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ECONOMICS AND IDENTITY*

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This paper considers how identity, a person's sense of self, affects economic outcomes. We incorporate the psychology and sociology of identity into an economic model of behavior. In the utility function we propose, identity is associated with different social categories and how people in these categories should behave. We then construct a simple game-theoretic model showing how identity can affect individual interactions. The paper adapts these models to gender discrimination in the workplace, the economics of poverty and social exclusion, and the household division of labor. In each case, the inclusion of identity substantively changes conclusions of previous economic analysis.

I. INTRODUCTION

This paper introduces identity—a person's sense of self—into economic analysis. Identity can account for many phenomena that current economics cannot well explain. It can comfortably resolve, for example, why some women oppose “women's rights,” as seen in microcosm when Betty Friedan was ostracized by fellow suburban

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housewives for writing *The Feminine Mystique*. Other problems such as ethnic and racial conflict, discrimination, intractable labor disputes, and separatist politics all invite an identity-based analysis. Because of its explanatory power, numerous scholars in psychology, sociology, political science, anthropology, and history have adopted identity as a central concept. This paper shows how identity can be brought into economic analysis, allowing a new view of many economic problems.¹

We incorporate identity into a general model of behavior and then demonstrate how identity influences economic outcomes. Specifically, we consider gender discrimination in the labor market, the household division of labor, and the economics of social exclusion and poverty. In each case, our analysis yields predictions, supported by existing evidence, that are different from those of existing economic models. The Conclusion indicates many other realms where identity almost surely matters.

Our identity model of behavior begins with social difference. Gender, a universally familiar aspect of identity, illustrates. There are two abstract social categories, "man" and "woman." These categories are associated with different ideal physical attributes and prescribed behaviors. Everyone in the population is assigned a gender category, as either a "man" or a "woman." Following the behavioral prescriptions for one's gender affirms one's self-image, or identity, as a "man" or as a "woman."² Violating the prescriptions evokes anxiety and discomfort in oneself and in

1. Previous economic literature on identity includes Folbre (1994) who discusses the importance of gender identity for collective action that preserves male privilege. Our general model of utility allows for this outcome, as well as many other sources of gender inequality. Sen (1985) mentions identity as an influence on goal achievement, but does not incorporate identity into a utility function or models of specific economic settings. "Identity" also has other connotations: Landa (1994) and Kevane (1994) consider how identity, defined as membership in a particular group, affects economic transactions when individual members are subject to group sanctions. Bowles and Gintis (1997) likewise consider cooperation within a community.

2. We use the word *prescriptions* rather than *norms* because previous usage in economics has given the latter term connotations that would be misleading in the context of this paper. Here, agents follow prescriptions, for the most part, to maintain their self-concepts. In contrast, in much of the economics literature, a norm is obeyed because failure to do so results in punishment (e.g., Akerlof (1976), Kandori (1992), and Cole, Mailath, and Postlewaite (1992)). Other authors, however, see norms as something similar to our prescriptions. In Montgomery's (1997) game-theoretic model of social roles, agents adopt strategies that norms assign their roles because otherwise they "would not recognize themselves." Elster (1989) writes that social norms are sustained by strong feelings of embarrassment, anxiety, and guilt suffered from violating them. Huang and Wu (1994) also consider social norms sustained by people's emotions, which in the view of this paper would result from a person's sense of self.

others. Gender identity, then, changes the “payoffs” from different actions.

This modeling of identity is informed by a vast body of research on the salience of social categories for human behavior and interaction. We present in the next section a series of examples of identity-related behavior. These examples, and other evidence, indicate that (1) people have identity-based payoffs derived from their own actions; (2) people have identity-based payoffs derived from others’ actions; (3) third parties can generate persistent changes in these payoffs; and (4) some people may choose their identity, but choice may be proscribed for others.

The concept of identity expands economic analysis for at least four corresponding reasons.

First, identity can explain behavior that appears detrimental. People behave in ways that would be considered maladaptive or even self-destructive by those with other identities. The reason for this behavior may be to bolster a sense of self or to salve a diminished self-image.

Second, identity underlies a new type of externality. One person’s actions can have meaning for and evoke responses in others. Gender again affords an example. A dress is a symbol of femininity. If a man wears a dress, this may threaten the identity of other men. There is an externality, and further externalities result if these men make some response.

Third, identity reveals a new way that preferences can be changed. Notions of identity evolve within a society and some in the society have incentives to manipulate them. Obvious examples occur in advertising (e.g., Marlboro ads). As we shall explore, there are many other cases, including public policies, where changing social categories and associated prescriptions affects economic outcomes.

Fourth, because identity is fundamental to behavior, choice of identity may be the most important “economic” decision people make. Individuals may—more or less consciously—choose who they want to be. Limits on this choice may also be the most important determinant of an individual’s economic well-being. Previous economic analyses of, for example, poverty, labor supply, and schooling have not considered these possibilities.

Our analysis proceeds as follows. In the next section we propose a general utility function that incorporates identity as a motivation for behavior. It introduces the vocabulary and theoretical framework used throughout the paper. This section also

justifies our inclusion of identity in a utility function, presenting a series of examples of identity-related behavior. Section III then constructs a prototype game-theoretic model of identity that mirrors standard psychological theory. This model of two social categories—Green and Red—contains the essential elements of social differentiation, identity, and economic interaction. Sections IV, V, and VI consider gender discrimination in the labor market, the economics of poverty and social exclusion, and the household division of labor, respectively. Section VII concludes and indicates directions for future research.

II. UTILITY FUNCTION AND EVIDENCE OF IDENTITY-RELATED BEHAVIOR

This section proposes a utility function that incorporates identity as a motivation for behavior. We draw on extensive work in psychology and discuss specific examples of behavior that support our framework.

A. A Utility Function with Identity

In our utility function, identity is based on social categories, **C**. Each person j has an assignment of people to these categories, \mathbf{c}_j , so that each person has a conception of her own categories and that of all other people.³ Prescriptions **P** indicate the behavior appropriate for people in different social categories in different situations. The prescriptions may also describe an ideal for each category in terms of physical characteristics and other attributes. Categories may also have higher or lower social status. We use the word identity to describe both a person's self-image as well as her assigned categories.

Gender identity, as indicated earlier, could be formalized as follows. There is a set of categories **C**, "man" and "woman," where men have higher social status than women. \mathbf{c}_j describes j 's own gender category as well as j 's assignment for everyone else in the population. **P** associates to each category basic physical and other characteristics that constitute the ideal man or woman as well as specifies behavior in different situations according to gender. E.g., the ideal woman is female, thin, and should always wear a dress;

3. An individual j 's mapping of another individual k into categories need not correspond to k 's own mapping. In addition, social categories need not be mutually exclusive, and an individual may be mapped into several social categories (e.g., individual j is both a "woman" and a "professional").

the ideal man is male, muscular, and should never wear a dress, except perhaps on Halloween.

We propose the following utility function:

$$(1) \quad U_j = U_j(\mathbf{a}_j, \mathbf{a}_{-j}, I_j).$$

Utility depends on j 's identity or self-image I_j , as well as on the usual vectors of j 's actions, \mathbf{a}_j , and others' actions, \mathbf{a}_{-j} . Since \mathbf{a}_j and \mathbf{a}_{-j} determine j 's consumption of goods and services, these arguments and $U_j(\cdot)$ are sufficient to capture the standard economics of own actions and externalities.

Following our discussion above, we propose the following representation of I_j :

$$(2) \quad I_j = I_j(\mathbf{a}_j, \mathbf{a}_{-j}; \mathbf{c}_j, \varepsilon_j, \mathbf{P}).$$

A person j 's identity I_j depends, first of all, on j 's assigned social categories \mathbf{c}_j . The social status of a category is given by the function $I_j(\cdot)$, and a person assigned a category with higher social status may enjoy an enhanced self-image. Identity further depends on the extent to which j 's own given characteristics ε_j match the ideal of j 's assigned category, indicated by the prescriptions \mathbf{P} .⁴ Finally, identity depends on the extent to which j 's own and others' actions correspond to prescribed behavior indicated by \mathbf{P} . We call increases or decreases in utility that derive from I_j , *gains or losses in identity*.⁵

In the simplest case, an individual j chooses actions to maximize utility (1), taking as given \mathbf{c}_j , ε_j , and \mathbf{P} and the actions of others. We use the verb "choose" advisedly. We do not presume one way or another that people are aware of their own motivations, as in standard utility theory which is agnostic as to whether an individual shopper is aware or not of the reasons for her choices.⁶

Beyond actions, to some extent an individual may also choose the category assignment \mathbf{c}_j . Social categories may be more or less ascriptive, and in general, the individual is likely to have some

4. In the case of a category with high (low) social status, a person j may gain when own characteristics are close to (far from) from the ideal.

5. Since an individual's self-concept may be formed by seeing oneself through the eyes of others {Gleitman 1996, p. 343}, these gains or losses may also depend on how others interpret i 's actions. The opinions of others may be revealed through actions \mathbf{a}_{-j} ; the individual may also care about others' categorizations \mathbf{c}_{-j} .

6. Sen {1997} makes the analogy that light does not know that it is minimizing distance, but behaves as if it does. This notion follows Friedman's {1953} dicta for the methodology of positive economics. Whether or not j consciously realizes she is maximizing a utility function such as (1), she does so nevertheless. In our setting, in particular, the motivations for behavior may be unconscious.

choice over identity, as indeed people may even have some choice over their gender. Again, this "choice" may be more or less conscious.

