

Poverty, Aspirations, and the Economics of Hope

TRAVIS J. LYBBERT

University of California, Davis

BRUCE WYDICK

University of San Francisco and University of Notre Dame

I. Introduction

In recent years, development economics has increasingly ventured into domains that were previously reserved for psychology and other fields. Theoretical, empirical, and experimental work in behavioral development economics is flourishing and has begun to significantly influence how development economists understand and diagnose poverty, prescribe and evaluate interventions, and measure development outcomes (Bertrand, Mullainathan, and Shafir 2004; Mullainathan 2005; Timmer 2012). Early contributions to this literature borrowed analytical lenses from other fields to shed new light on familiar economic concepts, such as risk and time preferences (Cardenas and Carpenter 2008). More recent strains of this new literature have explored phenomena such as the nature of self-control problems and their relationship to poverty (Banerjee and Mullainathan 2010; Kaur, Kremer, and Mullainathan 2015), hyperbolic discounting and savings behavior among the poor (Basu 2011; Kaboski, Lipscomb, and Midrigan 2014), the influence of limited attention and nudges in financial decision-making (Dupas and Robinson 2013; Jäntti et al. 2014; Karlan, Ratan, and Zinman 2014), and how circumstances of poverty amplify cognitive biases and limitations (Yoshikawa, Aber, and Beardslee 2012; Mani et al. 2013).

What is consistently demonstrated throughout this literature is that psychological phenomena affecting economic decisions can exert significant impacts on welfare outcomes and poverty dynamics. One of the newest, most

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promising strains of this research departs even further from conventional economic concepts in understanding movements out of poverty through studying factors that stimulate internal motivation. Beaman et al. (2012), for example, exploit a randomized natural experiment in West Bengal in which one-third of all village councils are randomly reserved for a female chief councilor (called *Pradhan*) in every local election. The researchers asked parents about their aspirations for their sons and daughters related to school, marriage, occupation, and civic engagement. Researchers asked the same aspiration questions to the children themselves. Using the randomization, they find that exposure to a female *Pradhan* causes the gender gap in aspirations to close by 25% in parents' aspirations and 32% in adolescents' aspirations. This erased the gender gap in adolescent educational attainment and induced girls to spend less time on household chores. This and other recent work (Bernard et al. 2014; Glewwe, Ross, and Wydick 2017; Ross et al. 2017; Bloem et al., forthcoming) has nudged development economists into a domain traditionally entrusted to poets, philosophers, and theologians: hope.¹

As cognitively, emotionally, and socially sophisticated creatures, human beings devote tremendous energy to economic decision-making to influence future states. In this process, the potential power of hope to influence actions, effort, and outcomes is obvious to most people. Decision and action become operative concepts contingent on a belief that some type of action will positively influence future outcomes. The absence of this belief can be viewed as a state of hopelessness, a state that afflicts many in extreme poverty and is often characterized by feelings of futility and fatalism. Understanding the economic and psychological constraints that foment hopelessness and the nature of hope-producing interventions and their effects and enabling conditions is the subject of this paper.

Our purpose here is to build a bridge between economics and previous reflection and research on the nature of hope from other fields, especially psychology. We structure this inquiry into the economics of hope in five parts: first, we distinguish and discuss different types of hope and provide a brief overview of the history of thought related to the concept of hope. Second, we provide a more detailed overview of hope research from psychology and medicine. Third, we review the theoretical literature and emerging empirical

¹ While hope has played a central role in understanding multiple equilibria in macroeconomics, usually articulated contextually as confidence or expectations (Diamond 1982; Murphy, Shleifer, and Vishny 1988), it is less often invoked in microeconomics. Although development practitioners routinely reference the importance of hope in work among the poor, microeconomists have only recently engaged hope as a subject of research.

work in development economics focused on aspirations. Fourth, we introduce a simple economic model of hope using a reference-dependent utility framework that incorporates three essential elements of hope from the new psychology literature—*aspirations, agency, and pathways*—to show how hope shapes economic development outcomes and the effectiveness of different types of interventions. We use this simple model to illustrate how important empirical results in development economics can be more clearly understood in a hope framework. Last, we discuss where economics might make useful contributions to the long and rich history of inquiry into the nature of hope and to its relationship to poverty and economic development.

II. A Primer on Hope

To unpack a concept as nuanced and simultaneously encompassing as hope, it is helpful to begin with clear working definitions. A primary task in this regard lies in parsing the varied connotations of the word “hope,” which in English usage contains several shades of definition, each potentially important in their application to economics. In particular, we differentiate its meaning over dimensions of “optimism” and “agency.”

Consider the meaning of the word “hope” in the following two sentences: (a) “Joseph hopes that it may rain tomorrow,” and (b) “Joseph hopes to install irrigation this spring.” While the first use of the term is devoid of agency, the second implies a usage of the word in which optimism and human agency share a relationship, although both forms of usage imply uncertainty.² The diagram in figure 1 parses the meaning of hope across the dimensions of agency and optimism. Consider the relationship $Y = \pi e + \pi_v v$, where $e \in [0, \infty)$ is effort, $v \sim N(0, \sigma^2)$ represents the influence of random factors outside the control of the agent, and π and π_v are positive coefficients representing the relative importance of e and v in determining an outcome Y .

As seen in the figure, one state is characterized by a low level of agency and pessimism about the future. This state, which we call “victimization,” is characterized by (i) low agency (low π) and (ii) negative $\pi_v E(v)$, which can be caused by pessimistic expectations about uncontrollable factors, the disproportionate influence of uncontrollable factors on outcomes, or both. This is a particularly desperate form of hopelessness, as it is accompanied by perceived helplessness. In contrast, “grit” is characterized by high agency in the face of negative shocks that may reduce the agent’s optimism about the future. In this

² This latter form of hope is that which Aristotle often associated with the type of happiness referred to as *eudaimonia* (happiness as human flourishing), which he contrasted with *hedonia* (happiness as pleasure).

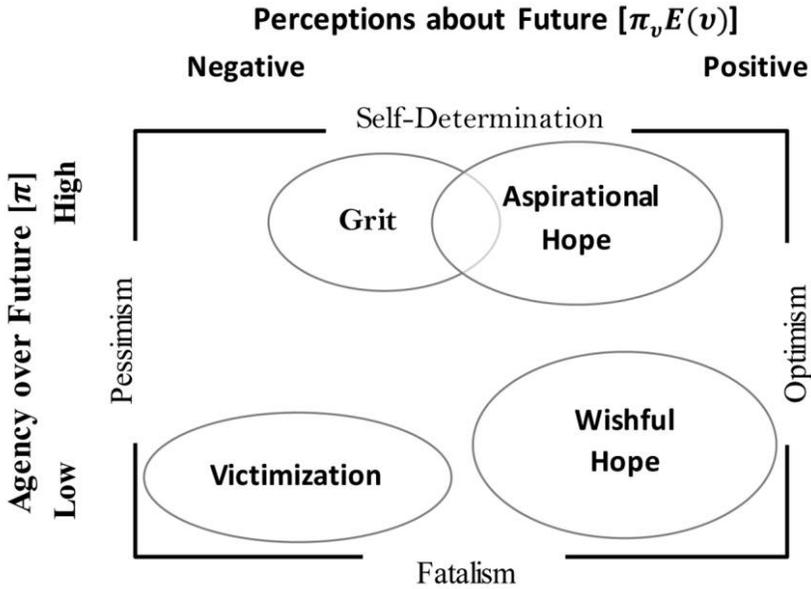


Figure 1. Hope concepts in relation to perceptions about and agency over future events.

case, π_v is low, $E(v)$ may be negative or neutral, and π is high. Even as grit encounters oppositional forces outside its control, it faces these without helplessness. Thus, as a noncognitive or socioemotional skill, grit shapes several human development outcomes (Heckman, Stixrud, and Urzua 2006; Heckman and Kautz 2012; Heckman, Pinto, and Savellyev 2012). To contrast these two states, consider the difference between the following statements: (a) “Being victims of the famine, their situation was hopeless; they sensed there was nothing they could do” (victimization), versus (b) “Through their perennial toil in the fields with all the elements working against them, they managed to make ends meet” (grit).

We refer to the condition of low agency combined with optimism over a future outcome—that is, low π but high $E(v)$ —as “wishful hope.” Here an individual is optimistic, but outcomes are determined by influences outside one’s control, such as the benevolence of a patron, an inheritance, the rise of a beneficent political leader, or the will of God. In contrast, “aspirational hope,” which overlaps in important ways with grit, is characterized by high π , low π_v , and neutral or slightly optimistic perceptions of the future. Similar to our first example, a key difference lies between the differential uses of the word “hope” in the phrases “Hope that . . .” and “Hope to . . .” For example, the statement (a) “Fatima hopes that the village leader will respond to her situation” communicates wishful hope, whereas (b) “Fatima hopes to gain several

new customers this month for her small poultry business” reflects aspirational hope. While the psychology literature and emerging work in economics emphasizes aspirational hope, the medical literature focuses more on wishful hope, for example, in patients with advanced cancer maintaining hope even when the factors influencing survival reside largely outside of their agency (del Vecchio Good et al. 1990).

Distinguishing between these types of hope is useful, but individuals often experience hope as a combination of wishful hope and aspirational hope. Both types of hope, for example, are manifest in the case of a famine victim or someone who is trapped, lost, or stranded, where a person may have to take painful but proactive steps to survive (agency) while awaiting relief or rescue (external to agency). Consider similarly the plight of someone suffering from a potentially terminal disease, in which there is some probability that a breakthrough in treating the disease may occur in the future. Survival thus depends on two events: (i) that the breakthrough occurs by time t and (ii) that the patient is able to survive until time t . Hope for the patient thus consists of wishful hope (hope that the breakthrough will occur) and aspirational hope (hoping to remain as healthy as is possible until the breakthrough arrives), which implies some degree of agency that may involve costs. In contrast, a person beset by hopelessness has concluded that the joint probability of these events is sufficiently dwarfed by the agency costs of survival, ensuring the unfortunate outcome.

These types of hope may be specific to a particular event or outcome or together may produce a kind of overarching sense of hope that “in the end, things will turn out all right.” For many individuals, perhaps disproportionately in the developing world, faith in God may foster a generalized hope of this kind. Overarching hope constitutes a key component of resilience in the face of negative shocks (Ong, Edwards, and Bergeman 2006), and it is strongly associated with general mental wellness (Gallagher and Lopez 2009). Such an overarching hope includes elements of both wishful and aspirational hope.

Much that has been written about hope over recorded human history has portrayed the heroics of human striving against a backdrop of opposition, suffering, and despair (for an excellent review, see Elliott 2005). These accounts often explore the inherent tension in desperate circumstances between hope and hopelessness. The balance between the two reflects a broader understanding of the human experience, often viewed through the lens of the common spiritual beliefs shared within a culture. For example, Greek mythology widely considered human existence to be driven inexorably by fate, and the balance between hope and hopelessness favored the latter: the Greeks regarded hope as foolish, even evil, because any sense of human agency was fundamentally il-

lutory (Moltmann 1968).³ Even what we refer to as wishful hope was indeed a precarious hope, resting firmly in the capricious hands of the gods.

In contrast to the foolishness of hope permeating Greek philosophy, the subsequently emergent Judeo-Christian worldview allowed greater scope for both hope and human agency. The Judeo-Christian scriptures and tradition articulate a world in which the choices of human beings matter in shaping a future state, where human action in tandem with the guidance, will, and grace of God forms the basis for hope, both temporal and eternal. Hope in Islam contrasts somewhat with Judeo-Christianity in that it tends to place a greater weight on the sovereign will of God as the ultimate determinant of future outcomes, but it nonetheless prizes hope and action in the form of obedience and submission to God. Hope in some Eastern religions, such as Hinduism, is viewed in terms of leaving a cycle of reincarnation, a process in which human agency is essential. These and other world religions provide theologies of hope that differ in many important ways, but they share a contrast with the ancient Greeks in the general conception of hope as good.

