

The streets of Monrovia: Aid, poverty, crime and violence
Concept note and discussion paper

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Discussion paper presented to the EGAP Conference, Columbia University
16 October 2009

Abstract: We present an experimental program and research design that is intended to test the links from cash transfer programs to poverty alleviation, the role of capital constraints and nonstandard time preferences in poverty traps, and the relationship between poverty alleviation, time preferences, and insecurity. The latter link is the weakest theoretically and empirically, however. In addition to seeking feedback on the overall questions and design, input on the links from poverty to violence and crime, and means of testing competing theories and mechanisms, is welcome at this early stage of program and research development.

Background and overview

Nearly half of Liberia's four million people live in its capital, Monrovia. Hundreds of thousands migrated during the 14-year civil war; a majority of Monroviaans are underemployed and live in slums and shantytowns.

Tens of thousands of Monrovia's youth make their living—usually a meager one—on the streets. 'Youth' is hazily defined in Liberia, usually meaning ages 16 to 35. Those with a little capital run a kiosk or sell goods out of wheelbarrows, and probably have a room or shack in which to sleep. A small few have learned and practice trades. Poorer youth hawk wares they can carry. The poorest do physical labor (such as loading cars), beg or steal. A few deal drugs, and marijuana and very small amounts of cocaine are regularly bought and sold.

There are a few thousand war amputees and disabled youth; some are desperately poor while others have shacks, families and a small trade. But all seem to work on the street. A large minority of street youth—amputees and non-amputees—were once affiliated with an armed group, and may still have loose ties. The poorest street youth, at least several thousand in number, are homeless.

It is a wonder (and Liberia's good fortune) that these youth haven't rioted or violently organized themselves. During the 2007 elections in neighboring Sierra Leone, political parties strategically remobilized ex-combatants into 'security squads' in order to protect themselves and to mobilize votes (Christensen and Utas 2008). Nothing like this has been seen in Liberia, at least so far.

Petty crime is rampant, however, and armed burglary and robbery is common (usually with knives, but occasionally with guns). Fortunately very little of this crime is organized. Small groups of street youth form loose associations, sleeping together and protecting one another, and supporting each other's petty crime or drug habits. There are several small groups of ex-combatants who have a patron-client relationship with an ex-military officer. But we have not seen evidence of organized crime, intimidation, or violence.

Liberians love their clubs and associations, however, and virtually every youth is a member of a guild or professional association, no matter how informal their trade; the car loaders, the supermarket beggars, and the shoe shiners all have their local (and sometimes city-wide) associations. Amputees have a large and popular football club with more than a thousand members.

There are obvious humanitarian and development reasons to help urban street youth increase their employment and incomes. This process also raises questions important to students of economic development: the returns to capital at subsistence income levels, the dynamics of poverty alleviation, the determinants of entrepreneurship, and the existence and effect of nonstandard preferences on poverty. In particular, we have observed widespread, extreme time-inconsistency problems among street youth in our early field work.

Unaided, street youth could also pose a serious risk to peace. It is more or less a folk wisdom that unemployed young men are the root of political instability, from crime to riots to armed conflict. This is folk wisdom only, however, and has yet to be tested. Nevertheless, masses of poor, unemployed, alienated street youth—many of whom have ties to a former armed group—could be targets of recruiting by political leaders interested in voter intimidation, or criminal leaders building their strength (especially as UN peacekeeping forces draw down). At the very least, these youth are largely responsible for Monrovia’s relatively high crime rate, which compromises the quality of life for visitors and residents alike. One goal of this project is to test this poverty-insecurity link, explore the mechanism, and investigate the public sector’s ability to reduce crime and violence through anti-poverty programs.

At present we know of no government or NGO programs targeted at street youth in Monrovia. A small number of interventions, now completed, targeted small number of urban street youth—perhaps less than one hundred in total.¹ Their experiences suggest that business development success rates in excess of 30 to 50 percent are within the reach of youth. The typical youth ‘hustles’ for money each day. Start-up funds allow youths to hawk more expensive, less common wares, or purchase equipment (a wheelbarrow, or a kiosk) in which to sell wares. Anecdotally, this work is not only more profitable but more pleasant, less stressful, and more respectable than street hustling.

The World Bank recently agreed to support us to develop and evaluate an experimental program targeted at street youth, one with the primary aim of creating sustainable livelihoods and reducing poverty, but indirectly promoting stability and reducing the risk of crime and violence. The program would be experimental: designed to test strategies for helping these youth while trying to understand the determinants of economic success, poverty alleviation, and the link from poverty to crime and violence.

