Much of this book focuses on the concept of asymmetric “goodness”: for issues such as child care, health, the environment, and redistribution to the poor a person advocates greater government expenditures in part to signal that he is “good,” that is, generally trustworthy. Asymmetric goodness has a wide range of implications.

1. There are activities that “loudly” proclaim a person’s political views in such a way that strangers can be aware of such views. Such activities have a bigger payoff to goodness advocates because they are signaling generalized trustworthiness at the expense of trustworthiness toward immediate associates (chap. 7). We find more antimarket than promarket demonstrations, activists, and philanthropic expenditures.

2. Who will support greater government expenditures for these issues (chap. 8)? Our answer: those who have lower costs in doing so and those who choose occupations in part to display their “goodness.” The main cost of signaling goodness is offending current friends. Those who have more friends and value them more, therefore, will buy less “goodness.” In addition, those who get more of their information about political positions of others from friends than from media addressed to a wider audience will be less goodness prone. The reason is an outgrowth of number 1 above. Those who address a wider audience have more of an incentive to signal their generalized trustworthiness. Consistently, over a fairly large set of variables and issues, those with greater community involvement prefer less goodness-related government expenditures. The goodness occupations are those that provide opportunities to espouse goodness or to put it into practice. We find that members of such occupations support more goodness expenditures than do others.
3. Goodness government expenditures have grown over time because community involvement has declined (chap. 9). Our model has implications different from other “growth of government” theories. In particular, over a time period sufficiently long to avoid short-run party effects, judges and bureaucrats increasingly interpret legislative decisions on the side of goodness.

4. A person’s advocacy of environmental expenditures is only loosely related to the consequences of those policies (chap. 10). We find that people’s assignment of nonuse values to amenities cannot be explained simply by the value to users of those policies. Indeed, most environmentalists and much legislation reject the utilitarian procedure, cost-benefit analysis, for valuing these amenities. Nearly all the actions taken by the Environmental Protection Agency under the Clean Air Act result in far greater expenditures per life saved than the market’s assessment of the value of life.

5. People who bear neither the cost nor the benefit of a government action are generally in favor of goodness-driven government expenditures (chap. 10). They can display their goodness at no cost. In consequence, we find numerous cases of a larger governmental unit enacting environmental regulations that have dominantly localized consequences. In all such cases, the larger unit demands stricter environmental standards than the local unit.

This breadth of consequences not only shows that asymmetric goodness is relevant to a significant number of issues, but permits a wide range of tests of the concept, tests that on the whole it passes.

Most of the rest of the book focuses on another proposition: that people give to charity and vote to enhance their reputation for trustworthiness and to assuage their conscience (chaps. 2 through 4). We believe these two reasons have many similar implications because we expect conscience to increase with increases in reputation variables. Both charity and voter participation increase with an increase in community involvement and with a decrease in the rate of time preferences.

There is a relationship between these latter hypotheses and asymmetric goodness. The same people who give to charity and vote adopt political positions. That a reputation for trustworthiness and conscience is important in determining charity and voting increases the probability that the same will be relevant for voting positions, and vice
versa. That the dominant alternative hypothesis—altruism—doesn’t work in the charity case strongly suggests that it will not work in determining political positions as well.¹

Return to the charge in the book’s beginning: to explain the more general behavior of which “political correctness” is a current manifestation. Political correctness is just another set of political positions used to signal “goodness.” Such positions are an outgrowth of evolutionary pressure to maximize group survival consistent with individuals maximizing individual survival. But since this pressure operates so slowly, social rules can vary considerably from maximizing rules.

We find, however, that in spite of that variation there is a pattern to those rules, a pattern consistent with political correctness. Group survival demands social rules that redistribute income to the poor and give greater weight to the future than do market decisions. Compassion to other groups that is part of the political correctness creed is often inconsistent with group survival objectives, but appears to be explicable as an extension of compassion for the poor. The other groups so chosen do have certain common characteristics, but our theory does not predict the exact groups. Nor do we explain why these groups have been chosen now in the United States, but not earlier and not at all in certain other countries. Indeed, signaling theory predicts multiple equilibria until the slow process of group selection determines a winner. We do predict, however, that the social rules that help group survival are more likely to be observed than the social rules that do not. Political correctness is peculiar to the latter half of the twentieth century in some Western countries, but goodness signaling is a far more general phenomenon, a phenomenon that has a profound effect on public policy.

Government policy is in part determined by the political positions of its citizens. That those positions are in part determined by goodness signaling means that government policy will be similarly influenced. Hence, government does far more than correct for market failures as revealed by utilitarian analysis, since goodness signaling is essentially nonutilitarian in nature. That the importance of goodness signaling is growing over time means that even more of government policy will be so based in the future.
Appendix 1: Reciprocity

In reciprocity, one player $i$ does the other player $j$ a favor and, at best, receives a favor only later. To keep the analysis simple, a number of assumptions are required. We assume that there exists a large set of alternative players who are identical to $i$ and $j$ as far as the other can determine a priori. While most people do not know exactly when they will need a favor, we simplify by assuming that the period between granting a favor and receiving a favor in exchange is a fixed period $t$. We further assume that there are two groups in the population: one whose favor needs occur in even time periods and whose willingness to do a favor if it exists occurs in odd time periods. The other group has the reverse time characteristics. Furthermore, who belongs to each group is known by all the participants. We will also assume that there is a strict one-to-one correspondence between favors. Two favors are never granted for one favor. In consequence, the period between favors given to the same person in a given reciprocity relationship will be $2t$. For the $i$th individual the discount rate over period $t$ is $r_i$, the cost of a favor is $f_i$, and the returns of receiving the favor in any one period are $g_i$. This gain includes any emotional returns from the relationship. We also assume that a person wants only one reciprocity relationship at a time. The game is started by $j$ asking $i$ to do him a favor; and there is risk neutrality.

There must be some costs imposed on the person asking the favor, or nobody would be the first to do a favor. Asking people to do favors takes time, so one is limited in the number of people one can ask before it is too late to have the favor done. As shown later, this time constraint implies that those who ask for a favor first have a lower probability of getting their favor done when they need it than those who do the favor first. To simplify, we will assume that one can only ask one person for a given favor before it is too late to have the favor done.

When $j$ asks $i$ to do him a favor, an unmatched $i$ can refuse for two reasons: (1) reciprocation does not pay, (2) he does not want to be the first favor giver. In deciding about (1), $i$ has two alternatives to reci-
proximity: 

(a) he cannot play the favor game or

(b) he can be a moocher—always asking for favors but never reciprocating.

We assume that conditions are constant over time. As a result, if one adopts a given strategy for the initial period, one will continue using that strategy thereafter. But for conditions to remain fixed, the probabilities of getting partners in various ways must be time invariant. (We will show shortly how these probabilities enter the decision process.) These probabilities will only be constant in a steady state. But a steady state requires people entering and leaving the market, and doing so at the same rate. Let $k$ be defined as the probability of staying in the market in a single period. Though $k < 1$ is required for a steady state, such a $k$ considerably complicates the analysis without adding much to the issues on which we focus. We present equations assuming $k = 1$. The corresponding equations for $k < 1$ are available from the authors by request.

The expected present value of the returns for mooching ($M$) is

$$M = Pgs,$$

(A.1)

where $P$ = the probability of $i$ getting his favor if he asks somebody that he has neither previously helped nor refused to help, which is the proportion of partnerless favor initiators in the whole population; and $s$ is the expected stream of returns generated by mooching every other period. Remember, the unsuccessful moocher must wait two periods to ask again because he only can ask once per period and he needs a favor every other period.

$$s = 1 + 1/(1 + r)^2 + 1/(1 + r)^4 \ldots = (1 + r)^2 / [(1 + r)^2 − 1].$$

The expected present value of the return from $i$ reciprocating a favor when $i$ asks somebody else to do the favor first ($R$) is more complicated to construct. There are two components: (1) The expected present value of a partnership determined by interest rates and the probability of getting a partner, and (2) what happens if the partnership does not start times the probability of not getting a partner initially: $i$ begins the process afresh at his next opportunity—a two-period delay. This gives him what he expected to get initially but with a lower present value given the two-period delay.

$$R = Pas + R(1 − P) / (1 + r)^2,$$

$$a = g − [f / (1 + r)].$$

(A.2)
The expected present value of the returns from \(i\) doing the favor first \((F)\) is even more involved.

\[
F = P^*[-f(1 + r) + P_2as] + (1 - P^*)Pas + ZF,
\]

\[
Z = [(1 - P^*)(1 - P) + P^*(1 - P_2)] / (1 + r)^2,
\]  

(A.3)

where \(P^*\) = the probability of being asked to do a favor, which is the proportion of all players who are moochers, partnerless favor initiators, and partnerless reciprocators. \(P_2\) is the probability of a person reciprocating \(i\)'s favor, which is the proportion of people asking for favors who are reciprocators or favor initiators. \(P^*\) is the probability that at least one request from these groups will be received by a given favor initiator.

To keep the time periods comparable to the other decisions, the time the favor initiator would in turn receive a favor is period 0, and the time he initiates the favor is period \(-1\). If in period \(-1\) the would-be favor initiator is not asked to do a favor, he will in turn ask somebody else for a favor in period 0. The first two terms determining \(F\) are the present values at period 0 of these two ways of getting into a partnership. When he is not in such a relationship, he starts all over with the usual cost of the time delay. There are two reasons for starting all over: he doesn’t succeed in starting a partnership the first time or his would-be partner is a moocher.

