DEVELOPMENT ECONOMICS THROUGH THE LENS OF PSYCHOLOGY

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ABSTRACT

Economists conceptualize a world populated by calculating, unemotional maximizers. This view shapes our understanding of many crucial elements of development economics--from how rural villagers save, to how parents decide on whether to send their children to school.

Psychological research, however, has documented the incompleteness of this perspective. Individuals have self-control and time inconsistency problems. They can give into short-run temptations and later regret it. They can have strong feelings about others that drive them to commit both generous and spiteful acts. They often passively accept defaults rather than make active choices. They let the institutions around them make choices for them. And they may misread new data in a ways that fit their beliefs. In short, the rational maximization model may not be a very good approximation of human behavior.

In this paper, I present some of the psychological evidence that I believe helps us to better understand a few core issues in development economics, such as savings, education, and property rights. This gives us new ways to interpret a variety of behaviors in these contexts, and enriches the set of policy tools we should consider. This evidence also suggests not only the need for dramatically new tools, but suggests small cost changes that may dramatically improve their efficacy of existing policies.

Introduction

Economists often study scarcity. Yet their conception of decision-making assumes an abundance of psychological resources. In the standard economic model people are unbounded in their ability to think through problems. Regardless of complexity, they can costlessly figure out the optimal choice. They are unbounded in their self-control. They implement and follow through on whatever plans they set out for themselves. Whether they want to save a certain amount of money each year or finish a paper on time, they face no internal barriers in accomplishing these goals. They are unbounded in their attention. They think through every problem that comes their way and make a deliberate decision about each one. In this and many other ways, the economic model of human behavior ignores the bounds on choices (Mullainathan and Thaler 2001). Every decision is thoroughly contemplated, perfectly calculated, and easily executed.

A growing body of research interprets economic phenomena with a more modest view of human behavior. In this alternative conception, individuals are bounded in all of these dimensions, and more. In practice, this conception begins with the rich understanding of human behavior that experimental psychologists have developed through lab and field experiments. This view, ironically enough, emphasizes the richness of behavior that arises from scarcities, emphasizing the bounds on cognitive and computation ability, self-control, attention, and self-interest. Theoretical models are now being constructed that help to incorporate these ideas into economic applications. Perhaps even more compelling is the recent empirical work that suggests the importance of these psychological insights for real behavior in contexts that economists care about. In a variety of areas, from asset pricing, to savings behavior, to legal decision-making, well-crafted empirical studies are challenging the traditional view of decision-making.

This paper attempts to provide an overview of this research to those interested in development economics. I have chosen psychological insights that I believe are helpful in understanding several phenomena in development economics: parents' schooling decisions, savings behavior, choice of financial institutions, bureaucratic corruption, and property

rights. For each of these I describe a small piece of the psychology that may be potentially relevant. In this way, I hope to introduce readers to the psychological and associated field evidence and show the practical relevance of this evidence. Given the space considerations, my goals are modest. I am clearly not comprehensive in my review of the relevant areas of psychology; that would take a book at the least. Nor am I comprehensive in describing the various psychological insights that may help in understanding any one topic (savings). As stated earlier, my goal is instead to present only an overview of each topic.

Two important caveats are in order. First, there are many reasons to believe that the psychological factors discussed here may be unimportant in economic contexts. Some could argue that the experiments are "weak" because people the people studied are not financially motivated. Others might argue that market competition or arbitrage would guarantee that these "irrational" choices should have no impact on economic outcomes. Yet others might argue that learning would remove these problems. I will not address these objections because they have been dealt with at great length elsewhere.[2] I am more pragmatic in my approach. I do not believe that any set of lab experiments alone can ever provide a firm basis for policy. Even the best experimental evidence will face questions of context specificity, behavioral adaptation, and equilibrium. Instead, these experiments are wonderful because they inspire different perspectives on old problems--and new ideas for economic policy. Their ultimate success, however, depends on how the experiments fare when tested in the field. So the evidence I provide here is merely to inspire (and not substitute for) careful tests in relevant contexts. The experimental evidence, therefore, need only pass a lower hurdle: Is the bulk of the evidence sound enough to merit future empirical work or policy experimentation? The accumulated evidence, I feel, easily passes this hurdle.

Second, my attempts to incorporate psychology into development should not be confused with pejorative attempts to label the poor as "irrational." This is neither an attempt to blame the poor for their poverty nor to argue that the poor have specific irrationalities. Instead, my

[2] See Mullainathan and Thaler (2001) for references and a summary discussion.

goal is to understand how problems in development might be driven by general psychological principles that operate for both poor and rich alike. When I speak of self-control, for example, I am speaking of self-control problems that exist in equal measure around the world. These problems may matter more for the poor because of the context in which they live, but the core of these problems is a common one (Bertrand, Shafir, and Mullainathan 2004).

Immediate Barriers to Education

The rational choice model of schooling is straightforward (Becker 1993). Individuals trade off the costs and benefits of schooling to decide how much schooling to pursue. Benefits come in a variety of forms, such as better jobs or better marriage prospects. Costs could be direct financial costs (fees) as well as any opportunity costs (foregone labor). In the case of children, of course, parents make the actual choices. They do so to maximize some combination of their own and their children's long run welfare, with the exact weight given to choices dependent on their altruism.

This view of education abstracts from the richness of the hardships faced by parents trying to educate their children in a developing country. Consider a poor father in a village, who is eager to send his son to school during the next school year. He recognizes the value of education to his son, which will allow him to get a government job, marry better, or simply exist more comfortably in a rapidly changing world. To ensure that he has money for school fees, textbooks, or perhaps a school uniform, the father begins to save early. But he soon encounters competing demands on the money. His mother falls ill and needs money to buy some analgesics to ease her pain. Though his mother insists that her grandson's education is more important, the father is torn. Enormous willpower is required to let his mother suffer while he continues to save money that he knows could ease her pain. Knowing that he is doing what is best in the long run is small consolation in the moment. The father overcomes this struggle and enrolls his son in school. But after some weeks, his son starts to show disinterest. As for most children everywhere, the son finds that sitting in a classroom (and an unpleasant one at that) is not very appealing, especially since some of his friends are outside playing. Exhausted from tiring physical work and feeling the

stresses of everyday life, how will the father handle this extra stress? Will he have the mental energy to convince his son of the value of education? Will he have the energy to follow up with the teacher or other students to see if his son has actually been attending school? This fictional example merely illustrates one important tension; and even the best of intentions may be very hard to implement in practice, especially in the high-stress settings that the poor inhabit.

Family problems of this type are intimately related to how people view tradeoffs over time, a topic that psychologists and behavioral economists have studied extensively through experiments. I now describe a variety of related evidence and then return to how this evidence may help us to understand the schooling decision.

Would you like to receive $15 today, or $16 in one month? More generally, how much money would I need to give you in one month to make you indifferent to receiving $15 today? What about in one year, or in 10 years? Thaler (1981) presented these questions to subjects and found median answers of $20, $50, and $100. While at first glance these answers may seem somewhat reasonable, they actually imply huge discount rates: 345 percent over one month, 120percent over a one-year horizon and 19 percent over a 10-year horizon.[3] Subjects most often greatly prefer the present to the future.

These choices also imply that the rate of time preferences *changes* with the horizon. This is made most clear in the following choice problem:

Would you prefer $100 today, or $110 tomorrow?