Individual actions may also affect the prescriptions \mathbf{P} , the set of social categories \mathbf{C} , as well as the status of different categories reflected in $I_j(\cdot)$. With respect to gender, for example, status differences between men and women have diminished over time, and prescribed behavior and physical ideals have changed. Gender categories themselves have become varied and complex. There may be no universal agreement about social categories and prescriptions. Indeed, they are the subject of much debate and controversy.

B. Psychology and Experiments on Group Identification

The prominence of identity in psychology suggests that economists should consider identity as an argument in utility functions. Psychologists have long posited a self or "ego" as a primary force of individual behavior. They have further associated an individual's sense of self to the social setting; identity is bound to social categories; and individuals identify with people in some categories and differentiate themselves from those in others.⁷

While experiments in social psychology do not show the existence of a "self" or this identification per se, they do demonstrate that even arbitrary social categorizations affect behavior.⁸ Consider the Robbers Cave experiment. In its initial week, two groups of boys at a summer camp in Oklahoma were kept apart. During this period, the boys developed norms of behavior and identities as belonging to *their* group. When they met for a tournament in the second week, the eleven-year-old equivalent of war broke out, with name-calling, stereotyping, and fighting. Later experiments show that competition is not necessary for group identification and even the most minimal group assignment can affect behavior. "Groups" form by nothing more than random assignment of subjects to labels, such as even or odd. Subjects are more likely to give rewards to those with the same label than to those with other labels, even when choices are anonymous and have no impact on own payoffs. Subjects also have higher opinions of members of their own group.

7. For discussion of the "self," see Thomas (1996), Breger (1974), or Gleitman (1996). For a review of the social psychology of identity, see Brown (1986) and Wetherell (1996), and especially the work of Tajfel and Turner (1979).

8. For discussion of social psychology experiments, see Brown (1986, pp. 541–566) and Wetherell (1996, pp. 203–216).

Our modeling of identity exactly parallels these experiments. In the experiments, as in our utility function (1), there are social categories; there is an assignment of subjects to those social categories; finally, subjects have in mind some form of assignment-related prescriptions, else rewards would not depend on group assignment.

C. Examples of Identity-Related Behavior

We next present a set of “real-world” examples of four different ways, outlined in the introduction and formalized in our utility function, that identity may influence behavior.

Our *first* set demonstrates that people have identity-related payoffs from their own actions. The impact of an action a_j on utility U_j depends in part on its effect on identity I_j .

Self-Mutilation. The first of these examples is perhaps the most dramatic: people mutilate their own or their children’s bodies as an expression of identity. Tattooing, body-piercing (ear, nose, navel, etc.), hair conking, self-starvation, steroid abuse, plastic surgery, and male and female circumcision all yield physical markers of belonging to more or less explicit social categories and groups.⁹ In terms of our utility function, these practices transform an individual’s physical characteristics to match an ideal.¹⁰ The mutilation may occur because people believe it leads to pecuniary rewards and interactions such as marriage. But the tenacity and defense of these practices indicate the extent to which belonging relies on ritual, and people have internalized measures of beauty and virtue.¹¹

Gender and Occupations. Female trial lawyer, male nurse, woman Marine—all conjure contradictions. Why? Because trial

9. See Khatibi (1986) for analysis of how marking the body, by circumcision and tribal tattoos, marks the self.

10. An alternative explanation is that these practices are signals of some unobserved economically relevant attribute. However, it is hard to imagine why individual costs of these signals would be correlated with these attributes.

11. In a study of sexuality in rural Egypt, Khattab (1996) reports that women consider female circumcision a beautifying practice. It accentuates the difference between the sexes: “We don’t want to look like a man with a protruding organ” (p. 20). Bumiller (1990) reports an example of female defense of female self-sacrifice. Both men and women journeyed to pay their respects after a young woman committed *sati* in a Rajasthani village in 1987. *Sati* is the practice of the widow burning to death on her husband’s funeral pyre. One devotee expressed her admiration: “If I had known she was going to do this I would have touched her feet. Now I will give her a place in my house and worship her every day.” This respect is no less diminished by admirers’ doubts that they would have had the same courage or by their ignorance of the pressure on the widow from her in-laws.

lawyers are viewed as masculine, nurses as feminine, and a Marine as the ultimate man. People in these occupations but of the opposite sex often have ambiguous feelings about their work. In terms of our utility function, an individual's actions do not correspond to gender prescriptions of behavior. A revealing study in this regard is Pierce's {1995} participant-observer research on the legal profession.¹² Female lawyers thought of themselves as women, yet being a good lawyer meant acting like a man. Lawyers were told in training sessions to act like "Rambo" and to "take no prisoners." In the office, trial attorneys who did not "win big" were described as "having no balls." Intimidation of witnesses was "macho blasts against the other side." A Christmas skit about two partners dramatized the gender conflict:

{O}ne secretary dressed up as Rachel and another dressed up as Michael. The secretary portraying Michael . . . ran around the stage barking orders and singing, "I'm Michael Bond, I'm such a busy man. I'm such a busy man." The other secretary followed suit by barking orders and singing, "I'm Rachel Rosen, I'm such a busy man, I mean woman. I'm such a busy man, I mean woman. . . ." Michael responded to the spoof in stride. . . . Rachel, on the other hand, was very upset {Pierce, 1995, p. 130}.

Female lawyers expressed their ambivalence in many discussions. "Candace," another partner, told Pierce: "I had forgotten how much anger I've buried over the years about what happened to the woman who became a lawyer. . . . To be a lawyer, somewhere along the way, I made a decision that it meant acting like a man. To do that I squeezed the female part of me into a box, put on the lid, and tucked it away" {Pierce 1995, p. 134}.

Alumni Giving. Charitable contributions may yield a "warm glow" {Andreoni 1989}, but how do people choose one organization over another? Charity to the organization with the highest marginal return would maximize its economic impact. Yet, at least for higher education, contributions may well reflect identity. Graduates give to *their own* alma mater. Alumni giving could enhance the value of a degree by maintaining an institution's reputation. But this explanation suffers from the collective action problem. And it does not account for student loyalty and identification with an institution, as expressed in such lyrics as "For God, for country, and for Yale."

12. For a study of nurses and Marines, see Williams {1989}.

Mountaineering. Why do people climb mountains? Loewenstein {1998} argues that facing the extreme discomfort and danger of mountaineering enhances an individual's sense of self.

Our *second* set of examples demonstrates that people have identity-related payoffs from others' actions. The effect of an action a_{-j} on utility includes an impact on I_j .

Gender and Occupations. A woman working in a "man's" job may make male colleagues feel less like "men." To allay these feelings, they may act to affirm their masculinity and act against female coworkers. In her study of coal handlers in a power plant, Padavic {1991} interpreted the behavior of her male coworkers in this way. On one occasion, they picked her up, tossed her back and forth, and attempted to push her onto the coal conveyer belt (jokingly, of course). In the case of another worker, no one trained her, no one helped her, and when she asked for help, she was refused assistance that would have been routine for male coworkers.¹³

To further assay the reasons for such behavior, we took a random-sample telephone survey relating a vignette about a female carpenter at a construction company who was "baited and teased" by a male coworker. We see in Table I that among the six possible explanations, 84 percent of the respondents said it was "somewhat likely," "likely," or "very likely" that the male worker behaved in this way because he felt less masculine.¹⁴ This explanation was one of the most popular, and more than three-quarters of the respondents thought that a woman in a man's job "frequently" or "almost always" faces such treatment.

Manhood and Insult. For a man, an action may be viewed as an insult which, if left unanswered, impugns his masculinity. As in the example above, an action a_{-j} impacts I_j which may be countered by an action a_j . Psychologists Nisbett and Cohn {1996} have detected such identity concerns in experiments at the

13. Levine {1997} also found that men often refused to train women and sabotaged their work. In addition, women in men's jobs were subject to sexual innuendo. For a collection of such examples see Schultz {1998}.

14. Differences in response by gender were negligible. The survey included three other vignettes, two of which described a man (woman) contemplating a switch to a predominantly female (male) occupation. Responses indicate that gender could be of concern in such a decision. The responses were uninformative, however, when the switch was otherwise undesirable so that any gender conflict would be moot. Responses to the last vignette strongly suggest that identity considerations are a major reason for taking the time to vote. Our sample was half male, half female, and 60 percent college graduates.

TABLE I

VIGNETTE CONCERNING HARASSMENT AND EVALUATION OF POSSIBLE EXPLANATIONS

Vignette: Paul is a carpenter for a construction company. The company has just hired Christine, its first female carpenter, for 3 dollars *less* per hour than it pays Paul and the other carpenters. On Christine's first day of work, Paul and two of his coworkers bait and tease Christine, making it difficult for her to do her job.

Try to imagine why Paul behaved as he did. Rate each of the following explanations for Paul's behavior as not-at-all likely, not likely, somewhat likely, likely, or very likely.