Individuals can vary by any of the determinants of \(F, R,\) and \(M\). To simplify our analysis we will assume that a person deals only with a group all of whom have the same \(r, f,\) and, perhaps, some common characteristics that help determine \(g,\) but \(g\) varies within the group.

As long as \(i\) gains from receiving favors \((g_i > 0), i\) will be a player. Given that \(i\) is a player, he will be a moocher if \(M_i > R_i\) and \(M_i > F_i\). He will be a favor initiator if \(F_i > R_i\) and \(F_i > M_i\). The text provides the rationale for \(\partial(R - M) / \partial g, \partial(F - R) / \partial g > 0\) and note 1 the mathematics.¹ One can determine by the \(g_i\) where \(M = R(g_1)\) and \(R = F(g_2)\) how to classify anybody for a given \(r\) and \(f\).

The variables \(g_1\) and \(g_2\) are determined in part by the probabilities that have entered into equations (A.1)–(A.3), but \(g_1\) and \(g_2\) help determine those probabilities. To fully model the reciprocity process this latter effect must be analyzed. However, as we show later, probabilities are not so determined in the simple charity case, so we can examine charity now.
Appendix 2: Charity

We assume that people who are asked to give a favor know with certainty the amount of charity that others have contributed. Suppose others believe that if a person contributes charity of amount \( C \), she will be a reciprocator forever, and if she contributes \( C^* > C \), she will be a favor initiator forever, and if she gives less than \( C \), she will be either a moocher or a nonplayer. Are there a \( C \) and a \( C^* \) that will make that belief self-fulfilling? Calculate the maximum \( C \) that any moocher will be willing to pay in charitable contributions to be confused with a reciprocator. The expected present value of the moocher’s return if she gives less than \( C \) is 0, since nobody will do her a favor. If she gives \( C \), her expected gross return (not including her charitable contribution) is given by equation (A.1), assuming initially that everybody remembers forever how much everybody has contributed to charity. So set \( C \) equal to that gross return at a gain level that just separates moochers from others. Now set \( C^* \) so that it is the smallest distinguishable value greater than \( C \). Reciprocators do not gain from being confused with favor initiators, since they would refuse an initial request for a favor if it were made. However, favor initiators do gain from being identified as favor initiators because it pays for them to initiate such favors. Hence, the slightest contribution above \( C \) will serve to separate reciprocators from favor initiators.

To determine \( C \) from equation (A.1) it is necessary to determine the maximum \( g_i \) such that \( i \) will be a moocher. In the simple charity case—where only \( g_i \) varies—the \( g_i \) such that people are indifferent between mooching and reciprocating is the same as the \( g_i \) such that they are indifferent between mooching and favor initiating. Hence, \( g_1 = g_2 = g_3 \), where \( g_1 \) is the \( g_i \) such that \( M_i = R_i \); \( g_2 \) is the \( g_i \) such that \( R_i = F_i \); and \( g_3 \) is the \( g_i \) such that \( M_i = F_i \).

\[
g_1 = g_2 = g_3 = f(1 + r) / (1 - P) \quad \text{(A.4)}
\]
The key to equation (A.4) is that $P_2$, the probability that a favor will be reciprocated, is now equal to 1 for both favor initiators and reciprocators, since favor initiators will confine their largesse to those who have contributed to charity, who are either favor initiators or reciprocators. Bygones are bygones. Reciprocators act as if they were favor initiators when it is their turn to reciprocate. With certainty that their favor will be reciprocated, favor initiators get the same return for a given $g_i$ as do reciprocators at the time that reciprocators reciprocate. In consequence, the $g_i$ that is required to induce either to assume their respective roles will be the same.

Then $C$ is simply the expected returns to mooching at $g_1$: equation (A.1) calculated at $g_1$, or

$$C = P_s g_1.$$  \hspace{1cm} (A.5)

Now consider the relationship between the gains of players and charity. Some determinants of gains vary within a distribution of gains if these are characteristics that are unknown to the players. On the other hand, known characteristics are parameters determining a particular distribution. (We assume that people sample at random within a distribution or within a subset determined solely by signaling. This assumption is appropriate only if they sample within a distribution for which the only information about trustworthiness known to others is the signal.)

Within any given distribution of gains, those with greater gains are more likely to give to charity, since they are more likely to be favor initiators. But what happens to charity as the whole distribution of gains changes? The variables affecting $C$ in equation (A.5) are not related to the distribution of gains, not even $P$, the probability of a favor request’s being granted, even though without charity, $P$ is a function of that distribution. In the charity case both the requests for favors and the responses come from the same group: favor initiators. There will be no pure reciprocators, and moochers are screened out. $P$, then, depends solely on the ratio of unmatched to total favor initiators. In the steady state that ratio will be determined solely by the probability that people stay in the market another period.

But though $C$ is unrelated to the distribution of gains, the expected amount of charitable contributions per capita will be closely related. $C$ is the amount given by those who give to charity. The expected per capita amount of charity is $C$ times the proportion of the group that gives to charity—the proportion of the group who are favor initiators,
that is, people with gains greater than \( g_1 \). This proportion should increase as the distribution of gains is shifted upward, since \( g_1 \) is invariant with respect to the distribution of gains.\(^1\)

Suppose that instead of \( g \) varying by an amount unknown to the participants, \( r \) varies and \( g \) is a parameter. Then, at levels of \( g \) and \( f \) where \( R, M, \) and \( F \) are positive,
\[
\frac{\partial F}{\partial r} < \frac{\partial R}{\partial r} < \frac{\partial M}{\partial r} < 0.
\]
The favor initiator is distinguished from the reciprocator by a greater likelihood of both his giving the favor first and his getting a partner. The former is a present cost; the latter is a future return. The lower the interest rate, the more important the latter relative to the former. A reciprocator is distinguished from a moocher starting with the second period. He pays the present cost of returning a favor in anticipation of future returns from a partnership. The lower the interest rate, the more important the latter relative to the former.

Equation (A.4), determining the required \( g_1 \) and \( g_3 \), can be converted into an equation determining the required \( r_1 \) and \( r_3 \) by converting \( g_1 \) and \( g_3 \) into the parameter \( g \). Since \( g_1 = g_3 \) if \( r \) is a parameter, \( r_1 = r_3 \) when \( g \) is a parameter. The analysis that predicted that expected charitable contributions will increase for high \( g \) distributions can be repeated to imply that expected charitable contributions will increase for low \( r \) distributions. Similarly, expected charitable contributions will increase for low \( f \) distributions.

While there are no problems using different variables as the unknown variable for which charity serves as a signal, the *simple* charity model does not work when the participants are unaware of more than one of the variables determining reciprocal behavior. Suppose that both \( f \) and \( g \) vary, are unknown to the participants, and are not perfectly correlated with each other. Then there is no \( C \) that would fully separate moochers from reciprocators. The required \( C \) to separate the two by their \( gs \) would be different for different levels of \( f \). (From equations (A.5) and (A.4) \( C \) is directly proportional to \( g_1 \), which in turn is directly proportional to \( f \).) If the value of \( f \) were unknown to the participants, then either of those \( Cs \) would only imperfectly screen. The lower \( C \) would not screen out some of the moochers who have a higher \( f \). The higher \( C \) would screen out some of the reciprocators who have the a lower \( f \). \( C \) would still screen in the sense that a higher proportion of reciprocators would give to charity than would moochers.
Appendix 3: Political Positions with “Goodness”

We extend the imitation model of chapter 5 by adding an additional term: the “goodness” return to political positions. To make the model more concrete, suppose the issue is some environmental problem like clean air and suppose some scale to measure the cleanliness of the air. An individual has to decide on how much clean air he advocates. We assume that the $i$th person adopts his preferred position on this scale $(P_i)$ to maximize

$$U_i = c_i \sum w_{ij}[-(P_i - P_j)^2] - h_i(P_i - S_i)^2 + d_i(P_i - A),$$

(A.6)

where $\sum w_{ij} = 1$. $S_i$ is the degree of air quality that maximizes $i$’s self-interest considering $i$’s share of the costs. $A$ is the average position of everybody other than $i$, which roughly is the position on air quality adopted by government. The idea is that one displays one’s “goodness” by advocating higher air quality standards than proposed by others. Notice that the last term of equation (A.6) is not squared, as are the other terms. The reason for that difference is that for the first two terms one’s utility is reduced by a position on air quality either more or less than the position that maximizes utility as far as that term is concerned. In contrast, for the goodness return, the higher air quality one advocates the better over the entire range of air quality.

Maximizing the $U_i$ in equation (A.6),

$$(c_i + h_i)P_i = c_i \sum w_{ij} P_j + h_i S_i + .5d_i.$$  

(A.7)

Relative to $h_p$, $c_i$ should be large because the association returns from voting are private returns, whereas the outcomes of elections, which are only remotely affected by $i$’s vote, are public returns. However, the positions of others are not exogenous variables; they are determined by an equation similar to equation (A.7). All of the $S_i$ and the $d_i$ are exogenous, so in the reduced form only they will determine $P$. 