Would you prefer $100 30 days from now, or $110 31 days from now?

[3] One reason subjects show such preferences may be that they doubt they will actually receive the money later, leading them to value it at a lower rate. While this may be an effect, the literature on discounting finds similar results--even when these issues of trust are dealt with (Frederick, Loewenstein, and O'Donoghue 2002).

Many subjects give conflicting answers to these two questions. To questions such as the first one they often prefer the immediate reward ($100 today). To questions such as the second one they often prefer the delayed reward ($110 in 31 days).

Such preferences are inconsistent with the standard model. To see this, suppose people discount the future at rate δ. Then the value of $100 today is $u(100,)$ and its value tomorrow is $u(110)$. On the other hand, in problem two the value is $\delta^{30}u(100)$ versus $\delta^{31}u(110)$. This is the exact same trade-off. In other words, with the standard constant discounting individuals should choose the same thing in both situations.

Differences in preferences for the immediate versus the future can also be seen in the field. Read, Loewenstein, and Kalyanaraman (1999) asked subjects to choose three rental movies. The subjects either chose one by one, for immediate consumption. Or they chose all at once, for the future. When choosing sequentially for immediate consumption, they tend to pick "low-brow" movies. When picking simultaneously for future consumption, the subjects tend to pick "high-brow" movies. Once again, when planning for the future they are more willing to make choices that have long-run benefits (presumably "high-brow" movies) than when choosing in the present.

The difference in choices at different horizons poses a problem for the individual. Consider a concrete example. Suppose my preference is that next Monday I will begin writing a paper rather than put that off until Tuesday. Of course, today I am busy and would rather put off writing the paper. What happens on Monday? What had been a decision about the distant future (where I exhibited patience) becomes a decision about the present (where I exhibit impatience). My choice may now change. Once again, the option of putting it off for a day seems appealing, as appealing as it did last week when I made the same decision. In other words, there is a conflict between what I plan to do in the future and what I will actually do when the future arrives.

This type of conflict is only one of the difficulties parents face in getting their children educated. In the example I gave, the father wanted his son to be educated and was willing

in the future to put in the effort and money needed to see that happen. Yet in the moment, many immediate pressures impinge on his time, money, and energy, making it hard for him to implement his longer term plan. This view presumes that parents would like to see their children educated but simply can't find a credible way to stick with that plan. I think this perspective helps improve our understanding of many components of education.

It provides explanation of the gap between parents' stated goals and actual outcomes. The Probe report on basic education in India finds that many parents are actually quite interested in education (De and Dreze 1999, pp.19-26). Even in the poorest states in India, where education is worst, this survey found that over 85 percent of the parents agreed that it was important for children to be educated. In the same survey, 57 percent of parents responded that their sons should study "as far as possible." Another 39 of parents said their children should get at least a grade 10 or grade 12 education. Clearly parents in these areas of India value education. Yet these responses contrast with very low educational attainment in these states. This gap is reminiscent of the gap between desired and actual retirement savings in the United States. In one survey 76 percent of Americans believed that they should be saving more for retirement. In fact, 55 percent felt they were behind in their savings, and only 6 percent reported being ahead (Farkas and Johnson 1997). They want to save, but many never make it happen. As noted earlier, immediate pressures are even more powerful in the education context. Putting aside money to pay for schooling requires making costly, immediate sacrifices. Fighting with children who are reluctant to go to school can be especially draining when there are so many other pressures. Walking a young child to a distant school every day requires constant effort in the face of so many pressing tasks. Or stated differently, if middle-class Americans supported by so many institutions cannot save as much as they want, how can Rajasthani parents be expected to consistently and stoically make all the costly, immediate sacrifices needed to implement their goal of educating their children?

This also helps to explain, in part, an interesting phenomenon in many developing countries: sporadic school attendance. In contrast to a simple human capital model, education does not appear to follow a fixed stopping rule, with students attending school

consistently until a particular grade. Instead, students go to school for some stretch of time, drop out, and later begin again. This sporadic attendance, though far from optimal, is a characteristic of the dynamically inconsistent preferences described earlier. When faced with particularly hard-to-resist immediate pressures, individuals will succumb to them. When these pressures ease, it becomes easier to implement the original plan of sending their child to school--and they may revert to it. In many related discussions of self-control, the importance of salience is often emphasized (Akerlof 1991). To this end, parents who have "slipped off the wagon" may find some salient moments that encourage them to again try to get their children to school. One empirical prediction here is that at the beginning of the school year, attendance should perhaps be higher than at any other time as many parents decide to give it another try. As the parents succumb to immediate pressures, attendance would then decline throughout the year.[4]

This perspective also has some policy insights. First, policies that spread immediate pressures over time could be beneficial. For example, school fees that require continuous small payments rather than one large payment may make it easier for parents to finance schooling. It requires far more will power to save up for a big purchase (such as uniforms) than to pay small fees each week or month.[5] Second, this perspective should alter policies that attempt to increase parental demand for education. For example, the success of bonus payments to parents for children's enrollment depends crucially on the payment structure. If payments are made at the end of the school year, they are unlikely to work particularly well. In this model, parents already recognize a long-run reward to education. Adding to that will do little to solve the core problem. In contrast, bonus payments that are made more frequently may help to tilt the tradeoff in the short-run, which is the real barrier. Third, programs that make schooling more attractive to students may provide a low-cost way to make it easier for parents to send children to school. For example, a school meals program

[4] This last point provides one way to distinguish this explanation from a rational model with large liquidity shocks. Moreover, in such a rational model, difficulties arise if parents rationally forecast such shocks and there are scale economies to attending for long continuous periods. In this case, parents should build a "buffer stock" early on--to insure against such shocks and then send the child to school for one long (and presumably more productive) stretch.

[5] Note that in this framework, unlike in a liquidity constraint framework, this policy would work even if these payments all had to be made *prior* to the beginning of the school year. This would be analogous to the use of lay-away plans at retail stores in the United States.

may make school attendance attractive to children and ease the pressure on parents to constantly encourage their children to go to school (see Vermeesch 2003 for a discussion of such programs). One could even be creative in designing these programs. For example, school sports, candy, or any number of other cheap inputs that make schooling more attractive to children may have large effects. In fact, under this model such programs could have extremely large benefit-to-cost ratios, much larger than could be justified by the monetary subsidy alone.

In my opinion, this perspective on schooling matches the complexity of life in developing countries. Of course, immediate pressures are not the only problem. Numerous other factors—from liquidity constraints to teacher attendance—surely play a role. Yet, those have been explored and are very much on the radar screen of many development economists. These other forces, while potentially powerful, are not commonly considered and deserve more scrutiny.

Demand for Commitment and Savings

The difficulty of sticking with a course of action in the presence of immediate pressures also has implications for how individuals save. But in the standard economic model of savings, there is no room for such pressures. In that model people instead calculate how much money will be worth to them in the future by taking into account any difficulties they may have in borrowing, and any shocks they may suffer. Based on these calculations, they make a contingent plan of how much to spend in each possible state. They then, as already discussed, implement this plan with no difficulty. As noted earlier, for poor people in many developing countries, implementing such plans is much easier said than done. They face a variety of temptations that might derail their consumption goals.