During the Reformation and the Enlightenment, dominant strands of philosophy and theology emerged in which aspirational hope began to be emphasized. We see this in a sixteenth-century quote from church reformer Martin Luther:

Everything that is done in the world is done by hope. No husbandman would sow one grain of corn, if he hoped not it would grow up and become seed; no bachelor would marry a wife, if he hoped not to have children; no merchant or tradesman would set himself to work, if he did not hope to reap benefit thereby. How much more, then, does hope urge us on to everlasting life and salvation? (Luther 1848, 146)

The changing perspectives of the eighteenth century and the rapid technological progress of the nineteenth and twentieth centuries ushered in an age where reason and science fostered secular perspectives about hope. Eighteenth-

³ The ancient Greeks explained the presence of evil and trial in the world with the story of Pandora's Box. In this story, Zeus seeks to torment mankind by giving Pandora a box filled with all the evils of this world—knowing that curiosity would ultimately prompt her to open the box. When she does, all of the evils in the box escape and begin tormenting the world—all the evils except hope, which remains trapped inside. While some modern interpretations have taken this to mean that hope remains to help mankind confront and conquer evil and trial, this interpretation likely imposes too much of our contemporary worldview on this ancient myth. The interpretation that is more consistent with the philosophy of fate of ancient Greece is that hope—without any ability to change one's destiny—really was considered to be the ultimate and most enduring evil (Elliott 2005; Miceli and Castelfranchi 2010).

century philosopher Immanuel Kant (Kant 1781/1998) listed “What may I hope?” as the third fundamental question in which human reason is unavoidably interested. John Stuart Mill, for example, wrote that “a hopeful disposition gives a spur to the faculties and keeps all the working energies in good working order” (Reardon 1966, 303). More recently, mid-twentieth-century Marxist philosopher Ernst Bloch’s three-volume treatise on hope espoused the critical role hope plays in modern society (Bloch 1954/1986). While these were typically secular explorations of the topic, they often continued to acknowledge a spiritual dimension to hope. As French philosopher Gabriel Marcel stated, “Hope is for the soul what breathing is for the living organism. Where hope is missing, the soul dries up and withers” (Marcel 1951).

Although we see in both secular and religious views of hope a movement in the definition of hope from wishful to proactive, it would be inaccurate to state that the hope articulated in modern Judeo-Christianity and in some other world religions today is purely, or even primarily, of the proactive variety. Religion as faith in God (almost by definition) implies a strong element of a more patient and passive wishful hope, where faith and hope reside outside of an individual’s human agency. Across the world—especially the developing world—it is virtually impossible to encounter hope embedded in religious belief that is purely proactive in nature. Even within Judeo-Christianity, there exists a broad spectrum of hope that ranges from Reform Judaism, mainline Protestantism, and the “prosperity gospel” found in developing-world Pentecostalism (heavily proactive) to developing-world Catholicism (often more passive and fatalistic). Secular forms of hope, whether acknowledged or not, also rely on factors that lie outside the scope of an individual’s own human agency, in the form of faith in science, human progress, social movements, and so forth and thus contain significant elements of both wishful and aspirational hope.

III. The Psychology of Hope

A rich and growing literature in psychology over the last 60 years has addressed key questions related to hope, including, (i) Is hope something we feel or think? (ii) How is being hopeful different than being optimistic or patient? (iii) Is uncertainty, imagination, or spirituality a prerequisite to experiencing hope? and (iv) Can we deconstruct hope into components or causal factors?

Psychology began to explore the concept of hope systematically in the 1950s. Not coincidentally, this research followed on the heels of horrific suffering in World War II. Austrian neurologist and psychiatrist Viktor Frankl experienced this suffering firsthand in Nazi concentration camps and wrote about the sanctity of the human mind and the potential to find meaning and hope even in un-

imaginable circumstances (Frankl 1985). In his 1959 presidential address to the American Psychiatry Association, Karl Menninger described his exposure to a Nazi prison camp a few days after it was liberated. What he remembered most vividly from the visit was how the prisoners were “kept alive by hope” (Menninger 1959). In the address, he posed a question that set the stage for a concerted scientific study of hope: “Are we not now duty bound to speak up as scientists, not about a new rocket or a new fuel or a new bomb or a new gas, but about this ancient but rediscovered truth, the validity of *hope* in human development . . . ?” (Menninger 1959, 491).

As these questions suggest, the concept of hope can be challenging to characterize formally or precisely because it is such a rich and pervasive human experience. Partly in response to Menninger’s complaint that “when it comes to hope, our shelves are bare” (Menninger 1959), a branch of psychology took up this challenge as part of what would ultimately become defined as the sub-field of positive psychology (Seligman and Csikszentmihalyi 2000), the application of psychology theory and methods to healthy cognition and human flourishing. This was a significant departure from the established norm in psychology, as the discipline had previously concerned itself primarily with the causes and cure of mental illness. Research in positive psychology, which maintains that people are often drawn by the future more than they are driven by the past, has generated many insights into the psychology of hope. We briefly review a few strands in this literature and describe related empirical work.

A. Positive Psychology and the Emergence of Hope

Unsatisfied with the psychology field’s general focus on psychological disorders, the field of positive psychology began to develop around the study of human virtues, psychological attributes such as happiness, courage, love, forgiveness, and hope (Froh 2004). Branches of this literature explored how human beings were able to interact positively with their environment. Rotter (1954) explored and developed the concept of an individual’s “locus of control,” the extent to which persons believe they control the factors that shape their lives (Rotter 1954, 1966; Lefcourt 1976). An individual’s locus of control is the extent to which individuals perceive they can control events that affect them, and this can be conceptualized as either internal or external or some combination of these extremes. For example, a student with an internal locus of control will perceive her performance on an exam to be largely a function of her own preparation, effort, and abilities; with an external locus of control, she will instead perceive her performance as a reflection of the teacher, the exam, or distractions from other students.

The companion concept of “self-efficacy” captures an individual’s belief about his ability to complete specific tasks and achieve particular goals (Bandura 1977).⁴ Research into the psychology of motivation and the lack thereof, including individual desire to seek and set goals, reflected this self-efficacy specifically and the locus of control more generally (Cantril 1964; Stotland 1969). An individual’s locus of control is generally defined as a forward-looking assessment of the determinants of future outcomes, but this is clearly related to past experiences and lessons learned from these experiences. Specifically, the way an individual explains the causes of events in one’s life—his so-called attributional style—shapes self-efficacy and the evolution of a perceived locus of control more generally. For many, the locus of control and attribution style are consistent and therefore in equilibrium, which is why they are often considered personality traits.

One of the most influential applications of this theory began with a series of experiments conducted on dogs. In these experiments, Maier and Seligman (1976) exposed dogs to inescapable electric shocks. This conditioned the dogs to attribute the shocks to immutable external forces. Once trained with this attribution style, the dogs would not even attempt to escape the shocks by hopping over a small barrier. As a particularly potent application of attribution theory, this concept of “learned helplessness” suggests that how we explain outcomes in our life can constrain our future ability to influence these outcomes in potentially dramatic ways (Seligman 1972; Maier and Seligman 1976).

In the 1980s, Snyder began to build on the insights from a growing body of work in positive psychology to formulate his now-classic theory of hope. (For his own description of the emergence of this theory, see Snyder [2002].) Moving from earlier work that focused on how people generate excuses in the wake of mistakes or poor performance, Snyder conceptualized hope as a key alternative to making excuses (Snyder 1989). This led him to define hope as “primarily a way of thinking, with feelings playing an important, albeit contributory role” (Snyder 2002).⁵ This distinction between the role of emotion and thought in hope is important: whereas emotion is reactive, thinking can be proactive (Snyder 2002). Ultimately, Snyder conceptualized hope as consisting of three key elements. First, hope requires that an individual engage the future with specific goals that are meaningful as desired future outcomes. Second, hope requires that an individual be able to visualize pathways to achieving these goals, which requires us to “link our present to [our] imagined

⁴ Judge et al. (2002) argue that these two concepts along with the other two that compose the four dimensions of core self-evaluations (neuroticism and self-esteem) measure the same, single factor.

⁵ This tension between hope as feelings and hope as thoughts was clearly on display in the writings of Ernst Bloch on the topic, who claimed that hope was “mental feeling” (Bloch 1954/1986).

futures” (Snyder 2002, 251). Third, hope requires that an individual possess sufficient agency to motivate the necessary investments and make progress along these pathways, even in the face of impediments. By this definition, an individual who experiences hope has a goal of some kind, sees a viable pathway to that goal, and believes she has the agency to progress along this pathway. Thus, Snyder’s conception of hope and that of recent psychological research falls squarely into our definition of aspirational hope.

Implicit in this definition of hope is a degree of uncertainty about future outcomes: neither the pathway nor the individual agency is deterministic in this framework. Intermediate probabilities of goal attainment may provide the best seedbed for hope (Averill, Catlin, and Chon 1990), but very high- or very low-probability goals may still be appropriate targets for hope (Snyder 2002). As Snyder explains, hope is often operative with very high-probability goals that appear to be easily attainable because high-hope people commonly stretch and challenge themselves with a higher level of accomplishment, which may inject additional uncertainty into a goal that otherwise appears to be readily attainable. In the case of very low-probability goals, high-hope individuals are sometimes able to increase the odds of success by remaining open to alternative pathways that reframe the challenge in new ways (Snyder 2002). This underscores why pathways are essential to hope in this framework: regardless of the apparent probability of success of a particular goal, high-hope individuals are more likely to envision specific steps along a given pathway, to produce alternate routes with similar specificity, and to use the details of these possible pathways as the basis of their confidence.

In the face of impediments, high-hope individuals often formulate and assess several potential pathways, which can improve the probability of success relative to low-hope counterparts who remain constrained (Irving, Snyder, and Crowson 1998; Snyder et al. 1998). These hope dynamics can be particularly potent because emotions provide constant feedback throughout this process and can create vicious or virtuous cycles (Snyder 2002). Snyder’s model both borrows from and fits neatly into the goals literature pioneered by Locke and Latham (1990, 2002) and Heath, Larrick, and Wu (1999), where goals become viewed as reference points that heavily reward effort in utility terms in approaching a goal but where diminishing returns set in quickly afterwards per a Kahneman and Tversky (1979) value function.

Although hope requires agency, it simultaneously implies limitations to one’s agency; hope is not for the omnipotent. The fact that uncertainty is essential to hope implies that “it is more difficult to disappoint a hope than an expectation” and that “hope allows us to face the unfulfillment of our wishes

without becoming desperate” (Miceli and Castelfranchi 2010, 259).⁶ This endows hope with a degree of built-in resilience and frames the achievement of goals as a gain rather than a potential loss that was avoided (Miceli and Castelfranchi 2010).

B. Hope Measurement and Empirical Research

As hope became a legitimate research topic in psychology in the 1960s and 1970s, empirical tests of hope and its effects began to flourish. In contrast to philosophers and theologians, researchers in psychology needed more than definitions or rich discussions of hope; they needed the empirical tools to measure it. Only with quantitative measures of hope could researchers reliably detect individual differences in hope and test elements of theory. While qualitative approaches to understanding these differences and the complexity of hope remain central to clinical medical practice and psychology, researchers with less prescriptive objectives have had to quantify hope in measures that are robust across individuals and over time.

