Routledge
Taylor & Francis Group

Journal of Human Development and Capabilities
A Multi-Disciplinary Journal for People-Centered Development

ISSN: 1945-2829 (Print) 1945-2837 (Online) Journal homepage: http://www.tandfonline.com/loi/cjhd20

Aspirations and the Development Treadmill

Debraj Ray

To cite this article: Debraj Ray (2016) Aspirations and the Development Treadmill, Journal of Human Development and Capabilities, 17:3, 309-323, DOI: 10.1080/19452829.2016.1211597

To link to this article: https://doi.org/10.1080/19452829.2016.1211597


Published online: 30 Aug 2016.


Submit your article to this journal


Article views: 223


View Crossmark data


Citing articles: 2 View citing articles

Full Terms & Conditions of access and use can be found at
http://www.tandfonline.com/action/journalInformation?journalCode=cjhd20

Journal of Human Development and Capabilities, 2016
Vol. 17, No. 3, 309–323, http://dx.doi.org/10.1080/19452829.2016.1211597

Aspirations and the Development Treadmill

DEBRAJ RAY
Department of Economics, New York University, New York, USA

ABSTRACT *I describe a positive theory of socially determined aspirations, and some implications of that theory for the study of economic inequality and social conflict. The main contribution of the theory is that it attempts to describe, in the same explanatory arc, how a change in aspirations can be inspirational in some circumstances, or a source of frustration and resentment in others. These different reactions arise from the* aspirational gap*: the difference between socially generated aspirations and the current socio-economic standard that the individual enjoys. Ever-accelerating economic development can cut both ways in terms of inspiration and frustration.*

KEYWORDS Aspirations, Inequality development, Economic growth, Conflict

1. Introduction

This essay aims to describe how socially determined aspirations enter into the determination of individual goals, and in so doing can serve to both inspire and frustrate. Because aspirations are generated by the ambient society in which the individual is located, this gives rise to an interplay between economic development as a whole, the speed and distributional consequences of that economic development, and individual behavior. Economic and social outcomes and individual conditions interact, of course, along a two-way street: the former influencing the latter via aspirations, and the latter giving rise to the former simply by virtue of aggregation over all individuals in society. This interplay has been highlighted, though from somewhat different perspectives, in the work of Ray (1998, 2006) and Appadurai (2004).

There are several implications of this formulation. One could use this device to study poverty traps that are created by despair or frustration, as Appadurai (2004), Dalton, Ghosal, and Mani (2015) and Ray (1998, 2006) have done. The framework can be brought to bear on the connections between economic growth and evolving economic inequality, as in Bogliacino and Ortoleva (2014) and Genicot and Ray (2015). It can be deployed to think about socio-economic mobility, as in Esteban et al. (2016). It can inform studies of violent conflict, as in Mitra and Ray (2014). One can even use this framework to think about "appropriate goal-setting," as in Kearney and Levine (2014) or Goux, Gurgand, and Maurin (2014).

Correspondence Address: Debraj Ray, Department of Economics, New York University, 19 West 4th Street, New York, NY 10012, USA. Email: debraj.ray@nyu.edu

© 2016 Human Development and Capability Association

The many applications aside, two broad approaches can be taken from our starting point. The first is where the formation of aspirations from societal influences is viewed as a positive theory, one in which that influence is taken as given to begin with, and its implications explored. The second is one in which we view the theory as normative, and think of just how our ambient economic or social circumstances *should* translate into aspirations. The several examples given above, except for the very last one, are all instances of a positive theory. The last points to, or relies on, a normative theory.

What I want to do in this article is describe the formulation of a minimal basic theory, and then use it to illustrate some of these applications. The particular setting that interests me, and it is one I develop in more detail below, is one that I call the "development treadmill" and how it might promote (or impede) individual incentives to invest and grow.

Researchers in economics have long enjoyed the soothing parable of *balanced growth*, a placid and not altogether unpleasant situation in which all sectors and economic groups enjoy comparable rates of economic progress. Modern economic growth is, however, anything but balanced. Developing countries have known this all along: faced with rapid technical progress, structural transformations and a rapid impetus toward globalization, their citizens have always faced the prospect that the next bout of sudden economic growth will either carry them away, or leave them stranded. Growth in developing countries has always been *uneven*: a state of affairs in which a sector—or some subset of sectors—take off in the economy, pulling up specific groups in the wake of that growth, and leaving others behind. Moreover, for developing countries, growth and progress in economically developed regions is always a target, always a moving goal.

But of course, the increased movements of global capital, goods and labor—and the inexorable and implacable shifts created by technical progress—have not left the developed world unshaken either. Time and again, and especially in the last decade, we have seen large sections of society express their socio-economic aspirations and fears in a variety of ways. I am writing this on a rainy afternoon on June 24, 2016, in the United Kingdom, and it is clear that the enormous shock of Brexit owes much to these dreams and frustrations.

The effects of uneven growth are well illustrated by a parable due to Albert Hirschman (see Hirschman and Rothschild 1973). You are caught in a serious multi-lane traffic jam. After stewing in your lane for a while, you see the cars in the other lane begin to move. Do you feel better or worse? Certainly, movement in the other lane will initially appear as a hopeful sign: you think that your own movement is just around the corner. You might contemplate a peaceable shift into the moving lane, but if that lane keeps whizzing by, with no gaps to enter and with no changes on your lane, your reactions may well become quite negative.

There are several interpretations of the Hirschman parable, one of which is particularly relevant to the story I want to develop. One is that the movement of "neighboring lanes" under uneven growth brings us information about what is possible—initially positive in the parable, but later negative. Under this interpretation, social outcomes are repositories of information, nothing more, while individual preferences remain unaltered. A second interpretation is that social change molds our *aspirations* for the future, and in so doing it broadens our view and thereby effectively alters our preferences. But aspirations can be a double-edged sword: they might influence individual behavior in a constructive way via a profitable chain of investment and reward, or destructively, via frustration and conflict. As Alexis de Tocqueville observed of the French Revolution: "[t]he French found their position insupportable, just where it had become better …" and indeed, "[i]t is not always that from going from bad to worse that a society falls into revolution" (de Tocqueville 1856).