Behavioral economists have recently begun to better understand the devices that people may use to deal with such temptations. The inter-temporal preferences noted earlier (short-run impatience, long-run patience) are often modeled as discount rates that vary with horizon. People have a very high discount rate for short horizons (decisions about now versus the future) but a very low one for distant horizons. This is often called hyperbolic

discounting because the original curve used to produce it was hyperbolic in shape (Strotz 1956, Ainslie1992, Laibson 1997).

A key question in this model is whether people are sophisticated or naive in how they deal with their temporal inconsistency. Sophisticated people would recognize the inconsistency and (recursively) form dynamically consistent plans. In other words, they would only make plans that they would follow through on. Naïve people, however, would not recognize the problem; they would make plans assuming that they will stick to them and abandon their plans only if required, when the time comes. There are reasons to believe both views. On the one hand, individuals appear to consciously demand commitment devices that help them commit to a particular path. On the other hand, they appear to have unrealistic plans. Perhaps the best fit of the evidence is that individuals partly (though not necessarily fully) recognize their time inconsistency.

The important practical feature of this view is that the commitment implicit in institutions is very important for understanding behavior. Institutions can help solve self-control problems by committing people to a particular path of behavior. A common analogy here is with Ulysses, who in Greek mythology ties himself to his ship's mast so that he can listen to the song of the sirens but not be lured out to sea by them. While not so dramatic, similar commitment devices exist in everyday life. Many refer to their gym membership as a commitment device ("Being forced to pay that much money every month really gets me to go to the gym lest I waste the membership fee."). Or to take another example, Christmas clubs, though now less common than in the past, used to be a powerful commitment tool for some who wanted to save up to buy Christmas gifts.

Relevant evidence on the power of commitment devices is given in Gruber and Mullainathan (2002), which studies smoking behavior. Rational choice models of smoking treat this behavior roughly like any other good. Smokers make rational choices about their smoking, understanding the physiology of addiction that nicotine entails. Behavioral models, however, recognize a self-control problem in the decision to start smoking and in the decision (or rather attempts) to quit. Some survey evidence seems to support the

behavioral model. Smokers often report that they would like to quit smoking but are unable to do so. This resembles the temporal pattern above. Looking into the future, smokers would choose to not smoke. But when the future arrives, they are unable to resist the lure of a cigarette today (perhaps by promising themselves that tomorrow they will quit). To differentiate these theories we examined the impact of cigarette taxes. Under the rational model, smokers are made worse off. This is a standard dead-weight loss argument. Smokers who would like to smoke cannot now, because of the higher price. In models with time hyperbolic discounters, however, taxes could make smokers better off. The very same force that is bad in the rational model—high prices driving smokers to quit—is good in the behavioral model. Because smokers wanted to quit but were unable to, they are now better off. In the parlance of time-inconsistency models, the taxes serve as a commitment device.

To assess well-being we use self-reported happiness data. While such data are far from perfect, they can be especially useful in contexts such as these, where the variable of interest is relatively clean and the mis-measurement is thus simply absorbed in the residual. Using a panel of states in the United States, we find that the happiness of those who tend to smoke increases when cigarette taxes increase. Relative to the equivalent people in other states (and relative to those who tend not to smoke in their own state), these people show actual rises in self-reported well-being. In other words, contrary to the rational model and supportive of the behavioral model, cigarette taxes actually make those prone to smoke *better off*. This kind of effect is exactly the one I alluded to in the introduction: Institutions (or cigarette taxes in this case) have the potential to help solve problems within people as well as among people.

There is also evidence on people actively choosing commitment devices. Wertenbroch (1998) argues that people forego quantity discounts on goods they would be tempted to consume (cookies, for example) in order to avoid temptation. This is a quantification of the often-repeated advice to dieters: don't keep big bags of cookies at home. If you must buy tempting foods, buy small amounts. Trope and Fischbach (2000) show how people strategically use penalties to spur unwanted actions. They examined people scheduled for small, unpleasant medical procedures--and showed how these people voluntarily chose to

take on penalties for not undergoing the procedures. In fact, they cleverly chose these penalties by selecting higher penalties for more aversive procedures. Ariely and Wertenbroch (2002) provide even more direct evidence. They examined whether people use deadlines as a self-control device and whether such deadlines actually work. In an experiment, students in a class at MIT chose their own deadlines for when to submit three papers. The deadlines were binding, so in the absence of self-control problems the students should clearly choose the latest deadlines possible for all three papers. They were told there was neither benefit to an early deadline nor cost to a late one, so they can only benefit from the option value of being able to submit a paper later. In contrast, students chose evenly spaced deadlines for the three papers, presumably to give themselves incentives to complete the papers in a timely manner. Moreover, the deadlines appeared to work. A related study shows that people who are given evenly spaced deadlines do better than those who are given one big deadline at the end.

I think savings in developing countries can also be better understood through this perspective. It provides an alternative view on institutions such as roscas, which are popular in many countries (Gugerty 2001). In a rosca, a group of people meets together at regular intervals. At each meeting, members contribute a pre-specified amount of money. The sum of those funds (the "pot" so to speak) is then given to one of the individuals. Eventually, each person in the rosca will get their turn and thus get back their contributions. Roscas are immensely popular, but what is their attraction? They often pay no interest. In fact, given the potential for default (those who receive the pot early may not continue to pay in), contributors may effectively pay a negative interest rate. One reason for the popularity of roscas may be that they serve as a commitment device in several ways. By making savings a public act, individuals allow social pressure from other rosca members to commit them to their desired savings level (Ardener and Burman 1995). As some rosca participants say, "you can't save alone." Other rosca members have all the incentives to make sure each other member continues to contribute. The groups also enable individuals to save up to larger amounts than they normally could achieve given their own problems with self-control. Imagine someone who wished to make a durables purchase (or pay school fees) of 1,000 rupees. By saving alone and putting aside money each month, the

saver faces a growing temptation. When they reach 400 rupees, might not some other purchase or immediate demand appear more attractive? The rosca doesn't allow this temptation to interfere. Individuals get either nothing, or the full 1,000 rupees all at once. This "all or nothing" property may make it easier for some to save enough funds to make large purchases.

This type of scheme also helps to provide a more nuanced view of individuals' demand for liquidity. In the standard logic, the poor unconditionally value liquidity. After all, liquidity allows people to be able to free up cash to attend to immediate needs that arise. If a child gets sick, money is needed to pay for medicine. This might be especially true for the poor. Shocks that are small for the well-off can be big for the poor, and they would need to dip into real savings to address them. But the poor, in these models, face a tradeoff. They value liquidity for the reasons cited above, but liquidity for them is also a curse: it allows them to too easily dip into savings. Durable goods and illiquid savings vehicles may actually be preferred to liquid savings vehicles. Cash, for example, may be far too tempting and spent too readily. On the other hand, by holding their wealth in items such as jewelry, livestock, and grain, individuals may effectively commit themselves not to give into immediate consumption pressures. In these models, therefore, there is an optimal amount of liquidity. Even when liquidity is provided at zero cost, the poor will choose some mix of illiquid and liquid assets.