Building on earlier efforts to measure hope (Gottschalk 1974) and guided by the goals-agency-pathways framework described above, Snyder and colleagues have developed and validated three different hope scales as shown in table 1. The Trait Hope Scale is intended to capture individuals’ self-assessment across time and in different situations. It consists of four agency statements, four pathways statements, and four distracter statements. The sum of the ratings for the agency and pathways statements provides the overall hope score, which in validation tests is quite stable over time periods of 3–10 weeks (Snyder 2002). The State Hope Scale is intended to capture individuals’ present-moment self-assessment. This scale includes both agency and pathways statements, is similarly constructed as the simple sum of the scores, and typically varies across days and weeks for a single individual (Snyder 2002). Finally, the Children’s Hope Scale is aimed at eliciting hope among children ages 8–16. Although similar scales exist for related concepts such as positive and negative life stress, locus of control, and optimism, measures based on these hope scales reliably add explanatory power beyond these related concepts, suggesting that they capture correlated but unique individual characteristics (Snyder et al. 1991).

Based on hope scale measurements, research has documented strong correlations between hope and a variety of outcomes, including academic and athletic performance (Curry et al. 1997; Snyder et al. 2002) and physical and men-

⁶ In this context, “expectation” means an event or achievement that one expects to occur with near certainty rather than the result of a mathematical expectation calculation.

TABLE 1
CONVENTIONAL HOPE SCALES USED TO CONSTRUCT INDIVIDUAL-SPECIFIC HOPE MEASURES

Trait Hope Scale "The Future Scale" (Snyder et al. 1991)	State Hope Scale "Goals Scale for the Present" (Snyder et al. 1996)	Children's Hope Scale "Questions about Your Goals"
1 = Definitely false	1 = Definitely false	1 = None of the time
2 = Mostly false	2 = Mostly false	2 = A little of the time
3 = Somewhat false	3 = Somewhat false	3 = Some of the time
4 = Slightly false	4 = Slightly false	4 = A lot of the time
5 = Slightly true	5 = Slightly true	5 = Most of the time
6 = Somewhat true	6 = Somewhat true	6 = All of the time
7 = Mostly true	7 = Mostly true	
8 = Definitely true	8 = Definitely true	
1. I can think of many ways to get out of a jam.	1. If I should find myself in a jam, I could think of many ways to get out of it.	1. I think I am doing pretty well.
2. I energetically pursue my goals.	2. At the present time, I am energetically pursuing my goals.	2. I can think of many ways to get the things in life that are most important to me.
3. I feel tired most of the time.	3. There are lots of ways around any problem that I am facing now.	3. I am doing just as well as other kids my age.
4. There are lots of ways around any problem.	4. Right now, I see myself as being pretty successful.	4. When I have a problem, I can come up with lots of ways to solve it.
5. I am easily downed in an argument.	5. I can think of many ways to reach my current goals.	5. I think the things I have done in the past will help me in the future.
6. I can think of many ways to get the things in life that are important to me.	6. At this time, I am meeting the goals that I have set for myself.	6. Even when others want to quit, I know that I can find ways to solve the problem.
7. I worry about my health.		
8. Even when others get discouraged, I know I can find a way to solve the problem.		
9. My past experiences have prepared me well for the future.		
10. I've been pretty successful in life.		
11. I usually find myself worrying about something.		
12. I meet the goals that I set for myself.		

tal health (Herth 1989; Irving, Snyder, and Crowson 1998). In one study, hope scores were collected from 200 university students at the beginning of their first semester in college, and these students were tracked for the subsequent 6 years. The hope scores of these students significantly predicted performance in both grade point average and graduation rates even after controlling for measures of entrance exam scores (Snyder et al. 2002). Similar results have been found in

other studies of college students and studies of children while controlling for measures of intelligence, self-esteem, and previous grades. In an analogous study of female track athletes, the Trait Hope Scale scores were elicited at the beginning of the season and the State Hope Scales were elicited before track meets. These scores accounted for 56% of the variance of athletes' performance in these competitions (Curry et al. 1997).

Hope has been widely tested as a predictor of mental and physical health outcomes as well. In Menninger's original call for psychologists to take the study of hope seriously, he framed hope as a critical factor that determines how well patients respond to treatment and as the central mechanism in pervasive placebo effects (Menninger 1959). Much of the subsequent research into hope focused on these topics, and hope remains a key element of clinical practice in many fields of medicine, including oncology where hope became a "dominant symbol" in the United States (del Vecchio Good et al. 1990). Whether from qualitative observation from medical practitioners (Groopman 2005) or from quantitative measurement and statistical analysis, there is compelling evidence of the role hope plays in recovery from and adaptation to physical ailments and illness.

This work sets the stage for current research and anticipated discoveries related to the biology and neurology of hope. The magnitude of the placebo effects evident in some studies—for example, a saline solution that reduces pain reported by patients so much that it is indistinguishable from morphine (Trouton 1957)—has opened research into the biological mechanisms behind these effects. This work explores how "belief, expectation and desire activate brain circuits that cause the release of endorphins and enkephalins" (Groopman 2005, 174). In clinical medicine, pain and hopelessness can build on each other in a vicious cycle of diminishing hope, which suggests a degree of path dependency that might similarly be evident among the desperately poor whose physical, emotional, or social suffering interact in a vicious cycle with hopelessness. Functional magnetic resonance imaging technologies are opening research possibilities and generating discoveries related to the neurological mechanisms that translate positive thinking and emotion into physical and mental health outcomes.⁷

IV. Development Economics and Aspirations

In contrast to much of the recent research in psychology, which often studies hope among subjects in developed countries, the interest of development

⁷ The laboratory at the University of Wisconsin-Madison has several active research projects in this area under the supervision of neurologist Richard Davidson (see <http://www.investigatinghealthy.minds.org/index.html>).

economists in hope and its related concepts stems from a motivation to understand the causal factors of persistent poverty in developing countries. Until very recently, development economics has chosen an approach to poverty that has almost exclusively focused on the relief of external constraints, where these constraints might include credit, education, health, infrastructure, and so forth. In a new but growing literature, economists are beginning to explicitly explore the role that internal constraints—including hope and aspirations—play in conditions of poverty. Although this is considered a relatively new movement in the field, as is often the case with new ideas in economics, the original idea may be traced back to Adam Smith. Although not recorded in any of his written work, a quote attributed to Smith submits that “the real tragedy of the poor is the poverty of their aspirations.”

More recently, the importance of internal constraints was reintroduced by another economist with strong ties to philosophy, Amartya Sen, in his well-known capabilities and freedom approach (Sen 1992, 1999). In Sen’s capabilities framework, genuine development and effective development policy expands human agency—the freedom to define and pursue the goals that are most meaningful to an individual—as both an end and a means to an end: “People have to be seen . . . as being actively involved . . . in shaping their own destiny, and not just as passive recipients of the fruits of cunning development programs” (Sen 1999, 53). According to Sen, the internalized constraints of the poor can degrade an individual’s perception of agency to the point that internal constraints are more binding than tangible economic constraints, effectively creating poverty traps characterized by a state of mind that one might identify as low-agency hopelessness (victimization in fig. 1). Although Sen does not explicitly articulate hope as an element of human agency in the way we define aspirational hope, this conceptualization of internal constraints both provides an umbrella for the larger literature emerging today in development economics and simultaneously aligns closely with the dominant conceptualization of hope in psychology.

In a series of 2012 lectures, Esther Duflo directly appeals to Sen’s framework by arguing that hope should be classified as a fundamental capability, akin to health, good nutrition, and education (Duflo 2012) because of the paramount role it plays in the lives and behavior of the poor.⁸ Hopelessness among the poor, she argues, is accompanied by low aspirations, which foster low levels of investment—an example she sites from her own research is in the

⁸ Duflo’s book with Banerjee *Poor Economics* develops these ideas in greater detail (Banerjee and Duflo 2011).

underapplication of top dressing fertilizer to maize crops—and hence poor outcomes.⁹

A. Economic Theory: Hope and Aspirations

While several familiar economic concepts are related to hope (e.g., anticipatory and reference-dependent utility, discount rates, subjective expectations, risk aversion, constraints on choice sets), none of these concepts captures its essential elements. This may explain why recent theorizing aims to explore ideas related to hope directly rather than as a bundle of familiar economic concepts. Much of this recent work in development economics focuses on aspirations and can be traced to the work of anthropologist Arjun Appadurai (2004), who develops the notion of the “capacity to aspire.” The argument is that the aspirations of individuals originate from ways of thinking that are part of a larger ethos in a given reference community. One might be tempted in economics to translate these into, say, parameters in a utility function. However, the idea is more complex because while in economics we tend to assume that utility parameters are exogenous to the preferences of others, aspirations in the framework of Appadurai are jointly determined and shaped through time.

The target, intensity, and composition of aspirations in any given community, he argues, reflect the dominant worldviews and ideologies about the nature of worldly possessions and their relative value to social relations, as well as deeper ideas about the meaning of life, family, community, and death. As Appadurai writes:

Aspirations about the good life, about health and happiness, exist in all societies. Yet a Buddhist picture of the good life lies at some distance from an Islamic one. Equally, a poor Tamil peasant woman’s view of the good life may be as distant from that of a cosmopolitan woman from Delhi, as from that of an equally poor woman from Tanzania. But in every case, aspirations to the good life are part of some sort of system of ideas . . . which locates them in a larger map of local ideas and beliefs. (Appadurai 2004)

At the same time, he notes, aspirations can quickly dissolve into more densely local ideas about marriage, work, leisure, respectability, friendship, and virtue.

⁹ Duffo’s remarks are similar to an argument put forth nearly 60 years earlier by the influential twentieth-century philosopher and theologian Paul Tillich, who argued for a “right to hope” (Tillich 1965).

But in practice they may manifest themselves into very specific desires for one type of job over another, a particular marriage connection, or even wearing a certain type of shoes or trousers. Aspirations, above all, are determined largely within a given community so that the “capacity to aspire” itself is bounded by the resources of a particular human context. Appadurai’s work sees the capacity to aspire as a “navigational capacity,” as it views the aspiration process as a process of exploration of alternatives and possibilities within a network, where the networks of many in advanced countries are dense with possibilities, personal connections, and ideas, but those of the poor in developing countries are substantially limited and fragile. These aspiration constraints emerge from reference communities and may hamper the ability of the poor to contest their poverty by aspiring to something greater than what is locally understood as practical, desirable, or possible.

Appadurai’s work is the foundation for a sequence of discussions and formal theoretical models in the economics literature (Ray 2006; Stark 2006; Bogliacino and Ortoleva 2013; Dalton, Ghosal, and Mani 2014; Genicot and Ray 2014). Ray (2006) in particular builds directly on Appadurai’s conception of the aspiration process to introduce and refine a trio of concepts that are helpful in framing aspirations research. The first of these is the aspirations window, which is formed from an individual’s cognitive world of perceptibly similar individuals. The set of persons in an individual’s aspirations window establishes boundaries, or at least reference points, around future possibilities. The aspirations window is comprised of individuals of similar capability and capacity, individuals likely sharing important traits such as caste, skin color, gender, ethnicity, and religion. It is influenced by the level of social mobility within a community or larger society, as well as the perception of social mobility. An individual’s aspirations window will be smaller if there are large information asymmetries or restrictions on the flow of information within the network about opportunities and possibilities.

