

COGNITIVE DISSONANCE, STATUS AND GROWTH OF THE UNDERCLASS*

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We present a model of cognitive adaptation to examine the growth and behaviours of the underclass. In the model, individuals experiencing cognitive dissonance between status seeking and social recognition adapt their attitudes regarding what is deemed status worthy. This yields the endogenous formation of an underclass in which non-pecuniary social returns counteract the effect of traditional incentives (i.e. wages) in motivating behaviour. By gaining insight into the process of psychological adaptation of those living in poverty, the paper sheds light on economic policies that mitigate the disenfranchisement and hence the growth of the underclass.

The desire to be a person in his own right, to be noticed in the world he lives in, is shared by each of the men on the streetcorner. Whether they articulate this desire ... or not, one can see them position themselves to catch the attention of their fellows in much the same way as plants bend to catch the sunlight. (Liebow, 1967, pp. 60–1)

Poverty, while typically defined in economic terms, is accompanied by a myriad of social behaviours. Crime, welfare dependency and substance abuse, behaviours considered characteristic of the underclass, are often concentrated among those living in poverty. Economic approaches to poverty have typically focused on the economic status of individuals and looked towards redistributive policies that raise income and provide opportunities to those living in poverty. However, redistributive policies may be too simplistic a solution as they neglect many of the psychological and social pressures facing the impoverished. This paper takes a different approach to the behaviour of the underclass by focusing on individuals' innate desire for non-pecuniary social rewards and the process of psychological adaptation that may accompany living in poverty.

Economists have long been aware of the import of social status and the esteem of others in decision-making. The typical economic approach to this phenomenon has been to embed a positional interdependence among agents directly into the utility function. Although this approach has yielded insights into the determinants of behaviour and the efficiency effects of status seeking, it neglects a more fundamental question: How do individuals choose the characteristics they deem status worthy? Research in psychology (Aronson, 1994; Eagly and Chaiken, 1993) argues that individuals choose a subjectively deemed characteristic as status worthy based on their social position and ability to attain

* I am indebted to Louis Makowski for his invaluable advice. Comments by John Boyce, Humberto Llavador, three anonymous referees and a very patient editor significantly improved the paper. I would also like to thank Giacomo Bonanno, B. Curtis Eaton, Sami Kitmitto, and Allison Oxoby for helpful comments. Financial support from the Russell Sage Foundation is gratefully acknowledged.

status on that characteristic. Such an argument is often based on the theory of cognitive dissonance and implies that, to some extent, individual preferences are malleable.

This type of argument helps explain the presence and growth of behaviourally distinct classes within an economy. Individuals who cannot obtain status based on mainstream mechanisms of social esteem may change their attitudes regarding status and compete for social position on another index. This psychological argument implies that some groups are at greater risk than others of abandoning mainstream status norms. For example, if status is traditionally allocated based on income, individuals of low income will not be deemed status worthy. As a result, these individuals may abandon this status norm, along with accompanying work ethics, and engage in other forms of status seeking. According to some (Behr, 1995, Kelso, 1994), it is precisely this type of abandonment of social norms that has given rise to the underclass and accompanying higher levels of welfare dependence and crime in the US.

This paper presents a model of decision making in which individuals' attitudes regarding the determinants of social status are malleable. In particular, individuals with low income experience dissonance in their quest for social status when non-pecuniary social rewards are allocated based on income or consumption. That is, they suffer from an inconsistency between their pursuit of status and the status awarded to them. To alleviate their dissonance, these individuals may either commit greater resources to status seeking or change the characteristic they subjectively deem status worthy. In opting for the latter, these individuals will display different status seeking behaviours from those pursuing income or consumption based status. Thus the model gives insight into the endogenous formation of behaviourally distinct classes and the appearance of an underclass among those living in poverty. Additionally, the model emphasises the social mechanisms that influence the incentives to abandon status norms, thereby highlighting factors in the growth of the underclass.

The paper is organised as follows: Section 1 reviews the relevant economic literature along with the literature on the underclass. Section 2 presents a model of class formation based on individuals' cognitive adaptation to social status, giving rise to an underclass that has abandoned traditional status norms. Special attention is paid to the behavioural differences exhibited between the classes and the factors influencing the size of the underclass. The final Sections explore policies for dealing with the underclass and provide a brief conclusion.

1. Status, Dissonance and the Underclass

Dating back to Smith (1759) and Veblen (1899), economists have been aware of the import of social status in decision making and individual welfare. Early research by Frank (1985), Hirsch (1976) and Scitovsky (1992) emphasised the role of interpersonal comparisons and status seeking. The typical economic view of status seeking is exemplified by Frank's positional treadmill: individuals seek status by consuming more of a positional good. As everyone consumes the good, each individual must commit greater resources to maintain their relative position. Thus

individuals expend greater resources in status seeking although their relative positions remain unchanged, thereby generating inefficiencies.

More recently, work by Cole *et al.* (1992), Corneo and Jeanne (1998), Fershtman *et al.* (1996) and Fershtman and Weiss (1993) have revived the study of interdependent utility and status seeking. These authors find that the efficiency implications of status seeking depend upon the index used to measure status. For example, if savings determines social status (Cole *et al.* 1992; Corneo and Jeanne, 1998), status seeking may generate greater savings and therefore spur economic growth.¹ On the other hand, if occupations determine social status (Fershtman *et al.*, 1996), status seeking may result in mismatches between individuals' abilities and their chosen occupations, thereby leading to efficiency losses.

This paper explores status seeking when individuals experience dissonance (generally described as psychological stress or discomfort) and act (consciously or unconsciously) to reduce dissonance. According to the theory of cognitive dissonance (Festinger, 1957), an individual experiences psychological discomfort when her beliefs and actions are inconsistent with one another. In its modern incarnation (see Aronson (1992) and the accompanying commentary), the theory argues that an individual's dissonance is particularly acute when this inconsistency reflects on her self image. Thus, if social status is considered an important aspect of one's self image, individuals who expend resources in the pursuit of status but fail to attain status experience dissonance. To soften their dissonance individuals may expend greater resources in status seeking, as the positional treadmill approach predicts or, as much of the psychological literature predicts, change their attitudes regarding how status is measured.

Although the theory of cognitive dissonance is prominent in psychology, it has only been sparsely explored in the economic literature. Akerlof and Dickens (1982) were the first to model explicitly cognitive dissonance in the context of individuals' beliefs over safety equipment. In their model, individuals who work in a hazardous industry experienced dissonance between their choice to work in the industry and their fear of injury. Reducing dissonance in this context takes the form of minimising the subjective probability of injury. As a result of workers minimising the perceived risk of injury, there emerges an efficiency role for mandatory safety regulations. In Rabin (1994) individuals reduce the dissonance experienced when breaking a moral norm by raising what they considered an acceptable level of the activity governed by the norm. As the moral code is emphasised (ostensibly to raise adherence), people experience greater dissonance and revise upward what is subjectively considered an acceptable level of the activity. In the end, dissonance reduction may result in a higher level of the forbidden activity.²

¹ While this research examines the effect of status seeking on growth, some, notably (Hirsch, 1976; Scitovsky, 1992) and more recently (Frank, 1999), have argued that growth may intensify status seeking. If this intensifies the related inefficiencies of status seeking, growth (in and of itself) may not necessarily be welfare enhancing.

