighs the network effect.

In markets with network effects, there is a natural tendency toward de facto standardization, which means everyone using the same system. Because of the strong positive-feedback elements, systems markets are especially prone to “tipping,” which is the tendency of one system to pull away from its rivals in popularity once it has gained an initial edge. Tipping has been observed in many situations, including AM stereo radio FM vs. AM radio, color vs. black and white television, VHS vs. Beta in videocassette recorders and typewriter keyboards (Katz and Shapiro (1985)). Tipping is reflected in static models in the form of multiple equilibria, very often multiple corner equilibria in which a single system dominates. In dynamic models, tipping is reflected in equilibria where new placements of the losing system simply dry up once a rival system is introduced or accepted in the marketplace.

But all this work, despite its obvious importance, only give us part of the picture. All this behaviour is demand-driven. Consequently the contagion effects imply that people who are involved in social interactions end up at corner equilibria, as is the case, for example in Becker’s (1996) models of addiction. But often with externalities there is some attempt at a solution, some attempt to form a group or structure or other form of organization or in some other way to endeavour to internalize the externality. For example, property rights may help solve externality and investment problems in networks. Specifically, when there is a single owner of the network, that firm may be willing to sponsor the network by making investments in its growth that competitive hardware suppliers would not.

At the same time, these solutions seldom work perfectly. There is usually a characteristic problem which blocks this solution from being realized, or which is a characteristic defect of the solution. As we will see in more detail later, in response to this incomplete or inappropriate private response, public policy can take one of two forms: a price solution which sometimes ignores the social interaction (for example, raising penalties for criminal activity), and a solution based on the interaction (for example, community-based policing). The basic point of this paper is that the more important the social interaction, the more the second solution, which takes it into account, will in fact be more appropriate than the solution based

on individualistic behaviour and prices alone..

These arguments are very abstract, and in any case we are getting ahead of our story. And it seems that at this stage in our understanding of social interactions, general theories can only take us so far. Let us look at a few illustrations, and then we can return to the general argument.

C) SOCIAL QUESTIONS: Crime, Poverty, and their alleviation

1. CRIME AND SOCIAL RELATIONS

Economists have typically analysed criminal behaviour following the framework set out by Becker in his path-breaking (1968) article. In that paper, and in much (but not all) of the subsequent work, an individual decides whether or not to commit a crime depending on what he or she anticipates to get out of it in terms of monetary (or nonmonetary) return, and on the risks of the activity as determined by the probability of getting caught and the size of the punishment if caught and convicted. Social interactions with others do not enter the picture. At the policy level, the Becker approach focussed on the use of deterrence variables such as punishments and levels of policing as a crime prevention strategy. The standard (Becker 1968) model looks at an individual's interactions with the justice system as represented by two policy variables: the probability of arrest and conviction, p and the size of the punishment, f . Thus, although Becker himself was instrumental in the development of the economics of social interactions, social interactions involved in criminal behaviour were initially ignored in his approach to criminal behaviour in order to bring this subject into the standard economic approach.

Some of the social interactions ignored include:

- i) That most crime in Canada and especially the U.S. is committed by young people who are part of gangs.

- ii) That punishment in the form of jail terms automatically exposes the criminal to opportunities to socialize and form networks with criminals.
- iii) That punishment carries stigma, and as a result of being punished, individuals may find it harder to get a job than before, thus again increasing the relative gains to illegal activity.
- iv) That the most serious form of crime is often organized crime, which is typically neglected in this framework¹.
- v) That we would expect to see more crime wherever there is not much social capital. Indeed, on one reading, this is the basis of the “broken windows” approach, discussed further below.

Finally, two further social interactions complicate the task of policy:

- vi) Too high punishments often means that the community will no longer support the police in catching offenders. As a result, excessive penalties may have the counterproductive effect that the probability of a criminal getting caught may actually fall, as Akerlof and Yellen (1994) showed;
- vii) As Andreoni (1995) has recently demonstrated, as the punishment is increased, juries typically (and rationally) become less willing to convict; thus, increasing the penalty lowers the probability of conviction.

Before going into more detail on the last three points, it is worth simply posing the question: Is it

¹Olson (2000) argues that the Mafia and other forms of organized crime, because they have *encompassing* opportunities compared to small scale criminals, actually have an incentive to take into account the damages their crimes do to society.

a coincidence that all of the social interactions reduce the effectiveness of the legal remedy derived from atomistic behaviour? The interactions ignored include those of the individual potential criminal with a) the people with whom he is involved in committing the crime, and others who may be involved in some way, eg, serve as a reference for him if caught; b) the police; c) the community d) the jury considering his case; e) the prisoners with whom he may be incarcerated;

The existence of all of these social interactions casts doubt on the standard way of approaching the crime problem, and on the remedies which are derived from an approach which ignores them. Finally, and perhaps most interestingly, it is worth noting that, recently, after many years of increasing, crime rates have indeed fallen dramatically in many big cities in the U.S. However, according to many observers, the reduction did not come about as a result of increased criminal penalties, but from adopting a social relations approach, as developed in Kelling and Coles (1996). This approach emphasized *Fixing Broken Windows*, to use the title of their book, (and of the article by Kelling and James Q. Wilson (1982) which introduced the approach, and which emphasizes the role of social relations in reducing crime.

In particular, this approach emphasizes that behaviour commonly classified as “disorderly”, while not as serious as crime, nevertheless can create fear and criminogenic conditions. Like broken windows left unrepaired, such behaviour tended to create an atmosphere which criminals might find congenial but ordinary citizens would not. By “disorderly” Kelling and Coles referred to acts such as

“aggressive panhandling, street prostitution, drunkenness and public drinking, menacing behaviour, harassment, obstruction of streets and public spaces, vandalism and graffiti, public urination and defecation, unlicensed vending and peddling, unsolicited window washing of cars (“squeegeeing”) and other such acts.....disorderly behaviour unregulated and unchecked signals to citizens that the area is unsafe.” (Kelling and Coles, p. 20)

The result is that

Responding prudently, and fearful, citizens..... stay off the streets. As citizens withdraw physically, they also withdraw from roles of mutual support with fellow citizens on the streets, thereby relinquishing the social controls they formerly helped to maintain with the community”(Kelling and Coles, *op. cit.*)

In New York, this happened partly as a result of the growth of the idea that human rights were absolute since the 1960's. Moreover, the so-called “reform” policing model common in many American cities at that time concentrated on rapid response to distress calls, but by taking police out of the neighborhoods and putting them in their cars they took out the interaction between police and the citizenry and made it difficult for the police to establish trust relationships with the citizenry. The result was that neighborhoods deteriorated and citizens withdrew, in turn spawning further deterioration and withdrawal and social decay. So on this line of thought, disorder and crime are contagious. The mechanism may be represented as the *disintegration of social capital*, as follows:

Disorder → fear → citizens withdraw → Crime increases.

The program to combat disorder began in the New York subway system, which by the 1980's had deteriorated considerably under the onslaught of widespread farebeating, aggressive panhandling, graffiti and so forth. In some cases groups of youths would literally take over a subway station, disabling all the token receptacles, holding open gates, and collecting fares from persons entering the station (Kelling and Coles p. 119). William Bratton, later to head the New York City Transit Authority, describes one of these incidents which he witnessed himself:

.....I tried to put a coin into a turnstile and found it had been purposefully jammed.