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Simplify by assuming just two homogeneous groups: group 1 of size $n_1$ and group 2 of size $n_2$. Then the reduced form solution for $P_1$, and an analogous solution for $P_2$, will be

\[
P_1 = (H_1 H_2 S_1 + .5 H_2 D_1 + n_1 w_{21} S_1 + .5 n_1 w_{21} D_1 + H_2 S_2 n_2 w_{12}
+ .5 n_2 w_{12} D_2)/x
\]

\[
x = H_1 H_2 + H_1 n_1 w_{21} + H_2 n_2 w_{12}
\] (A.8)

Not surprisingly, the resulting political position is more proenvironment than the position determined in the absence of goodness.
Chapter 1

1. Some may object to calling the voting problem a free-rider problem. After all, one would be better off if nobody else voted. Where is the public good? But the presence of divergent interests does not prevent a free-rider problem. After all, the term itself originated in a conflict between strikers and strikebreakers. As long as there is a large subset of a group all of whom have the same interests, a free-rider problem exists. There is, indeed, a large subset of voters who would vote the same way. Within that subset any one voter would prefer that others do the voting if voting were motivated simply by the direct consequences of one’s vote.

2. Only hunter-gatherers were ever in a state that could even be remotely characterized as long-run equilibrium. So the “invisible hand” should apply at least to the incipient markets developed then. Ofek (2001) provides evidence of widespread trade even in that stage of man’s development.

Chapter 2

1. This term must have the standard mathematical properties: marginal utilities that are positive and diminishing.

2. This proposition holds only for those contributors to charity that give more than or the same amount of charity than the government does in their stead. The others have their charity reduced to zero. In the aggregate this does not necessarily yield perfect crowding out.

3. Suppose for simplicity $n$ individuals with identical incomes ($Y$) and identical altruistic preferences with an income elasticity of demand for charity of $1$, and each gives the same share of his income to some charity. (The assumption of an income elasticity for charity of $1$ exaggerates the altruistic effect on charity. Clotfelter [1985] estimates that income elasticities are less than 1. As becomes clear below, the greater the income elasticity, the greater the altruistic effect. Furthermore, as can easily be shown, the assumption of identical potential donors exaggerates the expected amount of charity when that expectation is taken in terms of the amount of charity that would be given by the potential donor who would give most to charity if there were no other potential donors.) Let $x = aY$ be the amount of charity that each would give in the
absence of anybody else. Suppose one person gives that amount, $x$. The real income of all the other would-be donors goes up by that amount, just as their own utility needs to give to charity go down by that same amount. On the basis of that real income increase, if there were only one other contributor, he would give $ax$. Suppose one person decides that he will bite the bullet and take it upon himself to give that amount. That, then, has the same effect as above on other charitable givers. If one of these others, then, decides to give to charity, he will give at most $a^2x$. This process can stop any time. But it can only go on as long as there are potential donors. The greatest amount of charitable contributions that could be produced would be the sum of the resulting geometric series: $x(1 - a^{n+1}) / (1 - a)$. If $a = .03$, then total charity would only be less than 1.03 times the amount of charity that one person were willing to give if he were the only possible donor. With $a = .95$, total charity is at most twenty times this number.

Notice that this argument does not explicitly consider whether an altruist is concerned for the well-being of the other potential donors or not. If he is, one effect is to reduce the income effect on other donors from a person’s contributions. The well-being of other potential donors is reduced somewhat by the reduction in the well-being of the donor who transferred his income to beneficiaries. On the other hand, a donor who takes the well-being of other potential donors into account is less likely to choose the zero charity option than donors with other preferences. This latter result, however, does not affect the range of possible solutions, just the probability of various solutions within that range.

4. By an analysis similar to that in the last note total charitable contributions to a specific charity would be $x / (1 - b)$ where $b = a(n - 1) / n$.

5. “Warm glow” reduces our estimates of the amount of altruistically derived charity in another way. As we saw above, the greater the hypothetical altruistically motivated charity-to-income ratio, the greater total charitable contributions will be relative to that ratio for an individual. We have used the actual charity-to-income ratio as our estimate of this hypothetical ratio. If, however, much of this actual ratio is motivated by warm glow, then the altruistically motivated charity-to-income ratio must be substantially less than the actual ratio.

6. In general, it is in the interest of firms to disclose even unfavorable characteristics of their products to consumers if the cost of such disclosure is negligible. If knowledge of total charitable contributions were important to potential donors and a charity did not include that information, potential donors would think the actual amount was the expected amount among charities that did not include their total contributions. Hence, any charity with less than this expected amount has an incentive to disclose. But this increases the expected value of total contributions among the charities that do not disclose. Now charities with donations less than that higher expected value disclose. This process goes on until all charities disclose except the one with the greatest contributions.
7. The foregoing suggests that one reason more charities do not disclose their total contributions is that their contributors form a group sufficiently diverse that they are not status competitors.

8. Economists have also tried to show how altruism can survive. But Eshel, Samuelson, and Shakel (1998) focus on a different definition of altruism than do we, and even that kind of altruism is only survivable within small groups. Bester and Guth (1998) show that altruism can triumph over short-sighted self-interest, but in terms of their model sensible self-interest triumphs over altruism.

9. What people believe has some relevance because it is their behavior that we are trying to predict. Often, people can use some rough rule of thumb, whose existence depends upon some fundamental principle of which they are unaware. But even, then, the rough rule will generally generate some unique implications.

10. There are two seemingly contradictory statements that are both correct in the right context: “Only the past matters.” “Only the future matters.” The first statement is right for intergenerational comparisons. It is the preferences of past generations that have survived that determine present preferences. The second statement is right for a given generation, the present context. The future consequences of the preferences of past generations determine whether the preference survives to present generations.

11. In this game the controller is assured of twelve dollars without the cooperation of the other player. With cooperation the total payoff is fourteen dollars with the decision of how it is to be shared to be mutually determined. Equal sharing (seven dollars a piece) requires the controller to give up at the margin a dollar for every dollar going to the other player.

12. Yezer, Goldfarb, and Poppen (1996) present evidence that contradicts this last finding of Frank, Gilovich, and Regan (1993) that the study of economics leads to more beliefs that both self and others will play the envelope games and the mistaken invoice game dishonestly. They also show that when the envelope game is actually played, the data are consistent with students in economics classes being more honest.

13. These proponents of altruism have a very difficult job testing for it on the individual level because on that level there are very few distinctive properties of warm glow. It is easy to show that much prosocial behavior cannot be explained by altruism, but almost impossible to show warm glow’s not working. Batson (1991) shows a relationship between the closeness with which a person identifies with another and being helpful, and claims that this demonstrates the existence of altruism. But there may very well be a social rule that says help your own kind more. Following such a rule could create warm glow.

Chapter 3

1. This evidence is not tainted by their serious error in overestimating lying rates among nonvoters. All of the estimates of this paragraph are based
exclusively on National Election Studies data, so their previous mistake in comparing National Election Studies results with population voting rates is not relevant. However, one can object to their not including other relevant variables in their regression, in particular age, income, and the election year.

2. Even if income and occupation variables were included, one would expect these ethnic variables to have reputational consequences because group income is so low for both blacks and Hispanics. As detailed in chapter 5, because of imitation, group variables play a significant role in determining behavior.

3. All of the signaling cases we examine in this book involve many players. Under those circumstances knowing what determines others’ reactions to what you do is irrelevant. Those reactions are determined by the behavior of a large set of fellow players. In consequence, a single player can influence those reactions only by a miniscule amount.

4. First, firms face lower discount rates than employees. They can both be better off if the compensation comes first, but is reduced to take into account the expected present value to the firm of such an arrangement. Second, there is the Becker and Stigler (1974) process: delayed compensation increases the incentive to good behavior.

5. The General Social Survey has two different possible measures: number of respondent’s friends and number of organizations to which the respondent belongs. Both have problems as relevant measures of friendships. The main problems with the former is that respondents’ definitions of friendships vary and many of those definitions will be quite different than the number of people likely to know about one’s charitable contributions. To control somewhat for the latter problem we use a dummy variable: whether one has greater than or equal the median number of friends or not. Since a lot of charity is through organizations, the number of organizations probably comes closer to an appropriate measure. Glaeser et al. (Glaeser et al. 1999; Glaeser, Laibson, and Sacerdote 2000) find that number of organizations to which a person belongs is positively related to being married, home ownership, church attendance, and income. (They did not examine whether a person migrated or not, though they find a positive effect of “potential migration.”) Restricting ourselves to many fewer variables because of its relatively small sample size, we find that our friendship variable increases with church attendance and income, but is not significantly related to marriage status. However, number of friends of the respondent excludes relatives and the friends of one’s spouse that are not common to both husband and wife. This implies that including spouses and spouses’ friends, number of friends would increase significantly with marriage. These latter are as likely to know about family charitable contributions as the respondent’s own friends.

6. Glaeser et al. (1999) find an inverse-U relationship between age and number of organizations with a maximum at about age fifty, and there is no significant age effect on our friendship dummy.
7. We also experimented with using constants other than $10 ($1, $25, $100). The results of these experiments do not change any of our conclusions.

8. A number of studies have used the *National Study of Philanthropy* to estimate price elasticities using alternative approaches to measure price. The price variable used is $1 – t$, where $t$ is the marginal tax rate. Dye (1978) observed that virtually all the price effect apart from the influence of income on marginal tax rates was produced by whether a person itemized his deductions or not. We use as our price variable this itemization dummy variable.

The true price of charity is $1 minus the marginal tax rate if one itemizes and 1 if one does not. First, consider just the itemization effect. The regression with an itemization dummy variable exaggerates the effect of itemization on charitable contributions because there is also a reciprocal effect with the same sign.