In brief, we live in a world of uneven growth. High economic growth is an unambiguously modern phenomenon that yields much cause for hope, a messy and volatile hope perhaps, but hope nonetheless. Yet it is also a sign that our successes and failures are measured against an ever-tilting treadmill. To the undeniable fact of that treadmill, I would add the speed of communication, which has steadily advanced over the last century with the advent of radio and television, followed by the quantum leap of the internet. In the face of such situations, it is clear that a theory of economic preferences—of *aspirations*—must take center-stage, one in which the successes and failures of individuals are explicitly determined by, and evaluated in, the ambient social environment of those individuals. It is this view I wish to develop further in the pages that follow.

2. Aspirations

Begin with a space of relevant characteristics or endowments: income, wealth, gender, ethnicity, religion or political opinion. A *society* can be viewed as a distribution over these characteristics. Some parts of this distribution are relatively fixed and change only sluggishly, such as gender or religious composition. Others, such as income, can change very quickly over a short span of time.

I live in one such society. I draw my goals, my hopes and my fears, from what I see, from the distribution over social characteristics that I perceive around me. Much of this is transmitted through a limited cognitive window: I tend to look at the experiences of individuals who are in some shape or form connected to me: perhaps those located in similar occupational categories, or from a similar background, or in a similar demographic category.

In part, this limited window serves a useful statistical function: by using individuals in my "cognitive zone" as controls, I can better evaluate how I would benefit or be hurt by some policy change, such as a move to a more globalized economy. In part the limited window keeps me sane by keeping my goals "calibrated" to something that is reasonable and achievable. Neither part can be perfectly controlled. The advent of television or the internet can surely change my cognitive window, and in so doing can affect my aspirations and goals. The arrival of sudden and precipitous socio-economic change can do the same thing even if it does not affect my cognitive window, as the lives of those around me begin to change, for the better or worse.

Formally, then, we could think of *aspirations* as a set of "milestones" or "reference points" a against which personal outcomes are evaluated, where those milestones are in turn determined by personal and ambient social characteristics. I use the formulation introduced by Genicot and Ray (2015):

$$a = \Psi(y, \sigma),$$

where y is a listing of personal characteristics and σ is the *distribution* over characteristics for society as a whole. I reiterate that some of these characteristics are given, such as ethnicity or gender, but others—such as economic position—are mutable. It is the latter set that one's aspirations will affect. I also reiterate that while aspirations are formally permitted to depend on the entire distribution σ, that is not by any means a necessary restriction: depending on y, some portions of σ may be "censored" from the individual's cognitive window.

As an economist, I am naturally drawn to the economic applications of this idea. The term y would then simply represent an individual's assets or income, while σ would stand for the society-level ambient distribution of income or wealth. The aspirations a would then represent milestones against which that individual assesses the wealth of her children, or perhaps her own economic standing at some future date.

Panel (a) of Figure 1, which builds on and extends a formulation introduced by Genicot and Ray (2015), shows us one way of implementing this idea. Think of parental happiness from the economic success of their children. Let us humor the narrow-minded economist for a minute and think of success as entirely described by one number: wealth. Parental happiness—or payoff, or utility—is usually expressed as a concave function of wealth, the idea being that a marginal dollar added to wealth means progressively less in terms of additional satisfaction. However, the aspirational thresholds a_1 and a_2 in panel (a) of Figure 1 are milestones that register a jump in payoff when the child's wealth hits those thresholds. Just the raw fact of hitting those thresholds are enough to generate a sense of satisfaction or achievement, leading to a fresh source of payoff. That could be expressed in one (or both) of two ways: first, *marginal utility* becomes high again as a new source of payoff comes into being—so a new concave segment starts up—and second, utility *itself* could "jump up" as the threshold is crossed, leading to a discontinuity in payoffs at the aspirational milestones. Both these features are shown in panel (a) of Figure 1, and I will return to the behavioral implications of this formulation below.

More generally, aspirations are multidimensional, and go well beyond dollar-denominated milestones. There could be aspirational thresholds to good health, community-building, social recognition or occupational thresholds. The fact that these are less quantifiable does not make them any less real than the economic illustration I have focused on. There could also be more sinister aspirational thresholds: the desire to stay ahead of a rival religious or caste group, the quest for political power, or the urge to dominate others on cultural or ethnic grounds.

Multidimensional, too, are the social influences that mold aspirations. Income distributions (and changes in those distributions brought on by an uneven growth episode) are doubtless of primary importance. But in addition, aspirations are the product of beliefs and family or near-family connections (Lewis 1958; Das Gupta 1994), of role models as sources of information (Wilson 1987), and cognitive windows are not just built from economic similarities but also arise from considerations of religion, caste and ethnicity (Munshi and Myaux 2006) , or even the instinctive need to perform "controlled experiments" when deciding whether to take a particular life path, or adopt a particular technology (Munshi 1999) .