Unable to pay the fare to get into the system, we had to enter through a slam gate being held open by a scruffy-looking character with his hand out; having disabled the turnstiles, he was now demanding that riders give him their tokens.....Other citizens were going over, around, or through the stiles for free. It was like going into the transit version of Dante's *Inferno*.²

One innovation was the anti-graffiti program, inspired in part by Nathan Glazer's 1979 article "On Subway Graffiti in New York", which argued that graffiti was part of the appearance of disorder that encouraged crime. In response the 1984 Clean Car program adopted a simple idea: once a train was entered into the program and cleaned, it would never again be used while graffiti was on it. Once cleaned, any further graffiti would be removed from cars for two hours or the car would be taken out of the system. Thus, graffiti artists would never see their handiwork. (Kelling and Coles (p. 116). Another important innovation was the introduction of the post of "station manager" by the New York City Transit Authority. Prior to 1990, no single individual was in charge of any one station. The NYCTA operated functionally—at each station, cleaning issues would be dealt with by one department, safety by another, repairs by a third and so on. The position of station manager introduced an element of quasi-"ownership" to the management of the subway (Kelling and Coles, p. 134ff).

. The program was an enormous success in the subway and in other public spaces in New York where similar ideas were tried. Subway felonies declined by over 75% and robberies 64% in the early

²William Bratton, *Turnaround: How America's Top Cop Reversed the Crime Epidemic*. New York (Random House, 1998), p. 141. Quoted in Gladwell (2000), p. 136.

1990's, with the onset of decline beginning almost immediately after the order-maintenance program was begun (Kelling and Coles, p. 152). The subway experience then provided the blueprint for the changes in the police system, both as an intellectual model and because the person responsible for implementing many of the changes in the subway, William Bratton, would later become police commissioner. Programs embodying similar ideas were subsequently implemented by the New York City police. A program of "aggressive order maintenance" involving the heavy use of community policing ideas such as foot patrols and citizen involvement, but also involving the targeting of minor offenses, was implemented. Thus the program focussed on minor rather than major problems and in some ways reversed the emphasis on "marginal deterrence" for bigger offenses which is characteristic of the individualistic approach. Whether the program was responsible or not, there seems little doubt about the drastic decline in serious crime: within 5 years, from 1992-1997, murders had fallen by 64.3 per cent, and total crimes had been cut in half (Massing (1998), pp. 33-34).

There are other stories one can tell which also support the general "Broken Windows" story that crime is contagious. Thus, it may be that the presence of "broken windows" acts as a signal to potential criminals that the area is not well maintained and that no one is watching, therefore it is a safe place to commit crime. Kelling and Coles emphasized that the presence of an active and vigilant citizenry was necessary to keep the crime rate low, and this idea is supported by other communities with low crime rates like Japan.

Another important point is that most crime in the U.S is committed by youth gangs, and these gangs are not necessarily disliked by the citizens of the communities in which they operate. In Jankowski's (1991) famous study, in fact, gangs appear to be viewed by their communities in surprisingly positive ways. This provides the basis for Akerlof and Yellen's (1994) model in which the key issue is whether citizens side with the police or with the gang. In the model, citizens have a concept of a "fair" punishment, and if the punishment is raised too high, citizens may switch from siding with the police to siding with the gangs,

hiding gang members from the police, etc. Hence this is one way punishments can be counterproductive.

The theory is similar to Andreoni's idea that juries may be unwilling to convict if the penalty for an offense is too high: thus the increase in the punishment (f) results in a reduction in the probability that it is actually applied and the net consequence is to increase rather than reduce the incentive to commit crime.

In a similar way, the application of the broken windows theory is itself sometimes misplaced and can be counterproductive. Thus, Borooah (2000) suggests that, in England, police tend to stop blacks with much higher frequency than whites. The result is a poisoning of race relations, something which has also occurred in New York under Mayor Giuliani. In the long run, in turn, this could easily worsen the crime problem itself if the result is greater separation between the races and, say, lower black wages due to more discrimination. These procedures which may involve police harassment of minority groups-- represent a misreading of the "Broken Windows" story, in which it is central that the citizenry be on the side of the police and citizen involvement is key to reducing crime.

The contagion theory also explains another puzzle: why so-called "victimless" crimes are usually outlawed. By these crimes I refer to such things as drugs, prostitution, or gambling. In all these cases, there are no direct damages to the community, as in arson or theft or murder. Instead, in each case the "crime" is a transaction in which the "victim" voluntarily engages. Consequently, the only person harmed is the person who does not want the activity outlawed because he or she is the one who wants to do it. It is true that there are so-called "third party" effects--the neighborhood in which drug dealing, gambling or prostitution takes place is apt to be rather unpleasant--but that is the result of the activity being illegal. When these activities are legalized--witness the casino at Schipol (Amsterdam) airport, for example, or the legalized lotteries all over Canada, operated by the Canadian government--the third party effects tend to disappear. For these reasons, Becker and others who have written on crime from a rational choice point of view--have great difficulty explaining why these activities tend to be criminalized in the first place.

One answer suggested by the present approach is to begin by recognizing that even though an individual may want to engage in one of these acts, he or she might still view them as harmful to him or herself, in the longer run. Secondly, all of these activities are contagious, in two senses. The first is that they are habitual, as discussed previously: an ex-smoker who does not want to start again may still want a cigarette, but recognizes that one is seldom enough. Thus, although he would like to have one, he does not light up because he is afraid that having one will only lead him to want another one. Similarly, observing other people lighting up may stimulate his own desire to smoke. For this reason he may prefer not to be around people who smoke. In the same way, the individual who lives in a society where drugs, prostitution and gambling are legal and easily available may be tempted to engage in these activities himself. And he may fear that doing them once may simply result in his wanting to do them again and again. These beliefs—in the “contagion” within oneself, as well as that between people, i.e., the temptation arising from the activities of others—are the foundation of Alcoholics Anonymous, (Galanter (1989)), a very successful program for treating alcoholics which emphasizes (1) complete abstinence from drinking; (2) the crucial role of support groups. Thus in this case, the “poison” is within oneself to some extent and it may be that many citizens, knowing this about themselves and that they will be tempted, and not wanting to put themselves in that position, rationally agree to have the activities outlawed.

2. POVERTY AND MICROFINANCE

Although considerable work has been done on the *causes* of poverty in the developed world in terms of group behaviour—namely social isolation, culminating perhaps in the concept of a black underclass and other work along those lines,³—I will focus here on group-oriented *solutions* to the poverty problem, which have become enormously important lately. In particular, one solution to the poverty problem which

³On the concept, see William Julius Wilson (1987)), and Isabel Sawhill on the measurement and growth of the underclass, which in 1980 she and her associates measured at about 2-3 million in the U.S. .

has received widespread attention recently both in theory and in practise is the idea of “microfinance” -- making tiny loans available to the poor, as pioneered by the Grameen Bank in Bangladesh and other institutions in the developing world. One of the important distinguishing features of these programs is that, typically, liability for repayment falls not on individuals but on self-selected groups of individuals. For example, in the Grameen Bank, loans were originally made to self-formed groups of approximately five individuals. The basic idea is that the group can be creditworthy even though no individual within it is. So joint liability may perform “.....the apparent miracle of giving solvency to a community composed almost entirely of insolvent individuals.”(Plunkett (1904), quoted in Ghatak and Guinnane (1999)) They can get a loan at a lower rate, or where the individual wouldn't have been able to get a loan at all.