The ideal intervention would be relatively low-cost and scalable. We propose to experiment with a micro-enterprise program: a small start-up grant and basic business skills training to start an enterprise. NGOs and governments commonly run such programs, especially among the rural poor. The goal is not to build a full-time business, but rather a part-time stream of income that can be reinvested to grow the enterprise over time. There is little hard evidence on the effectiveness of such micro-enterprise grants, although we are evaluating two similar (albeit rural) programs in northern Uganda at present.

We suspect that what makes the Liberian situation different is the character of Monrovia’s street youth: some are undisciplined, evidence self-control problems, or abuse alcohol and drugs. Nevertheless, we feel the intervention, cautiously approached, is a worthwhile experiment. To understand and address these behavioral problems, we propose cross-cutting experimental interventions. We will also proceed cautiously, piloting each intervention on a small group of youth to identify any first-order problems (qualitatively) before scaling up the full experiment.

¹ At present we have consulted with several of these organizations, including UNICEF, the Ministry of Youth and Sports, Don Bosco Homes, Liberia Entrepreneurial and Economic Development, Liberia Entrepreneurial and Asset Development (LEAD), Foundation for Women, Local Enterprise Assistance Program, National Veterans Assistance Program, the YMCA, the national DDDR office, the World Bank, especially with the Adolescent Girls’ Initiative team

The program will be implemented by a local Liberian NGO (still to be selected) and managed by the Liberia office of the NGO CHF International.

The program and evaluation are both at the very early stages of design. Below we discuss the motivating theory, the questions we believe we can answer, and propose a program and research design. Some aspects of the theory and research design are better developed than others (as will become clear). The purpose of this EGAP presentation is to generate new ideas, have our research and program ideas challenged, and if necessary take several steps back and redesign the entire approach.

Another goal in presenting to EGAP is to find and refine the politics in this experiment. The core of the intervention and study is economic: a study of poverty alleviation and a test of behavioral economics. But we are interested in the program precisely because of the implications for crime and violence. Our goal is to move beyond a reduced-form estimate of the poverty-insecurity link and uncover some of the political mechanisms at work.

Some of these political outcomes and mechanisms are poorly defined relative to their economic cousins, and this is one obstacle to rigorous program design and testing. The relationship between poverty and crime is better theorized; below I describe theories from criminology, integrate notions from behavioral economics, and suggest tests to explore. Less clear are the links from poverty and unemployment to other forms of violence, and feedback is particularly welcome on this point.

We plan to pilot the core and cross-cutting interventions on a small group (perhaps 30 youth) between November 2009 and February 2010, closely observing successes and failures and fine tuning the interventions and theories. We then plan to conduct a large scale survey of street youth, identify eligible youth, and randomize and implement a scaled-up intervention, with at most one to two cross-cutting designs. Sample size will vary according to the finalized intervention, but at present we envision a core intervention of business training and a small grant for 1000 youth. A follow-up survey will be conducted post-intervention, allowing sufficient time between the intervention and the survey for the full effects of the program to be felt.

Research questions and theory

i. Poverty alleviation, the returns to capital, and the determinants of entrepreneurship among the ultra-poor

Cash transfers are a common NGO and government anti-poverty measure. Some cash transfer programs, like old age support, are intended to be used for current consumption, especially in developed countries. In developing countries, cash transfer programs are more commonly intended for investment in human or physical capital.² Their objective is for the grant to lead a more-than-proportional increase in permanent income.

This goal is reasonable only if there are credit constraints, such that a person cannot borrow capital at rates less than his expected rate of return. Among street youth in Liberia, this seems like a reasonable assumption. These youth possess little or no physical capital and, for reasons including credit market imperfections, have no ability to borrow. Wage-earning opportunities (i.e. firms) are almost nonexistent. In this context, consumption is a function of entrepreneurial activities (or 'home production' in the theoretical literature, with inputs of labor, ability, and capital). Even if returns to capital are high, street youth have little alternative to low-capital, labor intensive activities (that include petty crime). This is especially the case if there is a discontinuity in returns to capital, such that some minimum start-up capital is required to access high returns. The situation is a form of poverty trap.

² A related class of programs provides credit rather than grants. Credit programs are more seldom targeted at extremely poor populations, however, in part because microfinance institutions are unwilling to do so. We may investigate a micro-credit and savings program in future work with this population.

We can first ask whether youth in Liberia conform to the predictions of this simple model. Are cash windfalls invested, and what are the returns to this investment? What number and types of household production emerge from a cash transfer?

If the standard assumptions hold, a street youth should invest rather than consume the bulk of any exogenous cash windfall. The level of investment will vary according to individual returns to capital (a function of ability and other inputs) as well as according to individual risk and time preferences.