Explanation	Fraction somewhat likely, likely, or very likely ^{a,b}	Average score ^c
Paul put Christine down because he is afraid that by hiring a woman the company can lower his wage.	.36 (.06)	2.5 (.12)
Paul put Christine down because he does not feel that it is fair that Christine is getting a lower wage.	.13 (.04)	1.7 (.12)
Paul put Christine down because he feels less masculine when a woman is doing the same job.	.84 (.04)	3.4 (.12)
Paul put Christine down because he feels he and his friends will not be able to joke around if a woman is present.	.84 (.04)	3.6 (.12)
Paul put Christine down because he is afraid that other men will tease him if a woman is doing the same job.	.76 (.05)	3.3 (.13)
Paul put Christine down because he is afraid that people will think that his job requires less skill if a woman is doing the same job.	.64 (.06)	2.9 (.12)
Paul put Christine down because he is afraid that if he does not, then his male coworkers will start to tease him.	.80 (.05)	3.4 (.13)
Paul put Christine down because he feels that it is wrong for women to work in a man's job.	.77 (.05)	3.2 (.14)

a. Sample size is 70 households. Households were selected randomly from the Fremont, CA phonebook.

b. Standard errors are in parentheses.

c. Average with not-at-all likely = 1, not likely = 2, somewhat likely = 3, likely = 4, very likely = 5.

University of Michigan. These experiments, they argue, reveal remnants of the white antebellum Southern "culture of honor" in disparate reactions to insult of males from the U. S. South and North.¹⁵ Their experiments involved variations of the following

15. For a description of this "culture of honor," see also Butterfield (1995). "Gentlemen" reacted to insult by engaging in duels. Those of lower class fought with hands and fists with no holds barred, so that fights extended to such extremities as eyes, ears, and nose.

scenario: an associate of the experimenters bumped subjects in the hallway as they made their way to the experiment. Rather than apologizing, the associate called the subject “asshole.” Insulted Southerners were more likely than insulted Northerners and control Southerners to fill in subsequent word-completion tests with aggressive words (for example, g-un rather than f-un) and had raised cortisol levels.

Most revealing that the insult affected identity, insulted Southerners were also more likely to fear that the experimenter had a low opinion of their masculinity. They will probably never meet the experimenter or the hallway accomplice again; their encounter in the experiment is otherwise anonymous. Their concern about the experimenter then can only be a concern about how they feel about themselves, about their own sense of identity, as perceived through the “mirror of the opinions and expectations of others” (Gleitman 1996, p. 343). We see the same psychology in other examples.

Changing Groups or Violating Prescriptions. Because of *j*'s identification with others, it may affect *j*'s identity when another person in *j*'s social category violates prescriptions or becomes a different person.¹⁶ A common response is scorn and ostracism, which distances oneself from the maverick and affirms one's own self-image. Such behavior occurs daily in school playgrounds, where children who behave differently are mocked and taunted. Those who seek upward mobility are often teased by their peers, as in *A Hope in the Unseen* (Suskind 1998), which describes Cedric Jennings' progress from one of Washington's most blighted high schools to Brown University. The book opens with Cedric in the high-school chemistry lab, escaping the catcalls of the crowd at an awards assembly. Those who try to change social categories and prescriptions may face similar derision because the change may devalue others' identity, as for the housewives in Betty Friedan's suburb.

Our *third* set of examples demonstrates that to some extent people choose their identity; that is, c_j may be partially a choice. Many women in the United States can choose either to be a career woman or a housewife (see Gerson (1986)). Parents often choose a school—public versus private, secular versus parochial—to influ-

16. We discuss the psychology of *identification* and its implications further in the next section.

ence a child's self-image, identification with others, and behavior.¹⁷ The choice of where to live at college can both reflect and change how students think of themselves. Fraternities, sororities, African-American, or other "theme"-oriented dorms are all associated with social groups, self-images, and prescribed behavior.¹⁸ The list can continue. The choice for an immigrant to become a citizen is not only a change in legal status but a change in identity. The decision is thus often fraught with ambivalence, anxiety, and even guilt.

Identity "choice," however, is very often limited. In a society with racial and ethnic categories, for example, those with nondistinguishing physical features may be able to "pass" as a member of another group. But others will be constrained by their appearance, voice, or accent.

Our *fourth* set of examples demonstrates the creation and manipulation of social categories **C** and prescriptions **P**.¹⁹

Advertising. Advertising is an obvious attempt to manipulate prescriptions. Marlboro and Virginia Slims advertisements, for example, promote an image of the ideal man or woman complete with the right cigarette.²⁰

Professional and Graduate Schools. Graduate and professional programs try to mold students' behavior through a change in identity. As a "one-L" Harvard Law School student said: "They are turning me into someone else. They're making me different" {Turow 1977, p. 73}. In medicine, theology, the military, and the doctorate, a title is added to a graduate's name, suggesting the change in person.

Political Identity. Politics is often a battle over identity.²¹ Rather than take preferences as given, political leaders and

17. Catholic schools in the United States at the end of the nineteenth century were a bridge between immigrants' old European identities and their new American selves {Bryk, Lee, and Holland 1993, p. 27}. Muslim schools, whose enrollment is currently growing, are partly refuges from public school systems, but parents also choose them to instill in their children a Muslim identity and respect for behavioral prescriptions, and to counter what many view as a distorted image of Muslims and Islam in America {Sachs 1998}.

18. For an anthropological study of identity, fraternities, and prescriptions for brothers' behavior, see Sanday {1990}.

19. The social evolution and construction of group distinctions and social categories is the subject of much research. For a survey, see Wetherell {1996, pp. 219-227}.

20. See de Grazia's {1996} volume for historical studies of advertising and other influences on gender and consumption.

21. For theory and analysis of political identity, see Norton {1988}.

activists often strive to change a population's preferences through a change in identity or prescriptions.²² Again, examples abound. Fascist and populist leaders are infamous for their rhetoric fostering racial and ethnic divisions, with tragic consequences. Symbolic acts and transformed identities spur revolutions. The ringing of the Liberty Bell called on the colonists' identities as Americans. Gandhi's Salt March sparked an Indian national identity. The French Revolution changed subjects into *citizens*, and the Russian Revolution turned them into *comrades*.

III. ECONOMICS AND IDENTITY: A PROTOTYPE MODEL

In this section we construct a prototype model of economic interaction in a world where identity is based on social difference. In addition to the usual tastes, utility from actions will also depend on identity. Identity will depend on two social categories—Green and Red—and the correspondence of own and others' actions to behavioral prescriptions for their category.

A. A Prototype Model

We begin with standard economic motivations for behavior. There are two possible activities, Activity One and Activity Two. There is a population of individuals each of whom has a taste for either Activity One or Two. If a person with a taste for Activity One (Two) undertakes Activity One (Two), she earns utility V . An individual who chooses the activity that does not match her taste earns zero utility. In a standard model of utility maximization, each person would engage in the activity corresponding to her taste.

We next construct identity-based preferences. We suppose that there are two social categories, Green and Red. We assume the simplest division of the population into categories; all persons think of themselves and others as Green.²³ We add simple behavioral prescriptions: a Green should engage in Activity One (in contrast to Reds who engage in Activity Two). Anyone who chooses Activity Two is not a "true" Green—she would lose her

22. Romer (1994) has considered the possibility that politicians can manipulate voters' emotions, in particular their "anger," and thereby affect political outcomes.

23. Of course, it is possible that not everyone thinks of herself as Green. We discuss the possibility of different identities and other extensions to the model below.

Green identity. This loss in identity entails a reduction in utility of I_s , where the subscript s stands for "self." In addition, there are identity externalities. If an i and j are paired, Activity Two on the part of i diminishes j 's Green identity. j has a loss in utility I_o , where the subscript o denotes "other." After i has committed Activity Two, j may "respond." The response restores j 's identity at a cost c , while entailing a loss to i in amount L .²⁴

Figure I represents an interaction between an individual with a taste for Activity One ("Person One") and an individual with a taste for Activity Two ("Person Two"). Person One chooses an activity first.²⁵

This model can be expressed by ideas central to the psychodynamic theory of personality, found in almost any psychology text.²⁶ In personality development, psychologists agree on the importance of *internalization* of rules for behavior. Freud called this process the development of the *superego*. Modern scholars disagree with Freud on the importance of psychosexual factors in an individual's development, but they agree on the importance of *anxiety* that a person experiences when she violates her internalized rules. One's *identity*, or *ego*, or *self*, must be constantly "defended against anxiety in order to limit disruption and maintain a sense of unity" (Thomas 1996, p. 284). In terms of our model, Person Two's internalization of prescriptions causes her to suffer a loss in utility of I_s if she chooses Activity Two. To avoid this anxiety, she may refrain from that activity.

Identification is a critical part of this internalization process: a person learns a set of values (prescriptions) such that her actions should conform with the behavior of some people and contrast with that of others. If Person One has internalized prescriptions via such identifications, another person's violation of the prescriptions will cause anxiety for Person One.²⁷ In our model, this anxiety is modeled as a loss in utility of I_o . Person One's response, in our language, restores her identity, and in terms of the psychology textbook relieves her anxiety and main-

24. In Rabin's (1993) theory of fairness, agents are willing to pay to be "mean" to those who are "mean" to them. The similarity is probably no coincidence. A likely reason for such a response is preservation of self-image.

25. Since Person One never chooses Activity Two in a subgame perfect equilibrium, we suppress this branch of the tree.

26. See, for example, Gleitman (1996, Chapter 17), Thomas (1996), and Breger (1974).

27. The violation arouses emotions that Person One has repressed in the process of internalizing the behavioral rules. The psychoanalytic theory, then, suggests unconscious motivations for behavior.