The programs appear to have had enormous success in the developing world. Currently, the Grameen Bank lends to about two million people, mostly rural, landless women, in Bangladesh. It operates in 36,000 villages, or about half of all the villages in the country (Ghatak and Guinnane (1999), p. 213. In all the major programs, repayment rates are very high, above 95 per cent. As of 1999, about 8 to 10 million households were served by microfinance programs and some advocates are pushing to expand to 100 million by 2005. (Morduch (1999, p. 1570-1).

The idea for the Grameen bank originated with an economist, Muhammad Yunus:

Bangladesh had a terrible famine in 1974. I was teaching economics in a Bangladesh university. You can guess how difficult it is to teach the elegant theories of economics when people are dying of hunger all around you. Those theories appeared like cruel jokes.

I became a dropout from formal economics. I wanted to learn economics from the poor in the village next door to the university campus. (Yunus (1995), quoted in Morduch (1999), p. 1575.

Yunus began by lending the villagers money from his own pocket and within 10 years he set up the bank, drawing on his experience. Since then of course many other programs have been started. The programs have been implemented in various ways, and the institutions involved in the programs differ substantially from one another. Thus, other members may be made liable for the actions of each member, part of each loan may be financed by another coop member, and the interest on the part of the loan financed by other members may be increased. In the Grameen bank, members of the peer group are jointly liable for repayment of loans, and none of them can gain access to new credit from the Bank until the debts of the group are repaid. This provides an incentive to members of the group to monitor each other. Members will be concerned with other members' choice of the riskiness of projects, possible misuse of the loan and any other matter which may result in default.

There are a number of possible explanations for the success of group lending: First, on informational grounds, it may be that the individuals in the group know more about each other than a bank could discover at low cost. Although the community lacks capital, necessitating outside funding from a bank, neighbours may have better information about borrowers than banks. Thus one simple possibility is that group members may face a lower cost of verifying each others' output. If the projects are simple and similar in terms of their characteristics, then the bank can avoid the cost of performing its own audit every time a borrower claims she has low output by inducing her partner(s) to undertake liability for her. In this way, group lending economizes on transactions costs.

Another reason group lending may be effective on informational grounds is because it allows the bank to *screen* borrowers by varying the degree of liability, and thus overcome the adverse selection problem. Group lending may provide this screening function because members are self selected into groups. Thus, while all borrowers may prefer to have safe partners, safe borrowers value safe partners more than risky borrowers because they repay more often, and as a result are more likely to realize the gain of having a safe partner. So in equilibrium borrowers end up with partners of the same type, and the result is that

banks can screen borrowers by varying the degree of joint liability. Risky borrowers will have risky partners and will prefer a contract with less joint liability than will a safe borrower.

Another possible explanation for the effectiveness of group lending is that it is not due to superior information but superior enforcement, either because of social ties, peer pressure, or peer sanctions. In this way, group lending can overcome the moral hazard problem. For example, a major source of market failure in credit markets is that a bank cannot apply financial sanctions against poor people who default on a loan, since by definition they are poor. Poor people's neighbours may be able to apply sanctions under conditions when a bank could not. More subtly, Besley and Coate (1995) show how joint liability affects the *willingness* to repay. Group lending has two opposite effects on repayment rates: on the one hand, the advantage of groups is that they allow a member whose project yields very high returns to pay off the loan of a partner whose project does badly. On the other hand, the disadvantage is that a moderately successful partner may default because of the burden of having to repay her partner's loan. Besley and Coate show that if social ties are sufficiently strong, the net effect is positive. Thus, under circumstances when social ties are weak, as may be the case in many parts of North America in particular, group lending may not be advantageous and may be positively disadvantageous. (Ghatak and Guinnane (1999, p. 201).

Wydick tests a number of these hypotheses on Guatemalan data and finds evidence that "the success of group lending is derived from peer monitoring and the willingness to apply internal pressure on delinquent members rather than the institution's ability to harness *previously* existing social ties to improve loan repayment." ((1999), p. 471) In fact, one of the central findings of his study is the surprisingly small degree to which social ties within borrowing groups affect group performance. Indeed, he finds that "Previously existing social ties may even create a conflict of interest for borrowing groups, making threats of expulsion from the group more difficult and less credible." (p. 474). If it is the case that social ties are unimportant, then the reasons for the failure of the programs in North America are less obvious.

Group lending is not the only mechanism that differentiates microfinance contracts from the usual loan contracts. Many of the programs also use dynamic incentives, regular repayment schedules and other devices to help maintain high repayment rates. For example, all lend in increasing amounts over time (“progressive lending”), and most require weekly or semi-weekly repayments starting soon after the loan is given out. Most programs begin by lending just small amounts and then increasing loan size upon satisfactory payment. (Morduch (1999), pp.1580- 1585)). One implication of the fact that the repayment process begins almost immediately is that the household must have an additional income source on which to rely.

In addition, for group monitoring to be effective, the cooperative structure must create the proper incentives for its members to monitor one another. For example, Banerjee, et.al.: (1994, p. 492) discuss three ways that the “constitution” provides the right incentives: (1) The other members are made liable in whole or in part for any loan on which the coop defaults; (2) Part of each loan may be financed by another coop member; (3) The interest on the part of the loan financed by other members may be varied, enhancing or diminishing the stake of the coop in ensuring that the loan is repaid.

In the end it is striking that the same two variables—focussing on the group rather than the individual, and structuring the loan repayment process so that small, incremental decisions are substituted for big, discrete ones—are essential for the program to be a success, as was the case in crime. Here, as in crime, the question addressed is not whether the cause of poverty is itself social, but whether a social solution can be found which is superior to that based on the individualistic approach.

D) POLITICS

This brings up a third area of behaviour where social interactions have been both important and neglected, and where their neglect may have resulted in incorrect policies—politics. Two important issues

there are political extremism and political participation. Strong political participation, and the ability to incorporate and accommodate political extremism, are clearly important prerequisites for a strong democracy.

Political Extremism

Many political extremists (including terrorists, irredentists, religious fanatics engaged in political activity, etc) show a particularly great capacity to believe in 'propositions' that, on standard canons of proof, are simply not credible. In ordinary parlance, these individuals appear to have been indoctrinated. It would seem therefore that a model of political extremism would have to include a rational choice hypothesis capable of explaining why certain individuals are subject to indoctrination, under what circumstances indoctrination takes place and, not the least, the particular sort of indoctrination (the type of doctrine) that potential extremists, placed in different circumstances, are likely to absorb. How is it, for example, that in 196 a substantial number of Americans could come to believe that the training of German forces in an American base is part of a plot by the United Nations to take over the U.S. government?

Previous literature on political extremism of all sorts is reviewed by Knoke (1990). He points out that explanations of political extremism in the past were often dominated by psychological explanations. Thus, for example, individuals were held to experience intolerable psychological stresses in their daily lives, and their joining in mob actions was interpreted as a safety valve that let off steam, but accomplished little in the way of solving their problems. In the same vein, participants in extremist movements were often held to be those who were marginal to society, or who were dispossessed by economic change. Empirical evidence has now accumulated which contradicts these explanations, at least as applied to social movements in general. The evidence drawn from such classic social movements as the Southern Black civil rights movement, the women's movement and Three Mile Island protests, poor peoples movements, and social protest under Weimar consistently suggests that, rather than marginal and anomic persons, collective

actions generally attracted participants of higher social economic status who were more integrated and better connected to societal institutions than were the non-participants.