A second concept Ray develops is the aspirations gap, the difference between the standard of living one aspires to and that which presently exists. Because moving from the existing state to the aspired state is costly, it is important that the aspirations gap can be neither too narrow, nor too wide: too narrow a gap reduces the rewards to productive effort; too wide a gap makes the aspiration unattainable and leads to aspirations frustration. Finally, Ray discusses aspirations failure, which may be the result of a diminished aspirations window or too wide (or too narrow) of an aspirations gap. Aspirations failure may result in, for example, low levels of educational attainment, underinvestment in small enterprises, or lack of concern for the quality, safety, or health of one’s dwelling. Ray also notes how aspirations failure in one dimension may

lead to perverse aspirations elsewhere. For example, aspirations failure in schooling may lead one to aspire to leadership in a criminal or terrorist organization.

Does inequality in a society generate higher or lower aspirations? Here there is no consensus. Stark (2006) demonstrates in a theoretical model that a higher Gini coefficient produces a stronger quest for status within a society and hence higher economic growth. Corneo and Jeanne (2001) and Bogliacino and Ortoleva (2013) demonstrate the opposite: that greater equality yields higher aspirations, greater investment in future outcomes, and hence higher growth. Higher inequality may, however, foster a sense of hopelessness about social advancement, and in Corneo and Jeanne (2001) it also dampens incentives for the rich to invest in productivity that might benefit others since such a rising tide might undermine their own relative social status. Bogliacino and Ortoleva (2013) also compare utility functions that are reference dependent (to others in society) and non-reference dependent, demonstrating in their model that reference-dependent economies grow faster than non-reference-dependent economies. The difference in conclusions from this literature appears to be in whether the design of a model emphasizes the incentives to aspire yielded from a moderate gap relative to a small gap in which the result is something akin to our aspirational hope outcome for the less wealthy, or the difference between a moderate gap and a large gap in which incentives to aspire are diminished.

This ambiguity is seen in other models. For example, Mookherjee, Ray, and Napel (2010) use a geographic model that incorporates aspirations (as a product of neighbor outcomes) with complementarities in skill investments to show that geographical segregation yields ambiguous effects on macroeconomic outcomes. Both segregated and unsegregated equilibria exist, outcomes that are dependent on the relative interplay of aspirations over human capital investment and complementarities. Furthermore, if the benefits from positive spillovers from neighbors' investments in human capital exceed any loss from an aspirations competition between neighbors for higher human capital investment, then overall utility increases with integration and decreases with segregation. The opposite case, in which integration diminishes aspirations, can be viewed as the kind of hopelessness that could be associated with a prohibitively wide aspirations gap. Genicot and Ray (2014) develop an intertemporal model in which aspirations are endogenous to outcomes but outcomes are also endogenous to aspirations. Here again, we find that aspirations and economic growth are higher when differences between individuals are moderate. In a replication of the growth data for 43 countries, Genicot and Ray (2014) find that the assumption that best fits the data is one in which individ-

uals employ “umbrella-shaped weights” across those with outcomes nearest to them. Consistent with the ambiguity in other papers, they find that resulting equality conditions are strongly dependent on initial conditions and assumptions and that multiple equilibria are easily generated from the model.

B. An Intervention and Randomized Controlled Trial to Lift Aspirations

Can aspirations be changed through explicit interventions? We explore the empirical literature in the next section but highlight here a particularly celebrated study that tries to ascertain whether this may be possible. In an experiment in Doba Woreda, a rural district about 250 miles east of Addis Ababa, Bernard et al. (2014) worked with film producers to create four 15-minute documentaries featuring Ethiopian families. In the film, families tell their personal narrative of how they were able to significantly improve their economic situation by starting or expanding a small enterprise or by improving their farming practices. Individuals from 64 villages took part in the experimental design, which implemented 16 screening sites and individuals invited from four different villages to each site and where the site was either a school or an agricultural training center. Experimenters selected 18 households from each village, and each of these 18 households were allocated to one of three groups: a treatment group (that watched the documentary), a placebo group (that watched standard Ethiopian TV entertainment), and a control group that was only surveyed. To study the effect of a more intensive treatment, some villages had a higher proportion of households allocated to the treatment group. To measure impact through peer networks, data were obtained on the closest four friends of the spouses from the households in the survey and checked against the list of those who had been randomly chosen for the treatment or placebo groups.

Six months after the screening of the documentary, subjects were resurveyed. Two important sets of results flow from the research. First, Bernard et al. (2014) find that the screening of the documentary had a significant impact on an aspirations index with components consisting of income, wealth, social status, and educational aspirations for children, where each component was standardized and weighted according to subjective importance by the individual. They find both direct effects from individuals themselves who had watched the documentary and effects from the number of friends who had attended the documentary. Although significant and important, there are important caveats to these results. A primary one is that the effects are measured with some imprecision, with the direct effect significant only at the 10% level. It is also unusual that the impact of an additional friend watching the documentary in most specifications is larger (0.04 SDs) than the direct effect of an

individual watching the documentary him or herself (0.03 SDs). The aspirations index, moreover, is significant only through the effect of the documentary on increasing aspirations for children's education, although, as the authors note, none of the subjects in the documentaries were formally educated nor mentioned the importance of education to their success.

Second, Bernard et al. (2014) report impacts from the screening of the documentary not only on changes in aspirations but on future-oriented behaviors 6 months after the screening. These include changes in savings, time spent in business relative to leisure, demand for microfinance, and investments in children's education. The results show some evidence for increases in savings; however, these are significant not by the standard tests of the treatment coefficients relative to the control group but only in Wald tests that examine the statistical significance of differences between the treatment group and the placebo group (where point estimates are slightly negative). The treated individuals maintained that they would want to borrow significantly more to finance business activity if microfinance were available. Results fail to show any direct impact on time invested in an enterprise relative to leisure, but they do show a 0.07 SD increase in villages that had a higher allocation of households to the treatment group. Baseline levels of schooling enrollment are low in the study area, and Bernard et al. find no direct impact on educational enrollments or expenditures on children's education. Yet they do report evidence of very large indirect effects, where the proportion of children enrolled in school increases 10% from baseline and schooling expenditures are 16.6% higher with every additional friend in the village who viewed the documentary.

Despite these caveats to the Bernard et al. (2014) study, it is remarkable that measurable and persistent impacts occur from a very light (and inexpensive) intervention. It also raises the intriguing possibility that simple interventions in the domain of aspirations may be able to realize significant impacts on behavior.

V. An Economic Model of Hope as Aspirations, Agency, and Pathways

In this section, we propose a model of hope that integrates the hope and aspirations literature into a simple but unified framework for research. Based on Locke and Lantham (1990) and Snyder (1994), our model of hope uses the framework of goals, agency, and pathways and focuses on aspirational hope. In this model, we aim to illustrate how hope emerges from these three elements in a way that directly shapes agent decisions and welfare outcomes. While we conceptually draw on the psychology of hope literature, our formulation of aspirations leverages recent work in economics on this topic; we therefore consider the role of goals in the framework of aspirations-based utility. We be-

gin with aspirations and subsequently introduce agency and pathways into the model. We apply the model to generate insights about the role that the three elements of hope may play in shaping the impact of different types of interventions.

Consider a set of possible life outcomes, Y , which in principle may be either discrete or continuous. Each outcome $Y_j \in \{Y_1, Y_2 \dots Y_n\}$ for the discrete case or $Y_j \in [0, \infty)$ for the continuous case corresponds to a given level of utility that is (weakly) increasing in Y_j . Individuals in this model aspire to one of these possible life outcomes, implying that there is a set of possible aspirations \mathcal{A} that mirrors Y .

Aspirations are context-specific and may relate to either discrete or continuous outcomes. Discrete examples of outcomes to which a health worker, for example, might aspire include professional positions such as orderly, nurse, nurse practitioner, physician, or surgeon. A boy in rural Guatemala might aspire to a different set of discrete work positions, such as day laborer, farmer, policeman, teacher, or civil servant. Continuous examples of outcomes could include income, farm profit, landholdings, size and quality of a dwelling, or years of schooling (perhaps discretized by completion of different levels).¹⁰ Aspirations in these examples represent target levels of the respective outcome. In the model, we focus on the continuous case to facilitate exposition, but the model can be easily adapted to discrete cases.

Consistent with previous literature (Appadurai 2004; Ray 2006), the model regards individual aspirations \mathcal{A} as given exogenously, established by history, culture, and the outcomes within an individual's network of relevant peers. While individual-level factors may cause an individual's aspirations to deviate from the generic aspirations implied by these factors, to keep our model simple, we assume that aspirations are exogenous in the sense that they are not a choice variable for the individual, although we do discuss what might be considered an "optimal" level of aspiration and why aspirations might typically depart from this optimum. We also discuss how a policy or program intervention may directly or indirectly affect aspirations, but we view all of these changes as influenced by exogenous factors.

To the extent that it influences utility, an aspiration in a given dimension creates a "reference point" in the utility function such that utility is sharply increasing in outcomes up to the aspiration and diminishing after the aspiration has been realized (Heath, Larrick, and Wu 1999). To clarify this relationship between aspirations and utility, consider a utility function u that evaluates

¹⁰ For simplicity, this model does not explicitly capture cases in which the attainment of an aspiration in the present changes marginal productivity in the future.

outcomes Y relative to aspirations A according to an aspirations weight $\alpha \in [0, 1]$ that captures how much aspirational attainment influences utility. We posit that an aspiration-dependent utility function should satisfy the following four properties:

1. Marginal utility is higher immediately below A than it is just above it: for small ε , $(du/dY)|_{Y=A-\varepsilon} > (du/dY)|_{Y=A+\varepsilon}$.
2. Marginal utility increases with outcome Y below the aspiration and decreases with outcome Y at and beyond the aspiration: $(d^2u/dY^2) > 0$ for $\forall Y < A$, and $(d^2u/dY^2) < 0$ for $\forall Y \geq A$.
3. As aspirations grow in importance to utility, gains in utility become uniquely a function of realized aspirations: as $\alpha \rightarrow 1$, $u = c_1$ for $\forall Y < A$ and $u = c_2$ for $\forall Y \geq A$, where $c_2 > c_1$ and c_1, c_2 are constants.
4. Utility is increasing in higher realized aspirations. That is, $u(Y_2, A_2) > u(Y_1, A_1)$, where $Y_1 = A_1$, $Y_2 = A_2$, and $Y_2 > Y_1$.

These four properties are satisfied by the following utility function:

$$u(Y|A) = A \left(\frac{Y}{A} \right)^{[1/(1-\alpha)]} \cdot 1(Y < A) + A \left(\frac{Y}{A} \right)^{(1-\alpha)} \cdot 1(Y \geq A), \quad (1)$$

where $1(\cdot)$ is the indicator function.¹¹ With utility independent of aspirations ($\alpha = 0$), the utility function reduces to $u = Y$ (although a simple extension of the model incorporates risk aversion). At intermediate values of α , the function resembles a parameterized version of the Kahneman and Tversky (1979) value function, with the aspiration A serving as the reference point. Utility is an increasing function of A in any realized aspiration such that $u = A$ for any realized $Y = A$. At extreme values of α , this utility function becomes linear ($\alpha = 0$) and piecewise-linear with a vertical step at $Y = A$ at ($\alpha = 1$). Between these values, the function becomes increasingly convex for $Y < A$ and remains linear with a decreasing slope for $Y > A$ as α increases.

As long as aspirations matter ($\alpha > 0$) and there is uncertainty in outcomes, the convexity of the aspirations-dependent utility function below A induces risk-taking in the hopes of realizing the aspiration; falling short of the aspiration may be experienced psychologically as a loss.¹² But aspirations-based util-

¹¹ Our function can be generalized to $u(Y|A) = A(Y/A)^{(1/\alpha_1)} \cdot 1(Y < A) + A(Y/A)^{(1-\alpha_2)} \cdot 1(Y \geq A)$, which allows for a heterogeneous degree of convexity and concavity before and after the realization of A . In the general form, the case in which $\alpha_2 = (\alpha_1/(\alpha_1 - 1))$, it simplifies to the standard concave neoclassical utility function.