Another implication from this perspective is that revealed preference fails as a measure of policy success. Observing that people borrow at a given rate (and pay it back) does not necessarily mean that the loan helps them. A loan may in some cases help them deal with a liquidity shock. But in other cases, it may not help, because the loan assists them in giving way to immediate temptations and leaves them straddled with debts they must repay. This distinction is important for understanding micro-credit in developing countries. Often, the metric of success for such programs is whether they are self-sustainable. Such a metric makes sense if revealed preference makes sense. Profitability would imply that people prefer getting these loans even at a non-subsidized rate; revealed preference then implies their social efficiency. Yet in the presence of time inconsistency, profitability of micro-

credit could mean very little about social efficiency. The key question is to what extent the loans exaggerate short-run impatience and to what extent they solve long-run liquidity constraints.[6] Ultimately one needs a deeper understanding of what drives borrowers. One avenue for this might be data on loan usage. Are loans being spent on long-run investments (as is often touted) or spent on short-run consumption? Of course, some short-run consumption might well be efficient, but this data combined with an understanding of the institution would help to better understand (and improve) the social efficiency of micro-credit.

Policy can also provide cheaper and more efficient commitment devices. After all, even saving in grain is an expensive way to produce a commitment device. Vermin may eat the grain, and the interest rate earned on the grain could be zero or even negative. Moreover, it is important to recognize that even if people demand such commitment devices, the free market may not do enough to provide them. The highly regulated financial markets in developing countries may lead to too little innovation on these dimensions. Monopoly power may also lead to inefficient provision of these commitment devices, depending on whether a monopolistic financial institution can extract more profits by catering to the desire for commitment or to the temptations themselves. In this context governments, nongovernmental organizations, and donor institutions can play a large role by promoting such commitment devices.

Ashraf, Karlan, and Yin (2004) provide a stunning illustration of this. They offered savers at a bank in the Philippines the opportunity to participate in "SEED" accounts, which are like deposit accounts, except that individuals cannot withdraw deposits at will. Instead, the money can be withdrawn only at a predetermined date, or once a predetermined goal has been reached. This account does not pay extra interest and is illiquid. In most economic models, people should turn down this offer in favor of the regular accounts offered by that bank. Yet there is strong demand for the SEED accounts. More than 30 people of those offered the accounts choose them, and banks report that the accounts help these particular

[6] To make this contrast stark, note that in the United States, payday loan companies are a very profitable form of micro-credit.

individuals to save. Six months later, those offered the accounts show substantially greater savings rates than those not offered the accounts. Experiments such as these will, I feel, eventually help to deepen our understanding of savings decisions and greatly improve development policy.

Defaults and Financial Institutions

Financial institutions do not simply help savings through their commitment value. A very important set of results in behavioral economics suggests that these institutions affect behavior simply through the status quo they produce. Samuelson and Zeckhauser (1988) documented a variety of phenomena known as the status quo bias. Here is a simple example. A group of subjects was given the following choice:

> *You are a serious reader of the financial pages but until recently have had few funds to invest. That is when you inherited a large sum of money from your great uncle. You are considering different portfolios. Your choices are:*
>
> - *Invest in moderate-risk Company A. Over a year's time, the stock has 0 .5 chance of increasing 30 percent in value, a 0.2 chance of being unchanged, and a 0.3 chance of declining 20 percent in value.*
> - *Invest in high-risk Company B. Over a year's time, the stock has 0.4 chance of doubling in value, a 0.3 chance of being unchanged, and a 0.3 chance of declining 40 percent in value*
>
> - *Invest in treasury bills. Over a year's time, these bills will yield a nearly certain return of 9 percent.*
>
> - *Invest in municipal bonds. Over a year's time, these bonds will yield a tax-free return of 6 percent.*

A second set of subjects is given the same choices, but with one small difference. These subjects are told that they are inheriting a portfolio from their uncle, in which most of the portfolio is invested in moderate-risk Company A. The choice now is subtly different. It is how much of the portfolio to *change* to the options above. Interestingly, the subjects find a large difference between the two treatments: much more of the money is reinvested in Company A when that is the status quo choice.

This bias towards the status quo appears to run quite deep and is not just due to superficial explanations (such as information content of the uncle's investments). Samuelson and Zeckhauser (1988) demonstrated this bias with a very interesting piece of evidence from the field. In the 1980s, Harvard University added several plans to its choice of health plans, thus providing an interesting test of status quo bias: How many of the old faculty chose the new plans, and how many of the newly joined faculty chose the older plan? A stark difference emerged. Existing employees "chose" the older plans at a two to four times higher rate than new employees. In other words, incumbent employees made the easiest choice of all: to do nothing.

This bias towards the status quo could perhaps be motivated by the deeper phenomena of automatic behavior. Psychologists have recently documented numerous instances of the idea that people often make automatic, non-conscious choices. Gilbert, Tafarodi, and Malone (1993) provided an example that illustrates automaticity. Subjects were exposed to false information about a criminal defendant.. On some trials subjects were exposed to these false sentences while cognitively loaded with another task--or while under time pressure. In these conditions subjects automatically assumed the (false) statements to be true rather than examining them. This illustrates one of the basic ideas behind this research on automaticity. Unless attention is consciously drawn to a decision, it will be made through some automatic processes. In many practical situations, the likely automatic process is to simply do nothing. Thus, what economists view as a "choice" may not really be an active choice at all. It may instead reflect default behavior combined with the institution underlying that choice.

Madrian and Shea (2001) conducted a particularly telling study along these lines. They studied a firm that altered the choice context for employee participation in their retirement plan. When new employees join the firm, they are given a form that they must fill out in order to participate in the savings plan. Although the plan is quite lucrative, participation is low. Standard economic models might suggest that the subsidy ought to be raised, but this firm instead changed a simple feature of its program. Prior to the change, new employees received a form that said something to the effect of "Check this box if you would like to participate in a 401(k) plan. Indicate how much you'd like to contribute." After the change, however, new employees received a form that said something to the effect of "Check this box if you would like to **not** to have 3 percent of your pay check put into a 401(k) plan." By standard reasoning, this change should have little effect on contribution rates. How hard is it to check off a box? In practice, however, Madrian and Shea (2001) find a large effect. When the default option is to not contribute, only 38 percent of those who were queried contributed. When the default option was contribution, 86 percent contributed. Moreover, even several years later those who were exposed to a contribution default still showed much higher contribution rates.

These results are consistent with (and motivated) those discussed earlier.. While we cannot be sure from these data what people are thinking, I would speculate that some combination of procrastination and passivity played a role. Surely many people looked at this form and thought, "I'll decide this later." But later never came. Perhaps the- subjects were tempted by activities other than deciding on 401(k) contribution rates (hard to believe, but there are more interesting activities). Perhaps the decision simply slipped from their attention because other factors came to occupy it. In either case, whatever the default was on the form, a majority ended up with this choice. In fact, as other psychology tells us, as time went on these individuals may well have justified their "decision" to themselves by saying, "3 percent is what I wanted anyway," or "that 401(k) plan wasn't so attractive." In this way, their passivity made the decision for them. By making the small, active choice to choose later, these people ended up making a large decision about thousands of dollars in retirement money.

Insights of this type can also help us design whole new institutions. One example is Save More Tomorrow, a program created by Thaler and Benartzi (2003)in an effort to get people to make one active choice--but to have them make it in such a way that if they remain passive afterward, they are still saving. To participate in the program, contributors decide on a target savings level (and we know from before that people actually do want to save). Once they decide on how much they'd like to save, participants agree to small deductions from their paychecks beginning *next year*. And then each year, as they receive pay raises their deductions will increase until reaching their target savings level. Participants can opt out of the program at any time. But the cleverness of the program is that if the savers do nothing and remain passive, they will continue to save (and even increase their savings rate).

