POVERTY AND ASPIRATIONS FAILURE

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BSI workshop

Take home message

1. Appadurai 2004; Ray 2006: **aspirations failures**

2. This paper models **aspirations failures**, the failure to aspire to one's own potential.

3. It is not a paper on aspirations gaps: aspirations > achievements (Ray, 2006; Genicot-Ray, 2011; Bogliacino-Ortoleva, 2011).

4. Poverty **increases** the likelihood that a person gets trapped in an aspirations failure.

5. Poverty is the **cause** of poor people's lack of aspirations and failure to realize their full potential.

Poverty Traps: Two views

- Persistent Poverty Due to <u>External</u> Constraints
  - Credit Market Imperfections, Poor Nutrition, Network effects, Institutional Failures, Corruption, Beliefs Systems, Culture,…

- Persistent Poverty due to <u>Internal</u> Constraints
  - myopia, lack of willpower, lack of aspirations often cited as traits the poor likely suffer from.
  - Lack of Self-Control among the poor could lead to Poverty Trap (Banjeree-Mullainathan, 2010; Bernheim-Ray-Yelteki, 2011)
  - 60 % of Americans think that the poor "are lazy or lack willpower" (World Values Survey, Alesina et al., 2001).

Evidence of Poverty & Aspirations

- Poor adults have low aspirations:
  - low-income urban neighborhoods in America (MacLeod, 1995) and the UK (Cabinet Office, 2008)
  - Youths in Jamaica (Walker, 1997)
  - Rural Ethiopia (Frankerberger et al., 2007; Bernard et al. 2011)
- Poor kids have high aspirations:
  - 75% of the 14 year-old Ethiopians said that they want to go to college. Only 3 % actually go.

Lack of aspirations – Cause or Consequence of Poverty?

- Is it that the poverty persists because the poor lack hope and motivation to pull themselves out of poverty? OR…

- Is it that `*the poor may exhibit the same basic weaknesses and biases as do people from other walks of life, except that in poverty, ...the same behaviors ...lead to worse outcomes*' ? (Bertrand et al., 2004)

- Poverty can curtail the capacity to aspire. (Appadurai, 2004)

What do we do? In a nutshell

- James and Tom are born with the same innate:
    - Preferences
    - Abilities
    - Ambitions/Aspirations
    - Imperfections to make decisions (none is homo-economicus)
- But…**James** is born **poor** and Tom rich.
- **James** is more likely to aspire, achieve and put effort sub optimally, i.e. below his potential.
- Low aspirations may be a **rational response** of the poor, but they may also be caused by the interaction between poverty and a **behavioral bias in setting aspirations.**

Related papers

- Ray (2006) provides an exposition of how socially determined aspirations contribute to poverty persistence.

- Closely related papers on aspirations include Bogliacino-Ortoleva (2011), Genicot-Ray (2011) and Stark (2006).

Preferences

- $$u(\theta, g, e) = b(\theta) + v\left(\frac{\theta - g}{\theta}\right) - c(e)$$

$\theta \in \mathfrak{R}_+$: final wealth

$e \in [0,1]$: effort

$g \in \mathfrak{R}_+$: aspiration level (or goal) w.r.t final wealth

$\theta_0 \in [\underline{\theta}, \bar{\theta}]$: initial wealth

Benefit from final wealth

□

$$u(e, g, \theta) = b(\theta) + v\left(\frac{\theta - g}{\theta}\right) - c(e)$$

Benefit of reaching a specific level of final wealth

□ **A1**: $b(\theta)$ is smooth, strictly increasing and strictly concave with $b(\theta) = 0$ and $r(\theta) = -\frac{\theta b''(\theta)}{b'(\theta)} < 1$

Aspirations are **reference points**

□

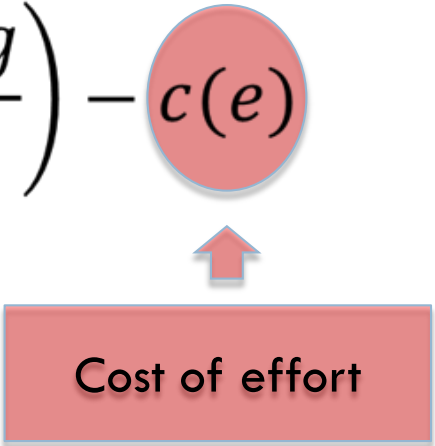$$u(e, g, \theta) = b(\theta) + v\left(\frac{\theta - g}{\theta}\right) - c(e)$$

reference-dependent value function

□ **A2:** $v(.)$ is continuously differentiable with $v'(0) > 0$ and for $x = \frac{\theta - g}{\theta}$, $[v'(x) - v''(x)(1 - x)] \geq 0$ for all feasible values of x.