Investment (and poverty-alleviation) could be low for a number of 'standard' reasons. First, the marginal returns to capital could be low because of low levels of other inputs like ability. Second, expected returns could be low because any gains can be appropriated by other (i.e. insecure property rights). Third, people at low income levels could be extremely risk averse because a loss could lead to stark consequences such as starvation. Fourth, people may have a high discount rate in environments where there is a high risk of death.

A second research question would be to explain variation in investment levels, both in terms of different returns to investment and preferences. In part, such a question asks which people under what circumstances are equipped to be 'entrepreneurs'? We have little experimental or non-experimental data on this question.

ii. Poverty, investment, self-control, and impatience

When we think of Liberian ex-combatant street youth, 'standard preferences' is probably not the first trait that comes to mind. 'Impulsive', 'myopic', 'aggressive', 'short-sighted', and 'addicted' jump to the fore, and our (casual) observation of these youth suggests that there is some justification for these concerns.

Investment and returns could be low for these 'nonstandard' reasons. The behavioral economics focuses on a number of nonstandard preferences, in particular time-inconsistency or self control issues (Frederick et al. 2002; DellaVigna 2007). The key feature of the self-control problems is that the rate of discount is not constant; it gets larger as the future gets more remote. For example, some people may never plan to save for the future (exhibiting impatience), while others may plan to save but never actually do so (exhibiting time inconsistency).

Self-control problems bring the present self into conflict with the future self. For instance, when evaluating investment decisions that will occur in the future, a youth may wish that his future self patiently invests the cash grant. As that future gets near, discounting gets steep, and money that would have been invested gets spent on cigarettes, alcohol, meals or other comforts and impulses. In the urban street youth population, education, war experiences, or habits learned as an exceptionally poor child or youth (when some of these psychological abilities are thought to form and cohere) could lead to self-control problems.³

Thus a third research question we would like to address is the relationship between self-control problems and persistent poverty. Self control problems represent a second possible poverty trap in addition to capital market imperfections. In the following section (on research design) we discuss our methodology.⁴

³ Experimental studies in India and Denmark have find a correlation between poverty and time inconsistency (Pender 1996; Harrison et al. 2002). Chronic impulsiveness has been shown to result from a history of childhood trauma, principally because of a failure to develop the ability to regulate emotions properly (Braquehais et al, 2009). Because many of Liberia's youth experienced their formative years during wartime, there is no doubt that exposure to trauma were high. Our subjects' development could also have been affected by early experiences with abuse, neglect, crime or violence, all of which are highly problematic in Liberia

⁴ It is worth noting, however, that we are unlikely to be able to test the relationship between exposure to war violence and self-control problems. A correlation between past violence and extreme impatience has two interpretations: violence influences preferences, or impatient and present-focused youth are more likely to participate in violence or find themselves in vulnerable situations.

Briefly, however, one way to identify self-control problems is to examine the take-up of commitment devices (Frederick et al. 2002; Ashraf et al. 2006). Sometimes people are aware of the conflict between their future selves and want to avoid it. That is, today's self may wish to commit tomorrow's self to take care of the self the day after that. They may opt to join a mandatory saving group, for instance. These are known as commitment devices. We consider a commitment device as a possible cross-cutting design, below.

There is a potential problem, however. If street youth are naïve about their self-control problems, commitment devices will be ineffective unless they are imposed—either by mandatory requirement or through a 'nudge' (e.g. a default entry into a voluntary commitment device that requires people to opt-out deliberately). NGO and government programs typically justify a paternalistic approach on such grounds. As an alternative to an optional commitment device, we lean towards evaluating a more paternalistic approach of mandatory commitment, discussed below.

Note, however, that the economics literature is not precise about the source of self-control problems. A psychological source of inconsistent preferences could be low levels of inhibition, a trait that psychologists believe has many neurological roots, and may be both innate and learned (Evenden 1999). Other psychological traits may influence the rate of discount. For instance, in order to have a 'rational' rate of discount, you must have a good representation of yourself in the future (i.e. the ability to conceive of future) and you must place a reasonable probability on the future existing (i.e. you do not overestimate death, or find more pleasurable states of the world more salient). You could also have time inconsistent preferences if you can conceive of the future, and are accurate about probabilities, but you have a low regard for your future self.

What is striking about the above mechanisms is that, with the exception of inhibition, they could lead to extreme impatience—impatience to such a degree that we might be comfortable calling it 'irrational'—without being time-inconsistent. Distinguishing between time-inconsistency and extreme impatience, and better understanding the mechanism, ought to be a primary feature of field experiments and theory, and is another research question we plan to address in this project.