The results have been stunning. In one firm, for example, more than 75 percent of those offered the Save More Tomorrow plan participated rather than simply trying to save on their own. Of these, interestingly few of them (less than 20 percent) later opted out. As a result, savings rates increased sharply. By the third pay raise (as the default increases accumulated), individuals had more than tripled their savings rates. But perhaps the greatest success has been the diffusion of this product. Many major firms and pension fund providers are thinking of adopting the plan, and participation in the program will likely soon number in the millions. Save More Tomorrow is an excellent example of what psychologically smart institutional design might look like in the future. It does not solve a problem between people but instead helps solve a problem within people: not saving as much as they would like.[7]

One simple implication of these results is that behavior should not be confused with dispositions (Bertrand, Shafir, and Mullainathan 2004). An economist observing the savings behaviors of both a middle-class American and a rural farmer might be tempted to conclude something about different discount rates. The high savings of the middle-class American surely reflects greater patience. But as we have seen, this need not be the case.

[7] In this short space, I cannot do justice to all the psychological tools that the Save More Tomorrow plan relies on. The full discussion in the original paper is well worth reading as an example of how to use psychological tools to better design policy.

Such an inference could be just as wrong as inferring that those who defaulted into their 401(k) plans are more patient than those who did not participate by default. The behavioral difference may be that better institutions facilitate more automatic, default savings by individuals.

Another implication is in the form of banking reform. Some of the lessons learned in the United States could easily be transferred to parts of developing countries. First, protocols such as automatic payroll deposits (as well as the ability to reroute some of this money directly into savings accounts) could be a powerful way to spur savings. Banking innovations such as these could be very inexpensive yet have profound effects on the savings rates of the middle-class in developing countries.

Second, the simple extension of banking to rural areas could in and of itself have a large impact on behavior. While not as powerful a default as having your paycheck automatically deposited, it may very well help to have the money placed out of easy access. The worker then has to make one active decision—putting the money into the account—but then the act of keeping the money becomes a passive one. When money is close at hand, active effort is required to save it. But when money is in the bank account, active effort is required to go and get it in order to spend it. In this sense, a bank account may serve as a very weak commitment device. By keeping the money at a (slight) distance, spending it may be a lot less tempting.

Loss Aversion and Property Rights

Consider the following simple experiment. Half of the students in a room are given mugs, and the other half receive nothing (or a small cash payment roughly equivalent to the value of the mugs). The subjects are then placed in a simulated market where a mechanism determines an aggregate price at which the market clears. How many mugs should change hands? Efficiency dictates that market clearing should allocate the mugs to the 50 percent of the class who value it the most. Since the mugs were initially randomly assigned, roughly half of this group should have started off with mugs, and half should have started

off with no mugs. Consequently, trading should have resulted in exactly half the mugs changing hands.

Kahneman, Knetsch, and Thaler (1990) have in fact run this experiment. Contrary to the simple prediction, however, they found a stunningly low number of transactions. Roughly 15 percent of the mugs trade hands. The prediction problem is seen if we look at how students value the mugs. Those who were given the mugs put a reservation price at three *times* that of those who did not receive mugs. Given that, it is no surprise that so few mugs change hands. Numerous follow up experiments have been run on this so-called *endowment effect,* to rule out the obvious explanations: an income effect, the value of mug recipients being able to see and feel the mug, or small transaction costs of some form. In the end, the phenomenon is robust. Those who are given objects very quickly appear to value them more than those who were not given the objects.

This phenomenon reflects in part a deeper fact about utility functions: prospect theory. In fact the original experiment was motivated by prospect theory. In prospect theory, people's utility functions are defined in large part on changes. In the traditional model of utility people would value the mug at $u(c+Mug)–u(c)$. That is, their utility is defined in absolute levels of consumption, and the mug adds to that. In the prospect theory approach, utility is defined by a value function that is evaluated locally and in changes. Those who receive the mug consider its loss as a function of $v(-Mug)-v(0)$. Those who do not receive the mug value its gain at $v(Mug)-v(0)$. Notice the symmetry in the original function: both those with and without the mug value it the same (on average). In the second formulation, however, nothing guarantees the symmetry. The difference in valuation between the two depends on whether $v(Mug)$ is bigger or smaller than $-v(-Mug)$. The evidence above is consistent with a variety of evidence from other contexts: losses are felt more sharply than equivalent gains. Thus $v(x) < -v(-x)$. This phenomenon, known as loss aversion, has been seen in many contexts. Perhaps the two cleanest examples are in Odean and Genesove and Mayer . Odean (1998) showed that small investors in the stock market are more willing to sell stocks they have made money on than ones they have lost money on. This fact may seem quite obvious, but it is inconsistent with standard utility theory (he rules out the obvious tax

explanations) since gains and losses are symmetric: investors should merely take the trades they view as best. In fact, Odean finds that this strategy of holding losers and selling winners results in negative abnormal returns. An investor's unwillingness to take on losses, on the other hand, is quite consistent with loss aversion. Another example, familiar to many who have owned housing, is given in Genesove and Mayer (2001), who found that individuals who have taken a loss on their house set far higher prices when it comes time to sell. It appears that they are more willing to gamble to break even, a phenomenon quite consistent with loss aversion.

The insight about loss aversion can also help understand why policy change is so difficult in developing countries. Consider market reforms that transfer resources from one group to another with an efficiency gain. For example, suppose privatizing a firm will result in gains for customers while resulting in losses for incumbent workers. Under this perspective, such reforms are fought so vigorously partly because the losses are felt far more sharply by the workers. One implication of loss aversion is, at the margin, to pursue strategies that preserve the rents of incumbents rather than ones that try to buy out incumbents. All other things equal, a strategy that offers a buyout for incumbent workers will be far more costly than one that grandfathers them in. The buyout requires the government to compensate the workers for their loss, and this can be much greater than simple utility calculations suggest. In contrast, a strategy that guarantees incumbent workers a measure of job security would not need to pay this cost.[8] Many situations of institutional change require some form of redistribution. The recognition of loss aversion suggests that successful policies may require protecting the losses of incumbents.

Loss aversion also reinforces the importance of well-enforced property rights. Consider a situation where there is a single good, such as a piece of land *L*. Suppose that there are two individuals (A and B) who can engage in force to acquire or protect the land, and that engaging in violence may result in acquisition. In the presence of well-defined property rights (say this land belongs to person A), the decision to engage in force is

[8] Of course, this is a comparative static only. In any given context there may be pressing reasons to favor one policy over the other.

straightforward. If B engages in force he stands to gain *v(L)* if his force is successful. A, on the other hand, stands to lose *v(-L)* if he doesn't engage in force. In this case loss aversion implies that A stands to lose a lot more than B could gain. So with well-defined property rights A would engage in more force than B. Consequently, B may never attempt force. So even in the absence of enforcement, loss aversion may mean that well-defined property rights may deter violence.