As a final remark to end this section, I want to also note that aspirations and society evolve in an intimately connected way. Just as the social distribution over characteristics shapes aspirations, those aspirations then inspire (or frustrate) individuals so that they

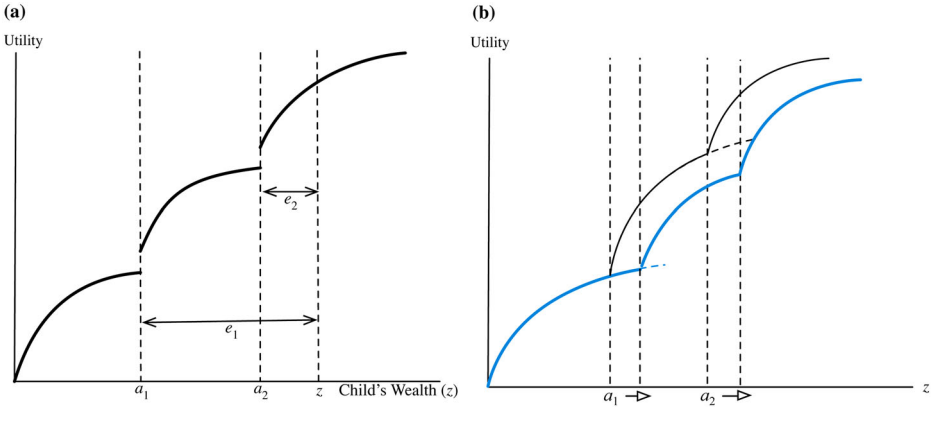

Figure 1. Aspirational milestones and payoffs. (a) Aspirational milestones and (b) changes in aspirations.

make certain decisions: ranging from the accumulation of wealth or the achievement of social or political recognition, to engagement in protest or violent conflict. Those decisions, aggregated over all individuals, must then change the social distribution over characteristics, bringing us full circle. It is in this sense that society and aspirations evolve in a symbiotic way, and it is one reason why distant histories or the vagaries of initial conditions can have systematic and persistent effects into the long future (Genicot and Ray 2015).

3. The Intrinsic and the Instrumental

The formulation I have proposed is deliberately minimal. One can think of many ways to extend it. For instance, why restrict oneself to just positive feelings of happiness once aspirations are reached? Why not additionally succumb to negativity if aspirations are *not* reached? Or, why do aspirations represent such a sharp threshold; why not a fuzzy penumbra through which an individual passes to feel that her aspirations have been satisfied: the graphical equivalent of vertical bands around a_1 and a_2 in Figure 1 rather than just lines? Or, why might aspirations not depend on the entire history that brings an individual to where she is today: why just her own income and not the income of *her* parents, for instance?

Some of these departures from minimality entail no new insights; others might. But it is best to first see where this framework takes us before we set ourselves to extending it.

Two central features of the setup described here is that it captures something intrinsic about aspirations, and something instrumental. What is intrinsic about higher aspirations is that they are invariably "bad" for the individual, at least from the vantage point of her current self, located in the here and now. Panel (b) of Figure 1 brings out this point very clearly: when aspirations go up, the thresholds a_1 and a_2 shift to the right in that panel, and the new additional payoff from satisfied aspirations is therefore "postponed." Utility comes down. This is a robust notion and if you extend the model along different lines (including those I have listed above), it generally survives. Loftier goals generally do not bring any intrinsic pleasure; or they may well might, but without any indication of goal-fulfillment, such pleasures—if any—are at best ephemeral.

But there is an additional, instrumental role for aspirations. When they go up, they push back the frontier for satisfaction, and in so doing they can inspire greater effort. This

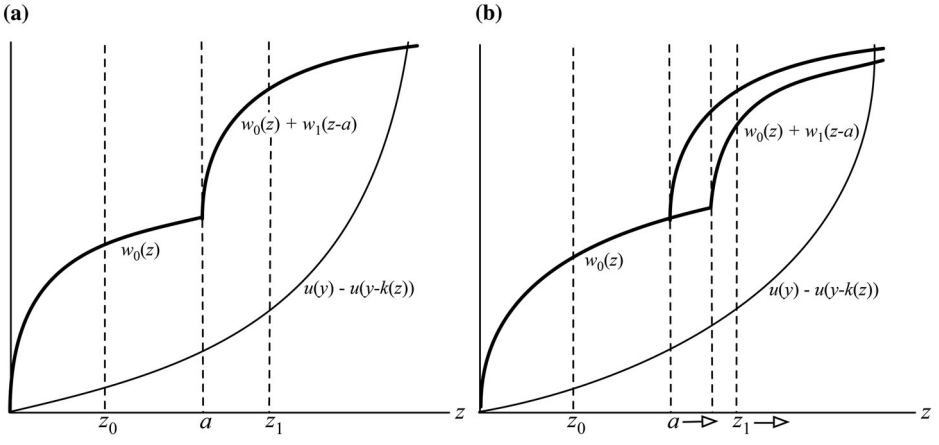

Figure 2. The instrumental role of aspirations. (a) Decision problem and (b) change in aspirations. *Source*: Genicot and Ray (2015).

instrumental force can, however, go either way. Figure 2, taken from Genicot and Ray (2015), explains the basic analytical approach. In panel (a), I have drawn the payoff function with just a single aspirational threshold. It has the "double-humped" shape that I have described earlier. These payoffs do not come for free, of course—there is a cost in attaining the wealth level z that generates the payoffs. I have depicted that cost by a convex curve which captures the current payoff loss from making an investment. In Genicot and Ray (2015), we show how such a cost function arises naturally from an intergenerational maximization problem for a parent.

There are two potential options for a maximum, which involve the choices z_0 and z_1 in panel (a) of Figure 2. Either option has the property that it maximizes—at least locally—the vertical gap between payoff and cost. The individual will choose the one that has the larger vertical gap—the *global* maximizer. In panel (a) it is the choice z_1. In panel (b), we re-visit the same decision problem as aspirations grow. Initially, a high choice analogous to z_1 remains optimal, and as long as it is so, our individual reacts to higher aspirations but putting in greater effort, leading to higher income and welfare for the next generation.

So far so good, but *continuing* increases in aspirations (at the same individual economic level) cannot elicit a positive response forever. There must come a point at which the higher choice is *too* costly. At this point, aspirations are unsustainably high, and inspiration turns to frustration, leading to an abrupt drop in parental investment. Now we are in unambiguously dark waters: aspirations has neither any intrinsic nor instrumental value.