Economists and psychologists tend to take preferences—whether impatience or self-control—as given and fixed. Some psychological evidence suggests that impatience and self control at an early age are highly predictive of later educational attainment and general cognitive competence (Mischel et al. 1989) and lab experiments that have tried to improve cognitive performance in adults have shown only moderate and narrow, task-specific improvements (Klingberg 2008).

Other evidence suggests that economic preferences may be malleable. Children that are economically "socialized" by, for example, being taught to use money responsibly, given good examples of sound financial decision-making, and exposed to savings mechanisms like bank accounts have been shown to be more future-oriented and prefer saving over spending excess cash (Webley and Nyhus 2005). Whether young adult preferences are malleable has yet to be answered, in part because it is usually assumed.

Surprisingly, then, a large number of social services in Liberia seem explicitly designed to permanently change behavior and preferences. Counseling, psychosocial programs, and 'life skills' training train people to think more carefully about their future, about the welfare of others, to manage anger, to control impulse, and to plan and manage their lives more responsibly. Counselors claim high rates of success, especially with groups of highly dysfunctional youth (like impoverished street youth and ex-combatants). Whether and why these programs are effective is unknown. Most interesting: they do not resemble in form or content lab experiments or cognitive therapy. Rather, one is tempted to describe them as evangelization and indoctrination; an attempt to create a transformation of the mind. Some are programs are explicitly religious; but the majority are more secular evangelizers. To our knowledge, the ability to transform preferences and behavior by these means has yet to be explored.

iii. Poverty and insecurity

So far we have talked about investment and poverty reduction as ends (and questions) in themselves. A principle rationale for targeting populations like ex-combatants and street youth with anti-poverty programs, however, is to reduce the risk of crime, violence, or other insecurity.

Poverty and insecurity are closely associated in the public mind, especially among unemployed young males. “The Devil finds work for idle hands to do,” goes one proverb. The links between poverty, unemployment and insecurity, however, are poorly defined and lack evidence. We hope to use this project to push this frontier.

As a starting point, we can distinguish between two broad classes of insecurity: predation (including armed conflict and crime) and, for lack of a better description, interpersonal violence, including rioting, physical fights, and attacks.

Predation

Economic theory has argued that the poor should be more likely to engage in armed conflict: when wages are low and institutions are weak, predatory activities have a low opportunity cost (e.g. Grossman 1991).⁵ The same economic logic is applied to criminal activity (Becker 1968; Freeman 1999).

A criminal or predatory sector can be added to the household production model above. Individuals can choose between allocating labor to the productive sector and to the predatory activity. The latter carries a risk of punishment or loss. Assuming that labor in one sector displaces the other, individuals will allocate labor to the productive activity when its marginal productivity is greater, when punishment becomes more likely or more costly, and when the criminal sector becomes more risky.

By this model, the enterprise development program should reduce criminal activity so long as the returns to capital are higher in the productive sector than the criminal one. Of course, if returns to capital in the productive sector are diminishing, one would expect that as capital increases, there will be an incentive to allocate some to the criminal sector in addition to the productive one. This problem can be overcome temporarily if we can ensure that irreversible investments are made in the productive sector (for instance through monitoring). On the other hand, incentives for crime will decrease if profits or capital in the productive sector are lost as a consequence of being captured.

The bottom line is that the predictions of the model vary enormously based on the assumptions we make about the costs, benefits, risks and returns to criminal activity. This may be a subject area we explore inductively in the first panel of data collection and experiments, and then test deductively in future rounds and experiments.

Nonstandard preferences may also play a role in conflict and crime. If returns to predatory activities are more immediate than returns to the productive sector, then individuals with impatient or impulsive preferences will be more likely to engage in the predatory sector. If individuals are sophisticated about their self control problem and have an opportunity to commit to the productive sector investment, then they may insulate themselves from the temptation of conflict and crime. Again, the nature and direction of the relationship depends on the unknown pattern of risks and returns in the criminal sector.

The literature gives little specific guidance. There is limited but mostly unpersuasive evidence of a poverty-armed conflict link.⁶ The empirical evidence for a poverty-crime link is more persuasive, although the specific model or

⁵ Historical and ethnographic studies provide another rationale: inequality feeds resentment and leads to violent, expressive action (Gurr 1971). By other accounts, the transition from traditional to modern economies and polities alienates youth (e.g. Richards 1996; Peters et al. 2003).

⁶ Cross-national evidence shows that national income and the incidence of civil war are highly correlated, that the onset of conflict is more likely following years of negative growth, and (with more confidence in the causal chain) that climatic shocks

mechanism seems unclear. Several individual observational studies, mainly from the US, confirm the role of incentives in criminal activity: legal labor market experience, sanctions (including incarceration), and the risk of apprehension all reduce the criminal activity and recidivism. There is some evidence that long term mentoring, training, or supervision programs reduce crime in the US (Freeman 1999). One of the few randomized experiments, however, of income support for ex-offenders in Texas and Georgia, has no discernable effect on recidivism (Berk et al. 1980). We are not aware of evidence on such programs in the developing world.