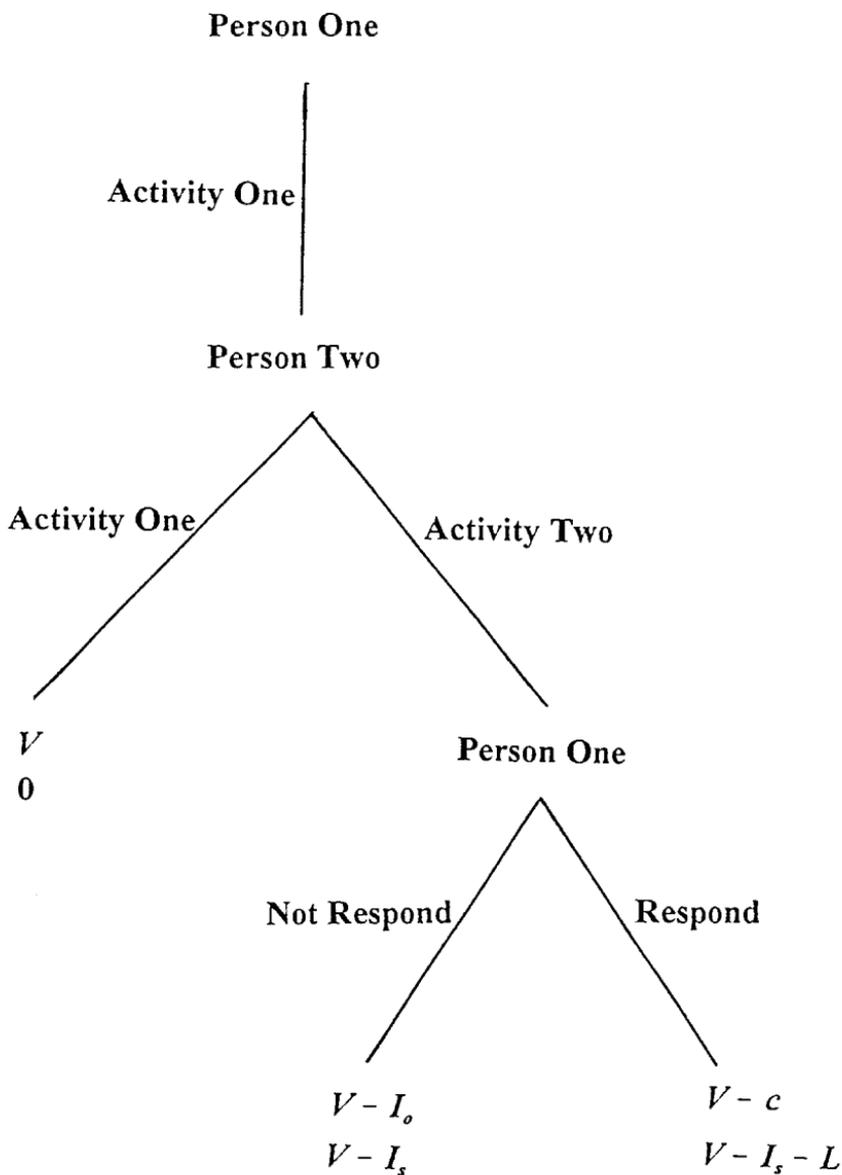


FIGURE I
Game Tree of Interaction between Person One and Person Two

tains her sense of unity. Person One no longer loses I_o , although she does incur c .²⁸

B. Equilibrium Outcomes

There are four possible subgame perfect outcomes of the game in Figure I.

(i) Person One deters Person Two from engaging in Activity Two, when $c < I_o$ and $I_s < V < I_s + L$.

(ii) Person One responds but does not deter Person Two from engaging in Activity Two, when $c < I_o$ and $I_s + L < V$.

(iii) Person One does not respond, and Person Two engages in Activity Two, when $c > I_o$ and $I_s < V$.

(iv) Person Two does not engage in Activity Two regardless of Person One's response, when $I_s > V$.

This simple model affords three lessons. First, as discussed earlier, the model establishes the connection between economic interactions and the psychology of identity, especially the implications of *identification*. Second, the model allows a comparative static analysis on identity-related parameters. Finally, the elementary assumptions of the model suggest extensions that entail greater realism and further implications of identity for economic interaction.

C. Comparative Statics

Comparative statics show how traditional economic policies can affect behavior in this setting. For example, a "tax" T on the response to Activity Two will affect the equilibrium outcome in case (i). For a sufficiently high tax ($T > I_o - c$), Person One's response to Activity Two is no longer credible, and Person Two will switch from Activity One to Activity Two. This policy benefits Person Two at the expense of Person One. Total utility changes from V to $2V - I_s - I_o$, a positive change if V exceeds $I_s + I_o$.²⁹ A policy with the opposite effect is a tax on Activity Two itself. This policy would benefit Person One at the expense of Person Two in cases (ii) and (iii). In the first (second) case, a tax in excess of $V - I_s - L$ ($V - I_s$) induces Person Two to desist from Activity Two. This policy would increase total utility, in the first case, if $V <$

28. Another basis for the model is the psychology of cognitive dissonance. When Person Two engages in Activity Two, she challenges the validity of Person One's beliefs, and Person One suffers from cognitive dissonance. To remove this dissonance, Person One may act against Person Two.

29. Of course, such a "welfare analysis" is subject to the usual caveats concerning interpersonal comparisons and the measurability of utility.

$c + I_s + L$, and, in the second case, if $V < I_o + I_s$. Finally, policies may change the prescriptions themselves. A rhetorical campaign, for example, may make Activity Two more loathsome to Greens, leading to higher values of I_s and I_o and greater conformity to the prescriptions. Of course, a different campaign could have the opposite effect.

These policies are identity examples of the conflict of the Paretian Liberal (Sen 1970). It is not possible to protect Person One against the externalities caused by Person Two's choice of Activity Two and at the same time protect Person Two from Person One's response. There is a conflict between protecting individuals who engage in certain activities and suppressing these same activities that may cause others discomfort and anxiety.

D. Extensions to the Model and the Definition of "Situations"

Different assumptions about identity, pairings, and information all yield potentially interesting extensions to the model. As in the basic model, individual behavior would depend on what sociologists would call the "situation"—who is matched with whom and in what context.³⁰ In the basic model, everyone shared the same identity and prescriptions, but there could be, more realistically, many identities among the population. Activities One and Two could have different meanings for different people. For example, by choosing Activity Two, a person could affirm her identity as a Red. People could also choose—more or less consciously—their identities as well as their activities. These choices could depend on the probability of different matchings, or situations.³¹ We will explore this possibility below in our study of poverty and social exclusion.

Furthermore, pairings need not be exogenous, nor tastes and prescriptions known. In fact, much conflict occurs because people with different prescriptions or identities come into contact. To avoid conflict and losses in utility, people may want to match with those who share the same identity or for whom actions have the same meaning. Thus, the matching process itself—the "situa-

30. When an individual's identity is associated with multiple social categories, the "situation" could determine, for example, which categories are most salient.

31. Choice could also depend on frequency of certain actions. Kuran (1998) considers ethnically symbolic activities in a model where people care about belonging to an ethnic group. When greater overall resources are devoted to an ethnic activity, an individual's marginal utility from this activity can increase, leading to an "ethnification" cascade.

tions” in which agents find themselves—can be endogenous, driven by prescriptions and identities. We will see this outcome below in our first, and perhaps most obvious application.

IV. IDENTITY, GENDER, AND ECONOMICS IN THE WORKPLACE

An identity theory of gender in the workplace expands the economic analysis of occupational segregation. As recently as 1970, two-thirds of the United States’ female or male labor force would have had to switch jobs to achieve occupational parity. This measure of occupational segregation remained virtually unchanged since the beginning of the century. Yet, in twenty years, from 1970 to 1990, this figure declined to 53 percent.³² An identity model points to changes in societal notions of male and female as a major cause.

The model we propose captures the “auras of gender” (Goldin 1990a) that have pervaded the labor market. Occupations are associated with the social categories “man” and “woman,” and individual payoffs from different types of work reflect these gender associations. This model can explain patterns of occupational segregation that have eluded previous models. It also directly captures the consequences of the women’s movement and affords a new economic interpretation of sex discrimination law.

Identity also provides a microfoundation for earlier models. The “distaste” of men for working with women, as in the crudest adaptations of racial discrimination models (Becker 1971; Arrow 1972), can be understood as due to loss in male identity when women work in a man’s job. Similarly women’s assumed lower desire for labor force participation (as in Mincer and Polachek {1974}, Bulow and Summers {1986}, and Lazear and Rosen {1990}) can be understood as the result of their identity as homemakers.³³

A. *The Model*³⁴

There are two social categories, “men” and “women,” with prescriptions of appropriate activities for each. A firm wishes to

32. See Goldin (1990a, Chapter 3) for historical measures of occupational segregation. See Blau, Simpson, and Anderson (1998), who use Census Bureau three-digit classifications of occupations, for 1970–1990 figures.

33. In Bergmann (1974), male employers are averse to hiring women for particular jobs and may collude to keep women out of high paying occupations, reserving the gains for other males. In our theory, the source of occupational segregation is empirically motivated—the maintenance of gender identity on the part of employees.