As a result of this simultaneity, the observed effect of itemization on charity is larger than the true effect. This has an impact on the estimates of the variables correlated with itemization. If itemization is included in the regression, the variables that are positively correlated with itemization have smaller regression coefficients than the true regression coefficients because itemization steals some of their thunder, and the reverse for variables that are negatively correlated with itemization. If itemization were not included, the regression coefficient of variables that are positively correlated with itemization would be overestimated because those regression coefficients capture some of the itemization effect. Reverse results hold for variables that are negatively correlated with itemization. As a result, the regression coefficients taking into account the true itemization effect would be somewhere between the regression coefficients observed with and without itemization included as an additional variable.

9. We classify occupations as having high slopes by observing the 1969 earnings of white males with twelve years or more of schooling and working fifty to fifty-two weeks. We calculate the difference in earnings between those of ages fifty-five to sixty-four and those of ages eighteen to twenty-four. We divide this difference by 38.5. We identify those with below-average slopes as low-slope occupations: operators, laborers, and farmers (U.S. Census 1973).

10. And this comparison understates the appropriate differences by approximately 1.5. Because our dependent variables are in the form log($y + $10) and the means of our two dependent variables are different, the differences in $\partial \log y / \partial D$ (where $D$ = an occupational dummy variable) are 1.5 larger than the differences in the coefficients at their respective means of log($y + $10).

$$\partial \log y / \partial D = [(y + $10) / y] \partial \log (y + $10)/\partial D.$$ 

The values of $(y + $10) / y$ at the geometric means of $y + $10 of charity and volunteer labor are 1.038 and 1.599, respectively.

11. The value of time explains the other “occupational” result peculiar to the volunteer labor regression. “Not in the Labor Force” has a significant positive coefficient for the volunteer labor regression.
12. Number of children has a positive effect on volunteer labor. This may be the manifestation of a small group effect. One is more likely to be a Boy Scout leader if that increases the probability that one’s son will have a troop to join.

13. This process will not operate if charity is a perfect screen. In that model one is either trustworthy or not, and the contributions of others would be irrelevant. Our regression results show no group effect as far as race is concerned.

14. The Catholic and Jewish regression coefficients warrant closer examination. The Jewish coefficient is significant for nonchurch contributions but not for church contributions. The latter result, however, may be misleading. Instead of passing the plate at services, Jews pay dues, which may not be counted as charity. In consequence, their church contributions may be understated compared to the contributions of others. In contrast, the Catholic coefficients are significantly negative for church contributions and for volunteer labor but not for nonchurch contributions. One possible explanation for the Catholic charity shortfall is that there is only one Catholic Church while there are numerous Protestant denominations with fewer members per congregation. These denominations tend to have less within-group variation of most congregant characteristics than the one Catholic Church. In consequence, a Catholic is less concerned with his reputation among a random fellow congregant than is a Protestant. Size of congregation would have similar effects. Jewish minority status might make them a tighter-knit group than others. This might make them more concerned with what other fellow congregants think.

15. The relevant benefits for charity to the poor are the external benefits to the nonpoor—insurance against their own potential poverty, reduction in crime, etc. This follows because the poor are, at best, only peripherally members of the group from which most charity comes.

16. With this data set, price and other elasticity estimates at the means as well as the respective regression coefficients are quite sensitive to the choice of $x$ in the dependent variable: $\log(\text{Charity} + x)$. If $x$ is chosen as $\$100$ rather than the $\$10$ of Boskin and Feldstein (1978) and Clotfelter (1985), the resulting elasticity is .47 that of the latter. (This statement is based on our proxy for the tax price: the itemization dummy.) On the other hand, if $x = 1$, then the resulting elasticity estimate is raised by a factor of 1.41 from $x = 10$. Fortunately, for these data $t$ values are not that sensitive to variation in $x$, so that tests of the null hypothesis do not depend so heavily on functional form.
2. Since, as we saw earlier, there is more lying in the data set used by Bernstein, Chadha, and Montjoy (2001) than in our data set, there should be a closer relationship between the results using actual votes and the results using self-reported votes for our data set than his.

3. We use all variables found significant later in chapter 8 when we explain voter positions. Our technique is ordinary least squares. We also ran the same regression just including the statistically significant variables for this regression, and we also used PROBIT. There were no differences in our results worth noting.

4. The relationship between church attendance and number of friends is examined more closely in chapter 8.

5. Since the cross-product of Protestantism and attendance is also an included variable, the interpretation of the coefficient of the Fundamentalist cross-product is that there is no discernable difference in the attendance effect of mainline and Fundamentalist Protestants. This strongly suggests that among Christians the ATTEND effect is dominantly attributable to the greater community involvement of those who attend church rather than the messages received through attendance.

There is further evidence that whether one votes or not is not attributable to the assorted doctrines of the various churches. For those who do not attend church at all, religious affiliation among the major religions makes very little difference in the likelihood of voting. In fact, the only remotely significant coefficient for this group is for those without religion at all. That coefficient is positive at the 10 percent level ($t = 1.82$). Some of these current nonattendees must have attended church in the past. Whatever doctrine they acquired did not significantly affect their current voting behavior. This suggests that it is attendance, not doctrine, that makes the difference in whether one votes. Of course, those who attend a church the most are more likely to accept its doctrine than those who do not attend at all. However, that proposition does not invalidate the previous sentence as long as those who do not attend a church and claim identification with that church have absorbed some of the church doctrine.

6. Of course, reputational returns are an investment. There will be fewer years to reap a return on the investment of voting the older one is, and that should work in the opposite direction. However, there is little evidence that older people are less future oriented than younger people except in training decisions. Much besides time preferences operates to focus training on the young. They are more trainable, and the opportunity costs of their training are less. Furthermore, the decision of whether the young should be trained is heavily influenced by parents. Voting decisions are made by the individual involved. As life expectancy declines with age, people’s knowledge that there is a future increases. Drugs and crime are typical disinvestments in the future that are associated with the young. As a result the life cycle hypothesis has problems. Bernheim (1987) finds that “neither single individuals or couples dissave significant fractions of their total resources after retirement.”
7. Suppose that $x$ decreases voting. Given our model, there are two reasons for a yearly decline in voting participation. (1) The same set of eligible voters has been exposed to a greater mean value of $x$. (2) Eligible voters die and are replaced by others with a far higher value of the mean of $x$. The first of these effects is also what produces the change in voting by cohorts a year apart, by exactly the same amount. Since the second effect is larger than the first effect, the yearly change in voting participation is an upward biased estimate of the cohort effect. That yearly decline in voting participation ($-0.00016$) is far too small to explain the age effect, which at the means of the relevant variables is $0.00084$.

8. In the case of migration there is an even more obvious than usual alternative hypothesis: the time cost of reregistering to vote. Migration is defined in the NORC data set to be living in a different town than where one lived when one was sixteen. In terms of that definition the number of registrations for the same number of votes would on average be greater for migrants than nonmigrants. (It should be noted that any delay in being able to register to vote is irrelevant because only eligible voters are included in the observations we use.) In consequence, migrants should vote less than nonmigrants. One way to control for this effect is to compare the voting behavior of interstate and intrastate migrants. They both have to reregister to continue to vote. However, we would expect intrastate migrants to have more associates and family that they continue to see than their interstate counterparts. Nelson (1959) showed that there were more relatives and friends at closer distances than at longer distances. Indeed, as we have seen, the interstate migrant slope is substantially more negative than the intrastate slope, but the difference is not statistically significant. The results, while hardly decisive, suggest that the migration effect is not entirely due to the higher time costs of registering.

9. The homework idea is not borne out, however, in the insignificant impact on voting of the number of children, a dummy variable for whether one has a child or not, or the cross-product of either of these variables with gender of the respondent. The only household composition variable that makes a difference other than marriage is the number of adults in the household. This significantly reduces the voting participation of the respondent: $b = -0.018$ ($t = -3.81$). Conceivably, this is because the earned incomes of each adult is less, holding constant family income, and, hence, the reputational gains from voting are less for each. The cross-product of marriage and number of adults is insignificant.

10. The city-size variables were not included in the reported charity results because they were not significant.

11. Using the NES data, Greene and Nikolaev (1999) show that contrary to the aggregated results of Filer, Kenny and Morton (1993), higher income is monotonically positively related to voter participation.

12. The food at dinner parties is more expensive and the wines better as incomes increase. The jobs acquired through friendship networks are better too.
13. Given the substantial errors in that last estimate, the substantial value of \( t \) suggests that this is a reasonably important effect. In spite of the relatively large sample size of NORC, the number of people sampled in some congregations is quite small. See chapter 8.

14. This tends to contradict the findings in the literature. Using crude controls, Bennett and Orzechowski (1983), Jaarsma, van Winden, and Schram (1986), and Greene and Nikolaev (1999) find more voting by all public sector workers.

15. For a more thorough discussion of our tests of their version of the expressive voting hypothesis see Greene and Nelson 2002a.

16. We tested our hypothesis two different ways. First, we regressed the coefficient of the ethnic dummy in the voting regression against various ethnic characteristics, such as the average income of the ethnic group. The coefficient of the ethnic dummy tells us the influence of that ethnic group characteristics on voting, holding constant the individual characteristics that are included in the voting regression. Our procedure would show us, therefore, if ethnic income had an impact on voting, holding constant individual income and other characteristics.

