

# IEc



Discussion of:

## Valuing Changes in Time Use in Low- and Middle-Income Countries

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# Use of these parameters in my own work

Conference Edition



## Enhancing the Climate Resilience of Africa's Infrastructure : The Roads and Bridges Sector

Raffaello Cervigni, Andrew Losos,  
Paul Chinowsky, and James E. Neumann,  
Editors



## Is the paper conceptually sound and technically accurate

*Yes:*

- 50% of wage rate for personal time is widely used - and the literature review for low and middle income contexts supports this conclusion
- Only alternative is stated preference, and Cook (2016) is good example to emulate
- And, I found it well-written. [But only one figure? Makes for a dense read - suggest a simple decision tree at the end for the four steps - and add more for special contexts.]

## Are the recommendations appropriate and practical?

- Yes, for the analyst looking to simplify this component of their BCA the advice is practical
- But I found the authors to be too all-inclusive in their recommendations:
  - Literature review shows that there are conditions where WTP is > 100% of wage rate - why not highlight those conditions as potentially exceptional?
  - The 25% to 75% recommended range seems too broad - be more confident in narrowing this range either for specific contexts, or based on expert weighting of best quality studies

## How can the paper and recommendations be improved?

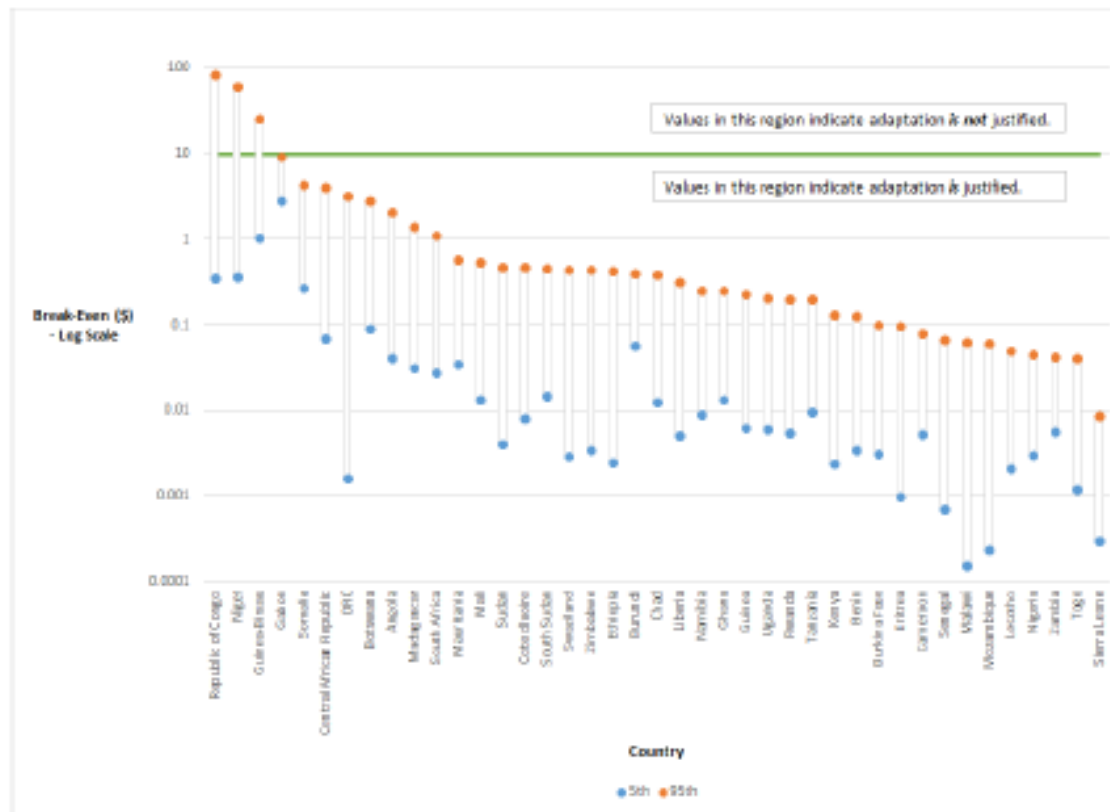
- For the lit review, three references you omit which are worth adding:
  - DFID (2005), *The Value of Time in Least Developed Countries: The African Studies*: older but has case studies for Ghana and Tanzania for multiple travel modes, and comparison to Bangladesh (plus 1997 WB guidance)
  - Wondemu (2015), *The Economic Value Of Time: Evidence From Africa*, *SAJE*. AfDB-affiliated author, WTP survey in transport context for Addis Ababa, Lagos and Johannesburg, main finding is 66% to 74% of wage rate
  - USDOT's September 2016 Revised Departmental Guidance on Valuation of Travel Time in Economic Analysis: supports differentiation across travel classes and other dimensions
- None of these fundamentally change the conclusions of your lit review - but include for completeness

## How can the paper and recommendations be improved?

- Is there a distinction between expected and unexpected delays? That ought to affect valuation.
- Most important advice that could be emphasized further - directly acknowledge huge uncertainties in these values (and uncertainty in the underlying time-use surveys - how do individuals re-allocate their time?)
- In acknowledging these uncertainties, perhaps suggest a break-even approach as practical guidance (i.e., how big would wage rate or VoT need to be to justify the intervention?)

# Example of a break-even analysis for travel time value parameter

Figure O.9. Distribution of traffic normalized breakeven values across climate scenarios by country for all paved roads (PIDA and PIDA+), temperature stressor



Note: The chart provides an indication of the per-vehicle value of time required to justify proactive adaptation action (break-even value), considering both disruption time and financial cost implications. Higher break-even values imply action may not be justified – lower breakeven values imply action is justified. Blue dot is the 5<sup>th</sup> percentile (lowest break-even value) over climate change projections; orange dot is the 95<sup>th</sup> percentile (highest break-even value). Green line at \$10 breakeven provides a reference point that corresponds to a per vehicle per disruption day value that is roughly consistent with daily wages in several African countries.

## Finally - a pitch for economy-wide modeling

“Valuing time at a fraction of the unskilled wage rate may be an underestimate of the discounted stream of higher future earnings from improved investment in the child’s human capital if households did not understand the ultimate consequences of assigning work to children.”

These long term (and sometimes, external to the individual) implications of time saving and reallocation are exactly the elements which can be explored with the “implicit valuation” of an economy-wide modeling approach.

(see Working Paper 4, Strzepek, Amanyana, and Neumann paper from Thursday’s agenda)