34. An appendix with complete specification of the model is available from the authors upon request.

hire labor to perform a task. By the initial prescriptions, this task is appropriate only for men; it is a "man's job." Relative to a "woman's job," women lose identity in amount I_s by performing such work.³⁵ In this situation, male coworkers suffer a loss I_o .³⁶ They may relieve their anxiety by taking action against women coworkers,³⁷ reducing everyone's productivity.

To avoid these productivity losses, the firm may change gender-job associations at a cost. The firm is likely to create a "woman's job" alongside the "man's job," rather than render the whole task gender neutral, when a new job description can piggyback on existing notions of male and female.³⁸ A well-known historical example illustrates. In the nineteenth century, Horace Mann (as Secretary of Education for Massachusetts) transformed elementary school teaching into a woman's job, arguing that women were "more mild and gentle," "of purer morals," with "stronger parental impulses."³⁹ Secondary school teaching and school administration remained jobs for men.

The model also indicates why gender-job associations may persist. If associations are sectorwide or economywide, and not firm-specific, perfectly competitive firms will underinvest in new job categories. Benefits would accrue to other firms. In the absence of market power or technological change, a shift in social attitudes and legal intervention would be necessary for changes in employment patterns.

The model easily extends to the decision to participate in the labor force. If women's identity is enhanced by work inside the home, they will have lower labor force attachment than men. Historically, female labor force participation rates, relative to male rates, have been both lower and more cyclically variable.

B. Implications for Labor Market Outcomes

This identity model explains employment patterns arising from associations between gender and type of work. These pat-

35. Blau and Ferber (1986, Chapter 7) also discuss the "psychic costs" incurred by a woman (man) working in a job requiring "masculine" ("feminine") traits.

36. Goldin (1990b) considers a model where men lose "status" when women work on their jobs because the jobs are revealed to be less difficult or physically demanding.

37. We have already seen such emotions and behavior in Pierce's (1995) law firm and Padavic's (1991) power plant. Schultz (1998) relates a plethora of similar cases.

38. A firm with market power will earn a further bonus from occupational segregation in the form of wage discrimination.

39. See quotation of Mann in Sugg (1978, p. 74), and other *Annual Reports* by Mann.

terns go beyond what can be explained by women's assumed lower labor force attachment as in Mincer and Polachek (1974), where women work in occupations that require little investment in firm-specific human capital.⁴⁰

In our model, women will dominate jobs whose requirements match construed female attributes and inferior social status; men eschew them. Historically, three occupations illustrate: secretaries (97.8 percent female in 1970⁴¹) have often been called "office wives," and elements of sexuality are inscribed in the working relationship (boss = male, secretary = female) (MacKinnon 1979; Pringle 1988). Secretaries are expected to serve their bosses, with deference, and to be attentive to their personal needs (Davies 1982; Kanter 1977; Pierce 1996). Elementary school teachers (83.9 percent female), in contrast to secondary school teachers (49.6 percent female), are supposed to care for young children. Nurses (97.3 percent female) are supposed to be tender and care for patients, as well as be deferential to doctors (Fisher 1995; Williams 1989).

In our model, women do not enter male professions because of gender associations. Historically, many male professions have required similar levels of education and training to female professions and could have been amenable to part-time and intermittent work. Contrast nursing and teaching with accounting and law. All require college degrees and certification, and sometimes have tenure and experience-based pay. Only the very top of these professions have required continuity in employment and full-time work.

Rhetoric surrounding job shifts from male to female further demonstrates the salience of gender-job associations. The recruitment of women into "men's jobs" during World War II, for example, was accompanied by official propaganda and popular literature picturing women taking on factory work without loss of femininity (Milkman 1987; Honey 1984; Pierson 1986). In addition, the jobs

40. The empirical evidence for this human capital explanation is mixed (see Blau, Simpson, and Anderson (1998) for review). Other theories based on low workplace attachment of women include Lazear and Rosen (1990), where occupational segregation is a form of statistical discrimination; workers in the male occupations, i.e., with high labor force attachment, are targets for promotion, and those in the female occupations are not. In Bulow and Summers (1986), primary-sector firms must pay women higher wage premiums to prevent them from shirking because women are more likely to quit their jobs. These firms, therefore, prefer hiring men to women.

41. See Blau, Simpson, and Anderson (1998, Appendix A-1) for these and following figures. All figures here are for 1970.

were portrayed as temporary; only the wartime emergency excused the violation of the usual gender prescriptions.

C. *Effects of the Women's Movement*

The model gives a theoretical structure for how the women's movement may have impacted the labor market. The movement's goals included reshaping societal notions of femininity (and masculinity) and removing gender associations from tasks, both in the home and in the workplace. In the model, such changes would decrease women's gains (men's losses) in identity from homemaking, and decrease the identity loss I_s of women (men) working in traditionally men's (women's) jobs, as well as the accompanying externalities I_o . These shifts would increase women's labor force participation and lead to a convergence of male and female job tenure rates. More women (men) would work in previously male (female) jobs.

All these outcomes are observed coincidental with and following the women's movement.⁴² Gender-job associations diminished, reflected in changes in language (e.g., firemen became firefighters). In 1998 the median job tenure of employed women over 25 was 0.4 years lower than that of men; in 1968 that gap had been 3.3 years.⁴³ Changes in sex composition within occupations accounted for the major share of decline in occupational segregation from 1970–1990 (Blau, Simpson, and Anderson, 1998). Of the 45 three-digit Census occupations that were 0.0 percent female in 1970, only one (supervisors: brickmasons, stonemasons, and tile setters) was less than 1 percent female twenty years later.⁴⁴ Many incursions of females into male-dominated professions were very large. Consider again accounting and law. In 1970 (1990) females were 24.6 (52.7) percent of auditors and accountants, and 4.5 (24.5) percent of lawyers. Not only did the proportion of women in men's jobs increase, but so did the proportion of men in women's jobs (albeit much less dramatically).⁴⁵ Of the triumvirate of

42. *The Feminine Mystique* was published in 1963, and the National Organization for Women was founded in 1966.

43. 3.8 years for men versus 3.4 for women in 1998 (United States Department of Labor, 1998); 7.1 years for men versus 3.8 for women in 1968. (Source: calculation from Table A, U. S. Department of Labor, Special Labor Force Report 112, *Job Tenure of Workers, January 1968*.) The figures for the two years are not strictly comparable; in 1968 the question asked for the time elapsed since the beginning of the current job, in 1998 since the current employer. Median male job tenure has also been considerably affected by shifts in the age distribution of the workforce, both because of demographic shifts and also early retirement.

44. Source: Blau, Simpson, and Anderson (1998, Appendix A-1).

45. See Blau, Simpson, and Anderson (1998, Table 3 and Appendix A-1).

explanations for such increases—technology, endowments, and tastes—elimination makes tastes the leading suspect, since there was no dramatic change in technology or endowments that would have caused such increased mixing on the job.⁴⁶ Legal initiatives discussed next reflect such changes in tastes.

D. Gender-Job Associations and Sex Discrimination Law

Legal interpretations of sex discrimination correspond to earlier economic models as well as our own. Title VII of the Civil Rights Act of 1964 makes it unlawful for an employer to discriminate “against any individual . . . with respect to . . . compensation, terms, conditions . . . of employment” or “to {adversely} limit, segregate, or classify his employees . . . because of . . . sex.”⁴⁷ At its most basic, this law prohibits a discriminatory exercise of “tastes” against women (analogous to Becker {1971} and Arrow {1972}). Courts also interpret Title VII as outlawing statistical discrimination by sex or criteria correlated with sex, even when women on average lack a desirable job qualification. Discriminatory hiring because of women’s presumed lower workplace attachment, as in Lazear and Rosen {1990}, was precisely the issue addressed in *Phillips v. Martin-Marietta*.⁴⁸

Our model, where sex discrimination occurs because jobs have gender associations, corresponds to a wider interpretation of Title VII. This interpretation is at the forefront of current legal debate and is supported by a number of precedents. In *Diaz v. Pan American World Airways*,⁴⁹ the Court outlawed sex bans in hiring. The airline originally pleaded for their prohibition of male flight attendants because women were better at “the nonmechanical aspects of the job.” But this association of gender with the job was disallowed on appeal since feminine traits were deemed irrelevant to the “primary function or services offered” (cited in MacKinnon {1979, p. 180}). *Price Waterhouse v. Hopkins*⁵⁰ set a precedent for workers already hired. The plaintiff had been denied a partnership after negative evaluations for her masculine deportment. The Supreme Court ruled that “an employer who objects to

46. Computers are used intensively in few of the occupations with major changes in mix.

47. 42 U.S.C. §§ 2000e–2000e17 {1982}, Sections 703(a)(1) and 703(a)(2).

48. 442 F. 2d 385 (5th Cir. 1971), *cert. denied*, 404 U.S. 950 (1971). *Griggs v. Duke Power*, 401 U.S. 424 (1971), a race discrimination case, is an important precedent outlawing test results and other criteria correlated with race or gender as employment screens.

49. 442 F.2d 385 (5th Cir.) *cert. denied*, 404 U. S. 950 (1971).

