

PNG Update, UPNG
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Two Decades of Poverty in Papua New Guinea

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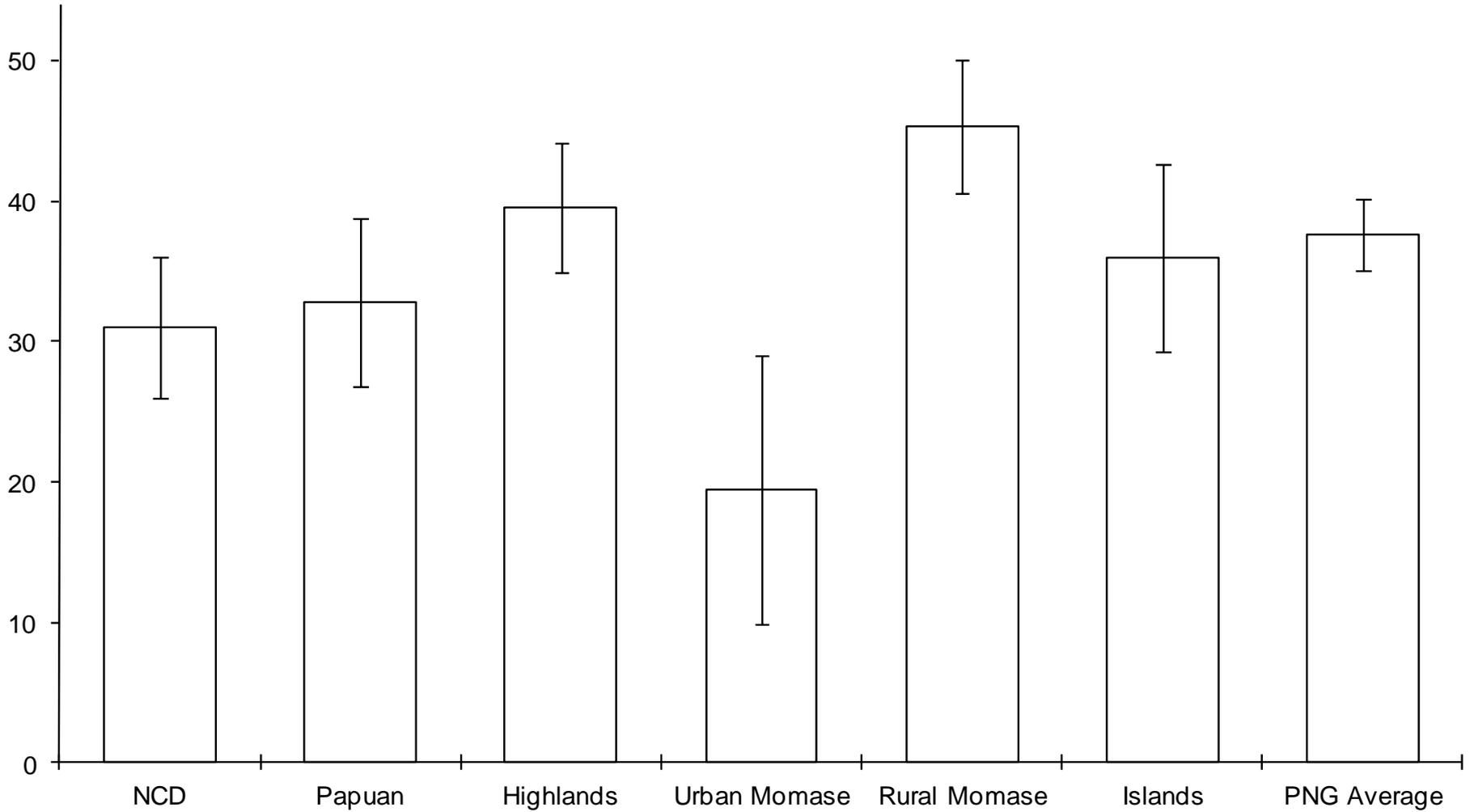
Motivation

- Little is known about poverty trends in PNG
- PNG is a laggard in household surveying
 - few countries remain with just two national household consumption surveys used for poverty measurement
 - 14 year gap between these surveys also reduces usefulness
 - Fiji, Solomon Islands etc have a much better survey record
- Existing evidence already places PNG amongst the highest poverty rate countries in East Asia and the Pacific
 - Social indicators more similar to Africa than to the wider surrounding region
 - Limited domestic constituency for action on poverty and weak statistical capability, along with indifference to statistics from policy makers