¹² As discussed in the Model Extensions subsection below, this is inconsistent with one strand of the psychology literature that asserts that hopes are robust to such loss-aversion responses.

ity induces risk-averse behavior after A is realized. For example, consider a peasant living in rural Central America who aspires to save the necessary income, A , that will allow him to build a concrete house, an important signal of relative prosperity in the culture and a goal to which many in the culture aspire. The peasant may engage in a degree of risk-taking behavior to achieve A , but once A is reached, he becomes risk-averse for fear of falling short of his aspiration.

With aspirations in the model in place, we turn to agency and pathways. We begin with a conventional economic formulation of these concepts as external constraints that emerge from the structure of production.¹³ Returning to the simple outcome function we used to distinguish between dimensions of hope, we add some simple dynamics such that agency is captured as the productivity of an individual's effort e_t at time t in producing outcome Y_{t+1} at time $t + 1$.¹⁴ As before, agency is not such that effort is deterministic: higher effort increases the expected outcome, but realized outcomes are also subject to an independent random shock at $t + 1$, $v_{t+1} \sim N(0, \sigma^2)$. Using our simple linear production function, we thus have $Y_{t+1} = \pi e_t + \pi_v v_{t+1}$, so that as before the coefficients π and π_v indicate the relative contribution of effort and the random shock to total production, respectively, and v is scaled in the same units as e .¹⁵

We incorporate pathways into the production structure through its inverse: constraints on viable pathways available to the agent to generate outcomes. Specifically, beyond an outcome constraint, \bar{Y} , the marginal product of effort falls to 0, reflecting the fact that there is no avenue by which the individual can exert effort to achieve higher outcomes.¹⁶ Although the realized outcome may exceed \bar{Y} , this may occur only via a positive random shock v . The complete production structure in the basic model—reflecting both agency and pathways as external structural parameters—is therefore given by

$$Y_{t+1} = \pi e_t + \pi_v v_{t+1}, \quad (2)$$

¹³ Keep in mind that our formulation of outcomes is meant to be general and extends well beyond purely material production or income. Thus, we use the term "production" as a general term to capture generating an outcome.

¹⁴ We use an individual's effort in this presentation of the model, but e can represent virtually any type of input into a productive activity that embodies an opportunity cost to utility.

¹⁵ Note that the separability of e and v implied by this linear production function implies that π_v does not directly affect the returns to effort. One could instead assume that the random shock enters as multiplicative risk, in which case π_v and $E[v]$ directly modify the perceived returns to effort.

¹⁶ This is functionally equivalent to Leontief production in which labor effort and a second input are inputs into production and outcomes are increasing linearly with effort until a particular point at which the second input is constrained, at which the marginal product of effort becomes 0.

$$E[Y_{t+1}] = \begin{cases} \pi e_t & \text{if } e_t < \bar{e} \\ \bar{Y} & \text{if } e_t \geq \bar{e} \end{cases}, \quad (3)$$

where $\pi \bar{e} = \bar{Y}$.

To combine these pieces into a simple optimization problem, we introduce cost of effort. Assume that effort is costly in utility terms at an increasing rate according to the function $c(e_t)$, where $c'(e_t) > 0$, $c''(e_t) > 0$, and $c(0) = 0$. The agent then solves the problem

$$\max_{e_t} U_{t+1} = E[u_{t+1}] - c(e_t)$$

subject to equations (1)–(3). While this basic model includes an aspirations-dependent utility function, the constraints are conventional and external. Even in this basic formulation of the model, differences in aspirations will mediate the impact of standard development interventions that alleviate these conventional external constraints.

But we can extend the model to encompass richer concepts of agency and pathways as reflected in the psychology literature. In the Snyder (1994) conception of terms, they encompass not just actual agency and pathways but the individual's perception of agency and pathways, where self-efficacy—the perception of one's agency—is as important in the formulation of hope as actual agency. Indeed, true agency may yet be unknown when self-efficacy is very low because the effort needed to ascertain genuine agency may lie off the equilibrium path in the belief that one's effort will be of no consequence. Additionally, internal constraints may be more binding in some cases than more readily apparent social and economic constraints. Pathways out of poverty may be limited by conventional physical constraints, the perception of these constraints, or even informational constraints that obviate particular pathways because they fail to enter a subject's mental calculus. Thus, low self-efficacy and binding internal constraints in some cases can have a greater impact on the feelings and behavior associated with hopelessness than real productivity and the genuine social and economic constraints actually imposed on the individual.

To introduce perception into the model, we generalize the production function in equation (2) such that individuals make decisions on their perceived agency $\tilde{\pi}$ and perceived constraint on a pathway \tilde{Y} .¹⁷ Specifically, we posit that

¹⁷ While it is similarly possible to incorporate individual misperceptions in the marginal cost of effort, $c'(e_t)$, and to interpret these as indirect reflections of hopelessness, we focus on direct misperceptions of agency and pathways.

$$\tilde{\pi} = \begin{cases} \pi & \text{if } e_t < e^0 \\ \rho_\pi \pi' & \text{if } e_t \geq e^0 \end{cases},$$

$$\tilde{Y} = \rho_Y \bar{Y},$$

where effort up to effort level e^0 is known to yield an expected productivity of π , π' is true productivity after e^0 , and the perception parameters ρ_π and ρ_Y allow for individual perceptions to diverge from reality after e^0 . The case where $\rho_\pi = \rho_Y = 1$ indicates perfect alignment between perception and reality. The case of $e^0 = 0$ corresponds to the case where effort into a particular activity is completely untested and true agency is unknown at any level of e . Of particular concern for development economists are cases where poor individuals misperceive their agency and pathways to be more constrained than they really are. We therefore focus our discussion here to underperceptions of agency and pathways (i.e., $\rho_\pi < 1$, $\rho_Y < 1$) rather than misperceptions that overstate agency and pathways.

Underperception of one's marginal productivity of labor ($\rho_\pi < 1$) implies low self-efficacy. The ratio $\rho_\pi \pi' / \pi_v$ similarly captures one's locus of control (Rotter 1966; Lefcourt 1976): the higher (lower) this ratio, the stronger one's internal (external) locus of control. All agents have accurate perceptions of their marginal productivity of effort for $e < e^0$, but in the model perceptions between high and low self-efficacy agents diverge for $e \geq e^0$. The effort threshold e^0 could represent, for example, the maximum effort level that a familiar effort production function can absorb; additional effort beyond this threshold can be allocated only to a new and unfamiliar production function (where π' may be different than π), but π' may be underestimated when there is low self-efficacy. Thus, agents can learn about $\rho_\pi \pi'$ only as they experiment with higher levels of effort—and are able to differentiate the impact of their effort from any shocks that are experienced in that period.¹⁸

Analogously, individuals with $\rho_Y < 1$ internalize constraints and may perceive them to be more limiting than they actually are. These internalized constraints represent a failure to envision or appreciate possible pathways by which an individual might achieve her aspirations. Such underperceptions of agency and pathways can thereby produce low aspirations and feelings of hopelessness. A young girl perceives that employment as an engineer is unavailable to women, so she reduces her effort in schooling. This internalization of constraints on pathways (low ρ_Y) is distinct, however, from a case in which low

¹⁸ This implies that learning in the model is consistent in expectation. That is, perceptions of one's productivity of labor are consistent with the expected realized outcomes.

self-efficacy causes her to falsely believe that she is not capable of sustaining the grades needed for the degree (low ρ_π). Either low ρ_π or low $\rho_{\bar{Y}}$ may constitute a poverty trap because the effort needed to ascertain what might be genuine constraints lies off the equilibrium path.

The escape from this low-level trap may occur through an intervention that more closely aligns perceptions of agency and pathways with reality: $\rho_\pi \rightarrow 1$, $\rho_{\bar{Y}} \rightarrow 1$. This may entail a process of dynamic self-discovery in which beliefs about what is possible begin to matter in important ways. A prior belief that additional effort is futile can be self-reinforcing as it stifles any desire to experiment with higher effort levels and new pathways. In these dynamics of self-discovery, openness to investing effort in new activities can enable individuals to correct misperceptions and gradually remove internal constraints, recalling John Stuart Mill's statement that "a hopeful disposition gives a spur to the faculties and keeps all the working energies in good working order" (Reardon 1966, 303).

Within this framework, we say an intervention increases hope if it spurs a greater effort at time t down a specific pathway with the expectation of a higher net utility at time $t + 1$. Consistent with the new literature in psychology and economics, the focus of our model is aspirational hope as the product of efficacious effort optimistically directed toward an aspiration. Thus, in our model, increases in hope may derive from a number of sources: augmented aspirations, increases in actual productivity or in self-efficacy, and the relaxing of actual binding constraints or the release of internal constraints such that they become no greater than the actual constraints. Such gains can be real and nontrivial. As Snyder (2002) argues, high-hope individuals are sometimes able to increase the odds of success by remaining open to alternative pathways that reframe a challenge in new ways.¹⁹

To the extent that aspirations are malleable, there does exist an optimal aspiration A^* that maximizes net expected utility (EU). While for now we do not consider aspirations to be a choice variable, consider briefly the notion of an A^* , which can be seen most clearly when $\alpha \rightarrow 1$, $\sigma^2 \rightarrow 0$, $e^0 = 0$, $\pi' = \pi$, and $\rho_{\bar{Y}} \bar{Y} \rightarrow \infty$ and, consequently, gross utility for a realized aspiration in equation (1) is $u(Y|Y \geq A) = Y$. In this case, the optimal aspiration A^* satisfies the first-order condition $\rho_\pi \pi' - c'(e) = 0$. If $c(e_i) = \gamma e_i^2$, then $e^* = \rho_\pi \pi' / 2\gamma$ and hence $A^* = (\rho_\pi \pi')^2 / 2\gamma$. Not surprisingly, A^* is increasing in perceived

¹⁹ This underscores the fact that the structural parameters π and \bar{Y} in this model must reflect the production potential of high-hope individuals. That is, these parameters must represent the complete fulfillment of an agent's potential after the dynamics of self-discovery have run their course and eliminated all internal constraints.

agency and decreasing in cost of effort. However, because external factors play such a dominant role in the formation of aspirations, there is little reason to assume that $A = A^*$. Moreover, a traditional development intervention, *ceteris paribus*, may not raise aspirations at all, let alone move A to A^* given the powerful role that history, culture, role modeling, and peer behavior have been shown to play in the establishment of aspirations (Appadurai 2004; Ray 2006).