Distinct from this economic model of poverty and crime is a relationship and mobilization-based model. We are not aware of any formal theoretical treatment, but the basic logic—delinking young ex-combatants or potential combatants from former commanders—should be a top priority for demobilization, disarmament and reintegration (DDR) programs (Spear 2002) and underlies almost all policy and practice in DDR practice.⁷ As we noted above, Monrovia's street youth are members of occupational groups and, in some cases, small gangs of ex-combatants with former commanders as their leaders. The objective of an employment or entrepreneurship program is to weaken or break these social links, economic dependencies, and patron-client relationships. In an economic model, one could crudely frame the network as a form of technology that improves productivity in the predatory sector, although we seek better ways of conceptualizing this dynamic.

Interpersonal violence

While the crime and armed conflict theory is well-defined, the relationship between poverty and interpersonal or group violence is less clear. Studies of riots and gang violence are inconclusive or find little relationship with poverty per se. It may be that there is no relationship between poverty, unemployment and violence. The reduced-form relationship in itself will be interesting to evaluate, but we hope to go further and are exploring theoretical and empirical avenues.

Sociologist Randall Collins emphasizes that there are not violent individuals so much as violent situations (2008); interpersonal violence is a product of confrontational tension, fear, anger, and excitement. A strong role is played by the stance of the audience. A common pathway around violence is finding face-saving ways to back down.

If so, poverty may not have a direct effect on violence, but it may change the environment. As income rises, street youth may be more likely to leave ghettos and shantytowns for more peaceful or secure areas. They may also reduce their association with idle young men—a context in which (in our initial observation) threats and boasts and honor fights emerge daily. Interpersonal violence is still rare, and rioting rarer still. Both are subject to unknown but possibly severe measurement error in a questionnaire. Given the size of the experiment and these difficulties we may be able to measure changes in environment and migration more easily than violence itself.

Research on riots in India emphasizes that communal violence is deliberately produced—by police, criminal elements, the business community, and leading political actors (Brass 1997). Poverty alleviation could affect an individual role in this production in two ways. First, it may remove them from areas and groups targeted by elites. Second, from an economic standpoint, a job or small enterprise may raise the opportunity cost of participation in violence—whether present profits sacrificed to the heavier consequences of an injury.

depress income and raise the risk of outbreak of violence (Blattman and Miguel forthcoming). In Colombia, lower returns in the labor-intensive coffee sector leads to increases in district-level armed violence (Dube and Vargas 2007). Such evidence is merely suggestive of a direct poverty-violence link, however, and some of the evidence contradicts it; for instance, Bazzi and Blattman (2008) show that exogenous commodity price shocks have no discernable relationship with political instability across countries.

⁷ For example, one of the three key goals of the UN DDR program in Afghanistan was to “break the historic patriarchal chain of command that existed between the former commanders and their men.” From USAID/Afghanistan’s Looking Beyond the “R” Initiative. <http://www.ddrag.com/Beyond> the Reintegration.htm.

Each of these mechanisms could be bolstered by impatience or impulsiveness. In the extreme case of time inconsistency, tomorrow does not exist; long term consequences will be ignored.

Proposed research design and data collection strategy

i. Core intervention

We propose to use a randomized evaluation to study the effects of a program of basic business training coupled with start-up capital to start or enhance a small business.

The business training is modest in scope: roughly 12 hours of instruction to help youth develop a basic business plan and proposal.⁸ Beneficiaries will also be followed up two to four times by a program officer, who will provide casual mentoring and advice. Youth who propose a viable business plan will receive startup capital totaling approximately \$150—about 6 to 12 months income for many youth.

We are inclined to include some minimal incentive for youth not to eat or drink the money away. We expect to distribute the funds in two tranches. The second tranche would be smaller than the first—perhaps a fifth of the total grant. Our pilot program (with perhaps 30 youth) will inform this aspect of the design.

This core intervention is designed to be as minimal as possible, in order to evaluate as closely as possible the capital injection alone (without delivering funds irresponsibly). We have funds to deliver this program to approximately 1000 youth as well as follow a control group of the same size.

ii. Data collection

Data collection will have four main components. First, we will conduct an extensive baseline survey of youth before treatment assignment, including questions on economic status, education and skills, health, substance abuse, violent and criminal activity, risk and time preferences, war experiences, social relationships, and symptoms of psychological distress. We are exploring alternative means of assessing substance abuse, violent and criminal activity, including interviews with community leaders to inquire about specific youth.