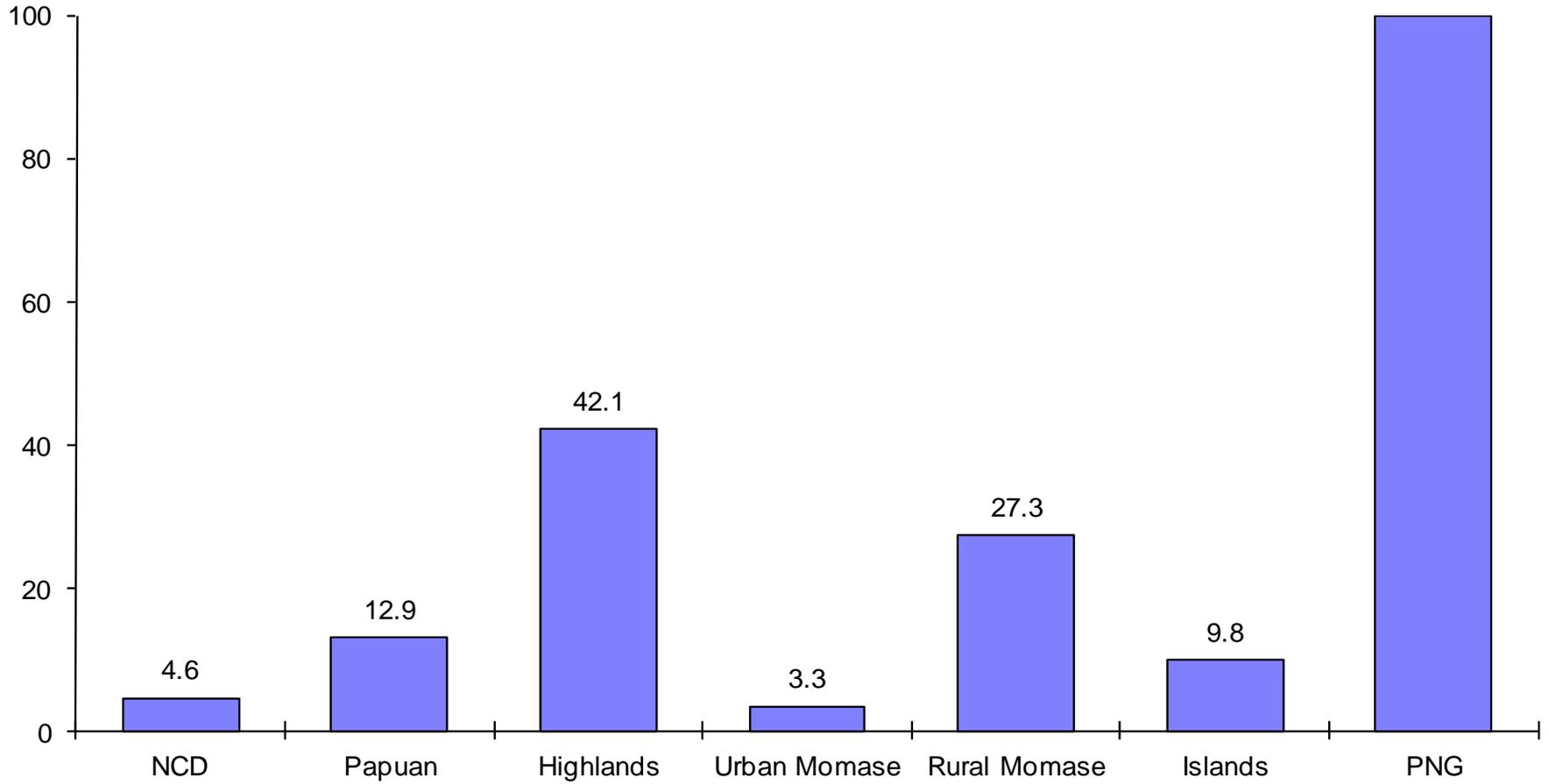
Baseline: 1996 PNG Household Survey

- Fieldwork managed by UPNG (Unisearch), logistics by INA, funding from World Bank
- Relatively small sample
 - 800 households in 73 rural Census Units, 240 households in NCD and 100 in other urban areas but efficient sample design with help from ANU Human Geography (Bourke and Allen)
 - Survey measured consumption, not income
 - Using 2-week closed interval recall
 - Purchases plus self-produced items & gifts (reporting with volumetric measures + weighing conversions), changes in food stocks, value of service flow from housing & durables
- poverty line established as cost of a diet providing 2200 calories/day using locally eaten foods + essential non-food

