

Contribution of Health to Economic Development: A Survey and Overview

- Muhammad Jami Husain

I am grateful for the comments and suggestions made by the two referees.

Reply to the Comments of Referee 1

The intricate relationship between health and wealth (income) remains contentious, and partially understood. Notwithstanding, the appreciation of a dominance of one causality to the other by the governments around the world is reflected in the policy formulation with respect to investment in health. Given the resource constraints, it is very important, for the low income countries in particular, to prudently decide on how much priority to be given to invest in health on economic grounds. In this purview, the objective of this review is to reach wider audience highlighting the role that health plays in economic development. Given (and acknowledging) different perceptions with regards to the causality (i.e. wealth to health; health to wealth; and the bi-directional relationship with causality running in each direction), the paper presents a non-exhaustive survey of existing methodological approaches and their results that are applied to track and measure how health influences economic outcomes.

I appreciate the suggestions made by the first referee on a desired design of a literature review that would incorporate the exciting innovations in measurements of health and productivity and methodological innovations in program evaluation and other related fields that use randomization and field experiments; highlight the similarity/gap between the results of macro-level analyses and the empirical evidence of their micro foundations; appreciate the dynamic effects; and the convergence (or lack thereof) among conceptual and analytical approaches from the fields of biology, epidemiology, demography, and economics over the past half-generation. Such a review would offer more technical discussion on the relationship between health and wealth. I see this as the way forward to conduct another literature review that may not substitute, but rather complement, this review.

However, I am not sure whether one should characterize the empirical studies discussed in this survey to be normative. The introductory discussion of the paper may appear normative in nature. However, the idea has been to highlight the perceived causality (i.e. health to wealth) as a positive one in a non-technical and interdisciplinary manner with the results of the empirical research over the last several decades. May be the causality issue is still unresolved and often perceived in a normative manner, yet the policy-makers require to formulate policy based on the best available informed scientific/academic inputs. In this context, this review highlights the importance of investing in health.

Reply to the comments of Referee 2

“Section 3.2.2. Are the cited studies not panel data analysis rather than cross section?”

- Barro (1996) uses three periods’ data (1965-75; 1975-80; and 1985-90)
- Barro and Lee (1994) and Barro and Sala-I-Martin (1995) use two periods data
- Bhagrava et al (2001) and Bloom, Canning and Malaney (2000) use 25 year panel at 5-year intervals
- Bloom and Sachs (1998); Bloom and Williamson (1998); Gallup and Sachs (2000); Hamoudi and Sachs (1999); Sachs and Warner (1997) use 25 year cross section (1965-90) data.
- Caselli, Esquivel, and Lefort (1996) use 25 year panel at 5-year intervals

“Page 5. How much of the educational achievement that accounts for 38% of the reduction in mortality is due to income?”

Wang et al. (1999) performed decomposition calculations to report the relative effects of income, education, and technological progress on improving health status. The objective is to estimate the percentage of health improvement owing to change in those three aspects, from 1960 through 1990. They used a simplified version of the original model which did not include any interaction terms; only the main effects of income, education, and time indicators are used. Please see Wang et al. (1999: pp.7-)

“3.2.3 Can you list the 3 components before elaborating on ii)? Also, this section, the costs of ill-health depend.....”

The section is rephrased accordingly.

“Section 4 is mainly about demographic patterns and not precisely about health. For example, neither the fire horse example, of the Swedish maternity pay illustration is about improved health.”

I agree with the referee’s observation. The examples were mentioned to highlight the approach that Bhrolcháin and Dyson (2007) adopted, and that similar historical health related incidents could be useful to shed light on causality issue.

“Page 26. Bangladesh famine is listed as 1975-75.”; “Adam Wagstaff not Wagstuff”. “Colombia not Columbia”

Corrected.

“...discussion of the contribution of improved health to productivity gives relatively little attention to cognitive development”

This issue is highlighted with an added paragraph in the revised version (page 17 in the revised version). The new references cited are Shonkoff & Phillips, 2000; Keating & Hertzman, 1999, Heckman et al., 2006, Maluccio et al. (2009); Case and Paxson (2008); and Richards et al. (2002).

Other revisions

Following Referee 1 observations – A paragraph is added on the findings of The ‘Work and Iron Status Evaluation (WISE)’ study (ref. cited: Thomas, D. et al. (2003). (page 8 in the revised version). Added the reference of Romer (1990). Some other typo corrections.