Panel (a) of Figure 3 sketches this basic result. On the horizontal axis is a single aspirational milestone, which is progressively moved up. On the vertical axis is the wealth bequeathed to the next generation. As you can see, the reaction to increased aspirations is a positive one as long as those aspirations continue to be satisfied: investment rises. But after a point, represented by the threshold a^* in that diagram, something must snap and there is a drop-down to a low level of investment. This transition is a fundamental starting point for the theory developed in Ray (2006) and Genicot and Ray (2015).

Panels (b) and (c) of Figure 3 describe two extensions. Panel (b) is driven by the notion that a failure of aspirations can lead to progressively greater feelings of frustration. Under those conditions, and depending on the exact modeling specification, investment can actually react *negatively* to increased aspirations, instead of dropping down to some fixed level, which is the case in our baseline model. In panel (c), there are several aspirational milestones, each of which kicks in when the next generation crosses different economic thresholds; e.g. high school, followed by a college degree, then a degree such as an MA or a PhD, followed by various promotions or vertically arrayed positions in the workplace. Then it is entirely possible that there are a number of transitions when the entire slew of aspirations moves upwards and are "abandoned" in sequence. Between each such phase

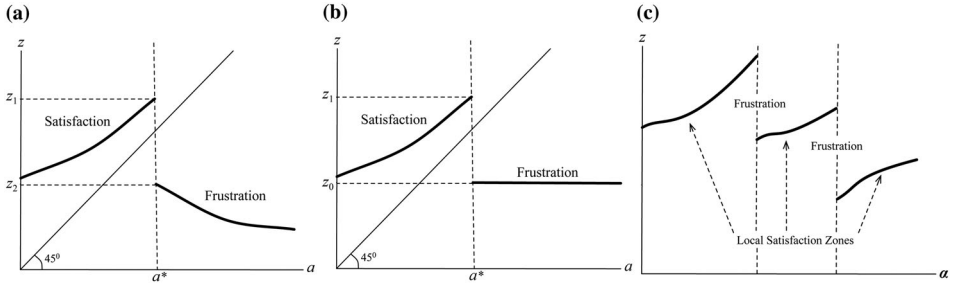

Figure 3. From inspiration to frustration. Extended from Genicot and Ray (2015). (a) Transition, (b) an extension and (c) multiple thresholds.

of abandonment, though, are zones in which increased aspirations continue to inspire. One can think of other aspirations, such as the fuzzy band alluded to earlier, in which an aspirational failure only gradually becomes evident: the transition from early inspiration to eventual frustration would still remain, though. As you can see, extending the model matters, but does not detract from the basic point, which has to do with the transition from inspiration to frustration.

4. Economic Growth and Aspirations

With this key feature in hand, we can begin to think about the consequences of economic growth for investment, mobility or conflict. It is important to appreciate, first, just how the growth treadmill has been tilting.

While estimates vary, the GDP per-capita of Netherlands grew at less than 0.2% per year over the period 1347–1807 (van Zanden and van Leeuwen 2012). This magnificently glacial pace would have allowed the Netherlands—a world leader at the time—to double its real per-capita income once every 350 years or so. Over 1700–1870, a period that includes the Industrial Revolution, Great Britain's per-capita GDP grew at a shade under 0.5% per year, a rate that would permit doubling once every 150 years (Harley 1982; Crafts 1985; Broadberry et al. 2015). Subsequently, doubling times have continued to fall. The United States doubled its per-capita in a bit under 50 years in the mid-nineteenth century, but in the mid-twentieth century, growing in excess of 2% per year, could do so in well under 35 years. Doubling times have continued to fall. Brazil starting in 1961 achieved this target in 18 years, Korea starting 1966 in 11. Since 1980, China has been doubling its per-capita GDP in under 10 years. In 2011–2012, the *Economic Survey* of the Government of India could lament that the "Indian economy is estimated to grow by 6.9% in 2011–12 mainly due to weakening industrial growth." (The implied rate of 5% of so per-capita growth would have led to a comfortable doubling of income per-capita in 12 years.)

These are extraordinary numbers to those seeing them for the first time. But of course, one only needs a little arithmetic to convince oneself that sustained economic growth of even 2% per-capita per year is a truly modern phenomenon. Just start at a per-capita income of $30 000 in 1990 Geary–Khamis dollars, which was roughly the figure for the United States in 2010. At 2% growth per annum, and counting backwards, that would give you the miserly sum of $430; in reality, 1800 US per-capita income was around $1300, again in constant 1990 dollars (Roser 2016). Yes, 2% per year per-capita is an unprecedented rate of growth indeed, which makes the recent numbers of 5–10% per annum look stratospheric.

It is against this background that we must understand how individuals react to the society around them. It is impossible to imagine that these changes—the modern doublings of income again and again in one's lifetime—can have no effect on one's preferences, or attitudes to investment. In part, those effects have been positive and indeed, they are surely included in these growth measurements that we have done in the first place. That is how it should be: development success stories fostering even more investment and subsequent success stories in an ever-expanding virtuous cycle. Yet an analysis of the model reveals a more nuanced account.

The theoretical analysis in Genicot and Ray (2015) suggests that *if the initial distribution of wealth has narrow support*, so that there is a high degree of equality to begin with, then subsequent growth inspired by the initial upward jolt in aspirations benefits all individuals across the board, and the economy growth both rapidly and equitably. Because of the initial bunching of incomes, aspirations—while they may exceed those incomes—are not "too high" relative to current economic status, and therefor serve to inspire rather than frustrate.

However, if the initial distribution of wealth displays large inequalities to begin with, then Genicot and Ray argue that the distribution effectively splits into several components (two, in their specific model), with the components growing at different rates and creating widespread and persistent inequalities over time. This spreading-out of the distribution also means that growth rates, while high, are not as high as they could be. All other things being equal, the economy underperforms its more equal counterpart described in the previous paragraph.