² Cognitive dissonance has also been used in explaining the behaviour of FOMC policy makers (Mayer, 1990), mutual fund investors (Goetzmann and Peles, 1997) and potential criminals (Dickens, 1986). This willingness to revise what is subjectively considered the appropriate level of an activity has been identified experimentally in modified dictator games in which individuals engage in self-deception regarding what is considered a fair allocation (Konow, 2000).

An alternate view of the mechanics of cognitive dissonance is proposed by Rabin (1995). In this paper, a distinction is made between morals and norms as components of individuals' preferences (in which adherence to the norm generates utility) and as constraints on behaviour. When morals and norms are components of an individual's preferences, abiding by a norm generates utility and she will always choose to abide. On the other hand, when morals and norms act as constraints on utility maximisation, an individual may display self-serving biases or aversion to information: she may self-servingly avoid information or evidence of her actions in order to rationalise pursuing her self-interest. If violating the moral code or social norm creates dissonance, these self-serving biases are a means of reducing dissonance by reducing one's perception of the extent to which the code or norm has been violated.

More germane to this paper is the application of the theory of cognitive dissonance to the abandonment of altruism norms in Montgomery (1994). Montgomery recasts *Tally's Corner*, Liebow's (1967) study of streetcorner men, in the context of the theory of cognitive dissonance. When social mores prescribe that good spouses support their families, individuals living in poverty experience an inconsistency between their low incomes and the desire to be perceived as a good spouse. This inconsistency generates dissonance between the desire and ability to support one's family. To soften their dissonance, individuals may opt to abandon the norm emphasising the need to support one's family. Thus Montgomery uses *Tally's Corner* to characterise one behavioural trait associated with the underclass (namely, the abandonment of one's family).

The term 'underclass' became popular with the work of Auletta (1982), Wilson (1987) and Kelso (1994) on poverty in America. The term has evolved to encompass the behavioural changes of those living in conditions of poverty. Typically the underclass is defined as the

group of individuals who lack training and skill and either experience long term unemployment or are not members of the labor force, individuals who engage in street crime and other forms of aberrant behaviour, and families that experience long term spells of poverty and/or welfare dependency. These are the populations to which I refer when I speak of the *underclass*. I use this term to depict a reality not captured in the more standard designation *lower class*. (Wilson, 1987, p. 8)

Thus members of the underclass exhibit behavioural differences not necessarily demonstrated by people struggling with low incomes or living in poverty.

As an example of how these behaviours arise, consider Richard, an individual described in Liebow's *Tally's Corner* (1967). Struggling to support his family, Richard repeatedly fails to follow up on various job opportunities to generate additional income. His low self-esteem, driven by his inability to maintain what is considered an acceptable standard of living, leads to less effort expended in the labour market.

(T)he man's low self-esteem serves to generate a fear of being tested and prevents him from accepting a job with responsibilities or, once on a job, from staying with it if responsibilities are thrust on him, even if the wages are commensurately higher. (Liebow, 1967, p. 55)

Thus, Richard refuses jobs testing his abilities even when these positions would ease the burden he faces in supporting himself and his family. In a sense, his attitude regarding what he can do to be successful has shifted from one involving seeking out higher wages and exerting effort in the labour market to one of

not only ... not (seeking) out those few better-paying jobs which test their resources, but actively (avoiding) them, gravitating in a mass to the menial, routine jobs which offer no challenge – and therefore pose no threat – to their already diminished images they have of themselves. (Liebow, 1967, p. 54)

In Kelso's (1994) view, changes in American culture towards greater emphasis on social status and affluence have left those living in poverty in a state of *anomie*: they suffer from an inconsistency between the cultural goals of mainstream society and the means available to fulfill these goals. As a result, no clear signal of appropriate behaviour is sent to a class suffering from a breakdown of traditional norms. From this paradigm, Auletta (1982) and Kelso (1994) explain the higher levels of crime, drug use and out of wedlock births seen in low income classes.

While these authors focus on the behavioural differences found in this group, we focus on the (largely subconscious) cognitive process that may induce an individual to become a member of the underclass. To begin, suppose social norms emphasise high relative consumption in the status awarded to an individual. For individuals living in poverty, this norm may generate dissonance through an inconsistency between one's social position and the desire for social status (and therefore one's self esteem). One way to reduce this dissonance is to abandon the existing status norm (consumption) by altering one's attitudes regarding what is deemed status worthy. Here, the proportion of the population choosing to change their attitudes regarding status can be interpreted as the underclass. Since a consumption based status orientation yielded a state of dissonance (*anomie*), this group abandons the mainstream norm and seeks social esteem in other areas. This change in attitudes regarding social status may entail altering work efforts and employment behaviour (as demonstrated by Richard in *Tally's Corner*) since abandoning work ethics accompanies abandoning the status norm. Low work effort can be taken as a metaphor for increased activity in other areas subjectively viewed as status worthy. Some of these activities result in the behaviours Kelso (1994) and Wilson (1987) associate with the underclass. For example, low effort may imply long spells of unemployment or time spent outside the labour force. Rather than consider preference for 'underclass behaviour' as primitive, the model presented here explains this behaviour as endogenously resulting from individuals adapting their desire for status to their social situations.

In a related paper, Akerlof and Kranton (2000) analyse identity (a person's sense of self) in an economic context. In this paper, individuals choose actions and (to some extent) the social categories to which they view themselves and others as belonging. In choosing these categories, individuals are choosing the groups with which they identify. In a similar vein, one can think of the adaptation of attitudes regarding social status as a move towards identifying with various segments of the population (i.e., the underclass or mainstream society). The difference between

the approach of Akerlof and Kranton (2000) and the one taken here is with the concept of *prescriptions* that the former adopt: once one has chosen a category to identify with, behavioural prescriptions about that category (e.g. stereotypes) motivate actions. Thus individuals choose their categories knowing what prescriptions each entails. Here, it is not a social view of how one should behave (i.e. a prescription) that motivates behaviour. Rather, individuals' actions are motivated by their attitudes towards status. Thus, the desire to exert less effort as a member of the underclass is derived from the individual's desire to earn status, not from a set of prescribed behaviours one abides by when identifying with this class.

2. A Model of Cognitive Adaptation

In this Section, a model of status seeking is presented in which individuals' attitudes towards the determinants of status (i.e. what is deemed 'status worthy') are malleable. The population is comprised of a continuum of agents, each with non-wage endowment y denominated in units of the consumption good (numeraire). Non-wage endowments are distributed with full support over the interval $Y = [l, h]$ with mean \bar{y} and continuous distribution $F(y)$. Additionally, we assume that the set of agents at each income level is of zero mass.

Agents have identical preferences over consumption and effort. Consumption, x , generates (direct) utility $u(x) = x$. In financing consumption agents exert effort e at a cost $c(e)$, where $c(\cdot)$ is a continuous, increasing, and strictly convex function with $c'(0) = 0$. For simplicity, it is assumed that direct utility and the cost of effort are additively separable.