Of course, evidence like this refers to all social movements, not just extremist movements. It seems reasonable to propose that extremists will typically pursue extremist politics as members of a group, i.e., the turn towards extremist behaviour can only come if the individual does it as a member of a group. To put it differently, one of the keys to understanding extremism is to understand its mirror image, conformist behaviour⁴. This is true in two different senses: one is that extremist movements can only succeed if the leaders of those movements can induce conformity among their followers. Indeed, I have shown elsewhere (Wintrobe in Breton et. al., 2000) that the greater or “tighter” the control a leader has over his followers, the more likely an extremist action is to be chosen. The reason is simple: extremism, to be effective, requires mobilization, while compromise does not. To illustrate, look at the example of the Israeli–Palestinian question, the compromise involved in the striking of the Wye agreement require, if anything, the *de-mobilization* of extremist elements on both sides. The presence of extremists may (or may not) have been useful in getting the two sides to come to the table in the first place. But now they certainly have to be cooled off if the agreement is not to come unstuck as a result of further and untimely provocations.

4

On the other hand, political extremism can arise in entirely different ways. For example, Pierre Salmon (in Breton et. al., (2000))shows that, if individuals are “monomaniacal”, i.e., they tend to feel strongly about only one issue, they can end up voting for an extremist party even though they are not particularly extremist themselves! This raises the general question: How much are the sources of extremism and related phenomena to be found in the workings of democracy, either in its failure to represent or accommodate "fringe" viewpoints, or its over-representation of extremism, along the line suggested by Salmon ?

The other sense is that conformist pressures may induce extremism. Thus, in some ways, conformity and extremism are opposites; in other ways, they are simply different aspects of the same phenomenon. Thus, Russell Hardin (in Breton, Galeotti, Salmon and Wintrobe (2000)) refers to “paranoid cognition” bred by a “crippled epistemology.” This arises in extremist groups in two ways: one is that in fringe politics, the moderates exit, leaving the most intense behind. The outmigration of the less committed from an exclusionary group leaves the hard core in control. But the exclusionary practises of these groups do more than this. By controlling information in various ways (Albert Breton (in Breton et. al., 2000) refers to a process of “information control”), and through isolation and relatively limited contact with the larger society, a process of paranoid cognition may be generated, in which individuals may begin to suppose the worst from those they do not know or are only in limited communication. Finally, a third way this happens is that even if a group has no genuine believers in its fanatical views, all members are coordinated on acting fanatically by the false sense that everyone else or most others do believe it. (Hardin, in Breton, et al., (2000), p. 20)

It is worth noting that such processes need not be bad for the members. In Galanter’s (1989) discussion of Alcoholics Anonymous, he found that in AA chapter meetings the expression of views opposed to the group’s model of turnout was subtly discouraged. A good example is the fellowship’s response to the concept of controlled drinking, an approach which is unacceptable to the AA tradition, which insists on complete abstinence. The subject of controlled drinking is rarely brought up and suppressed when it is raised. (Galanter (1989), p. 220).

In any case, there is another way to explain how individuals are led to conform which may be more sympathetic and in tune with rational choice. I am thinking of a process not unlike that which takes place in cults according to Galanter (1989) where individuals, in effect, are observed to trade their own beliefs in exchange for the benefits of social cohesion or solidarity. To the extent that this process takes place, the

person who holds a belief which appears on the surface to be irrational is not behaving irrationally: the rationality consists not in the content of the belief, but in the reason for holding it. On this reading, the person who believes there is a UN plot to take over the US government is no more irrational than the professor who states to the officials in the administration of his university that all the members of his department deserved to get tenure: in both cases, the reason for the belief may be solidarity or social cohesion, not the coherence of the belief itself.

In Galanter's (1989) book on cults, the power of group solidarity is described in the following manner by a heroin user who joined the Divine Light Mission:

Once I got to know them, I realized they loved me....When I wanted to take heroin, or even to smoke [marijuana], I knew they were with me to help me stay away from it, even if I was alone. And their strength was there for me.....I could rely on their *invisible hand*, moved by Maharaj Ji's wisdom, to help me gain control. (Galanter (1989), p. 27, italics added)

Galanter goes on to note that many subjects experienced a decline in symptoms of psychological distress upon joining the group, and that, in his statistical analysis of the reasons for this, 37% of this overall decline could be attributed to an increase in social cohesion (p. 32)

This process suggests how it is possible to generate a common "will" along the lines originally put forth by Rousseau. Many now think this idea seriously misplaced. For example, Hardin says that "there can be no common will of a people numerous enough to constitute a nation. It is a fallacy of composition to suppose that there is a common will". (Hardin in Breton, Galeotti, Salmon and Wintrobe, (2000), p. 14), there could indeed be one along the lines just discussed, though it is hard to imagine the process of trade going on at the national level. Still, political parties could "logroll" among platforms to do part of the business of organizing consistency, and a sufficiently popular or charismatic leader (the liking of whom

might provide the necessary test of solidarity) could do the rest⁵. Of course, the process is more likely to take place in small groups. The result of this process could be that every member of a group could be 100% in favour of a proposition or policy even though many of them have traded away their original beliefs.

In so-called “charismatic” groups such as the Branch Davidians, the Scientologists, Divine Light Mission and the Aum Shinrikyu, Galanter found that social cohesiveness was tied to a charismatic leader whose flock “revered” him (p. 12). In the Branch Davidian cult, for example, compliance with the leader (David Koresh)’s expectations was promoted by a series of operant reinforcements that produce a relief in depression and anxiety to the degree that a believer accepted the group’s creed and its rules of behaviour. By virtue of this relief effect, a member’s mood became dependent on the degree of his or her commitment in the group. As Galanter notes, “This emotional dependence on the group and its beliefs left the sect members fully responsive to Koresh’s demands, which escalated to include beating young boys and engaging young girls in sexual activity”.(Galanter (1989), p. 170).

The importance of leadership is also often emphasized in works on extremist political movements. In Appleby’s collection “Spokesmen for the Despised” (1997), on Middle East extremism, the main theoretical message extracted is the presence of charismatic leadership. Thus, Appleby concludes the volume with the observation that “the various profiles confirm the centrality of strong male charismatic leadership in the formation and growth of the most powerful fundamentalist movements of the Middle East.....In each of these cases [radical Jews, Islamic fundamentalists, and the Protestant fundamentalist movements] the charismatic fundamentalist preacher is the catalyst for the hardening of resentment into organized opposition.” (Appleby (1997), p.398) Chong (1991) also emphasizes the leadership factor in his

⁵See the next section concerning leadership in political participation.

study of the (by now viewed as entirely mainstream) American civil rights movement.