Cost of effort

□

$$u(e, g, \theta) = b(\theta) + v\left(\frac{\theta - g}{\theta}\right) - c(e)$$

Cost of effort

□ **A3**: $c(e)$ is a smooth, strictly increasing and convex function of effort with $c(0) = 0$.

How Poverty Imposes External Constraints

☐ The **poor face greater external constraints** than the rich which effectively reduce their productivity.

  ☐ lack of **access to credit** could render their efforts to acquire skills or run a successful business less effective.

  ☐ lack of **access to information** or influential social **networks** could make it harder for them to find jobs.

☐ **A4:** $\theta = f(e, \theta_0) = (1 + e)\, \theta_0$

Final wealth is proportional to initial wealth and the factor of proportionality is determined by effort.

What determines individual aspirations?

□ Partially exogenous: family, norms, opportunities, etc.

□ Partially endogenous

□ $g \rightarrow e$ (as references points) but also

□ $e \rightarrow \theta \rightarrow g$ (our choices affects our aspirations through the outcome realized)

"Every ceiling, when reached, becomes a floor..."

-- Aldous Huxley

How do we model aspirations?

- Aspirations as **consistent (self-fulfilling)** reference points
- in MacLeod's words: "individual's view of his own chances of getting ahead" is consistent with the effort chosen (and hence with his achievements).
- Formally: (e, g) **is consistent** whenever given $e \in [0,1]$,

$$g = \theta = f(e, \theta_0) = (1 + e)\theta_0$$

- Yes, everyone can reach their aspirations (and they do so in equilibrium)! BUT…
- Reaching aspirations does not necessarily imply, aspiring optimally.
- To model aspirations failures, we need to assume that people are able to reach their potential and yet, they may aspire lower.
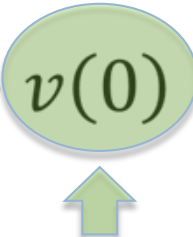
(effort, aspirations) choice: Normative Benchmark

□ Option 1: The (rational) individual fully internalizes that $g = f(e, \theta_0)$.

□ A **rational solution** is a pair $(\hat{e}, \hat{g})$, s.t.:

$$\hat{e} \in \arg max_{e \in [0,1]} s(e, \theta_0) = u(e, f(e, \theta_0), f(e, \theta_0))$$
$$\text{and} \quad \hat{g} = f(\hat{e}, \theta_0)$$

Note:

$$s(e, \theta_0) = b(f(e, \theta_0)) + v(0) - c(e)$$

The value function is irrelevant in ranking effort of a rational decision maker

- Option 2: The (behavioral) individual does not internalize that $g = f(e, \theta_0)$, and **take g as exogenous**.

$$Max_{e \in [0,1]} \tilde{u}(e, g, \theta_0) = u(e, g, f(e, \theta_0))$$

A **behavioral solution** is a pair (e^*, g^*), such that:

$e^* \in \arg max_{e \in [0,1]} \tilde{u}(e, g^*, \theta_0)$ and $g^* = f(e^*, \theta_0)$.

We assume that the decision maker is behavioral

Characterizing the set of rational solutions

- **Proposition 1**: There exists a unique $(\hat{e}, \hat{g})$ which is **non-decreasing in θ_0** (strictly increasing in θ_0 when the solution is interior).

- A rational poor will choose lower effort and aspire lower than a rational rich.

- This is not an aspiration failure. This is a rational implication of the fact that (by A4) an additional unit of effort of a poor person is less effective in producing wealth than an additional unit of effort of a rich person.