In summary, Genicot and Ray (2015, p. 18) claim that there are just two possibilities:

> In the first of these, every initial income level has satisfied aspirations. That means that the initial distribution has a high level of equality to begin with, so that even the lowest income level is not frustrated by the aspirations generated under [the growth spurt]. That may be a tall order, but if it is met, then indeed all incomes converge to perfect equality with sustained growth. Thus the basin of attraction for an equal steady state with growth *is a relatively equal society to begin with*.
>
> If that condition is not met, then the second possibility arises. Incomes at the lower end fall short of aspirations, the economy turns bimodal and inequality increases. Moreover, that inequality never stops increasing, *even in relative terms*, with the income ratio between the haves and the have-nots steadily rising …

This kind of finding obviously speaks to the double-edged nature of aspirations, a theme that I have stressed throughout this essay.

5. Aspirations and Conflict

Writing on the eve of the Indian general elections in 2014, Ghatak, Ghosh, and Kotwal (2014, p. 34) had this to say about the Congress-led Indian Government alliance:

> [The last ten years] is a period during which growth accelerated, Indians started saving and investing more, the economy opened up, foreign investment came rushing in, poverty declined sharply and building of infrastructure gathered pace … [But a] period of fast growth in a poor country can put significant stress on the system which it must cope with. Growth can also unleash powerful aspirations as well as frustrations, and political parties who can tap into these emotions reap the benefits.

These were not unprophetic words, as the government was about to be toppled in one of the most comprehensive electoral defeats in Indian history. It led observers such as Pankaj Mishra, writing in the *Guardian* soon after, that:

> those made to wait unconscionably long for "trickle-down"—people with dramatically raised but mostly unfulfillable aspirations—have become vulnerable to demagogues promising national regeneration. It is this tiger of unfocused fury … that Modi has sought to ride from Gujarat to New Delhi.

Only a lot more research will tell whether the defeat of the Congress-led alliance had fundamentally been driven by elevated aspirations that had been frustrated. No doubt, perceived corruption also played a role. But it is hard to separate accusations of corruption leveled against those who have enjoyed unfettered growth, from the underlying feelings of envy, powerlessness and anger that such growth provokes. It is easy to be delighted with one's circumstances if those circumstances grow by 2% per year in the sixteenth-century

Netherlands, or even in Britain at the height of the industrial revolution. The same is no longer true of India in the twenty first century, where—as already mentioned—a per-capita growth rate of well over 5% was greeted with the excuse that industry had been "weakening."

There is, moreover, both ethnographic and econometric evidence for the hypothesis that the economic betterment of "rival groups" can be conflictual: that ethnicity, caste or religion can be used as a marker for the appropriation of economic surplus (Esteban and Ray 2008; 2011; Esteban, Mayoral, and Ray 2012a,b). When such markers are in place, existing inter-group antagonisms can be heightened by economic progress within one of the groups (Bonacich 1972; Olzak and Shanahan 1996). The recurrent episodes of Hindu–Muslim conflict in India (going back to the Partition and earlier) form one such example. Such conflict flares up with regular insistence—often on a small scale—but sometimes on very large platform; witness, for instance, the religious violence in the Indian state of Gujarat in 2002. I am not going to try to negate the view that fundamental animosities may play a large role in Hindu–Muslim violence. What is more interesting, however, is that idea that such violence can be systematically linked to economic change. The remarks that follow are based on my joint work with Anirban Mitra (Mitra and Ray 2014).

Ethnographic accounts of Hindu–Muslim violence, and the economic connections in that violence, abound; see Wilkinson (2004) for several references. For instance, of the 1984 Bhiwandi riots, Rajgopal (1987, p. 81) writes:

> [T]he 1984 riots were largely the outcome of business rivalry, though the immediate provocation was provided by the Shivaji Jayanthi procession. The well-entrenched and the newly emerging traders came to perceive competition between them in trade along religious lines. When the competition happens to be between merchants belonging to two religious groups, communal motives are imputed for the success or the failure of the different groups.

Likewise in Meerut, where Muslim powerloom owners had begun to diversify from cloth weaving and printing into other sectors, such as transport and auto-repair, Engineer (1987, p. 969) writes:

> If [religious zeal] is coupled with economic prosperity, as has happened in Meerut, it has a multiplying effect on the Hindu psyche. The ferocity with which business establishments have been destroyed in Meerut bears testimony to this observation. Entire rows of shops belonging to Muslims … were reduced to ashes.

It is also clear that in many—though not all—of these descriptions, Muslims suffer a large share of the losses. Presumably, that is just a reflection of the fact that Muslim populations in India are generally minorities, but it is hard not to see the economic damage that is invariably wreaked. For instance, Wilkinson (2004, p. 30) writes:

> Muslims suffer disproportionately as a result of Hindu-Muslim riots. Hard numbers are difficult to obtain, but of 526 Hindu-Muslim incidents that occurred from 1985 to 1987 in 10 major states, Muslims (12% of the population) accounted for 60% of the 443 deaths, 45% of the 2,667 injuries, and 73% of the property damage. Given that Muslims are, as a community, much poorer than Hindus the relative effect of communal riots on Muslims' economic life is even greater than these percentages suggest … The fact that Muslims suffer disproportionate losses in riots and that Muslim businessmen are more often the victims of looting has convinced many scholars and

> activists that riots are nothing more than a particularly brutal method of protecting Hindu merchants' market share.

These observations are telling, but they do not form definitive evidence that economic considerations lie at the heart of the violence; that they are driven, for instance from the envy and fears generated by uneven economic progress. Indeed, as Horowitz (2001, p. 211) observes:

> It is difficult to know how seriously to take commercial competition as a force in targeting choices. In some north Indian cities serious competition has subsisted without any violent episodes. The role that commercial competition is said to play is said to be a covert, behind-the-scenes role, which makes proof or disproof very difficult.