Consider now the case of ill-defined property rights. Suppose that both interested parties are unsure who owns a piece of land. Specifically, take the case where they both think they own it. This is an approximation to the situation where ownership with probability one-half already gives a partial endowment effect, or to the situation below of biased beliefs, where both parties may have probability greater than one-half of owning it. In this case, both A and B think they stand to lose *v(-L)* if they do not fight for the land. In other words, in the absence of well-defined property rights, both parties will put in large amounts of resources to secure what they already believe is theirs. This to me is one of the powerful implications of loss aversion. Appropriately defining property rights prevents two (or more) parties from having an endowment effect on the same object. Conflicting endowments such as this are sure to produce costly attempts at protecting the perceived endowments, and anything ranging from costly territorial activities (fencing and de-fencing) all the way to violence may result.

Social Preferences and Teacher Motivation

In many important development contexts, self-interested behavior is extremely deleterious. Bureaucrats in many countries are corrupt. They enforce regulations sporadically, or take bribes. Another stark example is teacher absenteeism. Numerous studies have found that teacher absenteeism is one of the primary problems of education in developing countries. Teachers simply do not show up for school, and as a result little education can take place. This blatantly selfish behavior stands in contrast to some evidence on social preferences--that individuals may value the utility of others. I will review this literature and describe how social preferences may contribute to the problem but may also serve as part of the solution.

A very simple game called the "ultimatum game" has become an excellent tool for studying social preferences (Guth, Schmittberger, and Schwarze 1982, Thaler 1988). In this game, one player (the "proposer") makes the first move and offers a split of a certain amount, say $10. The second player ("responder") decides whether to accept or reject this split. If it is accepted, P and R get the proposed split. If the split is rejected, then both players get zero. What makes this game so intriguing is that it clarifies two interesting issues in interpersonal preferences. First, will the responder accept "unfair" offers? In the pure self-interest model the responder should accept any offer greater than zero and be indifferent to even an offer of zero. Second, what kind of offer will the proposer make given the responder's rejection strategy? Is the proposer motivated only by the threat of rejection? I In the pure self-interest model he would, of course, offer the responder a tiny bit above zero (or even zero itself) knowing that there's no fear of rejection.

This game has been run in many countries, for stakes that range from a few dollars in the U.S. to the equivalent of a few months' income in many countries. Yet the pattern of findings is relatively constant.[9] First, responders often reject unfair offers (i.e. those other than 50-50 splits). Second, proposers often make very fair offers, for splits close to 50-50 or 60-40. Moreover, proposers' fair offers are not just driven by fear of rejection. They tend to make offers larger than implied by a simple (risk-neutral) fear of rejection. This is most directly seen in a variant of the ultimatum game, called the "dictator game." Here the proposer makes an "offer" but the responder has no choice but to accept it. In this game, the threat of rejection is removed and one continues to find non-zero offers by the proposer, although the offers are lower than in the ultimatum game.

The ultimatum game illustrates two facts about interpersonal preferences. First, both it and the dictator game suggest (rather prosaically) that people care about others. These are one-shot games with no chance for repetition. Yet people give away rents to others. Such "altruistic" preferences are used to a limited extent in economics (often within a family or perhaps a village). Yet here we see these behaviors as pretty universal. This is, of course,

[9]For interesting differences in some tribal cultures, see Heinrich et. al. (2002).

to most people not much of a surprise. The large amount of charitable giving that occurs in most societies, the volunteer activity, and the spending of private time on public goods (recycling, for example) all point to such preferences.

Reciprocity often underpins such preferences, as illustrated in a very nice experiment by Regan (1971). Subjects in this study were asked to rate the quality of some painting along with another person (who is actually a "confederate," or someone who worked for the researcher). Partway through the experiment, during the rest period, the confederate leaves the room. When he returns he has a Coca-Cola for himself, and has also brought one for the subject. In a control condition, the confederate merely leaves the room and comes back (with no Coke for himself or for the subject). So some subjects receive an unsolicited act of kindness, while others do not. At the end of the experiment, as they are parting ways, the confederate mentions to the subject that he's selling raffle tickets and that he'll win a prize if sells more tickets than anyone else. "Could you help me and buy some tickets?" he asks the subject. This is the outcome of interest in this experiment: How many tickets does the subject buy? Relative to the control condition, the subject buys far more tickets if the confederate has made the small, unsolicited, favor of buying the subject a Coke. In fact, so big is the effect that the return on the favor is quite large. The confederate bought a 10-cent can of Coke and ended up selling at least two more raffle tickets at 25 cents each. Consequently, for a 10-cent "investment" he yielded 50 cents.[10] Such reciprocal fairness is ubiquitous. Survey firms use it by paying people *prior* to filling out their survey because they realize that the norm of reciprocity binds individuals to return the form. Nonprofits send small "gifts" along with their request for donations. The reciprocity norm is one specific and ubiquitous form of altruistic preferences.

Another very important wrinkle to the altruism perspective is provided by experiments in helping behavior. Darley and Latane (1968) for example conducted a study at Columbia University, where subjects believed they were in a roundtable, virtual conversation. The subjects were seated in a room with a mike and speakers and were told that the

[10] Of course, the effect may have been smaller had subjects perceived Joe (the confederate) as having bought the Coke for purposes of an investment.

conversation was with either one other person, or with six other people, and that the conversation would go in turns, with only one person's mike functioning at any given time. Partway through the "conversation," the subject hears the speaker go through a seizure of some sort and requests help from the experimenter. When the subject feels they are the only other listener, most (though surprisingly not all) seek help. When the person feels there are other listeners, nearly any seek help. Experiments such as this underscore the potential fragility of pro-social behavior: It is by no means universal, and is importantly shaped by context.

Yet the second outcome, rejection by the responder, points to an equally important fact about interpersonal preferences. People will pay costs themselves in order to punish those they feel are being unfair.[11] By rejecting an offer, the responder is passing up money to punish the proposer. This type of behavior illustrates part of the "dark side" of interpersonal preferences. In simple altruistic models, interpersonal preferences are only a good thing: Having one person care in a positive way about another only makes it easier to deal with externalities and so on. The responder's behavior shows, however, shows that inefficiencies and conflicts might arise.

This possibility is clearest in a classic experiment by Messick and Sentis (1979), who asked subjects to imagine they had completed a job with a partner. The subjects were asked to decide what they considered "fair" pay for their work, but were then divided into two groups. One group was told to imagine that they had worked 7 hours on the task, while the partner had worked 10. The other group is told to imagine that they had worked 10 hours, while the partner had worked 7. Both groups were told that the person who had worked 7 hours had been paid $25 and were asked what the person who had worked 10 hours should be paid. Those who were told that they had worked 7 hours (and paid $25) tended to feel that the 10-hour subject should be paid $30.29. Those who were told that they had worked 10 hours, however, felt they should be paid $35.24. The source of bias in these responses can be seen in the bimodality of the distribution of perceived "fair" wages. One mode was

[11] One of the debates in the experimental literature in economics is whether this "punishment" view is needed to explain these data. There is enough auxiliary evidence, however, that while the punishment view may not be the full story it is at least part of the story.

at equal pay ($25 for both), while the other mode was at equal hourly wage (so the 10-hour worker gets paid approximately $35.70). Interestingly, the difference between the two treatments was mainly in the proportion in each mode. Those who had worked 7 hours showed more subjects at the equal pay level mode, while those who had been told they'd worked 10 hours showed more subjects at the equal hourly pay mode. In other words, both groups recognized two compelling norms: equal pay for equal work, and equal pay for equal output. Yet their roles determined (in part) which of the norms they chose.