Our second procedure was to add these various measures of ethnic characteristics to the voting regression. At the same time we eliminated the ethnic dummies from the regression, with the exception of the black dummy variable. This would also show us if, for example, the income of the ethnic group influenced voting, holding constant the income and other characteristics of the individual. The reason for eliminating the ethnic dummies from the regression was that we wanted to see how much of their effect was attributable to the ethnic characteristics that we used. We did not, however, eliminate race as a variable, since it was perfectly apparent that the race effect could not be simply explained by the ethnic characteristics we used.

Both procedures yield unbiased estimates of the ethnic effects. The tests of significance, however, make different assumptions about the residuals. The first test is the stronger of the two tests. For the first test we tried various combinations of independent variables out of the set: EBORN, the proportion of the ethnic group that was born in the United States; ERFYN, the average relative family income of the ethnic group; EEDUC, the average years of school of the ethnic group; EDPID, the average strength of party identification of the ethnic group; and AFF, whether the ethnic group received special affirmative action treatment or not.

While EBORN was the only significant variable, it was quite significant, with \( t \) values ranging from 5.6 to 3.1. So the effect of increased voting on the part of others in one’s ethnic group translates to increased voting on one’s own part as well.

Using the second procedure, EBORN is still significant (\( t = 2.18 \)), EDPID is significant at the 10 percent level (\( t = 1.85 \)), and DRAN (black \{DRAN = 1\}) is also significant (\( t = 3.99 \)). Without the inclusion of DRAN the other variables would be even more significant.
17. In fact, DRAN has a positive coefficient in our voter participation regression ($b = .1019$ with a $t$ value equal to 8.21). However, our regressions include a cross-product of black with Republicanism with a coefficient of $-0.0433$ and a $t$ value equal to 8.67. The net value of the black effect at the mean of Republicanism would be $-0.0106$. But even that coefficient probably grossly understates the black coefficient when just blacks and whites are compared. In our regression blacks are compared to the control group: “Ethnicity Unspecified” because we explicitly introduce dummy variables for all the other ethnic groups. In addition, some blacks with the lowest expected voting participation are included in other ethnic groups, in particular “West Indian,” and to a lesser degree, “Puerto Rican.” Black Haitians, for example, may very well identify their ethnicity as “West Indian” when the alternative is “African.” Both being a West Indian and being a Puerto Rican have a very significant negative impact on voter participation. Greene and Nikolaev (1999) provide a better idea of the black coefficient in the standard white comparison. They get a $b = -0.036$ ($t = -3.82$) using the same data set and many of the variables we employ. All of the other variables in common in the two studies have similar coefficients except for those with cross-product terms in our regressions. When those coefficients are evaluated at the mean of the other term, they too are roughly similar. This is consistent with our explanation for the differences in the black coefficient between the two studies.

Chapter 5

1. The model and empirical work in this chapter are from Nelson 1994. The theoretical foundations are new.

2. Many of the propositions of economics depend upon trial-and-error behavior for their widespread applicability. Squirrels do not maximize in a conscious sense, but their nut gathering is consistent with the law of demand through trial and error over many generations. Signaling behavior in animals must be similarly rationalized. In all these trial-and-error cases, there, is always the danger, however, that the local maximum will be somewhat different from the global maximum.

3. How much lying is required if reputation affects verbal statements but not actual voting? Assume $x$ percent of the population lies about their vote. Their stated votes are determined by reputational concerns, but they vote differently in response to their narrow self-interest. The rest tell the truth either because reputation and narrow self-interest coincide or because they choose not to lie in spite of a difference between the two. Since, by hypothesis, voting is not determined by reputation, this last group both speaks and votes in terms of narrow self-interest. Our later results show that reputation dominates narrow self-interest as far as verbal behavior is concerned. In consequence, we would expect fewer people whose speech is determined by narrow self-interest than by reputation when reputation and narrow self-interest conflict. That means that the last group should represent less than $x$ percent of the popula-
tion. Therefore, the percentage of the population for which narrow self-interest and reputation coincide must be greater than $100 - 2x$. Later, we get estimates of $x$ varying between 19 percent and 2 percent. If 19 percent lied about their votes, then for there to be no reputational impact on votes at least 62 percent of voters must have narrow self-interests that coincide with their reputational interests. In the 2 percent lying case, at least 96 percent of voters must be so characterized. Because we have no direct knowledge of this percentage, we do not know how to specify the “considerable lying” criterion of the text more precisely.

4. However, respondents know a great deal about the political preferences of interviewers when they can detect that the interviewers are black. The political preferences of blacks are much more homogeneous than the preferences of whites, at least in the choice between a Democratic and Republican candidate.

5. Additional evidence and a discussion of the reason for such a bias is contained in the next three chapters.

6. The only condition in which this result would not hold is if the marginal utility of friendship quality diminished so rapidly as one approached the ideal set of friends that a person was willing to sacrifice a little of this quality to adopt a political position closer to his narrow self-interest in spite of the free-rider problem associated with the latter. (The quadratic utility function used for simplicity in equation (1) is an example of a utility function with that property.) In that case people will have a miniscule incentive to choose a $b_i$ greater by a small amount than the $b_i$ that others believe he is using. All $b_i$ other than infinity are inconsistent with a signaling equilibrium because no matter how large is $b_i$, signalers will always use a $b_i$ larger by a small amount than the $b_i$ receivers of the signal expect. However, all $b_i$ are consistent with “almost” equilibrium, that is, a position where people have exceedingly small incentives to change behavior from what others expect. It is not clear that anybody adjusts his behavior to obtain such a small return. If the person does respond, one would expect the response to be quite slow. Under those circumstances, the starting belief about behavior may be a better predictor of behavior than the equilibrium belief. The most straightforward way to signal desired friendship is simple imitation. It is also the signaling solution that requires least information about the signaler’s narrow self-interest. On those grounds imitation is likely to play a more important role in signaling friendship than narrow self-interest. For all practical purposes the conclusions of the text would not change even in this case.

7. The utility function of the previous note generates some weight to narrow self-interest even if “mistakes” did not occur.

8. The same can be said for altruism if it exists. The utility function of a person would incorporate an altruistic component, and people could very well believe that others are using such a utility function in part in determining how they vote. The evidence of chapter 2, however, makes us believe that altruism is both not very important and confined to friends and relatives. That latter feature of altruism yields predictions similar to those we examine in the
“Implications: Group Effects” section in this chapter but does not imply the effects we discuss in the subsequent “Implications: Lags” section.


10. This result follows from equation (4) if one simplifies the problem by assuming that a person confines his association just to members of his group and that the group has just two subgroups, with \( S_1 = O, S_2 = x \) and with \( n_1 \) and \( n_2 \) members respectively. (These simplifications reduce the analysis to the two-group case for which equation (4) is appropriate.) Then both \( dP_1/dn_2 \) and \( dP_2/dn_2 \) are positive even though the determination of the sign of each from equation (4) is complicated by the constraint that the sum of the weights must equal 1. However, we expect the following reasonable responses of the components of this sum to \( n_2 \):

\[
\begin{align*}
dn_1 w_{12}/dn_2 &= z > 0, \\
dn_2 w_{12}/dn_2 &= m < 0.
\end{align*}
\]

Then

\[
\begin{align*}
dP_1/dn_2 &= x(bz + n_1 w_{12}z - n_1 w_{12}m) / (b + n_2 w_{12} + n_1 w_{21})^2 > 0, \\
dP_2/dn_2 &= x(n_1 w_{21}z - n_2 w_{12}m - mb) / (b + n_2 w_{12} + n_1 w_{21})^2 > 0.
\end{align*}
\]

11. Kuran (1998) also emphasized the importance of reputation in ethnic identification.

12. In constructing that measure one wants to hold constant those variable included in the Republicanism equation that have big association effects of their own. The average income of those groups would effect Republicanism through these variables rather than through ethnicity. If ethnic associations are within religious and locational groups, one would want to control for variation in locational and religious composition in calculating group average income. We assume the other variables in the Republicanism equation have a relatively small impact on associations, and, hence, with one exception we do not control for them in determining the ethnic income dummies. Since it is group permanent income that is relevant, we also control for age. The assumptions underlying this calculation of group dummies may not be fully satisfied. Fortunately, it makes little difference. When we calculate the regression coefficients for the group dummies not controlling for either location or age, the results reported in the text are not substantially changed.

13. We do not investigate whether these groups were on net actual beneficiaries of affirmative action.

14. This procedure assumes that the ethnic groups harmed by affirmative action are equally harmed. But one expects the losing low-income groups to be harmed by affirmative action more than the losing high-income groups because they are closer competitors for jobs, schools, and residences with low-income affirmative action beneficiaries. So on this account a low income for a losing low-income group would add to support for Republicans. This bias
clearly cannot explain the observed relationship between group income and Republicanism for the ethnic groups that are losers from affirmative action, but our imitation model can do so. Because of imitation, one’s political position is determined by the average income in one’s ethnic group as well as by one’s own income.

The other alternative hypothesis is the permanent income hypothesis: that ethnic group income provides a measure of permanent individual income, even given current individual income. It must be remembered, however, that in our study many individual characteristics—education, age, employment, and so forth, are included in our Republicanism equation in addition to group income and individual income. In Friedman 1957, group income was shown to be an important predictor of permanent income when the only other characteristic considered was individual current income. The other characteristics in our equation are either themselves measures of permanent income or make present income a better measure of permanent income. This would produce a smaller role for ethnic group income as a measure of permanent income. In addition, for ethnic groups Friedman used only black/white distinctions for which one anticipates the largest permanent income differences. So the case for this alternative hypothesis, especially for the regression in which blacks are not included, is probably not strong. It is, of course, still possible that there are some permanent income effects of ethnic group income.