Non-monetary status returns are allocated based on an individual's level of private activity relative to average activity in the economy.³ However, it is assumed that agents exercise some control over what activity they subjectively deem status worthy. Thus, while individuals are actively concerned with their relative position among others, they choose how relative differences (and hence status) are measured. As described above, a poor individual who views high relative consumption as status worthy may experience costs associated with being chided by others or psychological dissonance arising from an inconsistency between working to attain status and the failure to consume above average. In accord with the theory of cognitive dissonance, such an individual will attempt to soften her dissonance by allocating greater resources (work effort) towards consumption or opting to consider another characteristic (say, leisure time) as status worthy. In other words, given her dissonance, she chooses the least costly method of dissonance reduction.

Status in this sense is more a gauge of self-esteem than of the deference of others.⁴ This is not an unreasonable assumption: many of the costs derived from not being able to 'keep up with the Joneses' are purely internal. Individuals do not ostensibly punish those who consume at a level below their own. Rather, individuals consuming at low levels experience self-imposed costs associated with feelings

³ It is assumed that average activity levels are observable by all in the economy.

⁴ This is in contrast to the models of Bernheim (1994) and Cole *et al.* (1992) in which status generates external returns to the individual. The approach taken here is similar to that discussed in Frank (1988).

of envy, disappointment and apathy. Although this assumption abstracts from any social castigation or peer pressure that may exist, it focuses attention on the role of cognition in status competition.

We assume that agents face a choice regarding the activity individually deemed status worthy: relative position can be measured in terms of consumption or effort. The status assigning mechanism ranks an agent based on her private performance (on her chosen index) relative to average performance. Consumption derived status is determined by an agent's private consumption relative to average consumption. Status with respect to effort is earned by exerting less than average effort. One can consider effort-derived status as based on an individual's desire to be perceived as leading a leisurely, relaxed life. Alternately, below average effort can be taken as a metaphor for greater effort expended in other areas of life. Some ethnographers and sociologists have argued that among the poor, exerting low effort can be status earning although viewed as aberrant by mainstream society: low work effort may demonstrate 'courage' or 'fearlessness' by opposing mainstream values.⁵

The measurement and preferences towards social status are formalised as follows. Let

$$s_x = x - \bar{x} \quad \text{and} \quad s_e = \bar{e} - e \quad (1)$$

measure an agent's private consumption x and effort e relative to economy averages \bar{x} and \bar{e} . We assume that an agent receives non-monetary status returns based on her relative consumption s_x , relative effort s_e , and her attitudes towards status λ . One can interpret the agent's attitudes towards status λ as the relative weight assigned to consumption versus effort derived status. An agent's return from social status is given by

$$\lambda s_x + (1 - \lambda)\alpha s_e, \quad (2)$$

where $\alpha > 0$ is a constant accounting for differences in the way status from consumption and effort are measured. Thus an individual's status depends on how much she consumes above average, how much effort she exerts below average, and the relative weight assigned to each, λ .⁶

Note that the status assigning mechanisms in (1) are sign-preserving. We can interpret this sign-preserving quality as reflecting the dissonance associated with

⁵ For examinations of this premise with respect to those living in poverty, see Auletta (1982), Kelso (1994), Liebow (1967) and Rainwater (1970). For more contemporary discussions dealing with the behaviour of 'Generation X' see Glenn (1998) and Paulin and Riordon (1998). With respect to the work of Rainwater (1970) and others of that period, explanations of behavioural differences focused on race: how the status of different racial groups and their relation to other groups in society influenced the attitudes and behaviours they exhibited. While the work presented here abstracts from racial characteristics, race may play a role in determining one's relative position in the income distribution or the labour force through past discrimination or race based social hierarchies. If one considers the racial stereotypes and expectations that may accompany an individual into the labour market, the introduction of race into the model (via an observable characteristic) may provide an individual with even greater incentives to deviate from work ethics or status norms.

⁶ This modelling approach is similar to the ideas of Durkheim (1912): individuals maximise utility not only through behaviour but by adopting a view of reality consistent with their well-being. These views of reality have a direct effect on behaviour, affecting one's work ethic, political views, and social behaviour. For an application of Durkheim's ideas to economics, see Akerlof (1989).

below average consumption or above average effort. It is the desire to eliminate these subjective costs that gives rise to an individual's impetus to change her attitudes λ .

Given the linearity of λ in (2), no agent must choose λ in the interior of $[0,1]$. In a sense, agents have a comparative advantage in status earning by either consuming above average or exerting below average effort. The analysis can therefore be restricted to $\lambda \in \{0,1\}$. To develop a nomenclature, we will refer to agents choosing $\lambda = 1$ as 'consumption oriented' and agents choosing $\lambda = 0$ as 'leisure oriented'. We assume that agents initially hold a consumption orientation towards status and thus dissonance reduction by way of attitude modification (choosing a leisure orientation) requires deviating from society's norm.⁷

Much of the underclass literature emphasises the role of neighbourhood effects in determining status and behaviour (Wilson, 1987). Thus, it might be argued that average behaviour is the wrong reference point and agents with similar values of λ should be considered peer groups in which λ represents a behavioural norm. Alternately, one may think of agents comparing themselves to one another based on 'neighbourhoods' in the income distribution. Following this approach, a distribution of attitudes for each segment of the income distribution would exist, defining the 'cultural environment' of the neighbourhood. However, many have argued that subcultures such as the underclass cannot be understood without reference to society at large (Liebow, 1967; Schwartz, 1991). These groups are not differentiated by distinct boundaries or obvious markers allowing for easy identification. Further, widespread historical norms of behaviour are often considered the beliefs of 'mainstream society' around which individuals frame their behaviour. Thus, individuals' dissonance, and hence the associated dissonance reducing behaviours, exist precisely because of their contact with mainstream society and the norms attributed to this segment of society.

Following Festinger (1957), Aronson (1994) and Eagly and Chaiken (1993), reducing dissonance via attitude change is not costless. It requires gathering and processing new information, re-evaluating past behaviour and breaking cognitive habits. Let the parameter $\gamma > 0$ denote the cost associated with deviating from the status norm (i.e. choosing effort derived status over consumption derived status). Given γ , attitude changes are systematic: an individual changes her status orientation only when the benefits of attitude change (in particular, dissonance reduction) exceed the costs of doing so. Analogous to the consumption capital framework of Stigler and Becker (1977), incurring the cost γ can be interpreted as altering one's stock of 'psychological capital' to maximise utility. By interpreting changes in attitudes in this way, the model captures the possibility that an agent may find dissonance reduction by way of attitude modification too costly, thereby maintaining adherence to the norm and her related consumption-driven dissonance. Further, note that when $\gamma > 0$, the two status orientations are treated asymmetrically in an individual's decision calculus: γ arises as an adjustment cost relating to abandoning the consumption status norm in favour of an effort orientation.

⁷ This follows Scitovsky (1992) who argues that, at least in the US, consumption is a primary indicator of social rank. Similar arguments are made by Auletta (1982), Behr (1995), Hirsch (1976) and Kelso (1994).