50. 490 U. S. 228 (1989).

aggressiveness in women but whose positions require this trait places women in an intolerable and impermissible Catch 22" (cited in Wurzburg and Klonoff {1997, p. 182}). Cases have also involved harassment of women working in men's jobs as, in the terminology of our model, male coworkers protect themselves from loss of identity I_o . *Berkman v. City of New York*⁵¹ reinstated a firefighter who had been dismissed because of substandard work performance. The Court ruled that the interference and harassment by her male coworkers made it impossible for her to perform her job adequately {Schultz 1998, p. 1770}. This expansive interpretation of a "hostile work environment," a category of sexual harassment which is in turn a category of sex discrimination, has been exceptional. Judges have viewed sexual desire as an essential element of sexual harassment. However, Schultz {1998} and Franke {1995} argue that any harassment derived from gender prescriptions has discriminatory implications (as depicted in our model) and are thus violations of Title VII.

V. IDENTITY AND THE ECONOMICS OF EXCLUSION AND POVERTY

This section will consider identity and behavior in poor and socially excluded communities. In an adaptation of the previous model of Greens and Reds, people belonging to poor, socially excluded groups will choose their identity. Greens identify with the dominant culture, while those with Red identity reject it and the subordinate position assigned to those of their "race," class, or ethnicity.⁵² From the point of view of those with Green identities, Reds are often making bad economic decisions; they might even be described as engaging in self-destructive behavior. Taking drugs, joining a gang, and becoming pregnant at a young age are possible signs of a Red identity. This aspect of behavior has not been explored in previous models, but it is implicit in Wilson's account of black ghetto poverty {1987, 1996}. It also is implicit in every

51. 580 F. Supp. 226 (E.D.N.Y. 1983), *aff'd*, 755 F. 2d 913 (2d Cir. 1985). *Berkman* followed the expansive view in *McKinney v. Dole*, 765 F. 2d 1129 (D.C. Cir. 1985), that "any harassment or unequal treatment of an employee or group of employees that would not occur but for the sex of the employee or employees may, if sufficiently patterned or pervasive, comprise an illegal condition of employment under Title VII" (cited in Schultz {1998, p. 1733}).

52. Much literature on identity and social exclusion argues that dominant groups define themselves vis-à-vis "other(s)," and members of the dominant (excluded) groups benefit (lose)—materially and psychologically—from the differentiation. For discussion of different approaches to the study of social difference and racism, see Wetherell {1996}.

study that finds significant dummy variables for “race,” after adjustment for other measures of socioeconomic status. The Green/Red model of this section offers an explanation for the significance of such dummy variables. Furthermore, it yields a less monolithic view of poverty than current economic theories that emphasize conformity (e.g., Akerlof {1997} and Brock and Durlauf {1995}).

A. Motivation for Model

Our model reflects the many ethnographic accounts of “oppositional” identities in poor neighborhoods. MacLeod’s {1987} study of teenagers in a Boston area housing project, for example, contrasts the murderous and alcoholic Hallway Hangers to their obedient and athletic peers, the Brothers. In *Learning to Labour* Willis {1977} describes the antagonism between the unruly “lads” and the dutiful “earholes” in a working-class English secondary school. Similarly, Whyte’s {1943} description of Boston’s Italian North End circa 1940 contrasts the Corner Boys to the College Boys. Yet earlier, turn-of-the century accounts of the Irish in the United States contrast the “lace curtain” Irish of poor districts to their neighbors (see, e.g., Miller {1985}).

Our model further evokes the psychological effects of social exclusion in the colonial experience analyzed by Bhabha {1983} and Fanon {1967}, and in the context of African-Americans in the United States by Anderson {1990}, Baldwin {1962}, Clark {1965}, DuBois {1965}, Frazier {1957}, Hannerz {1969}, Rainwater {1970}, Wilson {1987, 1996}, and others. In these settings, individuals from particular groups can never fully fit the ideal type, the ideal “Green,” of the dominant culture. Some in excluded groups may try to “pass” or integrate with the dominant group, but they do so with ambivalence and limited success.⁵³ A series of autobiographies tells of the pain and anger of discovering that one is not really “Green.” Former *New York Times* editor Mel Watkins {1998} titles the chapter on his freshman year at Colgate as “stranger in a strange land.” Gandhi {1966}, Fanon {1967}, Fulwood {1996}, Staples {1994}, and Rodriguez {1982} all relate strikingly similar experiences of perceived or real rejection and alienation. This social exclusion may create a conflict: how to work within the dominant culture without betraying oneself. As Jill Nelson {1993,

53. Indeed, the word *passing* itself is pejorative and evokes a penumbra of reactions to being other than one’s “true” self.

p. 10) explains her exhaustion after a long day of interviewing for a job at *The Washington Post*:

I've also been doing the standard Negro balancing act when it comes to dealing with white folks, which involves sufficiently blurring the edges of my being so that they don't feel intimidated, while simultaneously holding on to my integrity. There is a thin line between Uncle-Tomming and Mau-Mauing. To fall off that line can mean disaster. On one side lies employment and self-hatred; on the other, the equally dubious honor of unemployment with integrity.

These reactions, it must be emphasized, reflect how dominant groups define themselves by the exclusion of others. The creation and evolution of such social differences are the subject of much historical research. Said {1978} documents the emergence of the Western idea of the "Oriental," a concept that had significant implications for colonialism. In the United States Roediger {1991} and other historians show how workers of European descent in the nineteenth century increasingly were defined as "white." Prior to Emancipation, this identity evoked the contrast between white freedom and African-American enslavement. In the model we construct, the key interaction is between such social differences and the adoption of oppositional identities by those in excluded groups.

Lack of economic opportunity may also contribute to the choice of an oppositional identity. Wilson {1987, 1996} underscores the relation between the decline in remunerative unskilled jobs, the loss of self-respect by men who cannot support their families, and the rise in inner city crime and drug abuse. This process is illustrated in microcosm by "Richard" in *Tally's Corner* {Liebow 1967}. Unable to find decent-paying work, he abandoned his family and joined Tally's group of idlers on the street corner. By adopting a different identity, Richard no longer suffered the guilt of a failed provider.⁵⁴

Red activities have negative pecuniary externalities. Richard's wife and children had to find alternative means of support. The prime goal of the "lads" in Willis' secondary school was to get a "laff," through vandalism, picking fights, and returning drunk to school from the local pub. Running a school with lads is difficult. The situation corresponds to the externalities in Bénabou's {1993, 1996} models of high schooling costs in poor neighborhoods.

54. See Montgomery {1994} for an interpretation of Richard's behavior in terms of cognitive dissonance.

Further externalities accrue from drug dealing, crime, and other “pathological” behavior.

In our model, there are also identity-based externalities. A Red is angered by a Green’s complicity with the dominant culture, while a Green is angered by a Red’s “breaking the rules.” Again consider Willis’ lads and earholes. As the lads define themselves in contrast to the earholes, the earholes define themselves in contrast to the lads. The earholes are even more proestablishment than the teachers—feeling that the teachers should be stricter. The lads, in turn, bait the earholes. This situation is just one (relatively tame) example of how interaction between the two groups generates antagonism on both sides.

B. Identity Model of Poverty and Social Exclusion

As in the prototype model, there are two activities, One and Two. Activity One can be thought of as “working” and Activity Two as “not working.” There is a large community, normalized to size one, of individuals. The economic return to Activity One for individual i is v_i which we assume is uniformly distributed between zero and one, to reflect heterogeneity in the population and to ensure interior solutions. The economic return to Activity Two is normalized to zero.

As for identity, there are two social categories, Green and Red. A Green suffers a loss in identity r , representing the extent to which someone from this community is not accepted by the dominant group in society. Those with the less adaptive Red identity do not suffer this loss. Behavioral prescriptions say that Greens (Reds) should engage in Activity One (Two). Thus, a Green (Red) loses identity from Activity Two (One) in amount $I_s^G(I_s^R)$.⁵⁵ Because Reds reject the dominant Green culture, they are also likely to have lower economic returns to Activity One than Greens.⁵⁶ A Red individual i will only earn $v_i - a$ from Activity One, as well as suffer the loss I_s^R . There are also identity externalities when Greens and Reds meet. A Green (Red) suffers a loss $I_o^G(I_o^R)$. In addition, Reds who have chosen Activity Two

55. We discuss below the possibility of a Red identity where individuals can both reject the dominant culture and at the same time do not lose I_s^R from Activity One.

56. Wilson (1996, Chapter 5) documents the difficulties that employers perceive in hiring employees from the inner city. From the vantage point of our model, it does not matter whether the perceived problems, parameterized by a , reflect real differences in productivity or those that are merely imagined because of the mismatch of the employers’ and the employees’ attitudes.

impose a pecuniary externality k on those who have chosen Activity One.

Each person i chooses an identity and activity, given the choices of everyone else in the community. We assume that people cannot modify their identity or activity for each individual encounter. Rather, individuals choose an identity and activity to maximize expected payoffs, given the probabilities of encounters with Greens who choose Activity One, Greens who choose Two, Reds who choose One, and Reds who choose Two.

C. *Equilibria and Interpretation*

Equilibria of this model show how social interaction within the community and social exclusion from the dominant group determine the prevalence of Red identities and Activity Two behavior.⁵⁷ An *All-Green Equilibrium* (everyone is Green and engages in Activity One) exists, if and only if the loss in Green identity, r , from exclusion from the dominant group is smaller than the difficulty of being Red in a community of Greens, I_o^R . Figure II shows this condition in the area above the 45° line from the origin. For higher levels of r , equilibria must involve some in the community adopting a Red identity. The nonexistence of the All-Green equilibrium reveals a difference in the predictions of this model and previous models of behavior in poor neighborhoods. Here, social exclusion ($r > 0$) will lead some people in the community to adopt an oppositional identity and Activity Two behavior, even in the absence of conformity-generating externalities (i.e., $I_o^R = I_o^G = k = 0$).

