

Catastrophic health care payments reconsidered: An ethical perspective with application to Nigeria

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Introduction

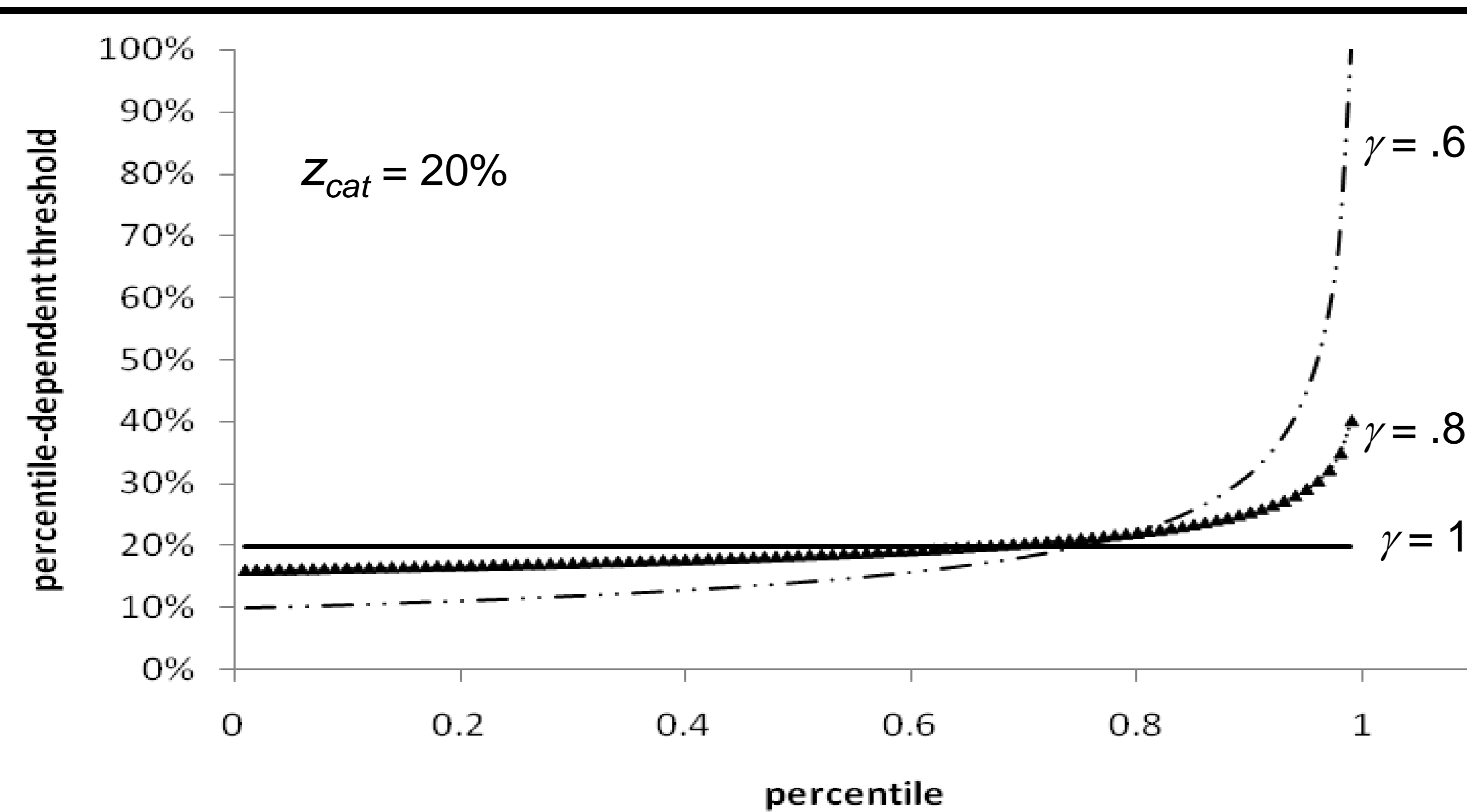
- The strong link between poverty and ill-health is mutually reinforcing
- Out-of-pocket payments as a proportion of total health care financing are generally higher for poorer countries
- Catastrophic costs is the level of household OOP payments, high enough to significantly lower a family's living standard
 - 10% of household income
 - 40% of household non-food expenditure
 - ? No consensus on what the proportion (%) should be
- However, Such payments are perhaps inevitably higher among lower income groups
- Policy measures need to be devised to help to protect those on the lower rungs of the society
- It requires adequate quantification of the incidence of catastrophic payments
- Fairer indices of catastrophic payment can explicitly recognize diminishing marginal utility – vertical equity principle

