

Discounting future impacts: timing of costs and benefits

Discussion of Karl Claxton's working draft

- 1 OK to discount (future) health?
- 2 Enough evidence to inform key quantities and default estimates?
- 3 What's missing?
- 4 What gives?

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OK to discount (future) health? ~~X~~ !

~~i. Standard diminishing marginal returns argument?~~

- Health is different from other goods and services (one argument for CEA over BCA)
- LMIC context (high growth, high risks) tests standard assumptions—on ethical, if not economic—grounds

ii. Large risks and uncertainties of health investments

iii. 'Instrumental' benefits of earlier health improvements

- ~'Productivity' gains
- On strictly ethical grounds

Source: Greaves, "Discounting future health"

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Enough evidence to inform key quantities and default estimates?

Aggregating effects across countries or jurisdictions

	Equivalent consumption effects across countries or jurisdictions		
	Country A	Country B	Country C
Effects in period t	$v_{h,t}^A \left[\Delta h_t^A - \frac{\Delta c_{h,t}^A}{k_{h,t}^A} \right] - [\Delta c_{c,t}^A + k_{c,t}^A \cdot \Delta c_{h,t}^A]$	$v_{h,t}^B \left[\Delta h_t^B - \frac{\Delta c_{h,t}^B}{k_{h,t}^B} \right] - [\Delta c_{c,t}^B + k_{c,t}^B \cdot \Delta c_{h,t}^B]$	$v_{h,t}^C \left[\Delta h_t^C - \frac{\Delta c_{h,t}^C}{k_{h,t}^C} \right] - [\Delta c_{c,t}^C + k_{c,t}^C \cdot \Delta c_{h,t}^C]$
Net present value	$\sum_{t=1}^T \frac{v_{h,t}^A \left[\Delta h_t^A - \frac{\Delta c_{h,t}^A}{k_{h,t}^A} \right] - [\Delta c_{c,t}^A + k_{c,t}^A \cdot \Delta c_{h,t}^A]}{(1+r_c^A)^t}$	$\sum_{t=1}^T \frac{v_{h,t}^B \left[\Delta h_t^B - \frac{\Delta c_{h,t}^B}{k_{h,t}^B} \right] - [\Delta c_{c,t}^B + k_{c,t}^B \cdot \Delta c_{h,t}^B]}{(1+r_c^B)^t}$	$\sum_{t=1}^T \frac{v_{h,t}^C \left[\Delta h_t^C - \frac{\Delta c_{h,t}^C}{k_{h,t}^C} \right] - [\Delta c_{c,t}^C + k_{c,t}^C \cdot \Delta c_{h,t}^C]}{(1+r_c^C)^t}$
Global net present value	$\sum_{t=1}^T \frac{v_{h,t}^A \left[\Delta h_t^A - \frac{\Delta c_{h,t}^A}{k_{h,t}^A} \right] - [\Delta c_{c,t}^A + k_{c,t}^A \cdot \Delta c_{h,t}^A]}{(1+r_c^A)^t} + \sum_{t=1}^T \frac{v_{h,t}^B \left[\Delta h_t^B - \frac{\Delta c_{h,t}^B}{k_{h,t}^B} \right] - [\Delta c_{c,t}^B + k_{c,t}^B \cdot \Delta c_{h,t}^B]}{(1+r_c^B)^t} + \sum_{t=1}^T \frac{v_{h,t}^C \left[\Delta h_t^C - \frac{\Delta c_{h,t}^C}{k_{h,t}^C} \right] - [\Delta c_{c,t}^C + k_{c,t}^C \cdot \Delta c_{h,t}^C]}{(1+r_c^C)^t}$		



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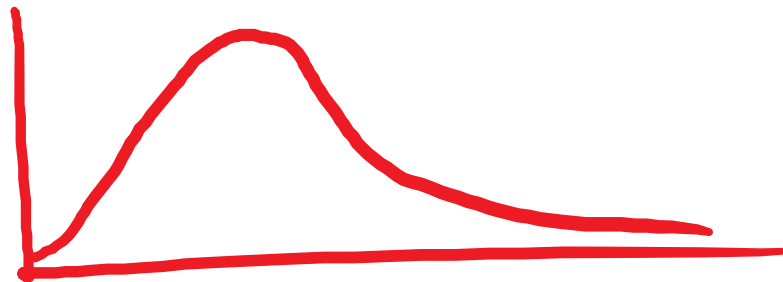
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3 What's missing?

i. Risk and uncertainty

- One of original justifications for discounting in the first place
- Non-zero probability of health intervention preventing (and/or causing?) low-probability, high-impact events