These results extend beyond choosing between two fairness norms. Such conflicts could easily arise even if there's disagreement about measuring input levels (which often are not fully observed), and they speak to the source of a problem created by fairness. When there is not universal agreement about the fair division of labor or pay, "fairness" preferences can very quickly create conflict.

These experiments as a whole illustrate the complexity of social preferences. Individuals in some contexts do much to help others (at great costs to themselves). Reciprocity in particular appears to be a powerful force. But people will also, at cost to themselves, punish those who they think are being "unfair." The final behavior is especially important since notions of fairness are often driven by self-interest.

Let us return to the case of teacher absenteeism. The PROBE report (De and Dreze 1999) details the results of an extensive survey of teachers in many areas of India. -The report, which noted high absenteeism levels, includes comments from many interviews with teachers that are illuminating with regard to their attitudes. For example, it notes

Having said this, the main issue may not be the low initial motivation of teachers as the fact that many of them lose their motivation over time. Indeed, among recently appointed teachers we often met people with genuine enthusiasm. The honeymoon, however, is usually short-lived, as the morale of young teachers is battered day after day. (pp. 57-58)

Much of this psychological battering can be viewed as a perceived failure of reciprocity. As noted earlier, individuals strongly adhere to the norm of reciprocity. Failures of reciprocity

(or perceived failures) can result in punitive or self-interested behavior in response. Teachers may feel a strong social preference early on and be motivated to teach and give much more than they need to. After all, from a pure self-interest motive, they know they can get away with very little teaching. Yet they may be initially motivated to do more, to come to school, to struggle with tougher students, and so on. The teachers may view these contributions as a "gift." One reason for this, of course, is the initial framing of the job (as a "plum job, with good salaries, secure employment, and plenty of time for other activities"). Thus, a young teacher may think, "I am giving a lot to the school." As with any giving, however, the teacher may expect strong reciprocity and see (perhaps in a self-interested way), many outcomes as a lack of reciprocity. For example, the PROBE report notes that:

The most common complaint is that schools are under-equipped, under-funded, under-staffed, and over-crowded. Poor infrastructural facilities were mentioned by 63 percent of teachers as one of the problems they face. (p.58)

So teachers may feel that the government is not reciprocating their "gifts." This may be especially exaggerated by the transfer system in India:

Unwanted postings and arbitrary transfers are seen as a constant threat. Teachers spend a great deal of time and energy trying to avoid undesirable transfers, lobbying for preferred postings, and building up influential connections to play the transfer game. (p.60)

Thus both the benign neglect of schooling and the active transfers could easily drive teachers to feel that the government does not reciprocate their efforts. They may also come to feel similarly vis a vis the students' parents:

Teachers are often frustrated by the apathy of parents towards their children's education. They complain that parents do not send their children to school regularly, or withdraw them for flimsy reasons. They also see much foot-dragging even when children are at school: parents send them late and in tattered clothes, try to dodge the fees, and generally

fail to watch their children's needs and progress. As teacher[s] perceive it, their own efforts to keep the children at school are not reciprocated by the parents. (p. 65)

Thus, even teachers who are at first motivated may soon feel justified in their apathy. They gave it their best and think that their efforts were not reciprocated. Are these inferences justified? Perhaps not. As in the Messick and Sentis (1979) study, teachers may very well make such inferences in a self-interested way. The failure of the context may be in allowing teachers to make such biased attributions of fairness. Alternatively, teachers may very well be justified in these attributions. We simply cannot tell.

In either case, this perspective suggests that the problem of teacher attendance cannot be studied in isolation. Policies that affect school resources or student attendance may have a large, indirect effect on teacher attendance. More realistically, the impact of teacher incentive policies may vary dramatically with the context. In a context of limited resources where attendance is low, these policies may have only a small or moderate impact. On the other hand, if teacher incentives are coupled with other policies to increase both resources as a whole and student attendance, the impact might be much larger. The teachers would then no longer feel self-justified for their absence, and the incentives needed to get them to work may be much smaller.[12] Of course, I suspect that the effects might be greatest for the new teachers. Among existing teachers, it is harder to tell whether they will anchor on past non-reciprocity or adapt to the new context. While other factors clearly play a role in driving teacher absenteeism, a deeper understanding of their social preferences will, I think, also help to solve the problem.

Norms and Inequality

In 1937, Sherif conducted an interesting psychophysics test. The subjects were seated in a totally dark room facing a pinpoint of light some distance from them. After some time when nothing happens, the light appears to "move" and then disappear. Shortly thereafter,

[12] Part of this implication might be counterintuitive from a pure self-interest point of view. For example, it may be easier to get teachers to come to school if attendance is high than when it is low. This would appear paradoxical if teachers were simply trying to reduce the amount of work they were doing, since higher attendance would precipitate even more work for teachers when they do show up at school.

a new point of light appears. It too moves after some time and then disappears. Interestingly, this movement of the light is a pure psychophysical phenomenon known as the autokinetic effect. The light does not actually move; the eye merely makes it appear to move. The subjects were put in this context for repeated trials (many different resets of the light) and asked to estimate how far the light had "moved." When the lights were shown to individual subjects, these estimates were variable, ranging from an inch to several feet. However, an interesting pattern developed when subjects performed this task in groups of two or three. Under these conditions, the subjects' estimates invariably began to converge on a particular number. A group norm quickly developed. In one variant, a member of the group was a confederate (someone who worked for the experimenter) who gave a specific number. The subject quickly converged to the confederate's answers. Other researchers have found that norms manipulated in this way persist for quite some time. Even when subjects are brought in up to a year later, they show adherence to that initial norm. Moreover, within the context of the experiment, Jacobs and Campbell (1961) have shown how norms can be transmitted across "generations" of subjects. Suppose subjects 1 and 2 initially converge to a norm, but subject 1 is then replaced by subject 3 for enough trials, and subject 2 is then replaced by subject 4. The final group consisting of totally new subjects 3 and 4 will conform to the norm already established by subjects 1 and 2.[13]

Solomon Asch (1951) expanded on these results through an even simpler task. Subjects were brought into a lab and asked to sit with others and judge the length of lines such as those shown in figure 1. The subject hears the judgment of the others and then makes his own. For several trials, this is a very boring task, as it is pretty obvious which line is longer. But then there is a twist. On one of the trials, the first person makes a wrong choice. A second person then makes the same wrong choice. And so it continues until it is the subject's turn to choose. In Asch's experiment, there were 5 to 12 "conformity" trials out of 10 to 18 total trials. What Asch found was stunning. Between 50 to 80 percent of the subjects yielded to the erroneous majority at least once. Of course, as Asch notes, it is not

[13] Camerer and Weber (2003) present an interesting examination of how such norms can arise and evolve over time.

the subjects' perception of the line length that is altered (unlike, perhaps, in the Sherif experiment). Many subjects (but not all) are simply willing to conform in their behavior.

Other experiments suggest that individuals may conform strongly to their roles (Aronson, Steele, Salinas, and Lustina 1998). A modern day version of this can be seen in recent work on stereotype threat. In one early and particularly clever study, African-American and American Caucasian subjects in the United States were asked to take the Graduate Record Examination (GRE). In one condition, the subjects are asked to fill out a questionnaire indicating their gender, major area of study, and other demographic variables (but not race). In another condition, they are also asked to fill in their race. This simple manipulation—by evoking the race of the person—elicited conformity to a common stereotype. The African-American students, who are often stereotyped as less intelligent, responded by fulfilling this expectation. In the condition where race was salient their performance was far worse than that of the Whites'. However, in the condition where race was not salient, however, the African American subjects performed exactly the same as the Whites.

