COMMENTS ON ROBINSON, HAMMITT AND O'KEEFFE

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Guidelines for Benefit-Cost Analysis
November 2, 2017

Valuing Mortality Risks in Low and Middle Income Countries

- Given the small number of high-quality, original studies in LMICs, must rely on benefits transfer (BT)
- Judge whether benefits transfer produces a reasonable value of the VSL/Y
  - VSL/Y ratio, divided by 100, indicates the percent of income a person would spend on a 1 in 10,000 risk reduction
  - VSL/Y = 170 implies would spend 1.7% of income
  - VSL/Y = 50 implies would spend 0.5% of income
- High-quality studies and common sense suggest that this ratio is lower in poor countries—where people may spend 40% of their income on food—than in rich

BT Procedures Suggested in the Paper

- Base VSLs for transferring values are US VSLs
- Use PPP GNI per capita to transfer VSL from USA to target country (in PPP dollars)
  - Also convert VSL to USD using market exchange rates
- Conduct four different transfers:
  - $9 million base; elasticity = 1 (VSL/Y = 170, all countries)
  - $4.2 million base; elasticity = 1 (VSL/Y = 80, all countries)
  - $9 million base; elasticity = 1.4 (VSL/Y varies with Y)
  - $4.2 million base; elasticity = 1.4 (VSL/Y varies with Y)

VSL Transfer for Malawi, 2015
(GNI pc = $1,130, PPP; $340 USD)

	VSL (PPP)	VSL (MER)	VSL/Y
$9 million base; elasticity = 1	$190,000	$58,000	170
$4.32 million base; elasticity = 1	$90,000	$27,000	80
$9 million base; elasticity = 1.4	$41,000	$12,000	36
$4.32 million base; elasticity = 1.4	$19,000	$5,800	17

VSL Transfer for India, 2015
(GNI pc = $6,050 PPP; $1,600 USD)

	VSL (PPP)	VSL (MER)	VSL/Y
$9 million base; elasticity = 1	$1,000,000	$250,000	170
$4.32 million base; elasticity = 1	$480,000	$130,000	80
$9 million base; elasticity = 1.4	$430,000	$110,000	71
$4.32 million base; elasticity = 1.4	$200,000	$53,000	33

Can The Transfers Be Validated?

- Existing literature in LMICs is very thin
  - Need to apply additional criteria to the 25 studies cited in the paper
  - Many wage-risk studies are based on a single cross-section of data and find implausible results
    - Madheswaran (2007) finds a VSL of Rs.15.4 million for workers with an average annual wage of Rs. 16,000
    - Need to establish criteria for these studies, just as stated-preference studies are subject to scope tests
  - Would look at ratio of VSL to income of *study population* in high-quality studies to inform VSL/Y ratio

What Should Be Done in the Short Run?

- Best studies reported (and common sense) suggest that a VSL/Y ratio of 170 is too high for low-income countries (GNI pc < $1,025 USD in 2015)
- I would say the same holds for low-middle income countries ($1,026 < GNI pc < $4,035 USD in 2015)
- Median VSL/Y ratio for LMICs in report of *Lancet Commission on Pollution and Health* are:

World Bank Income Region	Median VSL/Y Ratio
Upper middle income	96
Lower middle income	64
Low income	50

Concluding Comments

- What matters is the ratio of VSL/Y and how it varies with income
  - If VSL/Y drives benefits transfer, appropriate elasticities for transfer will be determined by the base VSL
- Arguing for a VSL/Y ratio = 170 in low and low-middle income countries seems too high
- OECD estimates imply a VSL/Y = 100
- Many high income governments use a VSL that implies an even lower VSL/Y ratio:
  - Australia: 60
  - United Kingdom: 62
  - Norway: 20-33