To illustrate the solution to the constrained optimization problem in our model, we rely on a graphical depiction that incorporates agency, pathways, and aspirations into a “hope-adjusted” expected utility function. Specifically, individuals in this model set optimal effort e_t^* such that $E[u'(Y_{t+1}(e_t^*))] = c'(e_t^*)$, where expected utility is hope-adjusted in the sense that the utility function is conditioned on aspirations $u(Y_{t+1}|A)$ and the outcome function is conditioned on actual and perceived agency and pathways $Y_{t+1}(e_t^*|\pi, \pi', \pi_v, \bar{Y}, e^0, \rho_\pi, \rho_{\bar{Y}})$. This set of relationships can be seen in the quadrant diagram in figure 2. The southeast agency quadrant shows the underlying production function in equation (2) that maps effort e_t into expected future outcomes Y_{t+1} . The model allows for low self-efficacy in the case of $\rho_\pi < 1$. The southwest pathways quad-

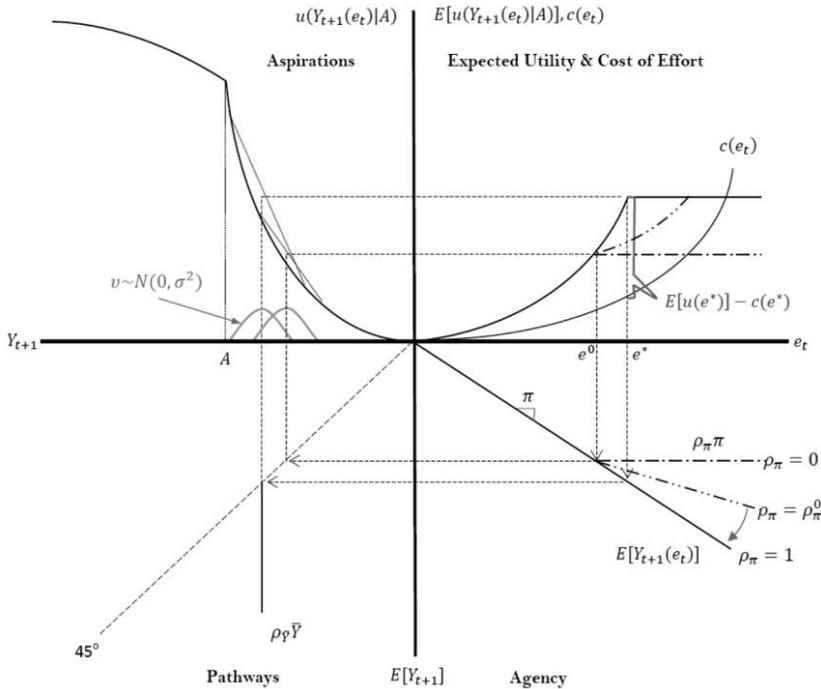


Figure 2. Graphical depiction of the economic model of hope with optimal effort (e^*) with “pathways” constraint binding below aspiration and optimal expected utility net of cost of effort depicted by $E(u) = c(e)$. Increased perception of self-efficacy drives the individual from a low-effort trap to a higher-effort and higher-utility outcome.

rant depicts both actual constraints on outcomes in equation (3) and internalized constraints. The northwest aspirations quadrant maps the distribution of outcomes over Y into our aspirations-based utility function in equation (1). The northeast quadrant combines these three elements of hope, mapping expected utility over the distribution of Y resulting from a single level of effort into expected utility. In the northeast quadrant, optimal level of effort is chosen based on the cost of effort $c(e_t)$ and its payoff in expected utility.²⁰ The figure shows net expected utility as expected utility minus the cost of effort at the optimal effort level.

While e^* is clearly an equilibrium, the model shows how low self-efficacy can introduce inferior equilibria and a low-level development trap. This is illustrated in figure 2. If $\rho_\pi = 0$, then e^0 is an equilibrium since the agent never invests effort beyond this level and therefore never ascertains true efficacy. More generally, e^0 is an equilibrium for all $\rho_\pi \in [0, \rho_\pi^0]$, where $E[u(Y_{t+1}(e^0|\rho_\pi = \rho_\pi^0))] = c'(e^0)$ and $[u'(Y_{t+1}(e^0|\rho_\pi > \rho_\pi^0))] > c'(e^0)$. Movement away from the inferior equilibrium may occur through any event or intervention that induces agents to experiment with greater investments in effort and update their perceptions of efficacy accordingly. This process of self-discovery is unleashed when $\rho_\pi > \rho_\pi^0$: as soon as optimal effort based on these perceptions increases beyond e^0 , the agent sequentially discovers that marginal productivity continues undiminished after e^0 .²¹ The model therefore generates a low self-efficacy trap at $(e^0, \rho_\pi \in [0, \rho_\pi^0])$ and a superior equilibrium with true realization of self-efficacy at $(e^*, \rho_\pi = 1)$.

Figure 3 uses the model (assuming $\rho_\pi = \rho_{\bar{Y}} = 1$ and $\pi' = \pi$ for simplicity) to illustrate how the magnitude of the aspirations gap—the difference between an existing state and an aspiration (perhaps as developed from outcomes within a reference group)—can have a nonlinear effect on effort (Ray 2006). In the case where aspirations are important (high α), low effort can result from aspirations that are either too low or too high. As seen in figure 3, if aspirations are too low (A_L), effort and outcomes are limited by the low aspiration, making effort level e_L optimal. But if aspirations are too high (A_H), sufficient convexity of the cost function of effort can make the cost of reaching these aspi-

²⁰ We use a graphical shortcut to represent this expected utility, which deserves some explanation. Since we have in mind a continuous distribution of v , we cannot compute the expected utility as a simple weighted average of high and low utility outcomes. We include these weighted average lines only as a point of reference. The actual expected utility given the distribution of possible utility outcomes between the low and high outcomes is between this line and the utility function shown in the northwest quadrant. Note as well that this expectation operator on utility rounds off the sharper aspirations kink shown in the northwest quadrant.

²¹ Among other things, this requires that the variance of the random shock σ^2 be sufficiently small that it does not impede learning from experience.

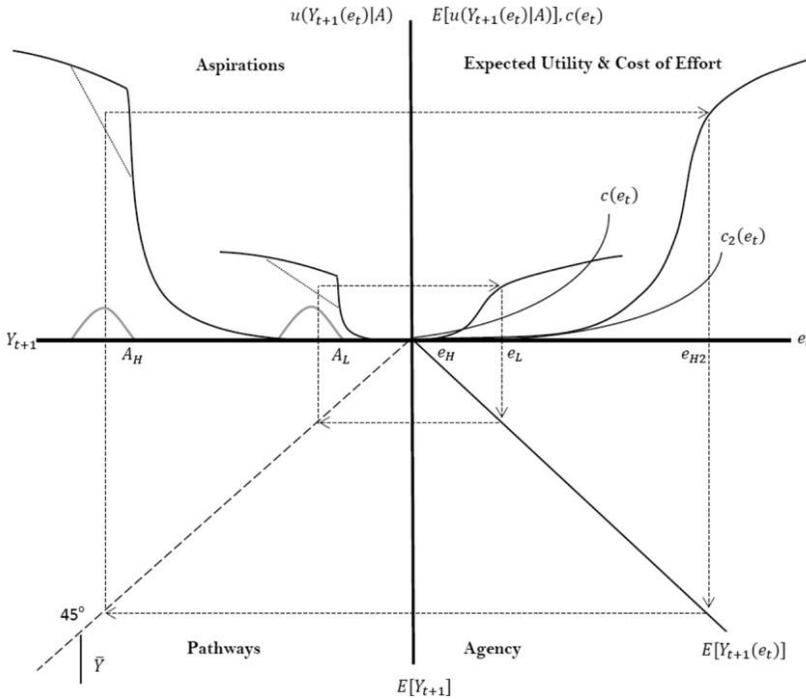


Figure 3. Economic model of hope with high weight on aspirations (α) such that optimal effort with low aspirations (e_L) is higher than optimal effort with high aspirations (e_H). Only a much flatter cost of effort function $c_2(e_t)$ would make effort level e_{H2} optimal.

rations prohibitive, yielding an even lower optimal effort e_H that epitomizes a genuinely hopeless condition. Only with a lower cost of effort function $c_2(e_t)$ would the higher aspiration induce substantially greater effort $e_{H2} > e_L > e_H$. Note that this figure captures a situation of suboptimal aspirations that may have emerged from an individual’s social context: A^* exists at an intermediate level that maximizes net expected utility. Finally, consider how the aspirations gap in this figure depends on α : with a decrease in this preference parameter, even high aspirations may not induce greater effort.

A. Prototypical Cases: Conventional Economic Interventions

To explore this economic model of hope, we discuss the impact of different types of interventions using several prototypical cases and relate these cases to examples found in the empirical literature in development economics. We begin with economic interventions aimed at alleviating conventional external constraints as shown in figure 4A.

Case 1(a) captures the case of many interventions in which an external outcome constraint is relaxed (\bar{Y} increases to \bar{Y}') without a resulting increase in

effort. This null effect of increasing \bar{Y} is due to aspirations continuing to bind as an internal constraint. As a result, effort, outcomes, expected utility, and net expected utility remain unchanged when the external constraint is relaxed. This phenomenon is well understood by development practitioners: if aspirations are low for outcomes related to a new program (e.g., schooling, health, agricultural productivity), the intervention is unlikely to yield significant impacts on effort or outcomes even if it ostensibly relaxes an existing constraint. To illustrate the role of low aspirations in this case, consider case 1(b) with a higher aspiration at $A = A_H$: with high aspirations, relaxing the external constraint increases effort from e^* to e' . An intervention that relaxes an external constraint when aspirations are high (i.e., in the absence of binding internal constraints) can induce greater effort, higher outcomes, higher expected utility, and higher net expected utility.

Case 1 may help to explain why a coordinated set of six randomized microfinance trials finds impacts on enterprise income to fall considerably short of that expected (and even claimed) by development practitioners (for a review, see Banerjee, Karlan, and Zinman 2015). A similar phenomena is observed in the impacts from microenterprise training. McKenzie and Woodruff (2013) review results across a range of studies, finding the impacts from microenterprise training to be generally disappointing, with almost no overall effect on business revenues or profits. Indeed, in experimental studies, identification is hampered by the fact that experimenters across countries find take-up rates for business training to be quite low. Likely to be contributing to these results is the fact that aspirations for microenterprises in the developing world are not as high as both researchers and practitioners perceive them to be (or perhaps believe that they should be). Such is the suggestion of Banerjee and Duflo (2011). Other studies have found disappointing results from relaxing information constraints, such as in the area of health interventions. In a four-country study, Meredith et al. (2013) find take-up for preventative health products to be much lower than expected, even when information on the efficacy of interventions is presented to subjects, and subjects demonstrate real learning about the effectiveness of the intervention. The result is consistent with other health-information studies (e.g., Kremer and Miguel 2004; Duflo, Dupas, and Kremer 2015).