Agents maximise utility taking the competitively determined wage w as given. Wages are determined by a constant returns to scale technology employed by all firms, thereby eliminating issues surrounding profits and wage determination. This simplifying assumption allows attention to be focused on the cognitive processes and behaviours of the agents. Given her non-wage income y , an agent chooses consumption x and effort e to maximise utility:

$$\max_{x,e,\lambda} U(x, e, \lambda, \bar{x}, \bar{e}) = x - c(e) + \delta[\lambda s_x + (1 - \lambda)\alpha s_e] - (1 - \lambda)\gamma \tag{3}$$

subject to $x = we + y$. The bracketed term (2), represents status returns dependent on the agent’s attitudes λ , where $\delta > 0$ represents the relative value of status in overall utility. The final term is the cognitive cost incurred if the agent modifies her attitude towards status.

Differentiating with respect to e yields the following first order conditions on effort for agents choosing consumption (4), where $\lambda = 1$, and leisure (5), where $\lambda = 0$, orientations:

$$w - c'(e) + \delta w \leq 0 \tag{4}$$

$$w - c'(e) - \delta\alpha \leq 0. \tag{5}$$

For simplicity, we assume $w > \delta\alpha$, thereby implying that $e > 0$ regardless of an agent’s attitudes towards status λ . Let $X(y, w, \bar{x}, \bar{e})$ be the set of solutions to the program (3) and let (x^*, e^*, λ^*) be an element of $X(y, w, \bar{x}, \bar{e})$. Let $V(y, w, \bar{x}, \bar{e})$ denote the corresponding maximum value function.

We now define an equilibrium for the economy.

DEFINITION 1. An equilibrium with dissonance reduction is an allocation $\{(x^*, e^*, \lambda^*)_{y \in Y}\}$ such that (i) $(x^*, e^*, \lambda^*) \in X(y, w, \bar{x}, \bar{e})$ for every $y \in Y$, and (ii) agents’ individual behaviours are consistent with average behaviours:

$$\bar{e} = \int e^*(y, w, \bar{x}, \bar{e}) dF(y), \tag{6}$$

$$\bar{x} = w\bar{e} + \bar{y}. \tag{7}$$

Thus, an equilibrium with dissonance reduction is an equilibrium in which each agent’s effort e^* , consumption x^* , and attitudes λ^* maximise utility given average behaviours \bar{e} and \bar{x} that are consistent with individual behaviours.

As evidenced by (4) and (5), individuals of different status orientations will display behavioural differences in which consumption oriented agents exert greater effort than leisure oriented agents. Thus, we can interpret an agent’s choice of $\lambda \in \{0,1\}$ as putting the her into one of two regimes. Let $X_\lambda(y, w, \bar{x}, \bar{e})$ be the set of solutions to the program (3) under the additional constraint that the agent is restricted to regime $\lambda \in \{0, 1\}$. Let $(x_\lambda^*, e_\lambda^*)$ be an element of $X_\lambda(y, w, \bar{x}, \bar{e})$ with corresponding maximum value function $V_\lambda(y, w, \bar{x}, \bar{e})$.

Given the model, we have the following:⁸

⁸ The linearity of $u(x)$ and the status assigning mechanisms simplify the analysis. The following results will hold for functions that are close to those assumed. However, the results may not hold if $u(x)$ is too concave over Y or if $c(e)$ is not strictly convex.

LEMMA 1. Consider fixed values of \bar{e} and $\bar{x} = w\bar{e} + \bar{y}$. If an agent with non-wage income y' prefers $\lambda = 0$ over $\lambda = 1$, then all agents with $y'' < y'$ prefer $\lambda = 0$ over $\lambda = 1$. Similarly, if an agent with non-wage income y' prefers $\lambda = 1$ over $\lambda = 0$, then all agents with $y'' > y'$ prefer $\lambda = 1$ over $\lambda = 0$.

Proof. Note that

$$\frac{\partial V_1(y, w, \bar{x}, \bar{e})}{\partial y} = 1 + \delta > 1 = \frac{\partial V_0(y, w, \bar{x}, \bar{e})}{\partial y}. \quad (8)$$

An agent with y' who prefers $\lambda = 0$ will have $V_0(y', w, \bar{x}, \bar{e}) > V_1(y', w, \bar{x}, \bar{e})$. Given the slopes of the maximum value functions, all agents with $y'' < y'$ will also have $V_0(y'', w, \bar{x}, \bar{e}) > V_1(y'', w, \bar{x}, \bar{e})$.

Similarly, if an agent with y' prefers $\lambda = 1$, then it must be that $V_1(y', w, \bar{x}, \bar{e}) > V_0(y', w, \bar{x}, \bar{e})$. Again, given the slopes of the maximum value functions, all agents with $y'' > y'$ will also have $V_1(y'', w, \bar{x}, \bar{e}) > V_0(y'', w, \bar{x}, \bar{e})$.

This implies that at an interior solution in which a positive mass of agents choose $\lambda = 0$, there a unique type of agent who is indifferent between the two status orientations.⁹

LEMMA 2. If a positive mass of agents choose $\lambda = 0$, there exists an agent with unique non-wage income \tilde{y} who is indifferent between dissonance reduction by way of expending greater effort and attitude modification. The income level \tilde{y} is implicitly defined by

$$V_1(\tilde{y}, w, \bar{x}, \bar{e}) = V_0(\tilde{y}, w, \bar{x}, \bar{e}). \quad (9)$$

Proof. Follows from Lemma 1.

Agents with $y \geq \tilde{y}$ exert greater effort to achieve status and choose $\lambda^* = 1$. Agents with $y < \tilde{y}$ reduce dissonance through attitude modification and choose $\lambda^* = 0$. Given the linearity of consumption and status in overall utility, agents' effort choices are independent of non-wage incomes and average behaviours once decisions regarding λ have been made. Thus all agents with $y \geq \tilde{y}$ exert effort e_1^* satisfying (4) while agents with $y < \tilde{y}$ exert effort e_0^* satisfying (5).¹⁰ Average behaviours can therefore be written as

$$\bar{e} = F(\tilde{y})e_0^* + [1 - F(\tilde{y})]e_1^*, \quad (10)$$

$$\bar{x} = w\bar{e} + \bar{y}. \quad (11)$$

We now prove the existence of an equilibrium with dissonance reduction.

PROPOSITION 1. A unique equilibrium with dissonance reduction exists.

Proof. Given the assumptions on preferences, we know that optimal choices e_λ^* and $\lambda \in \{0, 1\}$ exist for all values of \bar{e} and \bar{x} . Thus, we can write average effort using (10).

⁹ The standard 'rat race' model of status seeking can be considered a special case of the current model in which $\gamma = \infty$. Thus, for a positive mass of agents to opt for a leisure orientation, the cognitive cost of re-orientation cannot be too large.

¹⁰ Observe that for $e_1 > 0$ and $e_0 > 0$, $\ell'(e_1) = w + \delta w > w - \delta w = \ell'(e_0)$. Because $c(e)$ is a convex function $e_1 > e_0$.

Consider the mapping $\bar{e}(\tilde{y})$ which yields a level of average effort given a distribution of agents across regimes according to \tilde{y} . Note that since $e_0^* < e_1^*$, $\bar{e}(\tilde{y})$ is strictly decreasing in \tilde{y} .

Further, (9) can be rewritten as

$$we_1^* + \tilde{y} - c(e_1^*) + \delta(we_1^* + \tilde{y} - \bar{x}) = we_0^* + \tilde{y} - c(e_0^*) + \delta\alpha(\bar{e} - e_0^*) - \gamma. \tag{12}$$

Let $\tilde{y}(\bar{e})$ be the solution to this equation for a given level of average effort \bar{e} . Note that

$$\frac{\partial \tilde{y}(\bar{e})}{\partial \bar{e}} = w + \alpha > 0 \tag{13}$$

and thus $\tilde{y}(\bar{e})$ is strictly increasing.