In a *Mixed Equilibrium* of our model, some in the community choose Activity One and a Green identity, but others choose Activity Two and Red identities. This equilibrium arises for intermediate levels of r (in the area between the two upward-sloping lines in Figure II).

The equilibrium adoption of Red identities and Activity Two behavior captures the self-destructive behavior of the underclass central to sociological study, but contrary to standard economic thinking. Rainwater (1970, p. 3) summarized his classic study of ghetto poverty: "white cupidity creates structural conditions highly inimical to basic social adaptation to which Negroes adapt

57. Full analysis of the model is available from the authors upon request. In the analysis we make the simplifying assumption that $I_o^G > k$ so that anyone who chooses a Green identity will choose Activity One. We also assume that all parameters are strictly positive and less than unity and that $I_o^R + a + k < 1$.

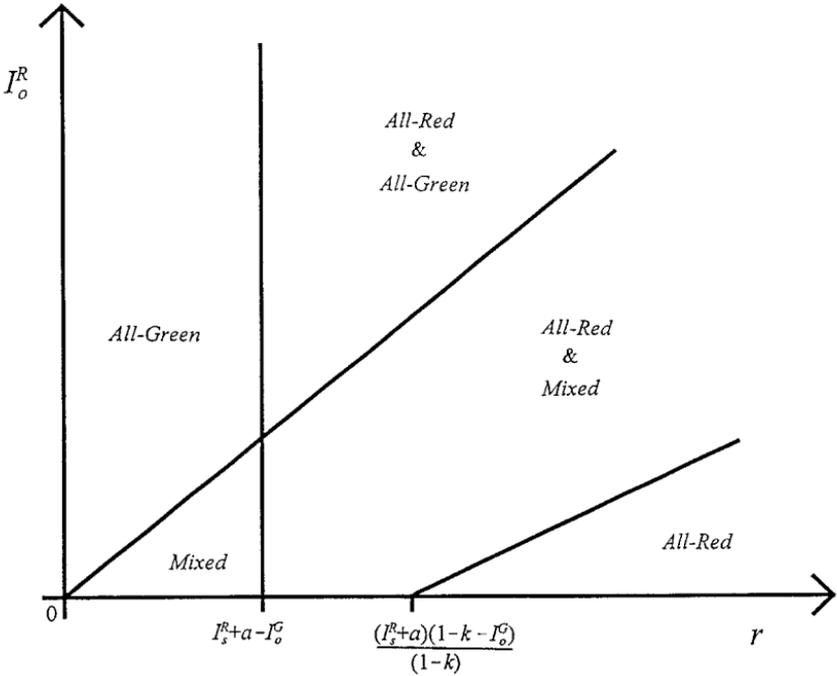


FIGURE II

Equilibria in Model of Poverty and Social Exclusion

This figure shows ranges of parameter values for three different equilibria: *All-Green* where everyone is Green and chooses Activity One; *Mixed* where Greens choose Activity One and Reds choose Activity Two; *All-Red* where everyone is Red and some choose Activity One and others choose Activity Two.

by social and personal responses which serve to sustain the individual in his punishing world but also to generate aggressiveness toward the self and others which results in suffering directly inflicted by Negroes on themselves and on others." While Activity One is maximizing to someone with a Green identity, it is not maximizing to someone with a Red identity. The "self-destructive" Red behavior is not the result of individual "irrationality," but instead derives from low economic endowments and a high degree of social exclusion.

Comparative statics of the mixed equilibrium captures Wilson's {1987, 1996} analysis of ghetto poverty. An out-migration of the middle class (those with high returns v_i in the model) will result in further adoption of Red identities among the remaining population. Also, when work disappears, there will be a downward

shift in distribution of payoffs from Activity One. This shift will also increase the incidence of Activity Two and Red identities.

In an *All-Red Equilibrium*, some individuals choose Activity One and conform with the dominant group in terms of economic behavior, but all choose an oppositional Red identity. This equilibrium arises when a high loss from being Green in an all-Red community, I_o^G , complements high levels of social exclusion, r (in the area to the right of the vertical line in Figure II).⁵⁸ This equilibrium is also achieved with a low value of I_s^R and, thus, provides an interpretation of social movements that may arise from exclusion. Some separatist leaders, such as Malcolm X and Louis Farrakhan, have advanced an oppositional Red identity but at the same time have tried to change associated prescriptions, resulting in a lower I_s^R . In these movements, Activity One does not imply complicity with the dominant group. Rather, self-restraint, education, and employment are a means for individual advancement and community liberation.

D. Further Lessons from the Model

The model and its solution also afford interpretations of policies designed to reduce poverty and the effects of social exclusion.

First, the model indicates why residential Job Corps programs may succeed while other training programs fail (Stanley, Katz, and Krueger 1998). According to the model, taking trainees out of their neighborhoods would eliminate, at least for a time, the negative effects of interaction with those with Red identities. Moreover, being in a different location may reduce a trainee's direct loss r from being Green and pursuing Activity One. That is, this loss may be both individual-specific and situational, and leaving a poor neighborhood is likely to generate a lower r than otherwise. In a somewhat controlled experiment, the U. S. government tried to save money with JOBSTART, which preserved many of the features of Job Corps except the expensive housing of trainees. Follow-up studies of JOBSTART show little or no improvement in employment or earnings.⁵⁹

58. It overlaps the regions of other equilibria because this condition is independent of I_o^R , unlike those for the above equilibria where a Red would suffer the loss from interacting with Greens.

59. The Center for Employment and Training in San Jose was the one remarkable exception.

Second, the model affords an interpretation of different education initiatives for minority students. Like Job Corps, the Central Park East Secondary School (CPESS) in East Harlem may succeed because it separates Green students from Red students. Students, for example, must apply to the school, indicating their and their parents' willingness to adopt its rules (see Fliegel {1993} and Meier {1995} for this and other details). Another interpretation of CPESS and other successes (e.g., Comer {1980} in New Haven) parallels the logic of the all-Red equilibrium where some people nonetheless pursue Activity One. The schools take measures to reduce the loss in identity of Red students, I_s^R , in activities such as learning Standard English.⁶⁰ Delpit's {1995} award-winning book *Other People's Children* proposes numerous ways to reduce the alienation that minority students may experience in school.

Finally, the model illuminates a set of issues in the affirmative action debate. Much of this debate concerns the success or failure of specific programs (see, e.g., Dickens and Kane {1996}). Yet, more is at stake. The rhetoric and symbolism of affirmative action may affect the level of social exclusion r . On the one hand, Loury {1995} argues that portraying African-Americans as victims, a portrayal necessary to retain affirmative action programs, is costly to blacks. In terms of the model, such rhetoric will increase r and the adoption of Red identities. On the other hand, affirmative action will decrease r , to the extent it is seen as an apology for previous discrimination and an invitation for black admission to the dominant culture. Reversal of affirmative action would negate this effect. To cite a recent example, our analysis suggests that removing affirmative action admissions criteria at the University of California and University of Texas Law Schools could have behavioral implications that far exceed the impact on applicants.

The identity model of exclusion, then, explains why legal equality may not be enough to eliminate racial disparities.⁶¹ If

60. Ogbu {1997} and Delpit {1995} find that African-American students in poor neighborhoods may be ambivalent about learning Standard English, whose use may be construed as "acting white."

61. We see this distinction in the different conclusions of two recent studies of U. S. race relations. Thernstrom and Thernstrom {1997} urge an end to affirmative action, making the case that attitudes of whites toward blacks as well as the legal opportunities for blacks have changed since *The American Dilemma* (Myrdal 1944). In contrast, Shipler {1997} points out the many ways in which African-Americans and whites feel uncomfortable with each other and how blacks are still seen as different and not fully accepted.

African-Americans choose to be Red because of exclusion and if whites perpetuate such exclusions, even in legal ways, there can be a permanent equilibrium of racial inequality. The negative externalities and their consequences, however, would disappear when the community is fully integrated into the dominant culture, so that $r = a = 0$, and everyone in the community adopts a Green identity. This, of course, is the American ideal of the melting pot, or the new ideal of a mosaic where difference can be maintained within the dominant culture.

VI. IDENTITY AND THE ECONOMICS OF THE HOUSEHOLD

An identity model of the household, unlike previous models, predicts an asymmetric division of labor between husbands and wives. Theories based on comparative advantage (e.g., Becker {1965} and Mincer {1962}) predict that whoever works more outside the home will work less inside the home, whether it be the husband or the wife. Yet, the data we present below indicate a gender asymmetry. When a wife works more hours outside the home, she still undertakes a larger share of the housework.

Hochschild's {1990} study *The Second Shift* reveals the details of such asymmetries. One of the couples in her study found an ingenious way to share the housework. "Evan Holt," a furniture salesman, took care of the lower half of the house (i.e., the basement and his tools). His wife "Nancy," a full-time licensed social worker, took care of the upper half. She took care of the child. He took care of the dog.

Quantitative evidence from Hochschild's sample and our data analysis suggest that the Holts conform to a national pattern. Figure III shows the low average of husbands' share of housework and its low elasticity with respect to their share of outside work hours. The figure plots shares of housework reported by married men⁶² in the Panel Study of Income Dynamics,⁶³ as computed from

62. Men's reports of housework shares matched almost exactly women's reports in Preston's {1997} study of 1700 scientists.