Characterizing the set of behavioral solutions

- **Lemma 1:** e and g are **complements** (i.e. $\frac{\partial^2 \tilde{u}(e,g,\theta_0)}{\partial e \partial g} \geq 0$)

- **Proposition 2:** (i) There exists a minimal $\underline{e}(g, \theta_0)$ and a maximal $\overline{e}(g, \theta_0)$ which are **non-decreasing in** g. (ii) There exists a minimal $(\underline{e}^*, \underline{g}^*)$, and a maximal $(\overline{e}^*, \overline{g}^*)$ in $B(\theta_0)$.

Internal Constraints and Aspirations Failure

- If $g \neq g^*$, the individual will be imposing an externality on himself that he does not internalize → (e^*, g^*) may be welfare dominated by another (e, g).

- An individual is **internally constrained** at a behavioral solution (e^*, g^*) if $(e^*, g^*) \notin S(\theta_0)$.

- **Proposition 3**: An interior rational solution $(\hat{e}, \hat{g})$ ($\hat{e} \in (0,1)$) is never a behavioral solution (e^*, g^*).

- **Proposition 4**: There are multiple (e^*, g^*) and the minimal is welfare dominated.

ASPIRATIONS FAILURE

How Poverty Exacerbates an Aspirations Failure?

- Simple version of the model with $e \in \{0,1\}$
  - when $e = 0$, $c(0) = 0$ and $\theta = \theta_0$
  - when $e = 1$, $c(1) > 0$ and $\theta = 2\theta_0$
  - When will the person choose $e = 1$?
    - A rational individual: $h(\theta_0) = \underbrace{b(2\theta_0) - c}_{\text{Net benefit of } e = 1} - \underbrace{b(\theta_0) - 0}_{\text{Net benefit of } e = 0}$
      - When $h(\theta_0) > 0 \rightarrow \hat{e} = 1$
      - **Lemma 2**: $h(\theta_0)$ is increasing in θ_0.
      - The poorer the (rational) person, the lower the net benefit of exerting effort.
      - Note: aspirations don't represent any constraint for the rational individual.

How Poverty Exacerbates an Aspirations Failure?

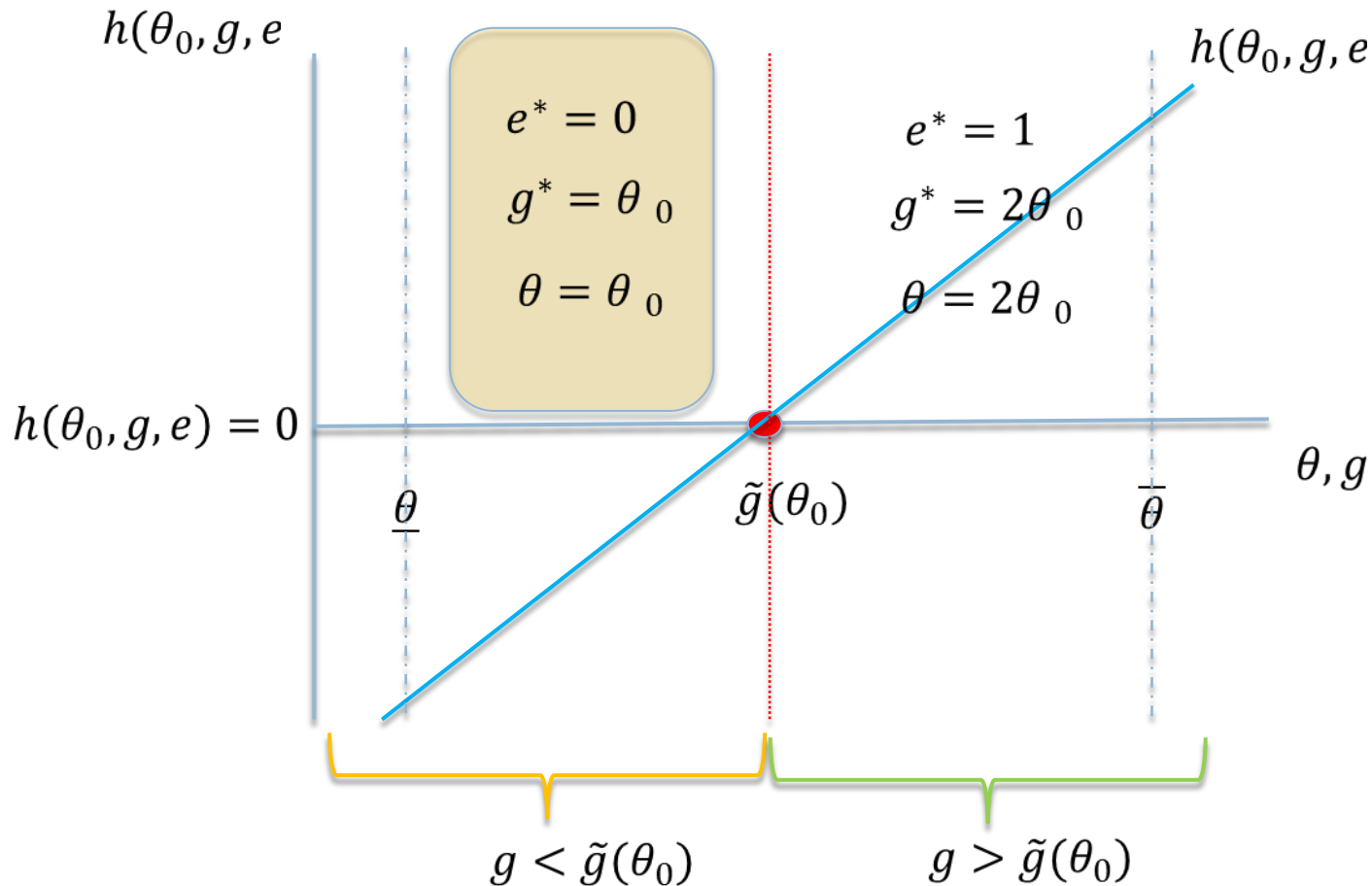- For a behavioral individual:

