

HARVARD Kennedy School

*Program on Education Policy
and Governance*



The Role of Assessing Cognitive Skills in International Growth and Development

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A Discussion by
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Content of the paper

- A discussion of research based on large scale international assessments
 - Achievement tests as an outcome
 - Achievement tests as an explanatory variable
- The analytical potential of large scale international assessments for a wider range of research activities
 - Application to cross-country growth analysis
 - International achievement tests provide a meaningful measure of human capital that outperforms other measures based on quantity of schooling

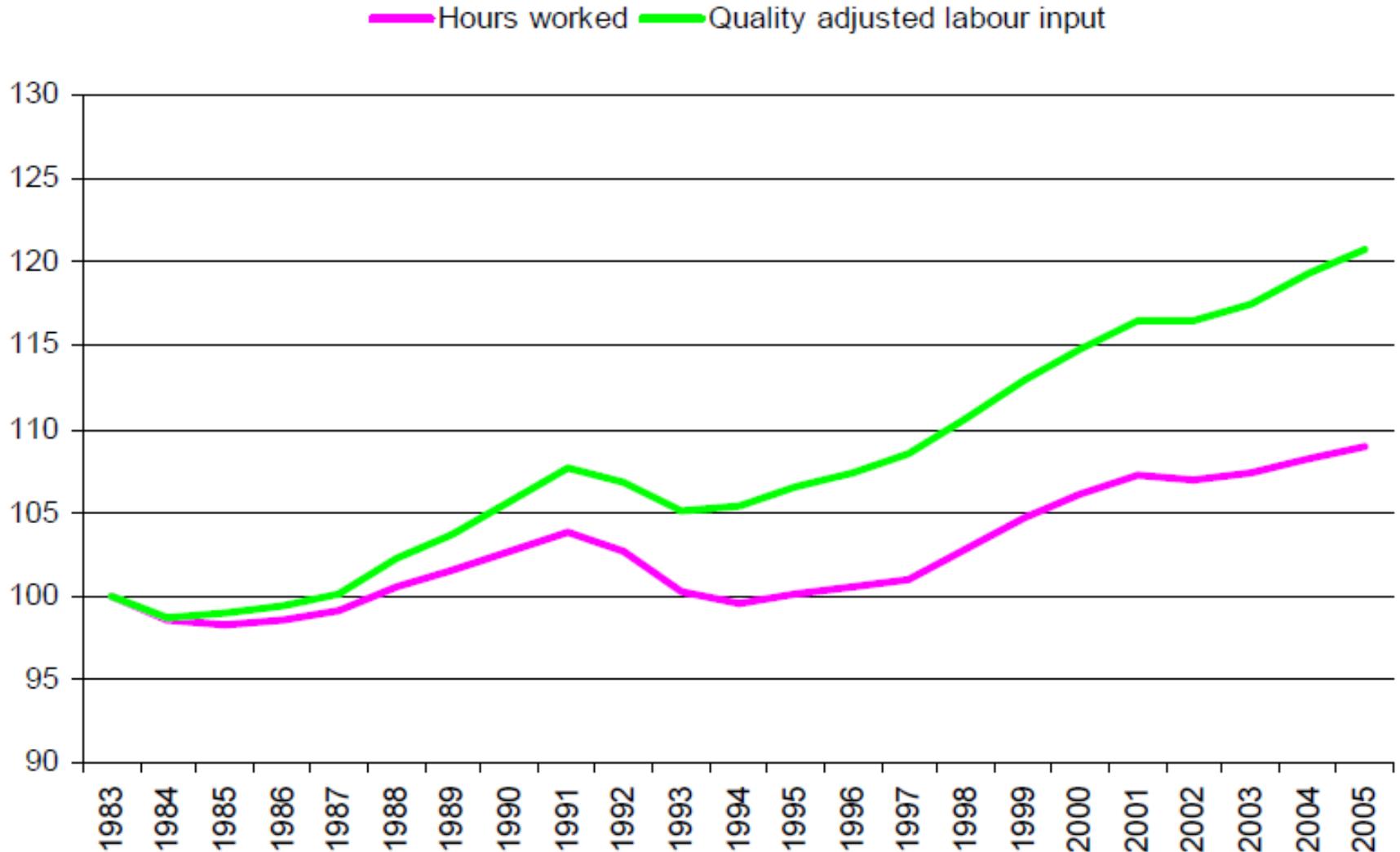
“It is perhaps time to consider how these large scale international assessments could be made even more useful through direct linkage to the larger research activities.”

- huge analytical potential for the analysis of economic growth and productivity analysis

Analysis of Economic Growth

- The empirical literature on economic growth has been plagued by measurement issues since its beginning
- Growth accounting: breaking down the growth in aggregate output into contributions from the growth in inputs
- TFP - a measure of ignorance? (Abramovitz 1956, p. 11)
- Solow residual could be eliminated altogether if one properly adjusts the input measures for shifts in quality and composition (Jorgenson and Griliches 1967)
- One solution: "Indirect" quality-adjusted measures of inputs (Jorgenson, Gallop, Fraumeni 1987)

Adjusting Labor Input for Differences in Quality is important!



Need for better Measures of Human Capital

- Growth regressions virtually always employ readily available measures of the quantity of formal schooling to reflect human capital (Barro, 1991)
- Cognitive skills are a primary component of human capital relevant for the labor force
- Such cognitive skills are not well proxied by measures of school quantities
- Accounting for differences in cognitive skills significantly improves our ability to explain economic growth (Hanushek and Kimko, 2000; Hanushek and Woessmann, 2008)

Contribution of Hanushek & Woessmann

- a. H&W show that it works! – performance in international achievement tests correlates with economic growth
 - b. H&W show that measures of cognitive skills win the “horse race” – outperform measures of human capital based on quantity of schooling
- Issues of measurement and causation
 - Between country comparisons
 - Linking tests over time
 - Need for panel data