Similar propositions may be advanced for religious groups⁶. Thus in one sense the motive behind religious attendance may be social interaction—people attend church in order to meet others, etc (Glaeser et al). More subtly, there may again be a trade involving *beliefs*-- the individual receives the benefit of social cohesion in exchange for agreeing to beliefs sanctioned by the cult or church. Of course the mechanism will seldom be perfect and the Catholic Church, for example, has been plagued by the problem of heresy since its inception. The Church's response has been to supplement social cohesion with central control and direction, a formal hierarchy, approved dogmas, and a complex formal structure of Bishops, Popes, etc.⁷

⁶Another, related approach to religious participation is provided by Larry Iannaccone (1988, 1992, 1997), who suggests that the key distinction between church and sect is that between group and individually oriented religions. Iannaccone defines a *sectarian religion* in terms of the degree to which the religious group demands sacrifice and stigma, or the degree to which it limits and therefore increases the cost of non- group activities to its members (1997), p.104).The purpose is to control free riding In his analysis, the membership benefits from these demands, because the utility of collective religious belief depends positively on the average level of participation in group activities..

⁷Mario Ferrero (2000) discusses a related problem of how the church continues to survive in a centralized fashion and how it motivates its followers. He suggests that the “competition for sainthood” provides one important mechanism which explains how the church has been able to thrive for so long.

Finally another important aspect of indoctrination is that it typically takes place in small steps. Galanter describes how one person was induced to join the Unification Church:

From Jerry I learned one way converts can come to accept a highly deviant belief system.

The sect's members had introduced him to a set of nonspecific beliefs, which later served as a bridge to his involvement in the church's specific dogma. Jerry effectively joined before he even realized the group's identity, but throughout the conversion process had been fully mentally competent and able to query his hosts at will. (Galanter, p. 47).

In Akerlof's (1991) model of obedience, he also notes that key decisions are made in a series of small steps. Akerlof uses this idea to account for the famous results of the obedience experiments done by Stanley Milgram (1974), in which individuals who thought they were taking part in a learning experiment showed themselves willing to follow the orders of a "scientist" and administer very high and increasing doses of electric shock to fake "learners" whenever the learner (actually an actor) gave the wrong answer to the scientist's question. The key to understanding their behaviour is to note that, again, decisions are made in a series of small steps. Akerlof couples this idea with his well known concept of near-rationality. Presumably, most subjects invited to administer a very large and dangerous shock to the learner right at the beginning of the experiment would not do so. At each step, however, the cost of disobedience to the scientist presumably acquires undue salience, while the extra disutility of administering a shock of say 300 volts (compared to 280 which the subject has already committed himself to) are small. So the individual compares the disutility (to him/her) of the *escalation* (from 280 to 300) rather than the disutility of administering a shock of 300, to the disutility of disobedience, and agrees to escalate. In this way, the near rational individual is led, in a series of steps on each of which he is close to utility maximizing, to end up performing an action which is totally irrational.

In conclusion it is worth emphasizing that the same two variables as were important for crime and

for microfinance have turned out to be important in explaining the holding of extremist views: (1) group relations, in this case the dependence on others for one's beliefs and guide to behaviour and (2) a dynamic progression or incentive structure whereby small decisions are important and the individual gets progressively drawn further in, in a series of steps. These are characteristic of the social relations of extremist groups or cults. I have suggested two, possibly complementary explanations of the role of groups in the holding of extremist beliefs. The first approach suggests that they do so because they are indoctrinated in them by groups who control the information available to them and from which the more sensible have already departed. The second emphasizes that the views are held because the individuals within these groups have traded their ideas in exchange for group solidarity. In this second approach, it may be that extremist groups form mainly for the purpose of the solidarity and intensity which comes precisely with the holding of views that are largely out of fashion with those held by the majority.

Political Participation

Group leadership was introduced into models of voting behaviour by Carol Uhlaner (1989) and Rebecca Morton (1991). Both papers propose models to deal with the vexed question of the rationality of political participation. Further refinement and some nice evidence is provided recently by Shachar and Nalebuff (1999). Rationality is achieved in these models via the introduction of groups or leadership into a model of political behaviour. The way this works is that the group leader facilitates an exchange: he or she promises greater turnout at elections in a candidate's favour if the candidate or party slants the policies of the party towards the preferences of the group. Individuals are motivated to vote by the leader in various ways. The leader may provide promises of direct, individualized consumption benefits from the policies provided as a result of the increase in turnout. Alternatively, the leader may provide some sort of psychic or emotional support to the members in exchange for their participation. Thus, as Uhlaner puts it, "While individuals still vote because of consumption benefits arising from the act of voting, some of these consumption benefits are provided by group leaders out of collective benefits received by the group in return

for its votes. The collective benefit comes from a candidate adopting policy positions closer to those of the group.” (Uhlener, p. 390)

Morton (1991) shows that, for the model to work as specified, two conditions are necessary: (1) candidates must choose distinct positions in electoral equilibrium (if they have the same position, groups have no more incentive to vote from a rational perspective than individual voters); (2) the groups in question must be large enough relative to the electorate to affect the turnout of other groups, and hence the probability of the preferred candidate winning. Under these conditions, each group calculates that, if others do not turn out, its own turnout may be decisive, just the way an individual would behave in a small group.

In a model related to the models of leadership by Uhlener and Morton discussed above, Chong (1991) suggested a related solution to the paradox of voting, and applied it to the American civil rights movement. Chong suggested that people benefit from the act of participation in a social movement itself, *when that movement is successful*, as well as from the outcome (the provision of the public good which is the goal of the movement). This is an interesting and highly plausible assumption. Analytically, it converts the problem of the provision of the public good which is the goal of the movement from a “prisoner’s dilemma” game into an “assurance” game. In the assurance game, the more others participate, the greater the incentive to each individual to participate. At some point (when enough others participate), there is a threshold or tipping point, beyond which participation is rational. In this model, then, the problem facing leaders of social movements who are trying to motivate participation is not, as Olson (1965) suggested, that of providing selective private incentives to individuals to participate, but the “coordination” problem of creating a belief that enough others will in fact participate to make it in the individual’s interest to do so.

To summarize, in the case of the voting paradox, introducing (1) groups or social interactions and (2) a hierarchical incentive structure, consisting of interest group leaders and followers, with the leaders

making greater efforts to stimulate the turnout of the followers under predictable circumstances-- appears to hold the promise of at least partly resolving the mystery of political participation.

E) INTERNATIONAL

Herd Behaviour in Financial Markets

Another area where social interactions have traditionally been neglected is in financial markets. One important source of contagion there derives from asymmetric information. Thus, depositors typically do not know the quality of the loan portfolios of the banks in which they have deposited their money. As a consequence, if there is a deterioration in performance, individuals may wish to withdraw their deposits, thus generating a contraction in the banks' ability to make loans and causing a further contraction. In turn, by a familiar process, this may cause panic, further withdrawals, bank failures and so forth. Consequently, as is well known, in the absence of a government safety net, contagion may spread from one bank to another, causing even healthy banks to fail.

Less well known, or at least less well emphasized, is that social relations may lie at the bottom of much of these phenomena. One important type of social relation is networks and the potential for corruption between banks and their loan clients. At the heart of the asymmetric information problem is that there is information that the financial intermediary possesses and the depositors do not, namely, To whom is the bank lending its depositors' money? Consequently, close social connections between the banks and their clients are cause for concern among their depositors. These issues have come to dominate financial news in recent years with the collapse of the East Asian and Russian "emerging" markets and with the recent volatility of the American stock market. To look first at what happened in East Asia, one point that seems common in much of the analysis of what happened there is summed up in the phrase "crony capitalism". Put differently, connections are the main mechanism for allocating credit in Indonesia and other East Asian

countries (see Krugman (1998), for example). For example, banks owned by politically well connected individuals are used to finance the operations of affiliated companies. In Indonesia, for example almost every major corporation had its own bank, and the line between the two entities was often blurred (Sachs 1998, p.22)⁸ Companies were usually tied up in hard-to-value webs of interlocking shareholdings and government connections. So the essence of crony capitalism is that the process of loan allocation is, to Westerners, “corrupted”, and the corruption is not easy to discover. Currently, there are widespread calls for more transparency in the finances of these markets, but such appeals miss the point that loans made on the basis of loyalty and in secret are part of the essence of the politics of these countries, and part of what makes their economies a success as well (see Campos and Root).