63. The unit of observation is a couple-year for the years 1983 to 1992. Couples were included in a given year, if they were married, neither member was retired, neither member was disabled, the couple had positive work hours, positive earnings, and positive hours of housework. In addition, they were only included if there were complete data from both members on earnings, work hours, housework hours, and number of children. The final sample had slightly more than 29,000 couple-years of observations. We define a husband's share of housework, $hswk$, as his share of the total performed by the couple. Thus, we capture the division of labor even in households that hire outside workers. We estimate the following Tobit equation: $hswk = a + \sum_{i=1,2,3} \{b_{1i}h_i + b_{2i}h_i^2 + b_{3i}h_i^3 + b_{4i}h_i^4\} + \text{error}$, where h_i

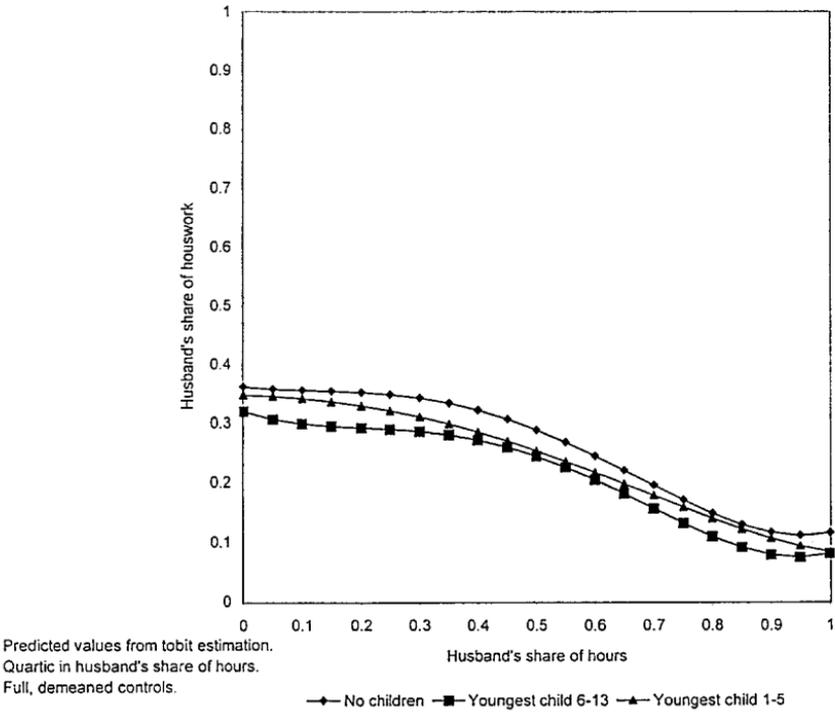


FIGURE III

Husbands' Share of Housework Hours versus Their Share of Outside Work Hours

answers to the question(s): "About how much time do you (your wife) spend on housework in an average week? I mean time spent cooking, cleaning, and doing other work around the house?" The intent of the question was to exclude child care. The figure plots men's share of housework as a fourth-order polynomial of their share of outside hours, for households by age of youngest child. When men do all the outside work, they contribute on average about 10 percent of housework. But as their share of outside work falls, their share of housework rises to no more than 37 percent. As shown in the figure the presence of children of different ages

is the husband's share of outside hours worked if in group i . The summation ($i = 1, 2, 3$) runs over three types of household: with no children or youngest child over age 13, with youngest child 0 to 5, and with youngest child 6 to 13. Controls were included for age of husband, and wife relative to population average, log of total income, and also total hours of housework. Results were robust to different specifications and estimators, and substitution of share of earnings for share of hours worked. The equations and confidence intervals are available upon request.

makes a small difference to the function.⁶⁴ Similar results obtain when the independent variable is shares of income rather than shares of outside work hours.

Existing theories do not predict this asymmetry. Consider the following variant based on comparative advantage. Husband and wife both have the same utility function, which is increasing in quantity of a household public good that derives from their joint labor.⁶⁵ Utility is decreasing in own labor inputs in outside and home production.⁶⁶ We assume equal bargaining power, so that each marriage partner enjoys the same level of utility.⁶⁷ With this framework, returns to specialization explain the observed division of labor when a wife has a comparative advantage in home production. Women who put in less than half of the outside work hours put in more than half the housework, as seen in the right-hand side of the graph of Figure III. But this model is inconsistent with the left-hand side of the graph.

Identity considerations can explain the high shares of housework of wives who undertake a large share of outside work hours. Add to the above model two social categories, "men" and "women." Prescriptions dictate that "men" should not do "women's work" in the home and "men" should earn more than their wives. Hochschild's interviews suggest that many men, and some women, hold these prescriptions. In the amended model, the husband loses identity when he does housework and when his wife earns more than half the household income. Equality of utility is restored when the wife undertakes more housework than her husband. Hochschild reports that in the "Tanagawa" household, for example, "Nina" earned more than half the family income, but she

64. Hersch and Stratton (1994) use the PSID to study whether husbands' higher wage incomes account for their lower shares of housework. The estimation here, in contrast, evaluates the asymmetry in the relationship between husbands' share of income and their shares of housework, and wives' shares of income and housework.

65. The public goods aspect of a marriage follows Lundberg and Pollak (1993), where the contributions of each spouse are in "separate spheres" that reflect gender roles. The first bargaining models of the household are due to Manser and Brown (1980) and McElroy and Horney (1981).

66. Utility of the wife is $U_f = U_f(\bar{g}, h_f^h, h_f^o)$, where \bar{g} is the household public good, produced by both home and outside labor, h_f^h is the wife's hours of housework, and h_f^o is her outside work. The husband's utility function is, similarly, $U_m = U_m(\bar{g}, h_m^h, h_m^o)$, where U_f and U_m are assumed to be the same functions.

67. We assume that a household maximizes the sum of utilities subject to the condition $U_f = U_m$. When bargaining power derives from earning capabilities and control of financial resources, as assumed by Hersch and Stratton (1994) and others, it only reinforces the conclusion that whoever works more outside the home works less inside.

worked more than "Peter" at home to assuage his unease with the situation. Eventually, she quit her job.

VII. CONCLUSION

This paper considers how identity affects economic outcomes. Following major themes in psychology and sociology, identity in our models is based on social difference. A person's sense of self is associated with different social categories and how people in these categories should behave. This simple extension of the utility function could greatly expand our understanding of economic outcomes. In a world of social difference, one of the most important economic decisions that an individual makes may be the type of person to be. Limits on this choice would also be critical determinants of economic behavior, opportunity, and well-being.

Identity affects economic behavior in our models through four avenues. First, identity changes the payoffs from one's own actions. We capture this possibility by a value I_s in our models. In our study of gender in the workplace, for example, a woman working in a "man's" job suffers a loss in utility, affecting the labor supply. Second, identity changes the payoffs of others' actions. We capture this externality by a value I_o in our models. A "Red" in our poverty model, for example, is harmed by a member of his own community who complies with the dominant culture. Third, the choice, or lack thereof, of different identities affects an individual's economic behavior. In our poverty model, while individuals could choose between Green or Red, they could never be a "true" Green. The greater the extent of this social exclusion, the greater the possibility of equilibria in which individuals eschew remunerative activities. Finally, the social categories and behavioral prescriptions can be changed, affecting identity-based preferences. This possibility expanded the scope of employment policy in our model of gender in the workplace and of education policy in our study of social exclusion.

This paper has only scratched the surface of the economic implications of identity. A first tack in future research would be continued analysis of particular settings. Identity is likely to affect economic outcomes, for example, in areas of political economy, organizational behavior, demography, the economics of language, violence, education, consumption and savings behavior,

retirement decisions, and labor relations.⁶⁸ As in this paper, models that incorporate well-documented existing social categories and prescriptions could yield new results. A second tack in this agenda is comparative, examining identity across space and time.⁶⁹ Researchers, for example, could consider why notions of “class” or “race” vary across countries; why might gender and racial integration vary across industries; what might explain the rise and fall of ethnic tensions. Such comparative studies would be a fruitful way to explore the formation of identity-based preferences.⁷⁰

In peroration, this paper explores how to incorporate identity into economic models of behavior. Many standard psychological and sociological concepts—*self-image, ideal type, in-group and out-group, social category, identification, anxiety, self-destruction, self-realization, situation*—fit naturally in our framework, allowing an expanded analysis of economic outcomes. This framework is then perhaps one way to incorporate many different nonpecuniary motivations for behavior into economic reasoning, with considerable generality and a common theme.

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68. See a previous version of the paper for short versions of many of these applications.

69. We are grateful to an anonymous referee for this list of comparative studies.

70. Some scholars have studied the formation of identity-based preferences from principles of optimization. Theories of evolutionary psychology, for example, posit that hostility toward “outsiders” might be inherent to human nature as a result of an evolutionary process; survival depends on cooperation with insiders and hostility toward outsiders. Another functional explanation of identity derives from social cognition theory: stereotypes summarize information and compensate for human beings’ limited cognitive abilities. (See Wetherell (1998, pp. 186–197) for review.) These theories, however, may find it difficult to accommodate the complexity of social categories and prescriptions and the variety of social categories across societies and across time.

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