Second, we will also measure baseline ability, behavior and preferences using experimental games, including risk attitudes, loss aversion, ambiguity aversion, impatience, time-consistency, overconfidence, trust, altruism, public goods, productivity, executive function/working memory, and cognitive skills.

Third, business plans will be scored and recorded. These represent possible measures of overconfidence and ability. A short follow-up survey within weeks of the grant disbursement will collect data on how the money was spent/invested.

Fourth, an endline survey (conducted roughly nine months after the intervention) will measure economic, social, psychological and physical well being, as well as crime and violence. We will also re-measure several preferences and behaviors, including risk and time preferences.

The measurement of criminal and violent activity will be difficult, as youth are likely to underreport these activities. Such measurement error introduces bias of a predictable direction but unknown magnitude. We are exploring several means of gathering more accurate data, including: (i) self-reports; (ii) confidential answers (e.g. behind screens, as in (Scacco 2008)); and (iii) third-party reports, such as a community leader or close friend (the latter applying to spillover measurement, discussed below).

⁸ Topics include advice on choosing the best type of small enterprises to start, the concept of profit, keeping records, reinvestment, sales and customer service strategy and product distribution.

iii. Core research design and estimation

The randomized control trial design and extensive baseline measurement will allow us to estimate the following:

- the reduced-form impact on productive investment, income and consumption, and returns to investment;
- the relationship between baseline behavioral traits (especially measured impatience and self-control) and investment levels and decisions, as well as production versus criminal activity;⁹
- the returns to ability, health, and other elements of human capital in entrepreneurial success (through analysis of treatment heterogeneity);
- the reduced form impact on criminal activities, violence (e.g. physical fights, attacks, etc) and on outcomes associated with a lower propensity for violence (delinking from ex-commanders and political patrons, lower association with gangs, moving to new areas); and
- the relationship between the reduction in crime and violence to activity levels versus income changes.¹⁰

Although street youth often belong to informal groups, small and large, selection into treatment and control will be at the individual level. Groups are not so well-defined that group-level randomization is easy; besides, group-level randomization is unlikely to provide a sufficient sample size for accurate evaluation, especially given the heterogeneity in size and cohesion of the groups. Individual randomization seems feasible, however, and we may be able to design data collection to measure spillover effects within clusters.

Spillover effects can be estimated in two ways. Within the sample of treatment and control individuals, we can identify close ties between treatment and control group members at baseline and estimate a second treatment effect based on ‘closeness’ to a treatment group member. A better method would be, at endline, to interview an associate (e.g. close friend or housemate at baseline) of all treatment and control youth. Thus each youth selected into the program is actually one of a pair. This may improve measurement of violent and criminal activity as well.¹¹

iv. Cross-cutting designs

Heterogeneous responses to treatment provide suggestive rather than conclusive evidence of variation in the returns to capital or propensity for violence according to initial traits, including time preferences. We are exploring a number of cross-cutting designs to assess these questions experimentally.

Two cross-cutting designs explore the role of nonstandard preferences in entrepreneurial success and crime/violence, and aim to challenge conventions in behavioral economics.

a. Are preferences malleable?

As noted in the theoretical discussion above, time preferences have been assumed constant and unmovable. Some evidence suggests that economic learning and socialization among children leads to permanent changes in behavior. Street youth, among whom time inconsistency or impatience may be extreme, may be amenable to learning and socialization as well.

⁹ Surprisingly this simple act—relating behavioral game performance to has been seldom taken—we have little to no relation of behavioral games to real behavior (most work is lab work)

¹⁰ Note that it is possible to use the randomized intervention as an instrumental variable for the effect of any poverty reduction on violence since the program could affect violence through other channels, such as self-esteem, psychological health, etc.

¹¹ For instance, each “friend:” could be asked about the crime and violence perpetrated by the individual of interest and another close friend, and an individual fixed effect would reduce unobserved measurement error.

We are presently looking into existing programs and techniques in Liberia. The interventions we have observed appear to promote a biased form of learning towards greater appreciation of the future self, awareness raising of consequences of impatience and impulsivity, techniques for managing impulsive behaviors, modeling and monitoring and reinforcement by social workers. The programs have much in common with the model of investment in appreciation of the future by Becker and Mulligan (1997). The existing interventions appear to follow Becker and Mulligan in targeting extreme impatience rather than time inconsistency.

One option we are exploring is to expose a fixed proportion of beneficiaries to such a socialization program. A portion of the control group might also be encouraged to receive such a program. The intervention could be targeted to a representative fraction of the whole group, or randomized within the subset of beneficiaries who display evidence of extreme impatience or time inconsistency. More field work remains to be done.

b. Investigating self-control problems

To explore the existence of nonstandard time-preferences and their effect on poverty, we are considering a number of options.