Since $\bar{e}(\tilde{y})$ is monotone decreasing and $\tilde{y}(\bar{e})$ is monotone increasing, they intersect at most once, thus determining a unique equilibrium characterised by (\tilde{y}, \bar{e}) . Note that if the functions do not intersect in Y (i.e. a corner solution), then either all agents choose $\lambda = 1$ and $\bar{e} = e_1^*$ or all agents choose $\lambda = 0$ and $\bar{e} = e_0^*$.

Figure 1 illustrates \tilde{y} using $V_\lambda(\cdot)$ drawn as a function of y . One way to conceptualise Lemma 1 is to consider individuals with high non-wage endowments as having a comparative advantage in consumption derived status.¹¹ On the other hand, the poorest individuals in the economy experience consumption driven dissonance and prefer a leisure orientation towards status. These are the individuals described above who reduce dissonance by modifying their attitudes regarding social status. Following Congleton (1989), agents with income above \tilde{y} display an ‘accelerating effect’ with respect to consumption, gaining status by exerting greater effort and raising private consumption. Agents with non-wage income below \tilde{y} display a ‘discouragement effect’ with respect to consumption derived status and reduce dissonance by choosing $\lambda^* = 0$. These are members of the underclass who eschew society’s status norm in favour of other modes of status

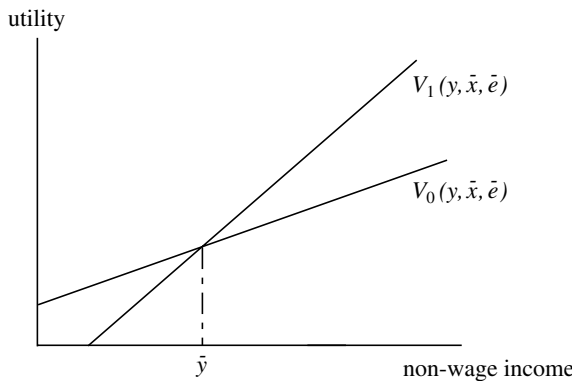


Fig. 1. Indirect Utility Functions

¹¹ As our analysis is concerned with the behaviours of the underclass, the assumptions on preferences rule out the possibility of a ‘Carnegie effect’ or class of ‘idle rich’ who consume above average but exert little or no effort.

seeking. The fraction of the population modifying its preferences, $F(\tilde{y})$, could be characterised as pessimistic or disenchanted with the traditional mechanism of social recognition.

2.1. *Behavioural Differences Between the Classes*

Some of the behavioural differences between members of the underclass and mainstream society can be explained by differences in their marginal returns from consumption and effort: consumption oriented agents have greater marginal benefit from consumption than effort oriented agents and leisure oriented agents have a greater marginal disutility of effort.

Consequently, there is a discontinuous relationship between effort and non-wage income observed in comparing the underclass with mainstream society. The low level of effort exerted by agents with $y < \tilde{y}$ may manifest itself through greater spells of unemployment and longer periods spent outside the labour force than agents with $y \geq \tilde{y}$. Agents with $y < \tilde{y}$ may exhibit a greater penchant for crime as the potential return from criminal behaviour permits less work effort. Support for these discontinuities are found in the ethnographic literature where the behaviour of 'mainstreamers' is contrasted with that of 'the underclass' (Auletta, 1982; Kelso, 1994; Wilson, 1987), 'streetcorner men' (Liebow, 1967), 'ghetto boys' (Rainwater, 1970) and more recently 'Generation X' (Glenn, 1998; Montgomery, 1994). These studies have found that members of these groups are typically less responsive to employment incentives and put little emphasis on consumption, often mocking and deriding individuals of relative affluence.

To see how these differences effect policy, consider the following scenario. Many attempts have been made to revitalise poor urban areas by importing industrial jobs from other areas. Cities with large poor populations often provide incentives for firms to begin production using urban labour. Unfortunately, many of these firms fail to turn a profit and remain in these areas only temporarily. One complaint raised by employers in such programmes is that the available labour force was not sufficiently productive to warrant continued local operation. As discussed in Doeringer (1969) with respect to programmes targeted at employing the disadvantaged, there may be many reasons that individuals living in poverty are difficult to employ. Poor health or the absence of strong social networks may accompany conditions of poverty. As a result, those living with low incomes may find it difficult to maintain consistent work schedules or present reliable work habits. Further, the types of occupations available in low income areas may be more susceptible to economic shocks. If the disadvantaged are at the end of the queue of desirable workers, these occupations may build little loyalty towards the firm on the part of the employee, thereby making turnover and absenteeism norms in these areas.

The theory presented here gives an alternate interpretation of why those living in poverty may be difficult to employ. If the labour pool from which the firm draws is primarily low income, the theory of cognitive dissonance as modelled here suggests that the average agent puts forth less effort per unit incentive than those from other labour pools. Obviously, the reaction to an increase in wages brought about by urban development will have a much stronger influence on consumption

oriented individuals: for these agents wages play a secondary role in generating status, a role absent in the incentives facing leisure oriented individuals.

2.2. *The Size of the Underclass*

Research on poverty indicates that the size of the underclass is growing (Auletta, 1982; Kelso, 1994; Wilson, 1987). By characterising the process by which individuals join the underclass, the present model helps explain the factors influencing individuals’ decision to eschew mainstream norms.

For this analysis, we will focus on the agent with non-wage income \tilde{y} who is indifferent between status regimes. Recall that \tilde{y} is implicitly defined by

$$we_1^* + \tilde{y} - c(e_1^*) + \delta s_x = we_0^* + \tilde{y} - c(e_0^*) + \delta \alpha s_e - \gamma, \tag{14}$$

where $s_x = we_1^* + \tilde{y} - \bar{x}$, $s_e = \bar{e} - e_0^*$ and average behaviours satisfy (10) and (11). To characterise changes in the size of the underclass $F(\tilde{y})$, we can consider the effect of parameter changes on the value of \tilde{y} satisfying (14).

2.2.1. *The relative value of status*

Many have argued that mainstream norms such as ‘keeping up with the Joneses’ should be emphasised among those living in poverty with the hope that such messages will be internalised into behavioural norms. These policies serve the purpose of emphasising social status in the individual’s decision calculus. What role does the value of social returns from status play in determining the size of the underclass?

Suppose individuals have tentatively made their decisions regarding status orientation and experience an exogenous increase in the parameter δ . Consider the agent holding threshold income \tilde{y} : this individual was indifferent between changing her orientation and experiencing dissonance. If the relative value of status rises by $\Delta\delta$, indifference is no longer the case: her dissonance has been multiplied by a factor of $\Delta\delta$ and she will find it utility maximising to reduce dissonance via attitude change, thereby changing her status orientation from ‘consumption’ to ‘leisure’. This implies a new higher threshold income $\hat{y} > \tilde{y}$ and a larger underclass, $F(\hat{y}) > F(\tilde{y})$.