Rank-dependent threshold

- We define the weighted threshold as:

$$z'_{cat} = \omega(p; \gamma) \times z_{cat}$$

where z_{cat} is an initial threshold



Catastrophic payment (z = a fraction of total consumption expenditure)

	Threshold (z) = 10%		
	$\gamma = 0.6$	$\gamma = 0.8$	$\gamma = 1$
Headcount			
Headcount (H)	28.28%	26.48%	25.45%
Con. Index of H	-0.0252	0.0244	0.0733
Weighted Headcount (WH)	28.99%	25.83%	23.58%
Gap measures			
Catastrophic gap (G)	6.04%	5.99%	6.01%
Mean positive gap (MPG)	21.37%	22.64%	23.62%
Con. Index of G	0.1163	0.1818	0.2328
Weighted gap (WG)	5.34%	4.90%	4.61%

Conclusion

- The poster extends the measurement of catastrophe under the 'equity lens' to incorporate greater concerns for the poor
- This poster suggests that basing the notion of catastrophe on the principle of vertical equity is useful
- Therefore, building on earlier work on catastrophic payment, it departs from the use of a uniform threshold

Objectives

- To suggest an alternative paradigm for assessing catastrophic health care payments
 - i.e. OOP payments are catastrophic if they exceed $z\%$ of household income (or resources), and further, this percentage vary by income (rank-dependent threshold)
- To use statistical weight that weights a fixed threshold by a function that increases as income (or *ability to pay*) rises i.e. is progressive

Rank-dependent weights

- We can then vary the ethical concern across the percentiles simply by varying the value of the single parameter – γ .

$$\omega(p; \gamma) = \gamma(1 - p)^{\gamma - 1}$$

for $0 < \gamma \leq 1$ and p = percentile

$\omega(p; \gamma)$ is the weighting scalar and it is the density of the lowest income rank in a sample of γ randomly selected individuals.

Data

- The analysis uses the Nigerian National Living Standard Survey (NLSS) measurement 2003/2004
 - Sample size is 19,518 housing units
- Measures of living standards**
 - Household (HH) total expenditure; and
 - HH total non-food expenditure
- Out-of-pocket payments exclude transportation costs but include direct costs faced by households in using health services
- Unit of analysis is the household.
- All estimation is on a per capita basis

Catastrophic payment (z = a fraction of total non-food consumption expenditure)

	Threshold (z) = 40%		
	$\gamma = 0.6$	$\gamma = 0.8$	$\gamma = 1$
Headcount			
Headcount (H)	20.18%	18.19%	17.24%
Con. Index of H	-0.0738	0.0261	0.1327
Weighted Headcount (WH)	21.67%	17.71%	14.95%
Gap measures			
Catastrophic gap (G)	5.36%	4.81%	4.90%
Mean positive gap (MPG)	26.56%	26.45%	28.43%
Con. Index of G	-0.0440	0.0747	0.2459
Weighted gap (WG)	5.60%	4.45%	3.70%

Conclusion

- The numbers defined as making catastrophic payments using a fixed threshold (whether or not it is weighted by the concentration index) are lower than when a rank-dependent threshold is used
- The catastrophic positive gap obtained using a fixed threshold – weighted or not by the concentration index – is higher than that predicted by the rank-dependent threshold