I agree. Ethnographic accounts can take us only so far, and additional econometric evidence, coupled with theory, is always welcome. The theory in Mitra and Ray (2014) is based on the simple idea that an increase in a group's fortunes has two effects on intergroup conflict. The first is that potential aggressors in the group are less likely to provide labor to violent activities. The reason is that the provision of labor has an opportunity cost, which is related to group incomes as a whole. The second effect is that potential victims in the group are—to a greater degree—the object of envy and resentment. They are more likely to be attacked. Putting these two effects together, we see that a change in group incomes has, in principle, an ambiguous impact on conflict, though the effect is more likely to be positive when the ratio of victims to attackers in that group is high.

To examine this argument more closely, Mitra and I use a unique dataset on Hindu–Muslim violence between 1950 and 1995, compiled by Ashutosh Varshney and Steve Wilkinson, and extended by us to 2000. The data builds on reports from a leading national newspaper, *The Times of India*, on Hindu–Muslim conflicts in India. (The Government of India has an extensive dataset on crime in India but does not employ religious violence as a category.) These data are matched to economic information from the large-scale household surveys that are conducted quinquennially as part of the National Sample Surveys (NSS). This way, economic changes can, in principle, be connected to the possibility of later conflict, while controlling for several other correlates.

Figure 4 summarizes the findings. Each panel contains line segments, each of which links the same region in India over three points in time, corresponding to the three rounds of the NSS. The horizontal axis of each diagram records the logarithm of per-capita expenditure; Muslim in panel (a) and Hindu in panel (b). The vertical axis records the logarithm of "casualties"—the number killed or injured in that region in religious conflict—in the five-year period starting immediately after each of the three rounds. There are, of course, region-specific variations in the level of conflict, as also time trends at the national level: both of these have been eliminated from the casualty figures by plotting the residuals after these variations have been filtered out.

The two panels tell a remarkable story. In the first panel, which pertains to the connection between Muslim per-capita expenditure and subsequent conflict, the line segments are predominantly upward-sloping, suggesting that improved Muslim fortunes are—after controlling for national trends in conflict—*positively* related to religious violence. Exactly the opposite phenomenon is apparent in the second panel: improved Hindu fortunes are related to *decline* in subsequent conflict. In the econometric analysis we conduct, the estimated coefficients are not just significant, they are also large. While the results vary with the precise specification, a 1% increase in Hindu per-capita expenditure appears to lower

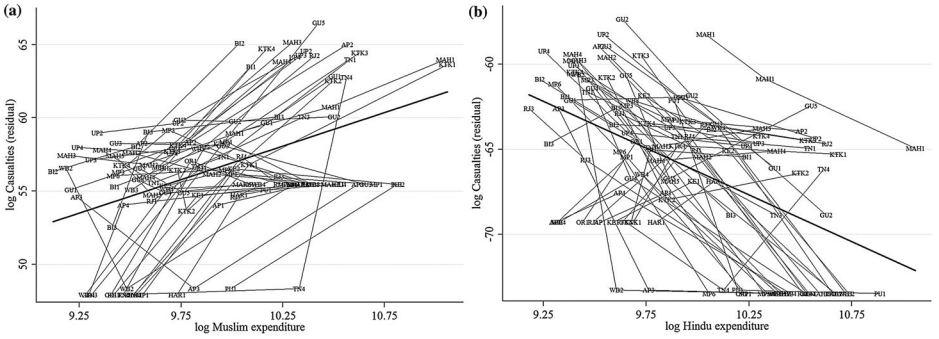

Figure 4. Group-level expenditure and subsequent conflict. Each panel plots the residual of casualties after region and time effects have been removed, in the five-year period following expenditures. Each line segment connects three data points for a region.
Source: Mitra and Ray (2014, Figure 4). (a) Changes in Muslim expenditure and (b) changes in Hindu expenditure.

casualties by 3–7%, while a corresponding in Muslim per-capita expenditure raises casualties by 3–5%.

What is one to make of these relationships? First, even without taking too strong an interpretative stance, it is clear that there is a strong economic component to conflict. That said, what is still more intriguing are the *directions* of the effect. For this I return to the theory and apply it. The presence of a large Hindu majority in India, coupled with the ethnographic accounts that we have on hand, together suggest that the ratio of aggressors to victims in a Hindu group is high. In asserting this, we ascribe no particular additional defect to membership in a Hindu fundamentalist group other than the fact that it *is* the majority group, and therefore more likely to engage in aggression when fueled by the prospect of a "group public good" such as religious control or group-specific market access.[1] If it had been the other way around, with a Muslim majority instead, we would not hesitate to take the opposite stand. Given this presumption, the two findings make perfect sense. A rise in Muslim incomes aggravates the desire for their rivals to loot, or seek to retribution against an upstart community. On the other hand, a rise in Hindu incomes increases the opportunity cost to Hindus of engaging in violence.

But one might want to lean harder on the theory and not presume, to begin with, that Hindus are the (net) aggressors. To do this, we would need to entertain other stories that could explain the signs of the coefficients that we do see. Here is another possibility: conflict is *entirely* based on money contributions, and not on labor contributions. If we take this story seriously, the positive sign on Muslim expenditures might now indicate that *their* presumed attacks on the Hindu community are easier to fund, while the negative sign for Hindu incomes suggests that they can more easily defend themselves against attack. This alternative story does not detract from the economic basis of conflict, but it is an entirely different interpretation, and one that does not rely on frustrated aspirations. Rather, it is based on primordial resentments, and the economics enters only via the funding of conflict.

While I refer the reader to Mitra and Ray (2014) for the details, this alternative story is shaky on a number of grounds. First, it suggests that religious conflict is initiated by a small minority community, something that is extremely hard to do. Second, it flies in the face of the ethnographic facts; see, e.g. the quotations earlier in the text. Third, it presumes that money—rather than actual participation—plays the dominant role in instigating violence. While money undoubtedly plays *some* role, labor is by far the dominant instrument in the Indian case. Fourth, it presumes that defense can be bought. Again, this may be true

of the high walls and private security guards that are employed by the very rich to thwart violence, but it is emphatically not true of the largely poor or middle-class communities in India where such violence has occurred. Mitra and Ray (2014) explicitly analyze this alternative story, and find it unsatisfactory. My conclusion, then, is that the economics of Hindu–Muslim violence is a good case study for the possible frustrations that are fueled by uneven growth.