$$h(\theta_0, g) = \underbrace{b(2\theta_0) + v\left(\frac{2\theta_0 - g}{2\theta_0}\right) - c}_{\text{Net benefit of putting effort}} - \underbrace{b(\theta_0) + v\left(\frac{\theta_0 - g}{\theta_0}\right)}_{\text{Net benefit of doing nothing}}$$

- Note that $h(\theta_0, g) > 0 \rightarrow e^* = 1$
- **Lemma 3**: $h(\theta_0, g)$ is increasing in θ_0 and in g.
- The poorer the (behavioral) person, the lower the net benefit of exerting effort.
- The lower the aspirations of the (behavioral) person, the lower the net benefit of exerting effort.
- Note: aspirations may represent an additional constraint for the behavioral individual, for some θ_0.

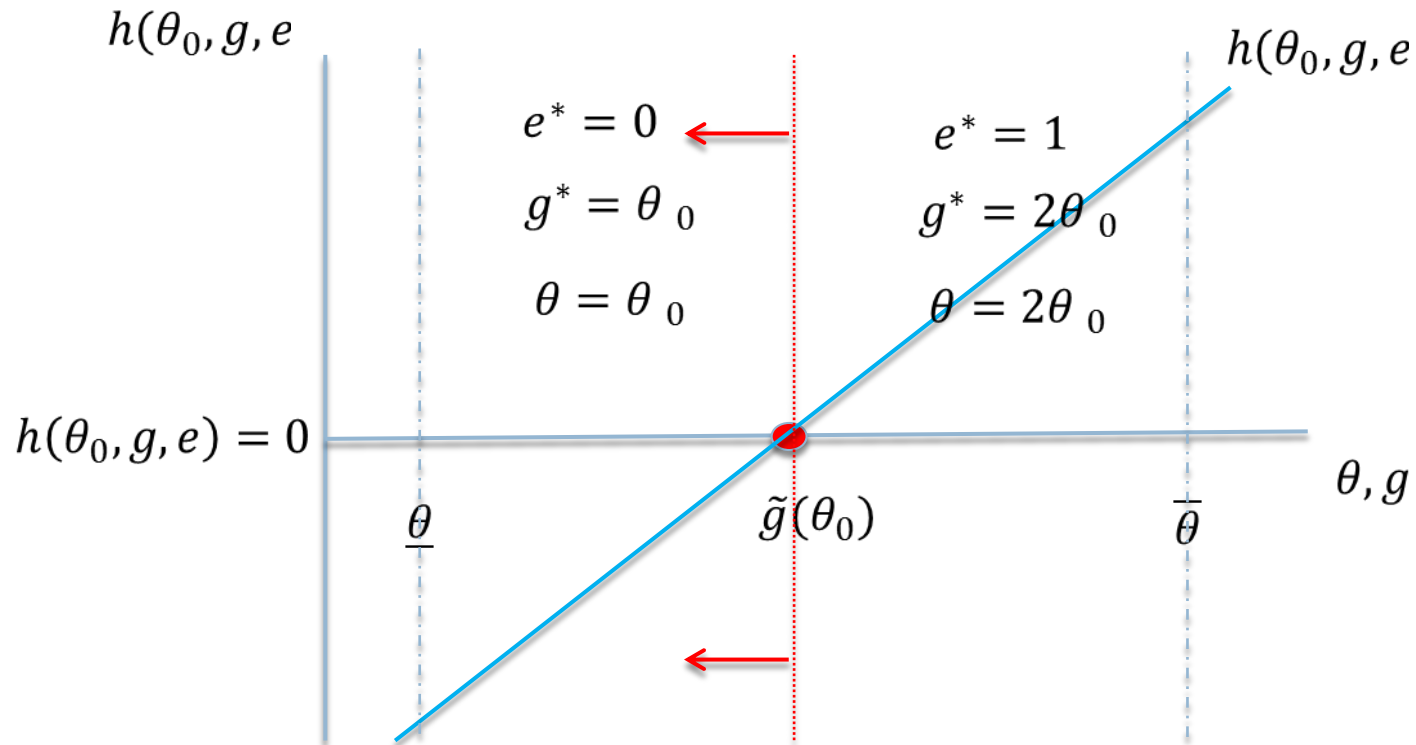# Aspirations Threshold

- Define $\tilde{g}(\theta_0)$ as the level of aspirations s.t. the individual is **indifferent** between putting effort or staying in the status quo, i.e. $\tilde{g}(\theta_0)$ s.t. $h(\theta_0, \tilde{g}(\theta_0)) = 0$

- By Lemma 3, $\tilde{g}(\theta_0)$ is decreasing in θ_0.

- The poorer the person, the higher must be his aspirations in order to choose effort.