PROPOSITION 2. *If*

$$[we_1^* - c(e_1^*)] - [we_0^* - c(e_0^*)] + \gamma \geq -\delta^2(\alpha + w) \frac{\partial e_0^*}{\partial \delta}, \tag{15}$$

then

$$\frac{\partial F(\tilde{y})}{\partial \delta} \geq 0. \tag{16}$$

That is, if (15) is satisfied, increases in the relative value of status increase the fraction of the population choosing dissonance reduction via attitude change.

For example, if $c(e) = \eta e^2$ and $\gamma \geq \frac{\delta^2(\alpha + w)^2}{4\eta}$, then $\frac{\partial F(\tilde{y})}{\partial \delta} > 0$.

Proof. Implicitly differentiating (14) yields

$$\frac{\partial \bar{y}}{\partial \delta} = \frac{(s_x - \alpha s_e) - \delta(\alpha + w)\partial \bar{e}/\partial \delta}{\delta(\alpha + w)\partial \bar{e}/\partial \bar{y} - \delta}, \quad (17)$$

where

$$\frac{\partial \bar{e}}{\partial \bar{y}} = f(\bar{y})(e_0^* - e_1^*) < 0, \quad (18)$$

and

$$\frac{\partial \bar{e}}{\partial \delta} = F(\bar{y})\frac{\partial e_0^*}{\partial \delta} + [1 - F(\bar{y})]\frac{\partial e_1^*}{\partial \delta}. \quad (19)$$

Given (18), the denominator of (17) is negative. Thus, for $\partial \bar{y}/\partial \delta \geq 0$ (and hence $\partial F(\bar{y})/\partial \delta > 0$), the numerator of (17) must be negative.

Using (14) to substitute for $s_x - \alpha s_e$, (19) to substitute for $\partial \bar{e}/\partial \delta$, and rearranging terms, the numerator of (17) is negative if

$$[we_1^* - c(e_1^*)] - [we_0^* - c(e_0^*)] + \gamma > -\delta^2(w + \alpha) \left\{ F(\bar{y})\frac{\partial e_0^*}{\partial \delta} + [1 - F(\bar{y})]\frac{\partial e_1^*}{\partial \delta} \right\}. \quad (20)$$

Note that the left-hand side of (20) is the same as that of condition (15). Moreover, the right-hand side of (20) is less than that of (15) since

$$F(\bar{y})\frac{\partial e_0^*}{\partial \delta} + [1 - F(\bar{y})]\frac{\partial e_1^*}{\partial \delta} \geq \frac{\partial e_0^*}{\partial \delta}. \quad (21)$$

Hence, (15) is sufficient for (20). That is, if (15) is satisfied, then

$$\frac{\partial F(\bar{y})}{\partial \delta} \geq 0. \quad (22)$$

Proposition 2 provides a sufficient condition for an increase in the relative value of status to result in a larger fraction of the population choosing dissonance reduction via attitude change. In particular, when the cost of effort is quadratic (i.e. $c(e) = \eta e^2$), a sufficient condition for Proposition 2 is $\gamma \geq \frac{\delta^2(\alpha + w)^2}{4\eta}$. Note that if (15) is not satisfied, a sufficient condition for (16) is that the left-hand side of (15) is non-negative and that $F(\bar{y})$ is sufficiently small.¹² A sufficiently small fraction of the population in the underclass implies that increases in the relative value of status will result in higher average effort.¹³ Given a non-negative left-hand side of (15), $\partial \bar{e}/\partial \delta > 0$ implies that the right hand side of (20) is negative and hence $\partial F(\bar{y})/\partial \delta > 0$.

Note that the cost of attitude change γ plays a non-trivial role in determining the effect of an increase in δ on the size of the underclass. In particular, (15) can be interpreted as implying that agents choose attitude change as their preferred

¹² Following much of the empirical literature, particularly (Kelso, 1994), the underclass represents a small fraction of the population.

¹³ Moreover, note that if $\delta \alpha > w$, implying $e_0^* = 0$, then the right-hand side of (15) is equal to zero and increases in δ result in greater values of \bar{e} . Increases in average effort resulting from greater attention to position concerns are discussed by Frank (1999, 1985).

method of dissonance reduction based on the status effect of attitude change, not solely on the direct utility effect of reduced effort accompanying a leisure orientation. A sufficiently large cost of attitude change implies that the agent with \tilde{y} is more likely to be in a state of dissonance characterised by $we_1^* + \tilde{y} \leq \bar{x}$ since a large value of γ reduces the benefits of choosing $\lambda = 0$.¹⁴ The presence of this dissonance yields $s_x - \alpha s_e < 0$ for the agent with \tilde{y} , resulting in $\partial F(\tilde{y})/\partial \delta > 0$.

If δ is considered to be a measure of the importance of the status seeking norm in decision making, the proposition presents a paradoxical result. As social rank becomes more important, a greater percentage of the population chooses to ignore the status norm and pursue leisure oriented status. This counter-intuitive result implies that a society placing greater emphasis on the status norm will have more people abandoning that norm.¹⁵ Thus, Proposition 2 raises the spectre that policies aimed at reducing the abandonment of the status norm, which simply emphasise social ideals such as ‘keeping up with the Joneses’ or ‘pulling yourself up by your bootstraps’, may increase in the size of the underclass. This backfiring of policy is due to emphasis of these ideals creating greater dissonance for those consumption oriented agents with low relative consumption.

The proposition has some interesting implications for the size of the underclass throughout the development of an economy. Following Hirsch (1976), we may think of δ as an increasing function of average wealth: as a society becomes richer and more developed, a greater share of individual satisfaction is derived from relative comparisons rather than absolute measures. This implies that, *ceteris paribus*, a richer economy will have a larger underclass (and therefore a greater breakdown of social norms) than a poor society. This effect of changes in δ due to increasing wealth should not be confused with the effect of inequality on the distribution of attitudes.¹⁶ As one might expect, societies with greater income inequality will have larger fractions of the population abandoning the status norm. Sokoloff and Engerman (2000) argue that inequality had a significant effect on the patterns of development in North and South America. In South America, an area which scholars of the 1700s considered the most viable for growth and development, institutions generated significant inequality (both in wealth and political power). These institutions restricted the growth of these economy’s relative to those in North America where there was greater equality of power and income. Following the model here, if greater inequality implies a greater fraction of the population abandoning the status norm, inequality may have adverse effects on an economy’s development.

¹⁴ Further, note that increases in δ will also increase the likelihood that leisure oriented agents will drop out of the labour market and choose $e_0^* = 0$, see (5). This is precisely the type of behaviour (i.e. non-participation) characterising the underclass in the works of Auletta (1982), Kelso (1994) and Liebow (1967).

¹⁵ This ‘paradox’ represents one of the more important results in the theory of cognitive dissonance. Similar results are obtained in the models of Montgomery (1994) and Rabin (1994).

¹⁶ Oxoby (2001, 2002) develops endogenous growth models in which the distribution of attitudes affects the economy’s growth rate through the average level of effort. As discussed in Oxoby (2001, 2002), greater income inequality will yield a larger fraction of the population deviating from the existing consumption oriented status norm.