There are two natural and simple opportunities to explore nonstandard time preferences. One is through the use of multiple tranches of grant payment, where by a youth only receives the second tranche if the first tranche was used responsibly, thus providing an incentive to invest rather than consume even in the case of self-control problems.

Another method is through compulsory savings. In Liberian society, even among street youth, a common commitment device is the *susu*, or rotating savings association. People commit to contribute a fixed amount—say, one dollar—a day to a group pool. Each week on group member receives the full sum. In a group of 26 people, this implies a payout twice a year. The *susu* is thus a short-term savings device. No-fee bank accounts are now available through major banks. Street youth would be welcome customers but for a number of reasons have yet to take up bank accounts in any number.

In either case a voluntary or a paternalistic approach could be taken. The voluntary approach would allow individuals to voluntarily commit to a commitment device: a larger second tranche, or larger *susu* contributions. The paternalistic approach would make a larger second tranche or larger forced savings mandatory.

In both cases a fraction of beneficiaries could be given the commitment option/requirement randomly, allowing us to evaluate the effects of forced/voluntary commitment. If the beneficiary is time consistent, then the cross-cutting design will be welfare neutral if there are no economies of scale in the initial capital injection (and will be welfare reducing if there are increasing returns). It will be welfare-promoting if the subject has self-control problems.

The advantage to the paternalistic approach is that (i) it is commonly employed by NGOs, and (ii) is relatively untested.

Additional details of the intervention

i. Design & pilot

Street youth present an especially challenging target group. We propose to begin with a pilot stage to test and fine-tune our proposed approach. During this pilot, we will target a small group of youth (approximately 30 in number). We will observe these youth closely, along with informal comparison groups. This initial stage would help us assess initial effect of the program on the beneficiaries, make necessary changes to the program design, determine the actual costs of running the program, and resolve any major logistical hurdles.

ii. Mapping and sample frame

The design phase is intended to develop a deeper understanding of the needs of urban youth. We will work with the local organization to conduct a mapping exercise (possibly a census) of street youth in Monrovia, focusing on demographics, work experience, level of education and training, current source of income, and psychological and physical health. We will also conduct in-depth interviews to provide context for the survey results and to refine our sense of the youths' vision for a successful future. This information will be used to fine-tune the design of the program and ready it for pilot testing.

We will conduct a very broad registration exercise from which we will select both our control and treatment groups. During the registration, we will send teams out to several neighborhoods in Liberia where our target populations tend to congregate. While in these neighborhoods, our staff will attempt to locate as many youth as possible in order to administer a short questionnaire that would enable us to determine whether each individual meets our qualification criteria.

It is crucial to locate an extremely high number of youth that qualify for the program for multiple reasons. The key reason has to do with our ability to perform a rigorous evaluation. It is imperative that we find a group of treatment and control subjects that are both socially and geographically distant from one another, lest spillover effects from the treatment group to the controls make it impossible to detect program effects. The second reason is that we are aware that we are dealing with sensitive communities, and we feel it is important to give as many qualified individuals an opportunity to participate in the program as possible.

We plan to target roughly 1,000 'potentially unstable' youth in Monrovia, Liberia. Based on our fieldwork, we have identified three principal groups, whom we will target in roughly equal numbers:

- *'Hard-core' street youth.* These youth have little occupation, may be involved in drugs and crime, live in extreme poverty and are a danger to society and themselves. Many of these youth are ex-combatants without families or permanent homes. While we anticipate this will be a challenging population with which to work; this group has been systematically neglected by both NGO and government programming and is one of the most potentially explosive populations in the country. We believe there are several thousand such youth in Monrovia.
- *Organized vulnerable youth groups.* These groups (many of whom are organized on a non-economic basis, such as amputee sporting leagues) are often composed of those who have been maimed or otherwise disabled by the fighting, may have families, connections, and live in basic shelters, but mostly beg for a living outside grocery stores, restaurants and other businesses that expatriates are known to frequent. A majority are ex-combatants. We believe there are several thousand such youth in Monrovia.
- *Poor and underemployed youth.* These youth are the most stable of the target groups, but are still very poor. Many of these youth are at least partially employed, typically as street vendors, motorcycle boys, or wheelbarrow boys. Some of these youth are educated and use their modest earnings to support extended families. There are tens of thousands of such youth; a minority are ex-combatants. We target them in part to diversify the beneficiaries and to understand the impact of the intervention on a broader sample of youth.

iii. Implementation

Beneficiaries will receive the basic business training at the outset of the program, followed by the disbursement of the first tranche of funding. The first tranche will be some percentage of the total grant in order to provide an

incentive for responsible investment of the initial funds while still allowing program participants to pay start-up costs.