Case 2 portrays an intervention that increases individuals' marginal productivity of effort π . Here, because the intervention fails to augment aspirations along with agency, enhanced agency may not increase effort and may even reduce effort as shown in the diagram. This effort effect becomes more pronounced when the weight on aspirations, α , is higher. For example, textbook provision in a school may ease the burden of book-sharing with classmates,

A

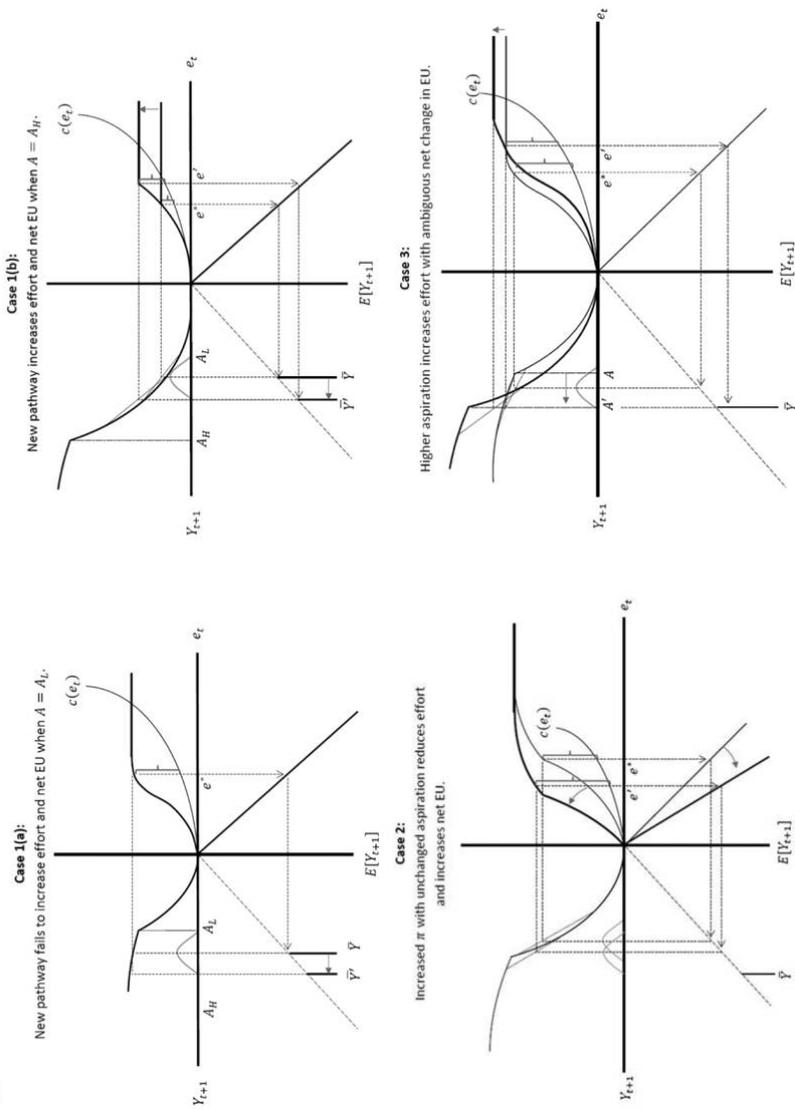


Figure 4. A, Prototypical cases of intervention effects on effort in the hope model. B, Prototypical cases of intervention effects on effort in the hope model.

B

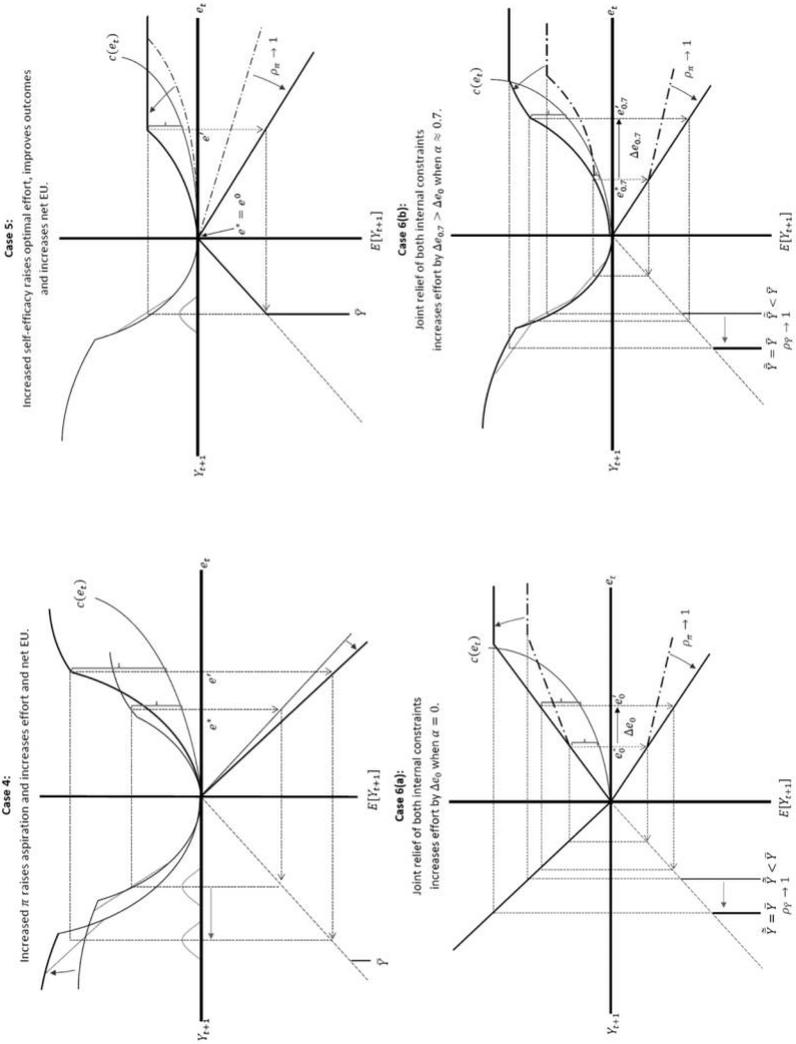


Figure 4 (Continued)

allowing a student to realize a given level of studying for less effort, yet it may not alter aspirations for secondary school completion. This may even apply to productivity-enhancing health interventions, which clearly increase welfare, but greater agency may not necessarily result in higher economic outcomes: less effort may be required to realize the same outcome.

Examples of case 2 are found in the schooling intervention literature. Vivalt (2015) presents an excellent meta-analysis of a broad array of interventions in which treatment effects were rigorously estimated. She finds that of 14 papers measuring impacts on enrollment rates, attendance rates, and test scores from the provision of school meals and school uniforms—interventions designed to boost school attendance—only two show statistically significant effects on schooling outcomes. In addition, Glewwe et al. (2004) and Glewwe, Kremer, and Moulin (2009) find no impact on educational outcomes from the introduction of flip charts (2004) and textbooks (2009) in Kenyan schools. Potentially, these may be cases in which interventions were designed to address pathways (school uniforms) and agency (school meals, textbooks, flip charts) but where schooling aspirations were either low or unaffected by the intervention, resulting in insignificant impacts on schooling outcomes. Educational interventions have the strongest chance of success when they are implemented in a context where existing aspirations for education are high or when the intervention itself fosters schooling aspirations.

Case 3 depicts a change in aspirations from A to A' due, for example, to a change or expansion in one's social network in the case of socially embedded aspirations. Examples that might induce such a change include education, agricultural extension, or microenterprise training interventions. In this simple model, higher aspirations stretch the aspirations kink in the northwest quadrant along a linear expansion path, which increases effort with ambiguous effects on net expected utility.

Illustrations of case 3 may be found in empirical work showing that greater exposure to the outside world plays a significant role in driving aspirations among the poor. This kind of impact on aspirations is seen in Bernard et al. (2014) but also in natural experiments. For example, Jensen and Oster (2009) explore the impact of cable television in households and its impact on the aspirations of women. The idea is that exposure to outside ideas and norms about the role of women may increase the aspirations and expectations of women in areas such as employment, domestic violence, childbearing, and desire for male (over female) children. They use a 3-year panel data set on individuals and find exposure to television to be associated with increases in school enrollment for younger children, decreases in the adult acceptability of domestic violence toward women, increases in women's autonomy, and even decreases

in adult women's fertility. The effects they find are quite large: differences in attitudes and behaviors between urban and rural areas decreased between 45% and 70% within 2 years of cable TV introduction. While it is impossible to attribute all of these large changes to the impact of television on aspirations, results are certainly consistent with the idea that exposure to new standards of behavior alters the expectations and aspirations of those who were the victim of particularly low aspirations previously.

Case 4—in contrast to case 2—depicts an intervention that increases marginal productivity of effort and as a result increases aspirations, as shown in figure 4B. We continue to assume that aspirations are not directly malleable, so this change in aspirations comes as an indirect by-product of increasing π . The combination of higher π and higher A increases optimal effort, outcomes, and expected utility. One of the clearest examples of this case involves the provision of tools or technologies that enable physically disabled individuals to compensate for their disabilities. Grider and Wydick (2015) use covariate matching based on disability status to study the impact of wheelchair provision on disabled adults. They find that recipients enjoyed vastly greater mobility, devoted 1.75 more hours per day to work and 1.40 fewer hours per day to street begging, and realized a 77.5% increase in income. The effect of the intervention on aspirations may be equally pronounced for reasons suggested by Appadurai (2004): enhanced mobility does not increase productivity, but as he expands his social networks, the greater mobility exposes him to a completely new set of possibilities and may raise his aspirations accordingly.

Another example of case 4 is found in Macours and Vakis (2014), who study a cash transfer program in Nicaragua, utilizing a two-stage randomized intervention that combined conditional transfers with other interventions aimed at protecting the asset base of the rural poor in six municipalities in the northwest part of the country. In carrying out the program among the 3,000 households involved, both subjects and leaders were randomly assigned to one of three different group interventions within randomly selected treatment communities. The three interventions consisted of (a) a simple conditional cash transfer, (b) the conditional cash transfer plus a scholarship for occupational training, and (c) a productivity treatment that combined a grant for productive investments with the conditional cash transfer. They find that the higher the share of female leaders (*Promotoras*) with the productivity intervention to a household's proximity, the larger the impacts of an array of outcomes on that particular household. Results suggest that having one additional leader given the productive investment package in one's initial program assembly increased household income from nonagricultural activities with about 60 cordobas (roughly US\$3.30) per capita and the value of the animal stock by 220 cordobas

(roughly US\$12.00) per capita. The direct marginal productivity effects of this conditional cash transfer appear to be amplified due to an indirect impact on aspirations through the inspiration and role-modeling effects of leaders.

Banerjee et al. (2011) provide a final case 4 example. They study the impact of a simple set of asset transfers worth approximately US\$100 to the ultrapoor in an impoverished region north of Kolkata and find that random invitation to participate in this program, which involved the receipt of a cow or some goats or chickens, resulted in a 21% increase in earned income, a 15% increase in consumption, an hour more per day devoted to productive work, and remarkable improvements in psychological health. Effects from the transfer on economic behavior and emotional well-being substantially exceeded what the researchers could have expected from the economic value of the transfer alone. Indeed, the transfer appeared to create positive psychological changes in subjects that fostered a more proactive approach to their economic challenges. Productivity improvements seemed to induce higher aspirations.

B. Prototypical Cases: Motivational and Psychological Interventions

Next, we consider motivational or psychological interventions that aim to more directly address internal constraints associated with aspirations, agency, and pathways. While such interventions may be unconventional from the perspective of traditional development economics, they are familiar to many organizations and initiatives. Some microfinance programs, for example, seek to enhance borrower self-efficacy. Practitioners often refer to this kind of multifaceted intervention as “integral (or integrated) development,” approaches designed to exploit complementarities between conventional economic interventions and psychological, social, and even spiritual dimensions of human flourishing.²²

Before introducing new cases, we reinterpret a few of the cases above from the perspective of interventions that are more explicitly motivational. Case 1 can be viewed from the perspective of binding internal constraints articulated by Sen (1992). Specifically, if we replace \bar{Y} with \tilde{Y} , the pathway constraint in case 1 becomes a product of suboptimal perceptions ($\rho_{\tilde{Y}} < 1$) and therefore represents an internal constraint. In the language of our model, individuals of disadvantaged gender, race, background, or caste may view certain pathways as closed to them or may perceive barriers to advancement that are intimidating to navigate. These internal constraints may be dictated by culture

²² The United Nations Development Programme, the Organization of American States, Save the Children, World Vision, and Compassion International are several of many development organizations that espouse an integrated development approach.

and social norms but may not literally exist as true economic constraints. Examples might include perceptions such as “the family business has never outgrown its present space and never will” or “indigenous people in this village never attend secondary school.” In these instances, role models who are able to break social barriers may create a demonstration effect that increases hope for others by breaking down these internal constraints ($\rho_{\bar{y}} \rightarrow 1$). As shown in case 1, relaxing a pathway’s constraint may induce greater effort only if aspirations are sufficiently high—or if the intervention simultaneously raises aspirations sufficiently.