Although international comparisons of the size of the underclass are few, increasing underclass behaviour with increasing average income is a trend seen in American development.¹⁷ Wilson (1987) and Kelso (1994) both find the size of the underclass increasing in the US during a period of rising income. Table 1 presents information on characteristics associated with underclass behaviour. Of direct relevance to the model are the increasing labour force non-participation rates among males and the declining percentage of the poor in the labour force (behaviour based statistics) in light of the stability of the poverty rate (an income based statistic). These imply that work effort has become less important for these groups, as a leisure orientation towards status would predict.

As discussed in Juhn *et al.* (1991), changes in the demand for labour have had an adverse effect on less skilled workers and shifted the composition of unemployment towards this group. They find that the increase in non-participation is dominated by low-skilled workers who have experienced long spells of unemployment. This result is particularly striking if we consider non-participation to be accompanied by an erosion of market skills, thereby reinforcing the effect of changes in the demand on these individuals. If we interpret those with lower values of y as being of lower skill, non-participation can be interpreted as behaviour manifest by a leisure orientation.¹⁸

Not only does an increase in δ imply a larger underclass but also greater behavioural stratification between the classes. As seen in (4) and (5), with greater concern over status, the behavioural differences between agents of opposing status orientations becomes more marked: 'mainstreamers' consume even more and members of the underclass exert even less effort. This helps explain the changes in Table 1: although the poverty rate is stable, increases in δ encourages members of the underclass to participate less in the labour market; from (5), $e_0^* > 0$ is decreasing in δ .

The implications of Proposition 2 are less clear if individuals' choices regarding dissonance reduction are based on neighbourhood comparisons rather than

Table 1
Characteristics of Underclass Behaviour (Juhn *et al.*, 1991; Kelso, 1994; Wilson, 1987)

Year	Median Income	Pretransfer Poverty Rate	Labour Non-Participation Rate (Males 25-34)	% of Poor in Labour Force	Crimes Per 100 of Population	% of Female Headed HHs
1960	5,620	25	3.24	54	1.0	10.0
1970	9,867	18	4.71	48	3.9	10.8
1980	21,023	22	6.04	50	6.0	14.6
1990	34,213	21	6.42	41	5.8	16.5

¹⁷ According to Kelso (1994) part of the reason for limited international comparisons regarding the underclass is due to difficulties in arriving at a consensus as what constitutes a definition of the underclass. However, anecdotal evidence supports this observation. For example, per capita violent crime and drug use, two characteristics that Behr (1995) and Kelso (1994) find in the underclass, are much higher in the US than in Western Europe.

¹⁸ One way to interpret differences in y as differences in skill is to consider y as the return to zero effort. Thus, higher levels of y can be thought of as representing greater levels of absolute (rather than marginal) ability.

societal averages. If individuals use the average behaviour in their neighbourhood of the income distribution as a reference point, the relationship between the relative value of status and the size of the underclass is uncertain. Although this type of comparison implies a different model of behaviour, the model presented here can yield some insights. If individuals base their attitude choice on neighbourhood comparisons, an increase in δ may not only influence attitude choices, but also the choices regarding the neighbourhoods with which individuals compare themselves. This may result in stronger poverty traps in which individuals compare themselves with lower segments of the income distribution as δ rises. On the other hand, increases in δ under this scenario may also motivate individuals to compare themselves with more affluent neighbourhoods as consumption or leisure driven status competition intensifies within given income neighbourhoods.

2.2.2. Cognitive costs

It can be shown that a society with higher cognitive costs, γ , will have less status re-orientation and a smaller underclass.

PROPOSITION 3. *Let \tilde{y} be the income of the indifferent agent in equilibrium and let $\gamma > 0$. Then,*

$$\frac{\partial F(\tilde{y})}{\partial \gamma} < 0. \quad (23)$$

That is, increases in the cost of attitude change decrease the fraction of the population choosing dissonance reduction via attitude change.

Proof. Implicitly differentiating (14) yields

$$\frac{\partial \tilde{y}}{\partial \gamma} = -\frac{1}{\delta} < 0, \quad (24)$$

implying $\partial F(\tilde{y})/\partial \gamma < 0$.

Thus, in a society characterised by higher cognitive costs, fewer individuals will chose attitude modification as the preferred method of dissonance reduction. What factors determine this cost? Part of this cost is subjective, influenced by each individual's psychology and experience. However, social psychologists have argued that the characteristics of a society have an effect on the cognitive costs of attitude change (Aronson, 1994; Eagly and Chaiken, 1993).

Consider a population largely homogeneous in terms of race, religion and cultural experience. Homogeneity may impose larger cognitive costs when eschewing the social norm. Greater similarity implies deviating from the norm is more costly in terms of peer pressure (since no ostensible reason for deviation is immediately visible) and in terms of psychological discomfort (it is more difficult to develop an 'us versus them' pattern of thought).¹⁹

¹⁹ Team production techniques in Japan are successful in part because similarities among group members make deviation from the group's work ethic difficult to hide and psychologically internalise (Rehder, 1990). By impeding deviance, homogeneity and high cognitive costs also affect the forms and efficiency of various agency relations (Greif, 1994).

On the other hand, in a society where there is greater social entropy in terms of race, experience, and religion, the visible differences among members of each class may be more obvious. Racial or cultural differences may allow one to rationalise forgoing the traditional norm and facilitate the development of an 'us versus them' approach to rejecting what mainstream society considers acceptable. Thus, areas with greater racial or cultural diversity will have lower cognitive costs and a larger underclass. For example, LaFree (1998) argues that heterogeneity and rapid population turnover in impoverished areas reduces the incentives for residents to develop 'informal' mechanisms for social control. The lack of informal mechanisms reduces γ , helping explain higher frequencies of unemployment and crime. One way these informal mechanisms may develop is through social groups in which one's behaviour toward larger social norms can be identified and monitored. Thus, the ability to maintain one's anonymity in a large city serves to reduce the costs associated with abandoning the norm. On the other hand, large cities in which individuals are members of neighbourhoods or communities may have a smaller underclass as individual behaviours are more readily monitored, thereby raising the cost γ .

Hirsch (1976) argues that rapid economic development may contribute to lowering the cognitive costs associated with attitude change. Times of rapid economic growth are often accompanied by rapid changes in institutions driven by more fundamental, underlying social forces. These changes may necessitate changes in existing norms thereby creating uncertainty regarding what norms will prevail in the future. Uncertainty of this type may reduce the cognitive cost of breaking from the existing norm. This further explains the increases in underclass behaviour in Table 1. Due to the vast technological and social changes occurring between 1960 and 1990, this period may have been one in which cognitive costs were lower. This same period saw significant increases in labour non-participation rates and crime. These increases can be interpreted as greater deviations from mainstream norms, a trend the model would predict in periods when γ is lower.

It is important to note that the cognitive cost γ plays a non-symmetric role with respect to the size of the underclass. Recall that it is only deviation from the norm (i.e. holding a leisure orientation) that incurs the cost γ . As a result, raising this cost will reduce the incentives for individuals to abandon the norm. Similarly, societies for which the status norm is leisure driven rather than consumption based, an increase in the cost γ would reduce the share of the population holding a consumption orientation. Thus, if the social norm dictates that status accrues to individuals through religious activities or non-labour related emulation, as in the cases described by Srinivas, (1989), increasing cognitive costs will increase adherence to the norm, and hence reduce average effort in the economy.