The second important social relation involved is the interaction among lenders—and the potential for herd behaviour. Thus, even more spectacular than the rise of crony capitalism was its spectacular collapse, as investors followed other investors out of these markets even more rapidly than they went in. As Paul Krugman (1998) puts it, the unique aspect of Asia's comeuppance was not so much the awfulness of the system there from an economic point of view, but the severity of the punishment. As both Krugman and Sachs argue, what turned a bad financial situation into a catastrophe was the way a loss of confidence turned into a self-reinforcing panic. In 1996 capital was flowing into emerging Asia at the rate of about \$100 billion a year; by the second half of 1997 it was flowing out at about the same rate. Thus it is possible in principle that a loss of confidence in a country can produce an economic crisis that justifies that loss of confidence--that countries may be vulnerable to what are aptly called "self-fulfilling speculative attacks."

⁸Krugman (1999) points out that one reason the Mexican devaluation turned into a panic was the fact that some Mexican businessmen appeared to have been informed in advance of the devaluation; this made foreigners want to get out for obvious reasons.

Or, as U.S. Treasury Secretary Robert Rubin said at the time, a "herd mentality" developed among investors and contributed to the recent broad-based losses in emerging markets and other asset classes.

To summarize, herd behaviour is a most important form of social interaction in financial markets. There are undoubtedly many cases where creditors act on the basis of the actions of other creditors, not on the basis of the debtors' fundamentals, as perceived by the individual investor. In the era of widespread ownership of mutual funds, indeed, such activity is probably the norm. The other important social interaction discussed is the secrecy and corruption on the part of insiders, which contributes to the herd behaviour of outsiders. Thus (1) group behaviour and (2) the structural distinction between insiders and outsiders helps to explain financial crises.

F) ECONOMIC TRANSITION

Another area where the neglect of social interactions has led to the wrong understanding and the wrong policies, is that of the "transition" problem in the former Soviet Union and elsewhere. The transition was supposed to proceed as if the networks of relationships among the old (Communist) elite did not exist. But it did. As I argue elsewhere (Wintrobe 1998c) one impact was on the privatization program, where, in the end, the enterprise managers and the workers bought out the firms they managed for a tiny fraction of their worth. The result was to solidify the managers' control over the firms more firmly than they ever had been under communism, where they were subject to hierarchical control. Under the current system, they are subject neither to this discipline nor to that of the market. And politically, they form an elite which hampers reform and the transition to a genuine market economy.

Indeed, it has become increasingly common to view the Russian economy as a "virtual" economy. The term comes from the report of a Russian Commission headed by P.A. Karpov. According to the

Karpov report

“An economy is emerging where prices are charged which no one pays in cash; where no one pays anything on time; where huge mutual debts are created that can't also be paid off in reasonably periods of time; where wages are undeclared and not paid; and so on... [This creates] illusory or virtual earnings, which in turn lead to unpaid, or virtual fiscal obligation, with business conducted at nonmarket or virtual prices’

What makes “virtual” prices possible is the existence of network links or what Clifford Gaddy and Barry Ickes of the Brookings Institution (1998) call relational capital among the firms. The ‘virtual economy’ refers to the proposition that prices in Russian are inflated (by a factor of 2, 3 and possibly larger) and do not refer to actual values. Most transactions are barter, and this is becoming increasingly common.

Once this is understood, as Gaddy and Ickes show, all the bizarre features of the current Russian economic situation become easy to understand. For example, while capital investment in 1997 was less than 20% of its 1990 value, output officially increased. Employment is high. Wages are still high, and indeed rising. But of course, the wages are not paid; instead, there are ‘wage arrears’. Similarly, firms do not pay their taxes; instead, there are ‘tax arrears’. The country’s largest companies conducted 73% of their business in barter, and paid most of their taxes in barter. .

The economy is not growing, or, as of late, is just barely growing, but the pretense that it is, and that the manufacturing sector is working efficiently makes social stability possible. In turn, this stability and the resistance to restructuring to a genuine market economy rests on the network of social relationships inherited from the previous regime. In turn, this network of social relationships made the privatization to insiders and the famous loan for share schemes possible which resulted in a small group of insiders receiving the lion’s share of the ownership of Russian firms for a fraction of their prices. In turn, these

people helped elect Yeltsin and now Putin as president. So even though the formal institutions of communism are no longer present, the market cannot function the way it is supposed to in the textbooks because there is too much corruption.

Of course, one could argue that it is the proponents of market economics who are living in a virtual world in that they fail to recognize the social relations which underlie an economic system and thought it was possible to ignore them in designing the transition! More generally, I end by speculating that one of the main reasons why the transition succeeds or fails depends primarily on social interactions and not so much on macropolicy as is commonly thought. I have just mentioned one aspect of these—the networks of trust left over from the old system. I suspect that these interact with the market to produce corruption.

G) SUMMARY AND POLICY IMPLICATIONS

ISSUE	WHAT MAKES THEM A GROUP?	SOCIAL INTERACTION (CONTAGION)	STRUCTURE/ HIERARCHY	PROBLEM or POISON	POLICY P: price SI: nonprice
poverty/ microfinance (eg, Morduch)	know each other well	together they can get loans, separately no	structure of mutual monitoring, dynamic incentives	moral hazard	P:raise interest rate→adverse selection SI:subsidize/group liability
crime	criminals: profession citizens: community	demonstrates to criminals that neighborhood is "safe" for crime, to people that it is a bad neighborhood	Maintain order and police small offenses / subway "station manager"	P: "unfair" penalty or probability of being caught ↑ →crime ↑/ SI: harass citizens, poison race relations	P: price: p ↑ or f ↑ SI: order maintenance/ community involvement
religious group/ cults extremists	common belief	participation of others/especially in the sect- (Iannaccone)	organized relig/ sect or cult charismatic leadership	heresy/ outside information	P: cults: sanction, isolate ----- SI:engagement, inclusion
international investors	the electronic herd	buy or sell because others are buying/selling	IMF, World Bank	panics, problems due to high interest rates	P: interest rates ↑ ----- SI: socioeconomic indices eg, aggregate trust, mass communication
networks (windows users)	common system/compatibility	As $E(Q) \uparrow \rightarrow D \uparrow$	Monopoly	Gates-unfair tactics and pricing	P:antitrust SI: ?
ethnic group nationalism	blood	lower transactions costs	leadership or management of ethnic capital	other types of ethnics, eg, the Jews, Albanians	P: sanctions, subsidies for ethnic groups SI: assimilation
drugs	users	contagious	None	unnecessary deaths (eg, ban on drug "ecstasy" in Italy)	P:punish users SI: Amsterdam chemists who check drugs for purity
international	norms of	trust in the	hegemon	war	P: hegemonic

“regimes”	adherence	international system			punishment SI: world government?
communists (Cuba, China)	belief	the collectivity as opposed to the individual	The Party and The Plan	bureaucracy	P: isolation/ sanctions SI: engagement
transition from communism	networks from the old system	Gaddy+Ickes: virtuality/ still the old system/Olson: legacy of communism	the market	corruption	P: western subsidies - prop up Networks, breed corruption, retard adaptation SI: ?