Hoff and Pandey (2004) recently performed a similar experiment on caste in India. Children of lower and upper caste were asked to solve mazes on a piece-rate basis. In some cases caste is made highly salient (through public announcement of the child's caste). When this occurs, the low-caste children solve 25 percent fewer mazes. The researchers go on to provide some evidence for a mechanism in this case. When asked to accept or reject a gamble in which there is *no* scope for judgment by an experimenter, making caste salient does *not* produce a caste gap. Instead, in the case where there is scope for subjective judgment by others, caste appears to have an effect. This suggests that one of the reasons people fall so easily into caste roles is that they expect others to treat them according to these roles.

As Hoff and Pandey note, these types of findings can be helpful for understanding why institutions and inequalities persist. Norms and institutions can shape what people believe is possible. They can shape people's perceptions of how others will respond to them, and

thereby drive behavior. For example, a lower cast child may feel strongly the norms and stereotypes that go along with being lower caste. This can in turn serve as a powerful deterrent to becoming educated or seeking a higher station in life. In this way, inequalities (when defined by well-identified groups) can persist.

Policies attempting to reduce inequalities need to be highly cognizant of the prevailing cultural norms. In the low-caste case, for example, simply giving supply-side incentives or reservations alone may not solve the problem. The tug of the prevailing norms can be stronger than material interests. The flip side of this logic produces a classic "big push" type of argument. If some small group of individuals who are typically discriminated against does manage to break the norms and succeed, the effect can be powerful. They can serve as role models for many others and remove at least the norm-induced barrier. In these models, the key questions are how to promote this initial change, and how to then publicize the resulting successes.

Self-Serving Bias and Evaluation

Hastorf and Cantril (1954) asked two groups of students, one from Princeton and one from Dartmouth, to watch film of a Princeton-Dartmouth football game. Each student was asked to count the number of penalties committed by both teams. Though both groups watched the exact same tape, the counts show that they "saw a different game." Dartmouth students saw an equal number of flagrant and mild penalties committed by both teams. By contrast, the Princeton students counted three times as many flagrant penalties by Dartmouth as by Princeton--and the same number of mild penalties. This experiment illustrates an often-repeated finding in psychology, that the beliefs and perceptions that feed into forming opinions can be biased. In this case, the students' personal affiliations with their schools influenced what they saw. In other cases, it may be prior beliefs or a desire for a particular outcome that leads to biased perceptions and opinions.

Babcock and Loewenstein (1997) provided a particularly stunning example of this bias. Subjects were asked to bargain over how to deal with a particular tort case (which was based on a real trial that occurred in Texas). Each subject was assigned the role of lawyer

for either the defendant or plaintiff. The subjects read all the case materials and then bargained with each other over a settlement. If they fail to settle, the award amount will be what the judge decided in the actual case (which is unknown to the subjects at the time of bargaining). Interestingly, subjects are to be paid as a function of how much they manage to get in the settlement; but they will pay a cost if they go to the judge without settling. Subjects are also asked to assess (in private) how much they think the judge will award them. Finally, some pairs of subjects read the entire description of the case *before* knowing what role they were to play. Others read it afterward. This order of reading the case description has a large effect. Those who read first settled at a rate of 94 percent, without going to the judge. But those who read afterward settled at a rate of only 72 percent. Moreover, as a rule, those who read before hand tended to exaggerate how much the judge would favor them. In short, these subjects exhibited beliefs that were quite biased, based on their status. Plaintiffs believe the merits of the case support a large award, whereas defendants think it merits a small one. These conflicting beliefs are generated through nothing more than the roles the subjects were assigned. When they read through the case, they selectively interpreted the information they saw in light of their own role. Note that this goes against their material interests in one important way: They must pay to go to court, yet their biased beliefs send them to court much more often. Much like subjects in the Princeton-Dartmouth football game described earlier, these subjects saw very different cases. In some sense, each saw what they "wanted" to see.

Of all the evidence I've presented, I feel this outcome has the most far-reaching implications for how development policy is practiced--and that is why I end with it. I feel this evidence tells us something very important about how development policy ought to be evaluated. A useful example is in the study of Cabot's intervention program for delinquent youth in the towns of Cambridge and Somerville, Massachusetts (Powers and Whitmer 1951). This intervention combined all the best tools available at the time for helping these delinquent youths: from tutoring and psychiatric attention, to interventions in family conflicts. Those involved in the program raved about its success. They all had very positive impressions. What made the program unique, however, was that a true random assignment procedure was used to assign the students. When these data were examined,

contrary to the very positive (and likely heartfelt impressions of the caseworkers), there was little measurable effect of the program.

Ross and Nisbett (1991) cited another interesting example: a meta-analysis by Grace, Muench, and Chalmers (1966), who studied all medical research on the "portacaval shunt"-- a popular treatment for cirrhosis of the liver, for which 51 studies examined the efficacy. The doctors and scientists conducting these studies all had the same good intent: to determine whether this procedure worked. But the studies differed in one important way: 15 of them used controls but not randomization, while 4 of them used truly randomized strategies. Thirteen of the 15 nonrandomized studies were markedly or moderately enthusiastic about the procedure. Yet only one of the randomized studies was markedly or moderately enthusiastic.

What was going on here? I feel the good intentions of the doctors and scientists got in their way. There is always subjectivity in nonrandomized trials, what controls to include, what controls not to include, which specification to run, and so forth. Such subjectivity leaves room for self-serving bias to rear its head. And it is exactly because the researchers on these topics are well intentioned, exactly because they hope the procedure works, that it is all too easy for them to find a positive result. Much as with the Dartmouth and Princeton students, these scientists saw in some sense what they wanted to see.

As noted earlier, I feel that both of these examples highlight an important fact about evaluation. Especially in the development context where most people working with a project would like to see it succeed, it is all too easy for self-serving bias to affect evaluations. Beyond the obvious econometric benefits of randomized evaluation, I think this is one of the greatest practical benefits. Randomized trials are a way to minimize (though obviously not eliminate) a researcher's latent biases. They allow us to escape the dangers of biased perception, from which researchers or field workers are no more free than anyone else in the population.

Concluding Observations

Much of recent development economics has stressed the importance of institutions. Property rights must be enforced to provide appropriate incentives for investment. Government workers must be given appropriate incentives to ensure the delivery of high quality public services. Banking may need to be privatized to ensure a well-functioning credit system that in turn allows for better savings and smoother consumption. The common theme here is that institutions must be improved to help to resolve issues between people. Institutions may reduce externalities, solve asymmetries of information, or help resolve coordination problems. This focus on resolving problems *between* people, rather than *within* individuals is natural to economists. The predominant economic model of human behavior leaves little room for individuals themselves to make mistakes. In fact, economists assume that people are unbounded in their cognitive abilities, unbounded in their willpower, and unbounded in their self-interest (Mullainathan and Thaler 2001). And once we admit human complexities, institutional design in development becomes not just about solving problems *between* people. It also becomes about developing institutions in ways that help any one person deal with their own "problems." I hope the small set of examples presented here help illustrate how a deeper understanding of the psychology of people might eventually improve development policy.

PLEASE NOTE: footnotes will appear here, as endnotes.

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