3. Policy Implications

As discussed in Oxoby (2003), in an equilibrium with dissonance reduction, status conscious individuals benefit from the presence of agents with different status orientations. In particular, the presence of leisure oriented agents generates benefits for consumption oriented agents by reducing their incentives to consume

and exert effort. Similarly, in their pursuit of consumption based status, consumption oriented agents raise the average level of effort in the economy to the benefit of leisure oriented agents. Thus agents benefit from the presence of behaviourally distinct classes that allow one another to frame their social status in a positive light. As a result, the efficient mass of leisure oriented agents (here, the underclass) is typically non-zero.²⁰

On the other hand, the laissez-faire equilibrium in an economy with attitude change is typically inefficient in two ways (Oxoby, 2003). First, status seeking introduces an externality from consumption and effort. As such, an appropriate tax on consumption or labour income with lump sum redistribution can restore efficiency.²¹ However, the equilibrium is also inefficient in the distribution of attitudes. Due to the status externality, laissez-faire average consumption is 'too high'. As a result, if average consumption is lowered through an appropriate tax, there are some individuals who would have preferred to remain consumption oriented at the new level of average consumption. That is, they would not have chosen attitude change as their preferred method of dissonance reduction. These individuals have inefficiently incurred the psychological cost γ as they based their utility maximising method of dissonance reduction on an inefficient signal of average consumption. Thus, although the optimal mass of leisure oriented agents may not be zero, too many agents opt to reduce dissonance via attitude change in a laissez-faire equilibrium. Therefore, policies typically focus on means of reducing the size of the underclass.

Perhaps the most often used method of combating poverty is redistribution of income from wealthier members of society to poorer members. By increasing the endowments of the poor, their dissonance is softened and they are less likely to abandon mainstream norms in favour of underclass behaviour. While economic arguments against redistribution typically focus on adverse incentive effects, if redistribution is implemented *ex ante* (i.e. prior to agents making decisions regarding their preferred methods of dissonance reduction), redistribution may keep the poor from abandoning the status norm and thereby raise their incentives to exert effort. On the other hand, if redistribution is made after agents have modified their attitudes to reduce dissonance, redistribution is unproductive in influencing how agents cope with dissonance. This is perhaps the rationale behind many aid programmes targeting youths. As an example, consider the proposal put forth by Ackerman and Alstott (1999): as a birthright of citizenship, each young American should be given an \$80,000 stake, redeemable between their eighteenth and twenty-fourth birthday provided certain qualifications are met (e.g. high school graduation, civil behaviour). Such a programme acts as a promise of significant income provided that one not abandon certain productive social norms. Thus the programme serves to increase γ by including a monetary component in the cost of abandoning the work ethic associated with a consumption orientation towards status. This programme serves to reduce the consumption driven

²⁰ This ignores any potential negative externalities associated with underclass behaviour (e.g. crime, urban blight) which would further reduce the optimal size of the underclass.

²¹ This standard approach is discussed in Frank (1985) and Ireland (1998).

dissonance an individual may experience over her lifetime, thereby reducing the incentives to soften dissonance via attitude change.²² Similarly, need based scholarships are a method of redistribution that targets low endowment beneficiaries prior to their choices over dissonance reduction.

The model presented here highlights other, often neglected, means of influencing the size of the underclass. More specifically, policies directed at influencing the parameters δ and γ will sway how individuals choose to reduce dissonance. For example, attempts by social groups to promote individualism and provide negative images of underclass behaviour could be considered attempts to reduce δ and increase γ .²³ Psychological research has indicated that these approaches mitigate the extent to which individuals may feel disenfranchised from the rest of society. However, note that increasing γ alters the extent to which changes in δ will influence the size of the underclass: increases in γ imply that (15) will more likely be satisfied, implying that changes increases δ are more likely to increase the size of the underclass.

Alternately, as some have argued, there may be a relationship between the parameters δ and γ defining the 'moral environment of the poor' (Schwartz, 1991). The more valuable the returns from status, the more difficult it is to abandon or modify one's attitudes towards status. This implies an interesting relationship in which an increase in the relative weight of status has two contra-vening effects on the underclass. First, a larger value of δ may imply a larger underclass. However, there may be an indirect effect in which an increase in δ raises γ , implying a smaller underclass. Combining these effects, an increase in the relative weight assigned to status may reduce the size of the underclass if this indirect effect dominates. The relative size of these two effects may be influenced by the frequency of interactions among members of the underclass (neighbourhood effects) as well as their contact with mainstream values.

Finally, note that preferences which include positional concerns are a form of reference dependent preferences (Kahneman and Tversky, 1979; Tversky and Kahneman, 1991) in that relative position is based on a reference point. Thus, altering the reference point from which an agent measures her social position will influence the agent's chosen method of dissonance reduction: by selecting a reference point not too far beyond one's means (since average consumption may be unattainable by the poor), status driven dissonance is reduced, as are the benefits of abdicating the status norm. This seems to be the underlying rationale behind many inner city mentoring programmes. These programme provide a reference point (the mentor) from a background similar to those with whom she works, thereby providing a role model who espouses the mainstream value and can be feasibly emulated by those below the threshold endowment \bar{y} . As a result, the poor

²² A related programme (the 'child trust fund' or 'baby bond') is being implemented in the UK. The trust fund, in combination with a matching programme to encourage low income households to save, will help low income individuals increase their wealth. Research has shown that when the poor can accumulate wealth, they experience significant economic and psychological benefits which facilitate the ability of social policy to advance economic development. See Sherraden (1991).

²³ It has been argued that the increased use of school uniforms by public schools is an attempt to reduce the returns from status seeking among students (lowering δ). Government anti-gang and anti-drug campaigns create a negative images aimed at deterring participation in these activities (increase γ).

are less likely to experience the anomie that leads to deviation from the social norm as the least costly method of dissonance reduction.

4. Concluding Remarks

Although economists have paid attention to the role of social comparisons and the interdependence of utility, little attention has been paid to the ways in which individuals make these comparisons. In particular, existing theory assumes individuals agree on the metric that determines relative standing in society. However, research in psychology has demonstrated that the indices individuals use to compare themselves change, and change in systematic ways.

This paper has explored the role of attitude change, as described in the theory of cognitive dissonance, in an economic model of class formation. The model presented gives insight into the formation of behaviourally distinct classes and sheds light on the development and growth of the underclass. If economics is concerned with alleviating poverty, attention must be paid not only to direct mechanisms to reduce poverty (i.e. wages or wealth), but also to indirect mechanisms (social and psychological issues) that change the way individuals view their social positions. As captured in the opening quote from Liebow (1967), everyone wishes to be status worthy and recognised. The social and psychological conditions accompanying living in poverty create dissonance that leads members of the underclass to choose different means of bending 'to catch the sunlight'. Thus, as discussed above, emphasising the need to 'keep up with the Joneses' may not encourage individuals to work harder to improve their social position. Rather, such a policy may increase the level of dissonance felt by low income groups, thereby encouraging them to abandon mainstream norms and work ethics. By understanding this process of psychological adaptation and the ways this adaptation feeds back on economic variables, better policies can be designed for dealing with poverty and underclass behaviours.

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Date of receipt of first submission: March 2001

Date of receipt of final typescript: November 2003

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