15. Given equation (8) and the assumed values in the text, then

\[ P_{1t} = -0.010753(998999) + 0.04301(969033) + 0.645161, \]
\[ P_{2t} = -0.010753(998999) - 0.021505(969033) + 0.677419. \]

With these equations one can determine the time required to get halfway to equilibrium.

16. In the latter case there is a substantial self-interest gain from technological efficiency. That is one reason we expect technological changes to be the source of other cultural changes rather than changes in the mores inducing technological changes. The imitation that goes on in the production process is dominantly imitation for information. When new information comes to light, there will be less cultural resistance to its implementation than in the case of mores.

17. Higgs (1971) provides estimates of wage rates for the foreign-born by country in 1909 for twenty-four countries of origin for our ethnic groups. In addition we estimate three others—Austria, Spain, and Switzerland—by taking the unweighted average of the wage rates for the countries bordering the country with the missing observation. We use this measure of past income, though wages for the foreign born in 1909 are not the same as wages for a whole ethnic group in 1909. We made extremely rough estimates of the latter. Our statistical results were virtually identical using the wages of the foreign born and our estimates of the wages of a whole ethnic group. Since the measurement errors for the latter are so large, we use the former as displayed in table 5.1.
Results of adding 1909 wages \((PI)\) as an additional explanatory variable for \(B\) for the twenty-seven groups for which it is available are

\[
B = -0.094 + 0.087 I + 0.0076 PI.
\]

\((-1.92) (1.23) (1.83)\)

The regression results are moderately encouraging. \(R^2\) is higher than the \(R^2\) without \(PI\) when both are taken over the set of observations for which \(PI\) could be estimated (.2233 rather than .1094) and the former is significant at the 5 percent level for 27 groups. The \(t\) value of 1.83 is also significant at the 5 percent level. There is some evidence, then, that past income in the distant past of an individual’s ethnic group has an impact on his political affiliations.

Chapter 6

1. Imitation plays no independent role. Without “goodness” it would just make people vote in terms of the narrow self-interest of others as well as themselves.

2. “Narrow self-interest” by definition excludes some self-interested returns. But in our definition what is excluded are the signaling returns from political positions, not the external benefits of the policies one advocates.

3. We are looking at the formulation of social rules rather than the decision to obey social rules. We saw in the last chapter that individual survival is irrelevant in determining the survival consequences of the formulation of social rules.

4. As discussed later, we expect a dollar redistributed from rich to poor to increase the population of the group practicing such redistribution if one does not also consider the deadweight loss associated with that redistribution.

5. For example, we expect the same kind of proenvironment emotionalism as we predicted for redistribution to the poor.

6. In the short run there is a trade-off between quality of descendants and numbers, but the quality is only relevant insofar as it increases the ultimate number of descendants.

7. It is important to note that we are considering social rules in long-run equilibrium. Some actual present social rules may have the opposite effect, for example, social rules that encourage conspicuous consumption. In hunter-gatherer societies conspicuous consumption would not be a serious problems because that consumption would add little to other’s knowledge of individual income because that knowledge was already fairly complete.

8. There would still be a role for charitable expenditures aimed at any externality correction, since the deadweight loss of a voluntary contribution is less than the deadweight loss of the involuntary contribution produced by taxes.

9. The conclusion of Fischer and his modern followers does not follow, that within wide limits virtually any sexual selection criterion is self-
confirming. They are right as far as individual selection is concerned. But group selection is also operative. Groups in which females use mating criteria that lower group survival value will have lower survival probabilities than groups in which sexual selection enhances group survival. In this case female preference for big-game hunters increases group survival.

10. This is a version of Becker’s (1976) rotten kid theorem. This version should be called the “somewhat rotten parent theorem.” Given the social rules, the nonaltruistic child is forced to help the parents later, and the parents know that the child will be forced to help in order to induce the imperfectly altruistic parents to give better child care earlier.

11. Group survival is more about the survival of the rules of the society than about its genes if the issue is what rules will continue in the future.

12. To the extent that child care is confined to the immediate family, the homosexual makes no contributions to child care.

13. This behavior is counter to what would be expected with insurance motivations for compassion. More people have a chance to be one of the unknowns that is helped than the knowns.

Chapter 7

1. Voting does increase the probability that a person has strong political views (as shown in our empirical results developed in chapter 8), so, indirectly, one learns something about political positions from the fact that a person voted. Furthermore, conversations with voters are more likely to reveal the content of their vote than conversations with nonvoters. But of all political activities voting least reveals a person’s political position. It is the signal that has least to do with that position.

2. There is one qualification. As shown in the chapter 8, voters have stronger political views than nonvoters. It is conceivable that a voter for party A feel so antagonistic toward members of party B that he would be a less rather than a more reliable reciprocity partner for the latter than a nonvoter of party A. Where party differences are relatively small, such as in the United States, this qualification does not seem to be very important.

3. An analogous question in the Survey is whether marijuana should be legalized. If marijuana were regarded favorably, the question would have involved whether marijuana consumption should be encouraged.

4. Lichter, Rothman, and Lichter (1986) found the ratio of the media elite that were Democrats compared to those who were Republican to be approximately the same as Levite’s ratio of liberal to conservative “activists,” viz., two to one. But, with the exception of personal liberty issues, party identification is the issue over which the press reveals itself to be most liberal. On all other issues surveys tend to show the media as only moderately liberal (for example, Lichter, Rothman, and Lichter 1986). Besides, most students of the press agree that in the contemporary United States, the press for the most part tries to be unbiased, that the liberal bias is unconscious. They tend to select facts that a
liberal would regard as important, but their professional integrity requires them to be as unbiased as they can.

The Levite results could be attributable solely to media bias, if all Democratic reporters call only liberals “activists” while all Republican reporters reserve that term just for conservatives. This result must hold even though many reporters are quite moderate about other issues and desire to be unbiased. That is an unlikely scenario, though media bias may well explain part of Levite’s results. The only scenario that would give some credence to the Levite argument is if the New York Times were sufficiently liberal relative to all other newspapers to produce the strong media bias required in this case.

5. This counting is approximate. We count the inches devoted to these organizations and, then, determine the inch, number relationship.

6. The information for these changes in the activist tendencies of these foundations comes from The Left Guide (Wilcox 1996); The Right Guide (Wilcox 1997); Nielson 1972, 1996; and Lagemann 1989.

Chapter 8

An earlier version of this chapter appeared in Greene and Nelson 2002b.

1. The advantages of ordinary least squares is that it allows comparisons of coefficients across issues and permits one to determine the slope of variables at the means of other variables used in cross-products. There are, however, some statistical advantages of multinomial logistic regressions. We also ran multinomial logistic regressions with no substantial differences in results. Experience has shown that usually there are no big differences in results using these alternative techniques, especially where sample sizes are very large like ours.

Because we will be looking at many regressions, nineteen in all, there is a problem with tests of significance. It would be quite likely that a variable will be significant at the 5 percent level in at least one case just by chance. However, the likelihood that a variable will be significant at the 5 percent level in at least three cases is .067, and the likelihood of this occurrence in at least four cases is .014. In consequence, we will regard an independent variable as significant if it is significant in at least three or four regressions.

One problem faced in these regressions is what to do about the variables in a regression that are not significant but for which there is a prior case for inclusion. We proceeded with two alternative approaches. (1) Including all variables in any given regression that are significant in at least one of the regressions. (2) Including in any regression only significant variables (at the 10 percent level) in that regression. While the detailed results differ somewhat, the overall pattern of the results remains the same. Because of space limitations only the results for (1) are reported in the text.

2. Another objection can be raised to our regression procedures. In formal regression theory the dependent variable is a quantified variable. Yet some of our dependent variables appear to be qualitative variables such as seven degrees of Republicanism from strong Republican to strong Democrat or a
similarly defined conservative measure. Indeed, in doing the regressions for chapter 5 we responded to that objection by providing a quantification for the Republicanism variable—variation in the probability of voting for Republican presidential candidates as the various states of Republicanism varied.

Since performing those regressions, however, we have decided that such a procedure was unnecessary. That decision was governed partly by the results observed by our earlier efforts. Variation in the scale of the Republicanism variable just didn’t make much difference in the overall character of our results. But there is a theoretical justification for our present procedures as well.

Though the Republicanism variable appears qualitative, it is unlikely to be a qualitative variable in the minds of a respondent to the survey. An individual must have some rough idea of what he means by strong Republican as opposed to moderate Republican, and that idea has a quantitative component, for example, the percentage of time he votes for Republican candidates. It is possible that he uses something other than a linear scale in translating that percentage to the various degrees of Republicanism. Say his various degrees of Republicanism are even splits in terms of the square of that percentage, but it is really the percentage itself that is determined by our assorted variables. Then we have used the squared relationship to approximate the true linear relationship. But we have no more reason to expect a linear relationship than any other. All we predict is a monotonic relationship in a given direction between Republicanism and our variables. A priori using any monotonic relationship as our approximation for the true relationship is as good as any other.