6. Conclusion

This short essay describes the basic economic theory of socially driven aspirations, and some implications of that theory for the study of inequality and conflict. The observation that individual desires to invest, grow, or bequeath are driven by what people see in their ambient socio-economic window is an obvious truth. In itself, it does not tell us much. The contribution of the theory that I develop is that in the same explanatory arc, it describes how a change in aspirations can be inspirational in some circumstances, or a source of frustration and resentment in others. Specifically, these different reactions arise from the *aspirational gap*: the difference between socially generated aspirations and the current socio-economic level that the individual enjoys.

It is this dual response to ambient social circumstances that can explain why (for instance) relatively equal societies may be driven by high growth rates and future convergence across income groups, while relatively unequal societies might react very negatively to growth, thereby posing a threat to those circumstances—such as globalization—that generated the growth in the first place. The parallels to Brexit, or the rise of Trumpism, are obvious, but I leave it to the reader to see if the theory developed here leads to truly new insights in those cases.

One might ask why the theory skirts the question of individual control over the formation of aspirations. If aspirations that are too high are just plain bad for you—both intrinsically and terms of instrumental outcomes—why not just tone things down? After all, aspirations just above one's current position, but not too far above, are the best aspirations to have. The answer is simple: just as a firm belief that the world is fundamentally a happy place, or a belief in a benevolent creator, or rose-tinted denial in bad circumstances, can actually lead to great life-satisfaction, so can well-chosen aspirations. That does not mean we can *fully choose* our aspirations, any more than we can choose our beliefs. If there are great gaps in social distributions, they can generate unreachable aspirations, and it may be hard to engineer full control over that generation process.

That said, the discussion above suggests an interesting normative development of the theory, where we think deeply about how we *should* aspire as a society, or—at a more microcosmic level—how parents or teachers could place useful and constructive bounds on the aspirations of children, so that they can be truly motivated to achieve their goals.

I have already mentioned the link to Albert Hirschman, who highlighted—albeit in a different, informational context—the possible reversal of individual reactions to rising inequality in his "tunnel paradox." More generally, and far earlier, economists such as Veblen (1899) and Duesenberry (1949) have also been much concerned with the general problem of relative (and often invidious) comparisons of economic well-bring.[2] Writing in the *New York Times* as recently as 2005, Robert Frank lamented the "mysterious disappearance" of James Duesenberry from economics:

> In light of abundant evidence that context matters, it seems fair to say that Mr. Duesenberry's [relative income] theory rests on a more realistic model of human nature

than Mr. Friedman's. It has also been more successful in tracking actual spending. And yet, as noted, it is no longer even mentioned in leading textbooks.

This attitude has begun to change as economists increasingly come to realize that preferences cannot be viewed as immutable objects; that these, too, are deeply molded by the society in which individuals reside. The reluctance to tackle such questions comes from the fear that opening this Pandora's box unleashes a veritable cacophony of "free parameters," making it near-impossible to discipline the process of analytical reasoning. This is an understandable fear, and I share it. And yet these issues are too important to be ignored. The question is how to *minimally* depart from the straitjacket imposed by the standard paradigm so that the resulting theory is still imbued with explanatory power, or what is equivalent, with the ability to be falsified. That is the sort of theory I have tried to describe here.

Acknowledgments

New York University and University of Warwick; debraj.ray@nyu.edu. This paper is based on my participation in a Panel on Aspirations and Development at the Opening Session of the 2015 HDCA Conference at Georgetown University. I have benefited greatly from the presentations made by my co-panelists, Caroline Sarojini Hart and Martha Nussbaum. I am particularly grateful to Garance Genicot for many discussions—and joint research—on the topic of aspirations and development. Parts of this paper summarize (with explicit references) Genicot and Ray (2015) and Mitra and Ray (2014).

Disclosure statement

No potential conflict of interest was reported by the author.

Funding

I acknowledge research support under NSF Grant [SES-1261560].

Notes

1. Mayoral and Ray (2016) connect group size to conflicts over public and private goods, arguing that large groups are more likely to engage in conflict when the prize is public, while the opposite is true when the prize is private. The seizure of a particular line of business has both private and (group-level) public components, but in addition the feelings of collective resentment and insecurity that are collectively assuaged when engaging in group-level violence, are more properly viewed as the equivalent of public goods.
2. As I completed this draft, I was alerted to the notion of mimetic desire and rivalry developed in the work of René Girard; see, e.g. Girard (1977, 1979). Certainly the notion of aspirations, as developed here, fits within the landscape of mimetic desire, and the accompanying conflict that might occur fits within the concept of mimetic rivalry. Girard's notion that religion can be a controlling force for such rivalry is, however, different from the ideas developed here, where it is just the other way around; see, e.g. Section 5. The ideas presented here are also different in that aspirations—or mimetic desire in the words of Girard—can have both positive and negative consequences. I am grateful to Saba Parsa for references to the work of Girard.

References

Appadurai, A. 2004. "The Capacity to Aspire." In *Culture and Public Action*, edited by V. Rao and M. Walton, 59–84. Washington, DC: The World Bank.