For the next several weeks participants will be followed up and monitored by program staff. Liberian research staff will also conduct in-depth qualitative work throughout the program.

Six to eight weeks from program inception, beneficiaries will receive their second tranche of funding and additional business training, provided they have complied with program regulations.

Throughout the life of the program, subsets of the treatment group would receive some or all of the program enhancements described above. These including the psychosocial training program component, which will encourage responsible financial behavior in the trainees' personal lives, and the other simple, inexpensive, easily replicable program add-ons (such as assistance establishing bank accounts and rewards for saving money) that we intend to administer to a random sample of the treatment population. Qualitative researchers will observe the effects of these program enhancements and along with the quantitative study will help us understand the marginal improvement in outcomes that can be attributed to these program components.

References

- Ashraf, Nava, Dean Karlan and Wesley Yin (2006). "Tying Odysseus to the Mast: Evidence from a Commitment Savings Product in the Philippines*." *Quarterly Journal of Economics* 121(2): 635-672.
- Bazzi, Samuel and Christopher Blattman (2008). *Commodities and Conflict*, Unpublished working paper, Center for Global Development.
- Becker, Gary S. (1968). "Crime and Punishment: An Economic Approach." *The Journal of Political Economy* 76(2): 169-217.
- Becker, Gary S. and Casey B. Mulligan (1997). "The Endogenous Determination of Time Preference." *Quarterly Journal of Economics* 112(3): 729-758.
- Berk, R. A., K. J. Lenihan and P. H. Rossi (1980). "Crime and poverty: Some experimental evidence from ex-offenders." *American Sociological Review*: 766-786.
- Blattman, Christopher and Edward Miguel (forthcoming). "Civil War." *Journal of Economic Literature*.
- Brass, Paul R. (1997). *Theft of an idol: Text and context in the representation of collective violence*, Princeton Univ Pr.
- Christensen, Maya M. and Mats Utas (2008). "Mercenaries of Democracy: the 'Politricks' of Remobilized Combatants in the 2007 General Elections, Sierra Leone." *African Affairs*: 1-25.
- Collins, Randall (2008). *Violence: A Micro-sociological Theory*. Princeton, Princeton University Press.
- DellaVigna, Stefano (2007). "Psychology and economics: Evidence from the field." *Journal of Economic Literature* 47(2): 315-372.
- Dube, Oeindrila and Juan F. Vargas (2007). *Commodity Price Shocks and Civil Conflict: Evidence From Colombia*, Unpublished working paper, Harvard University and UCLA.
- Evenden, John (1999). "Impulsivity: A Discussion of Clinical and Experimental Findings." *Journal of Psychopharmacology* 13(2): 180-192.

- Frederick, Shane, George Loewenstein and Ted O'Donoghue (2002). "Time Discounting and Time Preference: A Critical Review." *Journal of Economic Literature* 40(2): 351-401.
- Freeman, Richard B. (1999). *The Economics of Crime*. Handbook of Labor Economics. O. Ashenfelter and D. Card, Elsevier. 5: 3529-3572.
- Grossman, Herschell I. (1991). "A General Equilibrium Model of Insurrections." *The American Economic Review* 81(4): 912-921.
- Gurr, Ted R. (1971). *Why Men Rebel*. Princeton, Princeton University Press.
- Harrison, Glenn W., Morten I. Lau and Melonie B. Williams (2002). "Estimating Individual Discount Rates in Denmark: A Field Experiment." *American Economic Review* 92(5): 1606-1617.
- Klingberg, Torkel (2008). *The overflowing brain: information overload and the limits of working memory*. Oxford, Oxford University Press.
- Mischel, W., Y. Shoda and M.I. Rodriguez (1989). "Delay of Gratification in Children." *Science* 244 (26 May): 933-938.
- Pender, J.L. (1996). "Discount Rates and Credit Markets: Theory and Evidence from Rural India." *Journal of Development Economics* 50(2): 257-297.
- Peters, Krijn, Paul Richards and Koen Vlassenroot (2003). *What Happens to Youth During and After Wars? A Preliminary Review of Literature on Africa and an Assessment of the Debate*, RAWOO Working Paper.
- Richards, Paul (1996). *Fighting for the Rain Forests: War, Youth, and Resources in Sierra Leone*. Portsmouth, New Hampshire, Heinemann.
- Scacco, Alexandra (2008). *Who Riots? Explaining Individual Participation in Ethnic Violence*, Unpublished manuscript, New York University.