Similarly, consider a reinterpretation of case 4 in which an explicitly motivational intervention increases both agency and aspirations (i.e., directly rather than indirectly altering aspirations as in case 4). A potent empirical example comes from international child sponsorship in which schoolchildren receive tuition, uniforms, meals, health care, and afterschool tutoring focused on academic training, spiritual formation, and character growth aimed at enhancing self-esteem and aspirations. Wydick, Glewwe, and Rutledge (2013, 2017) find numerous adult impacts of being sponsored as a child, including improved schooling and employment outcomes, increased likelihood of serving in civic leadership positions, and higher income and asset levels. In follow-up work, Glewwe, Ross, and Wydick (2017) carry out an experiment with children in Indonesia, half of whom are sponsored, and find that child sponsorship significantly increases happiness, self-efficacy, and hopefulness.

Two new cases from the model shed light on other types of interventions that directly relieve internal constraints (fig. 4B). Case 5 considers the possibility that an individual (or group) suffers from low self-efficacy—a falsely low perception of true agency—as in Bandura (1977). In this case, we assume that $e^* = e^0$ and that $0 < \rho_{\pi} < \rho_{\pi}^0 < 1$ (i.e., the individual perceives her agency to be sufficiently lower than her true marginal productivity of effort that she does not exert effort and therefore does not learn about the true marginal productivity of effort). Low self-efficacy in this case results in lower expected utility at all levels of effort and yields an initial optimal effort of 0. This is analogous to an aspirations gap that is so big that it engenders hopelessness as depicted in figure 4, but in this case the gap reflects underperception of agency. In this situation, any intervention that increases an individual’s self-efficacy so that her agency aligns with her true and full marginal productivity of effort (i.e., $\rho_{\pi} \rightarrow 1$) increases optimal effort to e' and net expected utility. More precisely, given the dynamics of self-discovery that can be unleashed as soon as the agent in this model begins to exert additional effort, the intervention need only increase self-efficacy to the point that $\rho_{\pi} = \rho_{\pi}^0$. In the case of low initial self-efficacy, interventions that increase self-efficacy increase aspirational hope and

induce better expected outcomes as long as avenue constraints are not binding. Like aspirations, self-efficacy may be too high or too low, but among the poor one could reasonably presume the latter to be more prevalent. Jensen (2010) presents an example of this case: an intervention designed to boost self-efficacy through an information campaign to reduce misperceptions about the returns to schooling (agency) in the Dominican Republic. Students at randomly selected schools were then given information on what were indeed the much higher (true) returns to schooling in the country. As a response, those in the treatment schools were discovered to complete more years of school over the next 4 years than those in control schools.

As a final perspective on the model, case 6 depicts the joint relief of internal constraints associated with both agency and pathways. Internally constrained agency and pathways—that is, $\rho_\pi < 1$ and $\rho_{\tilde{Y}} < 1$ —flatten the expected utility function in the northeast quadrant by reducing the slope for $e > e^0$ and tightening the outcome constraint to $\tilde{Y} < \bar{Y}$. Because alleviating these two internal constraints returns this function to its true and steeper form, it increases optimal effort. Cases 6(a) and 6(b) compare individuals for whom aspirations are strong outcome reference points ($\alpha \approx 0.7$), which we assume in most of the previous figures, with those for whom aspirations are unimportant as reference points ($\alpha = 0$). Such preference heterogeneity might generate important impact heterogeneity of interventions that target internal constraints. In this case, the joint relief of these internal constraints increases effort and net EU for both types of individuals but increases effort more for aspiration-sensitive ($\alpha \approx 0.7$) than for aspiration-insensitive ($\alpha = 0$) agents. More generally, the nonlinearity introduced by aspiration sensitivity ($\alpha > 0$) in this model implies that alleviating internal constraints associated with agency has different effects on effort than a comparable alleviation of pathway constraints—and these effects can differ significantly by aspiration sensitivity. When pathway constraints \tilde{Y} are alleviated, for example, $\Delta e = e' - e^* \geq 0$ for both agent types, but the magnitude of this increase in effort depends on initial optimal effort and on how these changes affect the marginal utility of effort: if $u'(Y(e')|A, \alpha > 0) > u'(Y(e')|A, \alpha = 0)$, as depicted in case 6(a) and 6(b), then $\Delta e_{\alpha > 0} > \Delta e_{\alpha = 0}$.

C. Model Extensions

While this simple model captures the key elements of hope derived from the positive psychology literature and provides a conceptual framework for work by economists, it abstracts from reality in important ways. A few possible extensions to the model are worth mentioning. First, in this model we assume risk neutrality and no discounting. In a simple extension, allowing for risk aversion would amplify the curvature of the utility function, which presently

derives its entire shape solely from A and α , but risk and time preferences may interact with hope in specific and potentially important and interesting ways, which may merit additional attention. Second and relatedly, the aspirations-dependent utility function implies loss aversion around the reference point of A such that falling short of A is experienced by an aspiration-sensitive agent as a loss. This abstraction is not entirely consistent with the thinking of some psychologists who have argued (as mentioned above) that “it is more difficult to disappoint a hope than an expectation” and that “hope allows us to face the unfulfillment of our wishes without becoming desperate” (Miceli and Castelfranchi 2010, 259).²³ These statements suggest that hope may introduce an additional asymmetry between gains and losses—one that is conditioned on the relative magnitude of the random shock in shaping outcomes. For the sake of simplicity, we have not captured this potentially important nuance.

Perhaps more importantly, we have assumed in the setup of the model that aspirations emerge from one’s social and cultural context rather than as an endogenous choice variable over which one optimizes. As discussed above, this allows for the possibility (indeed, the likelihood) of suboptimal aspirations, $A < A^*$. While this treatment of aspirations is consistent with the dominant theoretical approach to aspirations in economics (Appadurai 2004; Ray 2006), it abstracts from the richness of the process by which individuals form and update aspirations. In future work, extensions of the model could endogenize the formation of aspirations, which would link the model even more closely to some of the recent empirical literature that assumes that aspirations are choice variables.

Finally, agents’ sensitivity to aspirations, which we have assumed to be a preference parameter, may similarly be endogenous in important ways. What, for example, should an optimizing agent do in response to a hopelessly high aspiration that is imposed by their social and cultural context? Recent work on the economics of identity suggests that cognitive dissonance and our built-in cognitive reflexes that aim to resolve this dissonance play an important role in such a situation (Akerlof and Kranton 2000; Oxoby 2004). Future work might incorporate such responses into this model by allowing agents to endogenously choose their sensitivity to aspirations (α), which could introduce a new dimension to potential aspiration traps: agents facing hopelessly high aspirations might opt for low α and increase both their effort and expected utility in a way that is analogous to Oxoby’s model of the emergence of the “underclass”

²³ In this context, “expectation” means an event or achievement that one expects to occur with near certainty. It is not a reference to the result of a mathematical expectation calculation.

(Oxoby 2004). This is but one extension to the model that might endogenize aspirations and aspiration sensitivity in insightful ways.

VI. Poverty and the Economics of Hope: Prospects and Priorities

Hope is fundamental to the human experience, with richness and nuance that demand interdisciplinary perspectives. In the past 70 years, significant inroads have been made into what gives rise to hope and into the effects hope displays on a wide array of outcomes. Economists are relative newcomers to this area of investigation, which raises important questions about where they might make the greatest contributions in better understanding the role that hope plays in helping people transition out of poverty.

At the most basic level, development economists have an opportunity to build a more complete understanding of poverty and poverty dynamics by embracing the concept of hope and the light it can shed on poverty and development more generally. This is potentially a first-order contribution to “hope studies” more generally, which have focused primarily on developed country research contexts. There is no substantial field, for example, in psychology that correlates strongly with the field of international development economics. As a result, most of the exciting work that is being done on the relationship between various types of internal constraints among the poor and human outcomes has been undertaken in recent years by behavioral economists working in the development field. Moreover, because economic analysis has stronger links to state policy actors, even though economists may be arriving somewhat late on the scene relative to other disciplines, they may be better placed to shape policy. Thus, there appears to be great scope for greater collaboration between psychologists and economists, who each bring strength and their respective skills of psychological measurement, research design, and rigorous identification of the effects of interventions.

Moreover, there are a number of lingering questions that remain to be answered about hope and its relationship to poverty. First and most fundamentally, how might a better understanding of hope shape development policies? This question involves several key elements and raises its own important questions. How potent are the standard economic interventions (e.g., education, health, access to credit, vocational training, information about returns to investments) at increasing hope and aspirations relative to the deeper existential mechanisms that have traditionally been the domain of psychologists, therapists, and clergy and that have only recently come to be explored by development economists? What complementarities or synergies exist between these material and more transcendent sources of hope? How can we distinguish between what constitute reasonably optimistic or one might say “optimal” hopes

and false or misleading hopes, and how ought this distinction shape development interventions? Can greater aspirations alone help to break poverty cycles, or do higher aspirations only complement tangible interventions that directly improve productivity and enhance human development and welfare? All of these questions have important contextual and cultural dimensions to them, but many insights will be at least partially generalizable.²⁴

One valuable potential contribution by economists to the study of hope lies in the methodological rigor that our discipline can bring into the estimation of causal effects. The psychology literature contains a plethora of studies that establishes quite clearly that hope is associated with higher psychological, health, spiritual, academic, and intellectual outcomes (Lopez 2013). Yet the potential for reverse causality runs thick in this literature. The literature on both what gives rise to elevated levels of hope and an estimation of causal effects of hope on outcomes is far smaller. To make useful contributions, economists can generate empirically rigorous insights into the effects that hope can have on economic outcomes, the mechanisms that transmit these effects, and the persistence of effects over time. Thus, a primary area in which economists can contribute to this field is in the development and implementation of identification frameworks that are able to cleanly estimate causal effects in both the creation of hope and aspirations and their impact on human welfare.

In studies of the impact of hope among the poor, the dynamics of human welfare might be most directly measured via changes in temporal quality of life (in contrast to emotional or mental stability). Research on hope by economists seems particularly feasible among the poor because their hopes are more likely to share the common goal of improving basic needs and material quality of life. Economists have developed sophisticated tools for understanding poverty dynamics in the past decade. At the current frontier of this work, researchers are developing tools to characterize heterogeneous poverty dynamics that are conditioned on observable factors and control for unobservable influences. The elements of hope we have explored here may be important components of this heterogeneity in movement out of poverty. With some successful adaptation of hope measures from psychology, this may be an important area of comparative advantage for the discipline.

We end with a fundamental introspective question: How well do we as development economists understand the hopes and aspirations of those we

²⁴ Operationalizing these insights in the context of policy or program design naturally often leads to behavioral nudging (Thaler and Sunstein 2008). While the “libertarian paternalism” (Thaler and Sunstein 2003; Sunstein 2014) that undergirds this approach and its deeper moral and philosophical roots is not without controversy (Hausman and Welch 2010; Sugden 2013, 2017), as a practical matter there is much that we as economists have yet to learn by exploring questions such as these.

study? Researchers charged with producing the 2015 World Development Report “Mind, Society, and Behavior” assert that “development professionals are not always good at predicting how poverty shapes mindsets” (World Bank 2015). Based on surveys of these professionals, they conclude that they may perceive poor individuals to be “less autonomous, less responsible, less hopeful, and less knowledgeable than they in fact are” (18). Such misperceptions are consistent with a restricted view of the poor that fails to appreciate the meaning, purpose, and hope they derive from their lives despite often facing substantial constraints. A richer understanding of the role hope plays in the lives of the poor, an awareness of other disciplinary perspectives on hope, and a willingness to explore its interface with economics might help to align our perceptions with those we study.

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