Aspiration-Based Poverty Traps

$e^* = 0$

$g^* = \theta_0$

$\theta = \theta_0$

$e^* = 1$

$g^* = 2\theta_0$

$\theta = 2\theta_0$

$h(\theta_0, g, e$

$h(\theta_0, g, e$

$h(\theta_0, g, e) = 0$

θ, g

$\underline{\theta}$

$\tilde{g}(\theta_0)$

$\overline{\theta}$

$g < \tilde{g}(\theta_0)$

$g > \tilde{g}(\theta_0)$

ASPIRATIONS FAILURE: Low effort is sub-obtimal

Releasing External Constraints: $\uparrow \theta_0$

$h(\theta_0, g, e$

$h(\theta_0, g, e$

$e^* = 0$

$g^* = \theta_0$

$\theta = \theta_0$

$e^* = 1$

$g^* = 2\theta_0$

$\theta = 2\theta_0$

$h(\theta_0, g, e) = 0$

θ, g

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$\tilde{g}(\theta_0)$

$\overline{\theta}$

Releasing External Constraints: $\uparrow \theta_0$

$h(\theta_0, g, e$

$h(\theta_0, g, e$

$e^* = 0$

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$h(\theta_0, g, e) = 0$

θ, g

$\underline{\theta}$

$\tilde{g}(\theta_0)$

$\bar{\theta}$
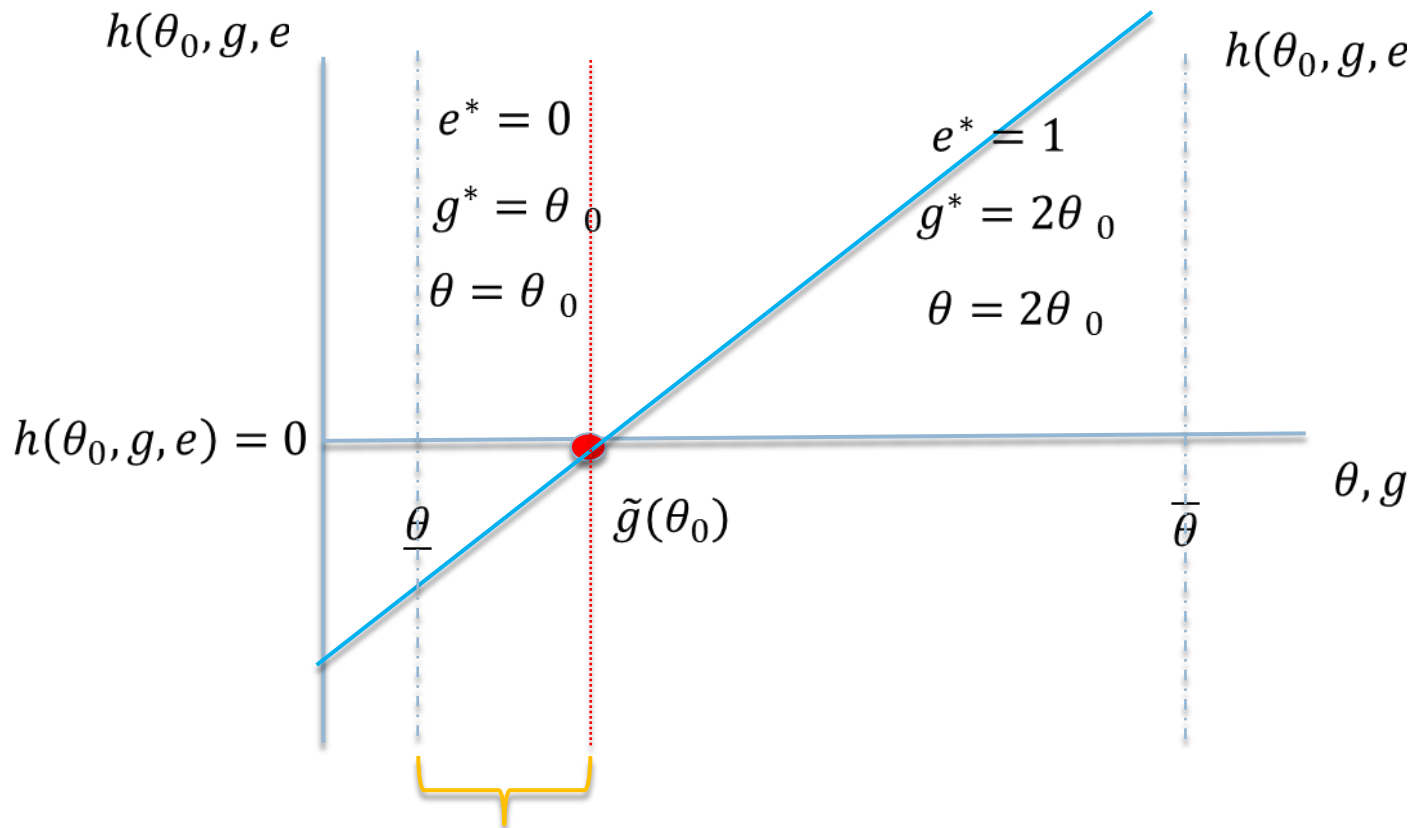
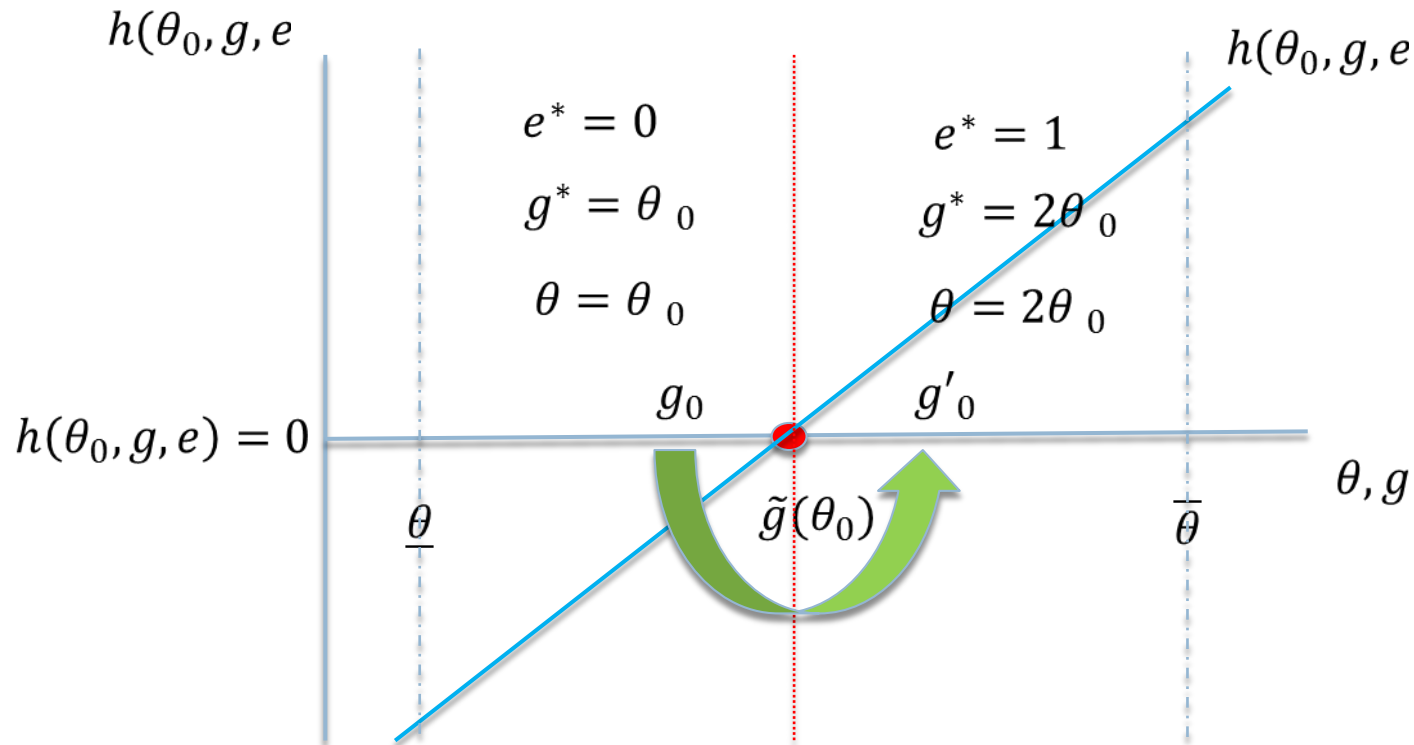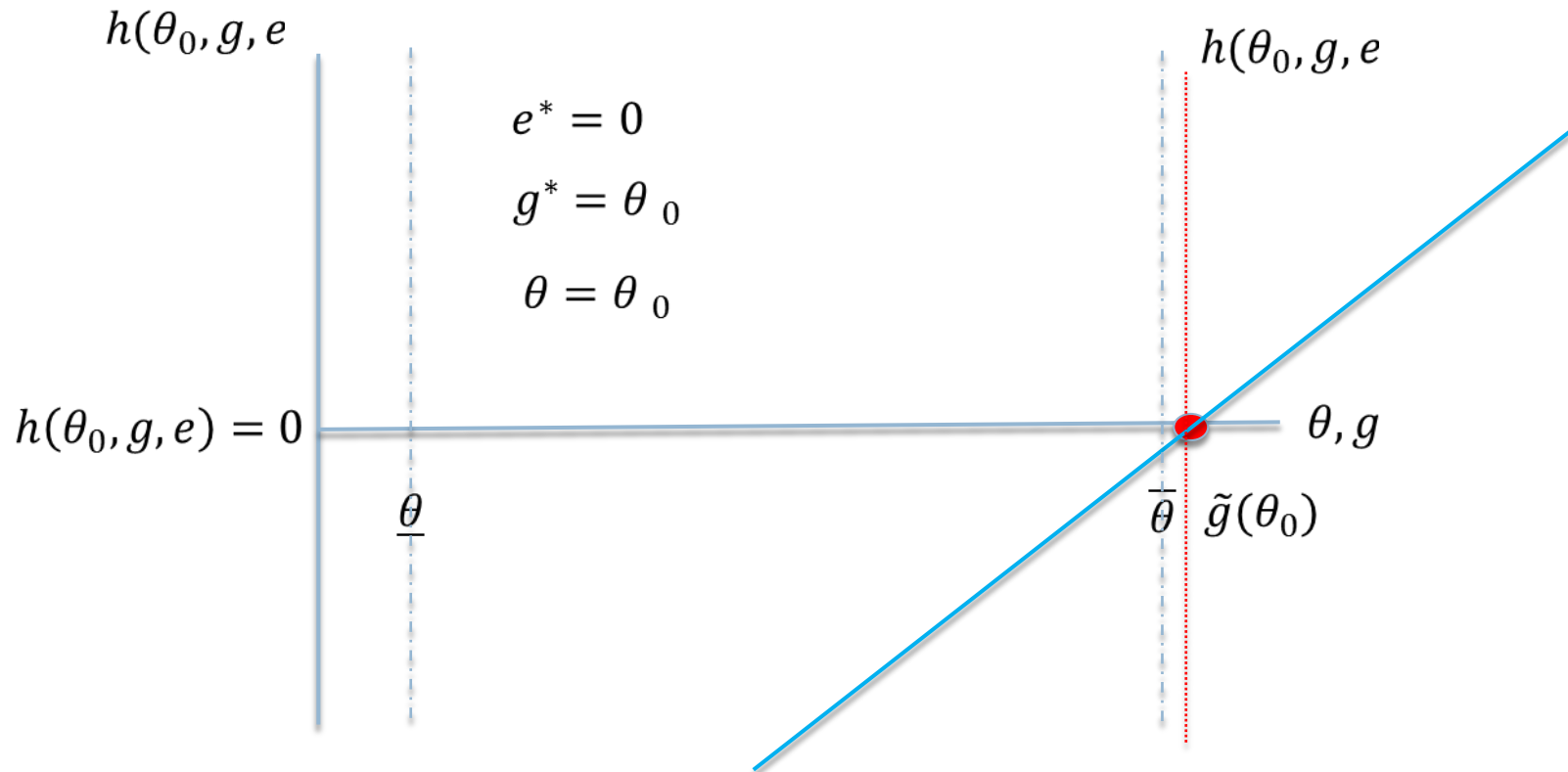For a given g, the probability of an aspirations failure is lower the richer is the person.