Bogliacino, F., and P. Ortoleva. 2014. *The Behavior of Others as a Reference Point*. Department of Economics, Columbia University, Mimeo.
Bonacich, E. 1972. "A Theory of Ethnic Antagonism: The Split Labor Market." *American Sociological Review* 37: 547–559.
Broadberry, S., B. Campbell, A. Klein, M. Overton, and B. van Leeuwen. 2015. *British Economic Growth, 1270–1870*. Cambridge: Cambridge University Press.
Crafts, N. F. R. 1985. *British Economic Growth During the Industrial Revolution*. Oxford: Clarendon Press.
Dalton, P. S., S. Ghosal, and A. Mani. 2015. "Poverty and Aspirations Failure." *Economic Journal* 126: 165–188.
Das Gupta, M. 1994. "What Motivates Fertility Decline?: A Case Study from Punjab, India." In *Understanding Reproductive Change*, edited by B. Egero and M. Hammarskjold, 101–133. Lund: Lund University Press.
Duesenberry, J. S. 1949. *Income, Saving and the Theory of Consumption Behavior*. Cambridge: Harvard University Press.
Engineer, A. 1987. "Meerut: The Nation's Shame." *Economic and Political Weekly* 22: 969–973.
Esteban, J., L. Mayoral, and D. Ray. 2012a. "Ethnicity and Conflict: An Empirical Study." *American Economic Review* 102, 1310–1342.
Esteban, J., L. Mayoral, and D. Ray. 2012b. "Ethnicity and Conflict: Theory and Facts." *Science* 336: 858–865.
Esteban, J., and D. Ray. 2008. "On the Salience of Ethnic Conflict." *American Economic Review* 98: 2185–2202.
Esteban, J., and D. Ray. 2011. "A Model of Ethnic Conflict." *Journal of the European Economic Association* 9: 496–521.
Esteban, J., D. Ray, E. Rojas, and R. Undurraga. 2016. *Inequality, Mobility and Polarization.* Wagner School of Public Policy, New York University, Mimeo.
Genicot, G., and D. Ray. 2015. *Aspirations and Inequality.* Department of Economics, New York University, Mimeo.
Ghatak, M., P. Ghosh, and A. Kotwal. 2014. "Growth in the Time of UPA: Myths and Reality." *Economic and Political Weekly* 49: 34–43.
Girard, R. 1977. *Violence and the Sacred*. Baltimore, MD: Johns Hopkins University Press.
Girard, R. 1979. "Mimesis and Violence: Perspectives in Cultural Criticism?" *Berkshire Review* 14: 9–19.
Goux, D., M. Gurgand, and E. Maurin. 2014. *Adjusting Your Dreams? The Effect of School and Peers on Dropout Behaviour.* Discussion Paper 7948, IZA.
Harley, C. K. 1982. "British Industrialization Before 1841: Evidence of Slower Growth During the Industrial Revolution." *Journal of Economic History* 42: 267–289.
Hirschman, A. O., and M. Rothschild. 1973. "The Changing Tolerance for Income Inequality in the Course of Economic Development; With a Mathematical Appendix." *Quarterly Journal of Economics* 87: 544–66.
Horowitz, D. 2001. *The Deadly Ethnic Riot*. Berkeley: University of California Press.
Kearney, M. S., and P. B. Levine. 2014. *Income Inequality, Social Mobility, and the Decision to Drop Out of High School.* Working Paper w20195, National Bureau of Economic Research.
Lewis, O. 1958. *Village Life in Northern India.* Urbana: University of Illinois Press.
Mayoral, L., and D. Ray. 2016. *Groups in Conflict: Size Matters, But Not in the Way You Think*. Department of Economics, New York University, Mimeo.
Mitra, A., and D. Ray. 2014. "Implications of an Economic Theory of Conflict: Hindu–Muslim Violence in India." *Journal of Political Economy* 122: 719–765.
Munshi, K. 1999. *Learning From Your Neighbors: Why Do Some Innovations Spread Faster Than Others?* Working Paper, Department of Economics, University of Pennsylvania.
Munshi, K., and J. Myaux. 2006. "Social Norms and the Fertility Transition." *Journal of Development Economics* 80: 1–38.
Olzak, S., and S. Shanahan. 1996. "Deprivation and Race Riots: An Extension of Spilerman's Analysis." *Social Forces* 74: 931–961.
Rajgopal, P. 1987. *Communal Riots in India*. New Delhi: Uppal Publishing House/Centre for Policy Research.
Ray, D. 1998. *Development Economics*. Princeton, NJ: Princeton University Press.
Ray, D. 2006. "Aspirations, Poverty and Economic Change." In *Understanding Poverty*, edited by Abhijit V. Banerjee, Roland Bénabou, and Dilip Mookherjee, 409–422. Oxford: Oxford University Press.
Roser, M. 2016. "GDP Growth Over the Last Centuries." OurWorldInData.org. https://ourworldindata.org/gdp-growth-over-the-last-centuries/.
de Tocqueville, A. 1856. *L'Ancien Régime, from Alexis de Tocqueville, Démocratie en Amérique, L'Ancien Régime et la Révolution*. Paris: Robert Laffont, 1986.
Veblen, T. 1899. *The Theory of the Leisure Class: An Economic Study in the Evolution of Institutions*. New York: Macmillan.
Wilkinson, S. 2004. *Votes and Violence: Electoral Competition and Ethnic Riots in India*. Cambridge: Cambridge University Press.
Wilson, W. J. 1987. *The Truly Disadvantaged*. Chicago, IL: University of Chicago Press.

van Zanden, J. L., and B. van Leeuwen. 2012. "Persistent but Not Consistent: The Growth of National Income in Holland, 1347–1807." *Explorations in Economic History* 49: 119–130.

About the Author

Debraj Ray is Julius Silver Professor in the Faculty of Arts and Science and Professor of Economics at New York University. He received his BA from the University of Calcutta and his PhD in 1983 from Cornell University. He is a Fellow of the Econometric Society, a Guggenheim Fellow, and a Fellow of the American Academy of Arts and Sciences. He is on the Board of Directors of the Bureau for Research in the Economic Analysis of Development (BREAD). He received the Dean's Award for Distinguished Teaching at Stanford and the Gittner Award for Teaching Excellence at Boston University. He holds an honorary degree from the University of Oslo, and is a Co-Editor of the *American Economic Review.*