→ It's not over 'til the fat tail zings



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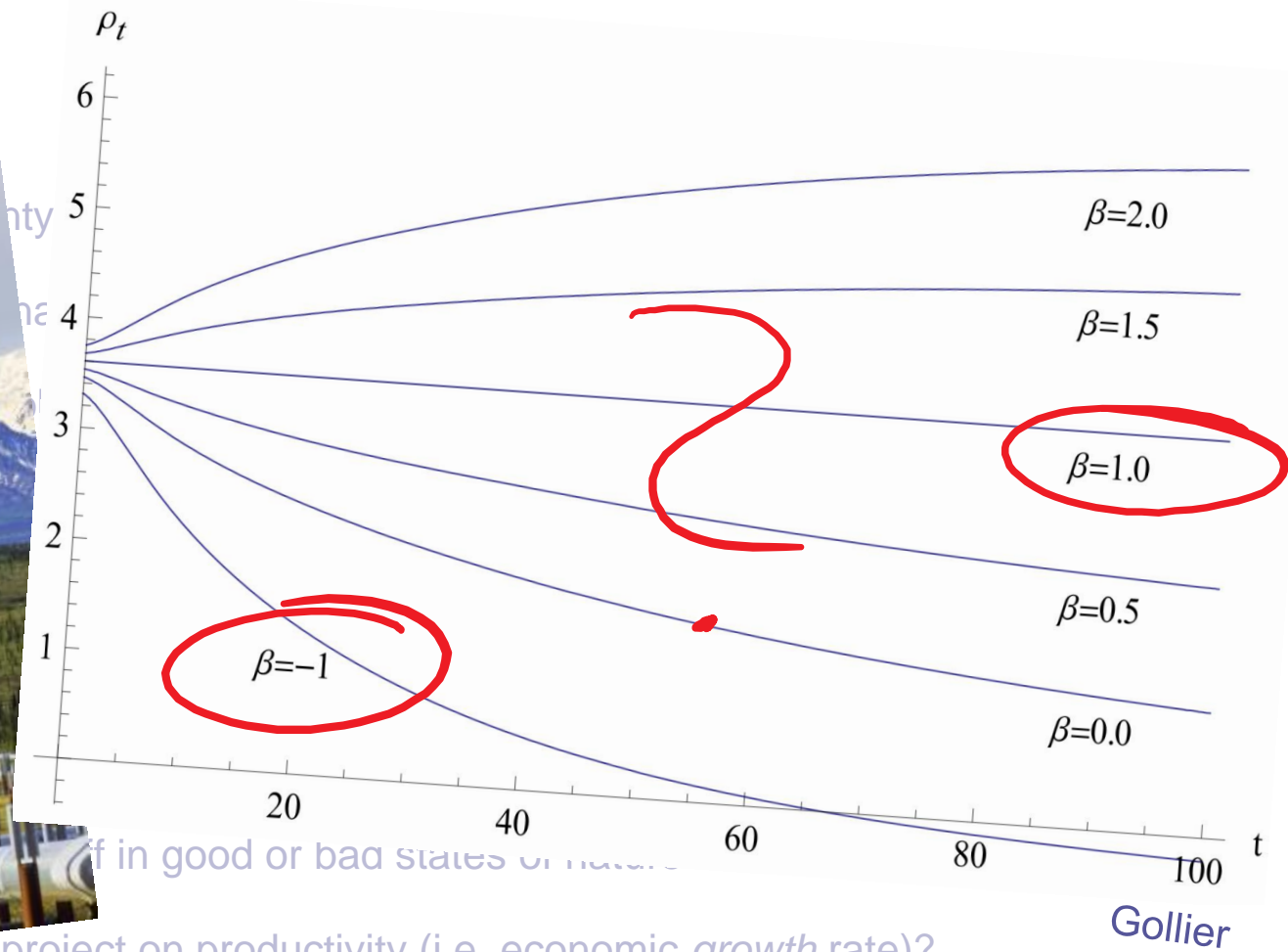
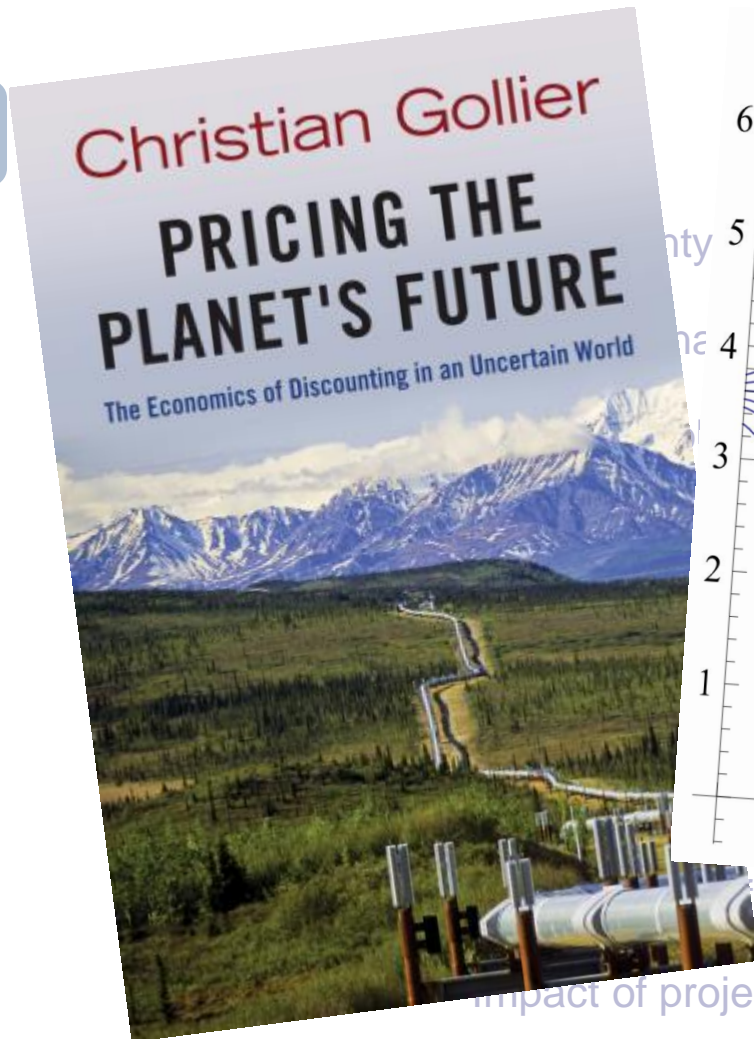
ii. What's the right "health β "?