Releasing Internal constraints: $\uparrow g$

For a given θ_o, the probability of an aspirations failure is lower the higher are the aspirations.

Wealth-Based Poverty Traps

$h(\theta_0, g, e$

$e^* = 0$

$g^* = \theta_0$

$\theta = \theta_0$

$h(\theta_0, g, e)= 0$

$h(\theta_0, g, e$

$\underline{\theta}$

$\overline{\theta} \quad \tilde{g}(\theta_0)$

θ, g

The conditions of poverty are so stringent, that aspirations don't act as a constraint. Low effort is optimal.

Policy Implications

- Room for policies that shock internal constraints (such as aspirations), in addition to relaxing external constraints.

"failure to address the psychosocial determinants of human behavior is often the weakest link in social policy initiatives. Simply providing ready access to resources does not mean that people will take advantage of them." (Albert Bandura, 2009, The Psychologist)

Examples:
- Changing Initial Aspirations (of Parents, for instance, like in SPOKE Program in UK).
- Helping to internalize the path-way from aspirations, effort and achievement. (e.g. working with role models)

Conclusion

- The American dream may be stifled in equilibrium….
- In a context in which:
1. **no initial innate differences** in aspirations, ambitions, preferences and abilities between the poor and the rich.
2. **everybody can "make it"** (i.e. reach their aspirations)
- **Initial external constraints** make more likely that the poor end up holding **low aspirations** and do **not realize their full potential.**
- The 60 % of Americans who think that poor are poor because they are "lazy" are likely to be drawing biased inferences from an equilibrium outcome caused by poverty itself.

Thank you for your attention!