TABLE 1

The examples just discussed are summarized in Table 1. To illustrate the generality of the approach further, I have added some others as well—ethnic groups and nationalism, drugs, communists and international “regimes”. I will remark specifically on some of these other cases here rather than repeat what has been said about the others already discussed. All of the cases in the table illustrate several points: First, the existence of social interactions and contagion, as discussed throughout the paper. Second, the fact that often there is some kind of structure or hierarchy or organization formed for the purpose of internalizing the externality. Thus in the case of the international “regimes” which I have added to the table, in the absence of world government the international system is anarchic, and there are no property rights to enforce agreements or trade. Norms of behaviour may be established, but once violated they tend to collapse and conflict may escalate in a contagious manner as in the well-known “security dilemma” (Jervis ()). Keohane (1982) originated the argument that a “regime,” characterized possibly by a hegemonic power, would arise to fill the gap. Rome under the Empire, Britain in the 19th century and America today are the standard examples.

In the case of ethnic nationalism, which I have also added to the table, members of the same group share certain common traits and in principle can transact at lower cost with each other. But how are the

ethnic traditions of language, ancestry, rituals, songs and so forth to be maintained? I have argued elsewhere (eg, 1998a) that leadership will often arise to “manage” the ethnic capital. However, this leadership is far from perfect as the current case of Slobodan Milosevic’s leadership of Serbian traditions illustrates (see Wintrobe (1999)).

Thirdly, normally associated with the structure is some characteristic problem or “poison.” Thus, hegemonic rule in the international system is far from perfect and when it breaks down war is sometimes the outcome; even when it does not break down, accusations are made that the system is biased too much in the direction of the interests of the hegemon. In the case of ethnicity, the poison (in the eyes of ethnic leaders) is provided by the presence of other ethnic groups: hence the demand for an ethnically pure nation state. In the case of communism, also added to the table, the Achilles heel of this system can be summed up in one word: bureaucracy (Wintrobe (1998), Olson (2000)).

Fourth, from the policy point of view, there is both a price effect (P) and a contagion (social interaction or SI effect). As is normal in the analysis of these phenomena, there will be some tipping point, where the social interaction effect outweighs the price effect. It follows that for many (not all) of these problems there are two regions, in one of which changing prices is a good policy solution and others where this is not the case. For example, in the cases of cults like the Branch Davidians, or pariah international regimes like the Cuban or Chinese Communists, sometimes a policy of isolation and containment is sufficiently punishing that it is effective; sometimes the social interaction problems (in these cases, that isolation breeds more extremism and loyalty to the cult or pariah regime) overwhelm the price effects and the policy is counterproductive.

The basic message of the paper is twofold: first, in all of these situations, the mainstream individualistic, market approach usually neglects social interactions and it is worth contemplating the idea that, for this reason, it can be not only not useful but counterproductive. Second, the way the social

interactions are structured matters. To illustrate, take the case of crime first: from our discussion it is easy to imagine that an increase in the punishment for crime could actually raise the level of crime. For example, suppose that a lot of crime is committed by gangs, and that the key to reducing crime is to have the community on your side rather than on the side of the gang; raising the penalty might make the community feel it is so high as to be unfair, and less likely to report crimes or assist police in solving them. Or, in the case of crimes where guilt or innocence is decided by juries especially, raising the penalty might make the jury less willing to convict, thus lowering p , the probability of apprehension and conviction and therefore increasing crime. On the other hand extensive policing of minor offenses, as suggested by the social interactions approach, might aggravate race relations, in turn raising fear of minority groups and giving them less legitimate opportunities, thus possibly resulting in more crime.

In the case of poverty and lack of access to credit, again, use of the price variable to control individual behaviour—in this case, the interest rate, applied to individual loans – does not necessarily provide a good solution, as is well known. Raising the interest rate on individual loans to the level appropriate for the riskiness of the loan might simply result in adverse selection: The best risks leave first, and in the end the bank may end up with the bad risks or even no market for loans at all. On normal banking criteria, none of the individuals in these situations are particularly creditworthy. But by taking a group rather than an individual approach, and by utilizing the appropriate structure of repayment, group lending raises the possibility of making the market work.

In the case of extremism, one standard idea is that their ideas and activities should be suppressed, as in so-called “hate” laws. The problem with this is that extremism thrives on isolation. So this remedy could have exactly the opposite result. This is the case for many cults. This reasoning and the idea of engagement rather than isolation also provides the case for trade with China⁹.

⁹However, one should not expect the human rights record of these regimes to improve in the absence of a particular human rights constraint, one which gets progressively steeper over time, as described in detail elsewhere (Wintrobe (1998a)).

In the international finance case, the IMF has tried to solve problems by implementing structural adjustment programs. But it tended to ignore the nature of the social relations or the networks involved in crony capitalism in East Asia, and the corruption in other situations and it ignores the interaction of these networks in the countries in which it deals with the herd behaviour of outside investors. Consequently the result has sometimes been financial panic and perhaps needlessly costly adjustment.

Finally in the case of the transition from communism, the recipe of simply implementing a market solution ignored the networks or lines of social interaction left over from the old regime. In the case of Russia, this resulted in a corrupt privatization process where the firms were acquired at rock bottom prices and the new elite, now undisciplined by the formal hierarchy of communism, could operate these now private firms in corrupt ways not visualized in the Coase theorem which provided the theoretical backdrop for the privatization (Boycko, Shleifer and Vishny (1996)). The result did not promote the development of a genuine market economy. It is worth inquiring what the appropriate steps would be to structure the social interactions of the transition appropriately, a question I hope the participants of the conference will address.