There is, however, a real drawback in using many of these variables. We expect a lot of noise in the data. Different respondents will be using different underlying variables as the basis for their different scaling of these variables, and their guesses will be exceedingly rough in any case. But we have no reason to suspect that the noise will be systematically related to our independent variables. In that case our estimates are all biased toward zero. That we are able to discover significant relationships in spite of the noise suggests that if we could accurately measure these variables, we would get even more significant results.

3. The one case of a mean less than 1 is an important case: “Should there be greater welfare expenditures?” But, treated as a separate case, answers about greater expenditures to aid the poor have a mean greater than 2. The one case of a mean greater than 2 when “goodness” dictates lower valued answers is our “iffiest” case for “goodness” identification—expenditures on roads.

4. This argument is not airtight, since we know very little about the determinants of the other relevant cost, the cost of lying.

5. It is not surprising that blacks want more expenditures to fight crime, though one could not predict this a priori. While they have a higher probability of being a victim of crime, they have a higher probability of being charged with crime.

6. Conceivably, however, age could also increase information about the consequences of policies as well as information about the political views of others.
7. There is a puzzle in the way the age variable behaves. How could older people support all of the important positions associated with Republicans (mass transportation is not that big a political issue) and still end up supporting Democrats? The answer, we believe, lies in a likely interpretation of the Social Security question in the NORC survey. NORC asks whether expenditures on Social Security should be increased, decreased, or remain the same. We scale the respective answers to this question as 3, 1, and 2 respectively with “don’t knows” being assigned a 2. Not only are older people more opposed to Social Security on this scale, but the aged are particularly opposed. (Age squared is significantly negative.) Nor do these results depend upon the inclusion of all the other variables we employ. The age variable has a significant negative simple correlation with support for Social Security. On its face these results are inconsistent with political wisdom about the aged and Social Security. But, it is not unreasonable for many people to interpret the Social Security question to mean whether individual benefits to Social Security should be increased more than they would increase automatically. Given that interpretation, there is a way to explain our results. Most of the Social Security debate has focused on the fiscal difficulties of maintaining Social Security benefits including the COLA, given an aging population. Even Social Security’s staunchest advocates in this debate do not advocate an expansion of benefits. Those who are in favor of maintaining the benefits including the COLA would be counted in our survey as 2’s. They would be counted as relative opponents of Social Security, since the mean value of the answers is 2.45. We expect the Social Security regression to be dominated by determinants of whether people are aware of this debate or not, rather than narrow self-interest or “goodness” variables. That expectation is confirmed by a closer look at that regression, which we postpone until we discuss all the variables entering into our regressions. Certainly, the aged would be likely to be among the most informed about this debate. If the aged support Social Security, the rest of the puzzle is easily explicable. Support for the Democrats among older Americans follows from the perception that Democrats are the party that supports Social Security.

8. For denominations with just a few members in the sample such a measure is subject to considerable sampling error. To reduce this sampling error we restricted our measure to denominations with thirty or more members in the sample.

9. There are several cross-product terms in our regressions in which one of the terms is ATTEND.

10. The standard way to compare coefficients for independent variables with different standard errors ($\sigma^2_x$’s) is to compare their $\beta$’s ($\beta = b\sigma_x / \sigma_y$, where $b =$ the regression coefficient of the $x$ independent variable on the $y$ dependent variable).

11. Again, even in regressions in which these characteristics are included, the group effects of the characteristics still persist in impacting the coefficients of other variables.
12. For ease of exposition we do not always make the existence of these control variables explicit.

13. Evaluated at the mean of age, the other component of the one cross-product term involving years of college.

14. There is also one issue for which both income and college teaching have the same sign: abortion. On that basis there is no clear prediction about the sign of AGECOLYR. In the abortion case older former college students are significantly more conservative.

15. There is, however, a possible problem of simultaneity in using a least-squares regression procedure. Fortunately, the respective simple correlation coefficients are all significant at the 5 percent level, so whatever the causal process, there does seem to be a relationship by issue between the effect of years of college and the effect of college teaching and the effect of income.

16. One may question the approach of this section to indoctrination. We have focused on the regression coefficients by issues of college and noncollege teachers, holding constant a considerable number of variables. This procedure is appropriate in determining whether do-gooderism explains any part of the political position of these occupations. One would assuredly want to control for the other determinants of political position. However, the issue is somewhat different if one is concerned with the effect of teachers on their students. What difference does it make if a college teacher is made more liberal by his “goodness,” if, on net, he is conservative because he is in a higher income group? Whether he makes students more liberal or more conservative would seem to depend solely on whether he is liberal or conservative on net relative to the population as a whole. The appropriate measures of that characteristic would be the simple correlation by issue of measures of his political position and job status.

There is, however, a serious problem with this argument. It does make a difference why a college teacher is a liberal. Those who seek to be college teachers in part because it offers a platform for their political views are more likely to use their teaching as a platform. For one thing they are more likely to teach subjects where political views are relevant. Still and all, nonactivist conservative professors may have some impact in influencing the political position of their students. Both the simple correlations and the regression coefficients would appear relevant in predicting the influence of teachers. Fortunately, the simple correlations yield results similar to the regression coefficients. In terms of the former, college teachers are significantly more liberal on nine issues. There were also nine significantly liberal regression coefficients for college teachers.

17. Not even Stigler is able to maintain a consistent self-interest explanation for the assorted relationships we explore in this section. He explains the greater conservatism of economics compared to other social sciences by the intellectual content of economics (Stigler 1965). Of course, this was a somewhat earlier Stigler.

18. There are some exceptions. Ecologists are often big on environmental-
ism. But on the whole scientists are not involved in public policy questions as scientists.

19. Senator Hatch (Hengstler 1996) lists ten non-self-interest issues on which the ABA has taken a liberal stand: abortion, affirmative action, welfare reform, flag desecration amendment, religious liberty amendment, federal rules of evidence, exclusionary rule reform, habeas corpus reform, prison conditions litigation, mandatory minimum sentences, and expedited deportation of criminal aliens. In addition, from the ABAnetwork (2000), there are three other liberal issues on which the ABA concentrated its lobbying: treatment of immigrants, gun control, Legal Service Corporation funding, and there is one narrowly defined conservative issue: liability reform for the Superfund. The ABA has also taken a position against the death penalty and in favor of universal health insurance.


21. We also just used coefficients that were independent of one another. There are two kinds of dependence among our coefficients: (1) the dependence between coefficients and some weighted sum of those coefficients; (2) the dependence between dummy variables that are constructed with the same excluded variable. In the first case, we use the simple sum rather than the individual coefficients. The second case occurs when we deal in the race issue with city-size categories and lagged city-size groupings with rural residence and rural residence at age sixteen, the respective excluded variables. The observed effect of any city-size category is the difference between its effect and the effect of rural residence. Hence, the coefficients of any two city-size categories are not independent of each other, since they both include the rural residence effect. In the case of city-size categories, three yielded greater coefficients for losers and one yielded a greater coefficient for winners. We count this as one case for each side. For lagged city size there was one case of a greater coefficient in the right direction for losers, and two cases of greater coefficients for winners. We count this as one case for each side.

Chapter 9

1. Of course, these latter results can be explained by the alternative hypothesis that such employees are simply operating in terms of group self-interest and that promotions are easier to get the more rapidly government expands. There is evidence that this alternative hypothesis is not sufficient to explain the behavior of this category of government employees. These employees are significantly more liberal on two specific issues. They are for greater expenditures to help blacks, and they are against greater defense expenditures. They are also more Democratic and vote more for Democratic presidential candidates. There is no obvious bureaucratic reason for these government employees to oppose greater defense expenditures. The bureaucratic hypothe-
sis has the same implications for the liberalizing tendencies of indirect democracy as the “goodness” hypothesis, but it has different implications for the growth of government. The growth of goodness would not increase the bureaucratic motivations for government expenditures. One way of distinguishing between these two hypotheses is to examine the behavior of private charity workers, who, if anything, have a self-interested motivation in less government expenditures. We lack the data but would hypothesize that their goodness would dominate.

2. The goodness effect that we observed for lawyers in the last chapter was not very big. But it could have big effects. A lawyer that chooses lawyering because he is a social activist will be expected to have a greater effect on legal philosophy than a lawyer who makes his occupational choice to make a bundle. The former will more likely be involved in those activities influencing legal philosophy than others. He will certainly be more likely to be a professor of law, and probably will be more likely to be a judge. Both require a financial sacrifice that “do-gooders” are more willing to make.

3. Toma (1991) provides evidence that the ideology of Congress has influenced both economic and noneconomic findings of the justices and that Congress used its budget powers to accomplish this.

4. In chapter 7, “Activism,” we provide an alternative explanation for this result, though we believe that Lichter, Rothman, and Lichter’s (1986) explanation is also part of the story. That alternative explanation is that it is perfectly natural to believe that a source with which one agrees is more reliable than a source with which one disagrees.

5. One would expect the intensity of views represented by editorial columnists to be stronger than the intensity of views of journalists. If both were on the average liberal, by some measure editorial writers could be more liberal even though by numbers they were less liberal.

6. That observation holds for owners of media sources as well.

7. There is, however, somewhat contradictory evidence, also from Alston, Kearl, and Vaughan 1992. On the whole, the later an economist received his Ph.D., the more conservative he is, though the relationship is not monotonic. Those economists who received their Ph.D. before 1961 are clearly the most liberal, but the recipients of Ph.D.’s between 1971 and 1980 are the most conservative, followed by recipients between 1961 and 1970, and, then, recipients between 1981 and 1990.