- Project pays off in good or bad states of nature?
- Impact of project on productivity (i.e. economic *growth* rate)?

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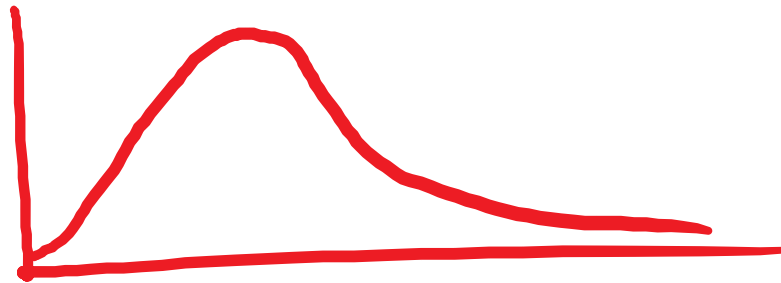
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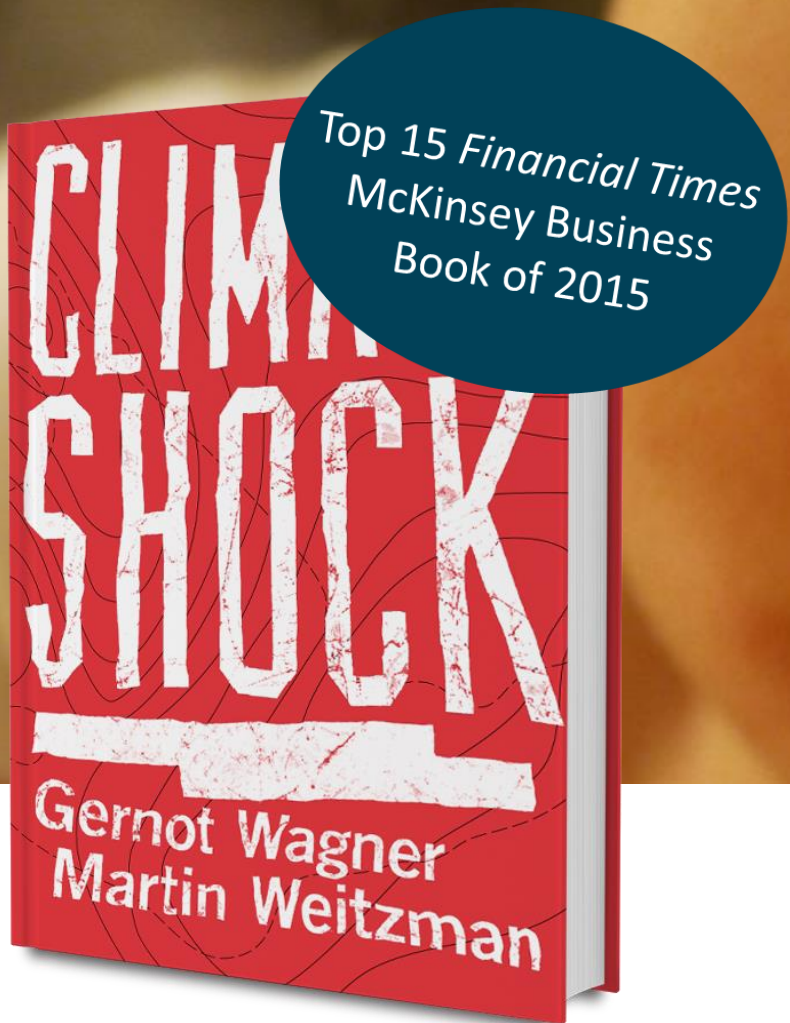
?

3 What's missing?



4 What gives?

B?



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