REFERENCES

- Akerlof, George A., "The Economics of Caste and of the Rat Race and Other Woeful Tales" *Quarterly Journal of Economics*, 90 (1976), 599-617.
- _____, "Procrastination and Obedience," *American Economic Review* 81 (1991), 1-19.
- _____, and Janet Yellen, "Gang Behaviour, Law Enforcement and Community Behaviour," in H.J. Aaron, T.E. Mann and T. Taylor, *Values and Public Policy*. Washington, D.C.: The Brookings Institution, 1994
- Andreoni, James, "Criminal Deterrence", *Economic Inquiry*, (1995)
- Appleby, R. Scott, ed., *Spokesmen for the Despised: Fundamentalist Leaders of the Middle East*. Chicago: Chicago University Press, 1997.
- Arendt, Hannah, *The Origins of Totalitarianism*, 2nd ed. New York: Harcourt Brace Jovanovich, 1973.
- Banerjee, Abhijit V., "A Simple Model of Herd Behaviour," *Quarterly Journal of Economics*, 107(3): 797-817
- Banerjee, Abhijit, Timothy Besley and Timothy Guinnane, "Thy Neighbour's Keeper: The Design of a Credit Cooperative with Theory and a Test," *Quarterly Journal of Economics*, 109 (1994), 491-515.
- Bardhan, Pranab, "Corruption and Development: A Review of Issues," *Journal of Economic Literature*, 35 (1997): 1320-46.
- Becker, Gary S., "Crime and Punishment: An Economic Approach," *Journal of Political Economy* 76 (1968), 169-217.
- _____, "A Theory of Social Interactions," *Journal of Political Economy* 82(1974), 1063-1091.
- _____, *Accounting for Tastes*. Cambridge, Mass: Harvard University Press, 1996.
- Bernheim, B. Douglas, "A Theory of Conformity," *Journal of Political Economy*, 102 (1994), 841-877.
- Bikchandani, Sushil, David Hirshleifer, and Ivo Welch, "A Theory of Fads, Fashions, Custom, and Cultural Change as Informational Cascades," *Journal of Political Economy*, 100 (1992), 992-1026.
- Borooh, Vani, "Racial Bias in Police Stops and Searches: An Economic Analysis," paper delivered at the 2000 EPCS meetings.
- Boycko, Maxim, Andrei Shleifer and Robert Vishny, *Privatizing Russia*. Cambridge, MA: MIT Press, 1996.
- Breton, Albert and Ronald Wintrobe, *The Logic of Bureaucratic Conduct*. New York: Cambridge University Press, 1982.
- Breton, Albert, Gianluigi Galeotti, Pierre Salmon and Ronald Wintrobe, eds., *Political Extremism and Rationality*. Ms, 2000.
- Campos, Edward, and Hilton Root, *The Key to the Asian Miracle: Making Shared Growth Credible*. Washington, D.C. Brookings, 1996.
- Chong, Dennis, *Collective Action and the Civil Rights Movement*. Chicago: University of Chicago Press, 1991.
- Coleman, James S., *Foundations of Social Theory*. Cambridge: Harvard University Press, 1990.
- Corneo, Giacomo, and Jeanne Olivier, "Conspicuous Consumption, Snobbism and Conformism," *Journal of Public Economics*, 66 (1997), 55-71.
- Diamond, Douglas, and Philip H. Dybvig, "Bank Runs, Deposit Insurance, and Liquidity," *Journal of Political Economy*, 91(1983): 401-19.
- Economides, Nicholas,
- Farmer, Roger, *The Macroeconomics of Self-Fulfilling Prophecies*.
- Ferrero, Mario, "Competition for Sainthood and the Millennial Church" paper delivered at the European Public Choice Society Meetings, Siena, 2000.
- Fortune, May 11, 1998.
- Frank, Robert H., *Passions Within Reason*. New York: W. W. Norton and Co., 1988.
- Gaddy, C. and Barry Ickes, "A Simple Four-Sector Model of Russia's 'Virtual Economy', Center for Social and Economic Dynamics, The Brookings Institution, May 1998.
- Galanter, Marc, *Cults: Faith, Healing and Coercion*. New York: Oxford University Press, 1989.
- Ghatak, Maitreesh, "Group Lending, Local Information and Peer Selection," *Journal of Development Economics*, 60 (1999), 27-50.
- Ghatak, Maitreesh and T.W. Guinnane, "The Economics of Lending With Joint Liability: Theory and Practise,"

- Journal of Development Economics*, 60 (1999), 195-228.
- Glaeser, Edward, Bruce Sacerdote and Jose A. Scheinkman, "Crime and Social Interactions" *Quarterly Journal of Economics* 111 (1996), 507-548.
- Iannacconne, Lawrence R. "A Formal Model of Church and Sect," *American Journal of Sociology*, 94 (1988 supplement), S241-S268.
- "Sacrifice and Stigma: Reducing Free Riding in Cults, Communes and Other Collectives" *Journal of Political Economy*, 100 (1992), 271-291.
- Jankowski, Martin Sanchez, *Islands in the Street: Gangs and American Urban Society*. University of California Press, 1991.
- Karpov, P.A., *Report of the Inter-Agency Balance Commission*, Moscow, December 1997
- Katz, Michael, and Carl Shapiro (1985). "Network Externalities, Competition, and Compatibility," *American Economic Review*, June, 75,424-40.
- Kelling, George L, and James Q. Wilson, "Fixing Broken Windows," *Atlantic Monthly*, 1982.
- Kelling, George L., and Catherine M. Coles, *Fixing Broken Windows: Restoring Order and Reducing Crime in Our Communities*. New York: Simon and Schuster, 1996.
- Keohane, Robert O., "The Demand for International Regimes," *International Organization*, 36 (1982), 325-355.
- Knack, Stephen, and Phillip Keefer, "Does Social Capital Have An Economic Payoff?" *Quarterly Journal of Economics* 112 (1997), 1251-1289.
- Krugman, Paul, "What Happened to Asia?" unpublished ms, MIT, 1998.
- _____, *The Return of Depression Economics*. New York: Norton, 1999.
- Massing, Michael, "The Blue Revolution" *New York Review of Books*, November 19, 1998, p. 32-34.
- Milgram, Stanley, *Obedience to Authority: An Experimental View*. New York: Harper and Row, 1974.
- Mishkin, Fred, "Understanding Financial Crises: A Developing Country Perspective" NBER WP 5600, 1996.
- Morduch, Jonathan, "The Microfinance Promise," *Journal of Economic Literature*, 37 (1999), 1569-1614.
- Morton, Rebecca, "Groups in Rational Turnout Models," *American Journal of Political Science* 35(1991),758-76.
- Olson, Mancur, *Power and Prosperity*. New York: Basic Books, 2000.
- Putnam, Robert, *Making Democracy Work*. Princeton, NJ: Princeton University Press, 1993.
- Sachs, Jeffrey, and Steven Radelet, "The East Asia Financial Crisis: Diagnosis, Remedies, Prospects," *Brookings Papers on Economic Activity* 1:1998, 1-90.
- Sawhill, Isabel V., "Income Inequality and the Underclass," in Dmitri B. Papadimitriou, *Aspects of the Distribution of Wealth and Income*. London: Macmillan, 1994.
- Shachar, Ron and Barry Nalebuff, "Follow the Leader: Theory and Evidence on Political Participation," *American Economic Review*, 89 (1999), 525-547.
- Shiller, Robert, *Irrational Exuberance*.
- Shleifer, Andrei
- Temple, Jonathan, and Paul A. Johnson, "Social Capability and Economic Growth," *Quarterly Journal of Economics*, 1998, 965-990.
- Uhlener, Carol, "Rational Turnout: the Neglected Role of Groups," *American Journal of Political Science*, 33(1989), 390-422.
- Wilson, William Julius, *The Truly Disadvantaged: The Inner City, The Underclass and Public Policy*. Chicago: University of Chicago Press, 1987.
- Wintrobe, Ronald, *The Political Economy of Dictatorship*. New York: Cambridge University Press, 1998a.
- "Rational Extremist Passion," paper delivered at the Villa Colombella seminar on Political Extremism, Vichy, France. May 1998b.
- "Privatization, The Market for Corporate Control and Capital Flight From Russia" *The World Economy*, 1998c
- "Slobodan Milosevic and the Fire of Nationalism" paper first presented at the 1999 IMAD conference, Maribor, Slovenia.
- Wyduck, Bruce, "Can Social Cohesion Be Harnessed to Repair Market Failures? Evidence from Group Lending in Guatemala," *The Economic Journal*, 109 (1999), 463- 475.