Chapter 10

1. The equivalent voting format is at what per family costs would they be indifferent between voting for preserving an amenity plus its costs or against it.

2. Conceivably, the large nonuse values are attributable to an inordinate weight placed on the well-being of future generations. But our empirical work
in chapter 8 found that those who might be expected to give greater weight to future generations—married people and those with many children—are more opposed to environmental expenditures than are others.

3. Not surprisingly, the large nonuse value industry has not taken these criticisms lying down. Hanemann (1994), for example, claims that the embedding problem is consistent with simple utility maximization. One should place a higher nonuse value on water quality for a given lake when it is listed by itself than when it is last on a list with other lakes because the water quality of these other lakes is a substitute for the water quality of the given lake. But Hanemann fails to see the obvious. Listing the given lake by itself does not change the reality from listing many lakes. In either case there are the same number of lakes. The only way the Hanemann argument would hold is if people believe that only listed lakes are options for water quality improvement. But that cannot be the sole basis for the embedding effect. Diamond, Hausman, Lenard, and Denning (1993) in their study of wilderness areas found no substitution effects. One could also test the substitution effect directly by alternatively including and not including on the list items that people must know are alternative uses of their resources, such as charity.

4. This is particularly true when the solicitor is the same for all wilderness contributions.

5. Greene (1970) showed how a majority might benefit from a centralization of the financing of essentially local services.

6. The overwhelming support for this bill elsewhere makes even one Alaskan vote against it unusual, and makes three negative votes highly unlikely. The probability that the Alaskan vote is a result of chance is .0032. Controlling for the party mix of the Alaskan congressional delegation, the probability as a result of chance is .0024.

7. There is, however, one serious utilitarian argument that could be used against cost-benefit analysis. Many economists, such as Ng (2000) and Frank (1999), argue that private consumption has a significant negative externality not shared by public consumption. It increases one person’s status at the expense of another’s. This approach has often been used in advocating greater environmental expenditures. In that context it is not appropriate because voters supposedly have already taken the status impact of private consumption into account in determining the level of public expenditures. But the argument, if valid, would be a legitimate objection to the cost measures used in cost-benefit analysis.

8. The American Cancer Society (2001) reports that the survival rate for lung and bronchus cancer in 1989 was between 13 and 14 percent. The Statistical Abstract of the United States reports that chronic obstructive pulmonary deaths were 87 percent of the deaths from respiratory cancers in 1990 (U.S. Census 1992). The focus of the data about the Clean Air Act on cancer suggests that cancer deaths are more sensitive to air pollution than are other respiratory deaths compared to the relative number of deaths of the two. We
assume an equal sensitivity, an assumption that exaggerates the number of deaths attributable to air pollution prevented by the Clear Air Act.

9. One cannot use a t test for this difference because the distribution of value of life by uses banned under the Clean Air Act is clearly not normal. A chi-squared test cannot be used because Miller (1989) does not provide data for individual observations. Fortunately, the standard deviation in the Miller data is so small that we can use another procedure. The probability that the population mean value of life calculated from market behavior is greater than four standard deviations from the sample mean is vanishingly small. Eleven of the thirteen values of life in uses banned under the Clean Air Act are greater than the mean value of life determined by market behavior plus four standard deviations from the mean. The probability of that occurring by chance is less than 1 percent.

**Summation**

1. In fact, many of the variables such as church attendance that increase voting and charitable contributions decrease asymmetric “goodness.” We do not discuss the role of conscience in the voting position case except when discussing lying about such positions, while we do deal with conscience in the charity and voting participation cases. That does not imply that it plays no role in the former. It just does not play a distinctive role. The main impact of conscience on voting positions is to create lagged responses. But those lags can also be generated by other processes.

**Appendix 1**

1. 

\[ \frac{\partial M}{\partial g} = Ps, \]
\[ \frac{\partial R}{\partial g} = Ps(1 + r)^2 / [(1 + r)^2 - (1 - P)] > \frac{\partial M}{\partial g} \]

Since \( \partial a / \partial g = 1 \),

\[ \frac{\partial R}{\partial a} = \frac{\partial R}{\partial g}, \]
\[ \frac{\partial F}{\partial a} = s[P^*P_2 + (1 - P^*)P] / \{1 - [1 - P + P*(P - P_2)] / (1 + r)^2 \}. \]

If \( P_2 > P \), then

\[ \frac{\partial F}{\partial a} > \frac{\partial R}{\partial a}. \]

That condition will hold because \( P_2 \) = the ratio of partnerless favor initiators and reciprocators to those plus moochers. \( P = \) the ratio of partnerless favor initiators to all favor initiators, reciprocators and moochers.
1. The model is easily revised to take forgetfulness into account. Assume that all charitable contributions are forgotten over the period between favors to the same person. $C$ will now be the one-period return to a moocher, given $g_1$. The relevant $P$ for both the moocher equation and the determination of $g_1$ also changes. Only unmatched favor initiators at the beginning of the period will contribute to charity. $P$ becomes the probability that those who are partnerless at the beginning of the period will stay unmatched before a particular individual’s request. This change in the model will not affect the directional predictions we have made with the perpetual memory assumption.
altruism: We focus on the motivation for behavior rather than its results. Altruism is defined as concern for the well-being of others, or in the language of economics, having the utility of others in one’s own utility function. We assume the usual properties: the marginal utility of the well-being of others is positive and diminishing. We also assume that altruism is limited in the sense that at comparable income levels the marginal utility of the income of a person and his family is greater to him than the marginal utility of the income of anybody else; that is, he values the well-being of his family more than he values anybody else’s well-being. Altruism is further narrowed by being concerned only with the utility of people directly affected by one’s actions. For all of our purposes altruism will not include helping somebody because of the approval of some other person whom one loves.

asymmetric “goodness”: For an important class of issues one signals “goodness” by advocating one side of the issue but not the other. These issues are those where group survival, compassion, and externalities produce advocacy on only one side of a political issue.

conscience: An internalization of social norms, a desire to follow social rules because one feels better by so doing.

externality: A consequence to somebody not involved in making a decision.

free-rider problem: A problem generated when a large group (not necessarily the total population) consumes a public good and there is no way to exclude a consumer who does not pay for the good. Clearly, this problem holds for self-interested individuals. It also holds for altruists who value their own family’s utility more than the utility of others. Both would prefer that others pay for the public good.

“goodness”: Trustworthiness toward people not in one’s group as opposed to trustworthiness toward people in one’s own group.

imitation: The imitation of another’s political positions is, we believe, a signal that one wishes to engage in reciprocal relations with that individual.

marginal $x$: If $x$ is, say, utility, marginal $x$ is roughly the change in utility with a change in $y$ (say income). A person maximizes utility by having the marginal values of $y$ the same across all his consumption options.

morality signaling: Signaling one’s trustworthiness to members of one’s group who practice the group social rules by advocating those social rules and sig-
naling to others general trustworthiness by being likely practitioners of those social rules.

**operational social rules:** Social rules that together with their enforcement machinery are such that individuals on the whole find it in their interest to obey them.

**public good:** Commodities that provide benefits to a large group of people at the same time. One person’s consumption of the good does not detract from the benefits simultaneously accruing to other individuals from the same good. It should be emphasized that a public good need not require all to share its benefits; only a large group.

**reciprocity:** One person doing a favor for another person in response to an earlier favor from that person. The time delay is an important part of the concept as we use it.

**regression coefficients:** Also symbolized by \( b \). The magnitude of the impact of one variable on another, holding the effects of other controlled variables constant. For our usual purpose there are only two important characteristics: (1) its sign; (2) whether the \( t \) value is large enough that it is statistically significant, that is, the sign could not have been produced by chance sampling fluctuations if there were no true relationship. We sometimes include regression equations. The numbers in those equations are the respective regression coefficients of the independent variable (next to the coefficient) on the dependent variable (on the left-hand side of the equation).

**self-interest (economist’s):** Behavior that maximizes a utility function that does not include the well-being of non–family members as an argument.

**self-interest (evolutionary):** Behavior that maximizes in the long run the survival of a given trait possessed by an individual.

**self-interest (narrow):** Voting in terms of the consequences of the policies of candidates if their programs were enacted.

**signaling:** Indicating to someone else by some present act how one would behave in the future for that same or a different act.

**survival (group):** The survival of the group by way of individuals within the group possessing a particular trait. Maximizing group survival means maximizing the number in the group in the long run.

**survival (individual):** The survival of a trait carried by an individual either by culture or by gene. Maximizing individual survival means maximizing the number of individuals carrying that trait in the long run. The reason for that last qualifier is that long-run survival might be maximized by choosing, in the short run, quality of one’s children over numbers.

**two-sided “goodness”:** Where “goodness” advocates take one side of an issue and moralizers take another side.

**trustworthiness:** Begin with the probability that a person will reciprocate a given favor done for him by somebody else. Then form the weighted average of those probabilities over all likely favors, weighted by the importance a person attaches to a favor and the probability that one will need such a
favor. This weighted average is the trustworthiness of one person as assessed by another. This summed over all individuals is general trustworthiness.

utility function: A list of the variables about which a person is concerned.

warm glow: Any nonaltruistic motivation for an action that benefits others at some material cost. Warm glow includes such obviously self-interested behavior as reputational motives as well as conscience and any other non-altruistic motive.
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