Percentage Living in Households Below Upper Poverty Line: 1996 Revised Data

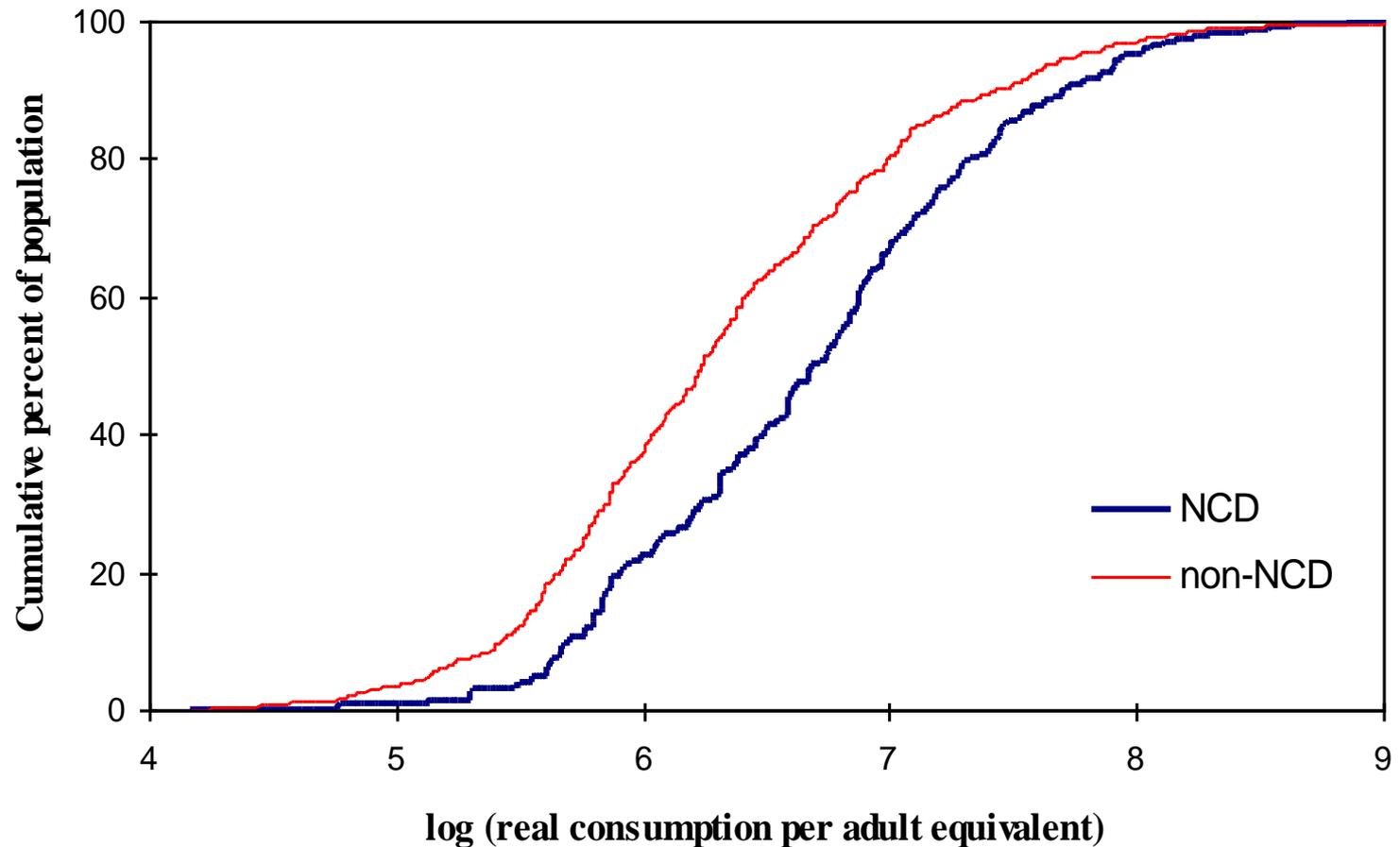


Contribution to National Poverty (%)



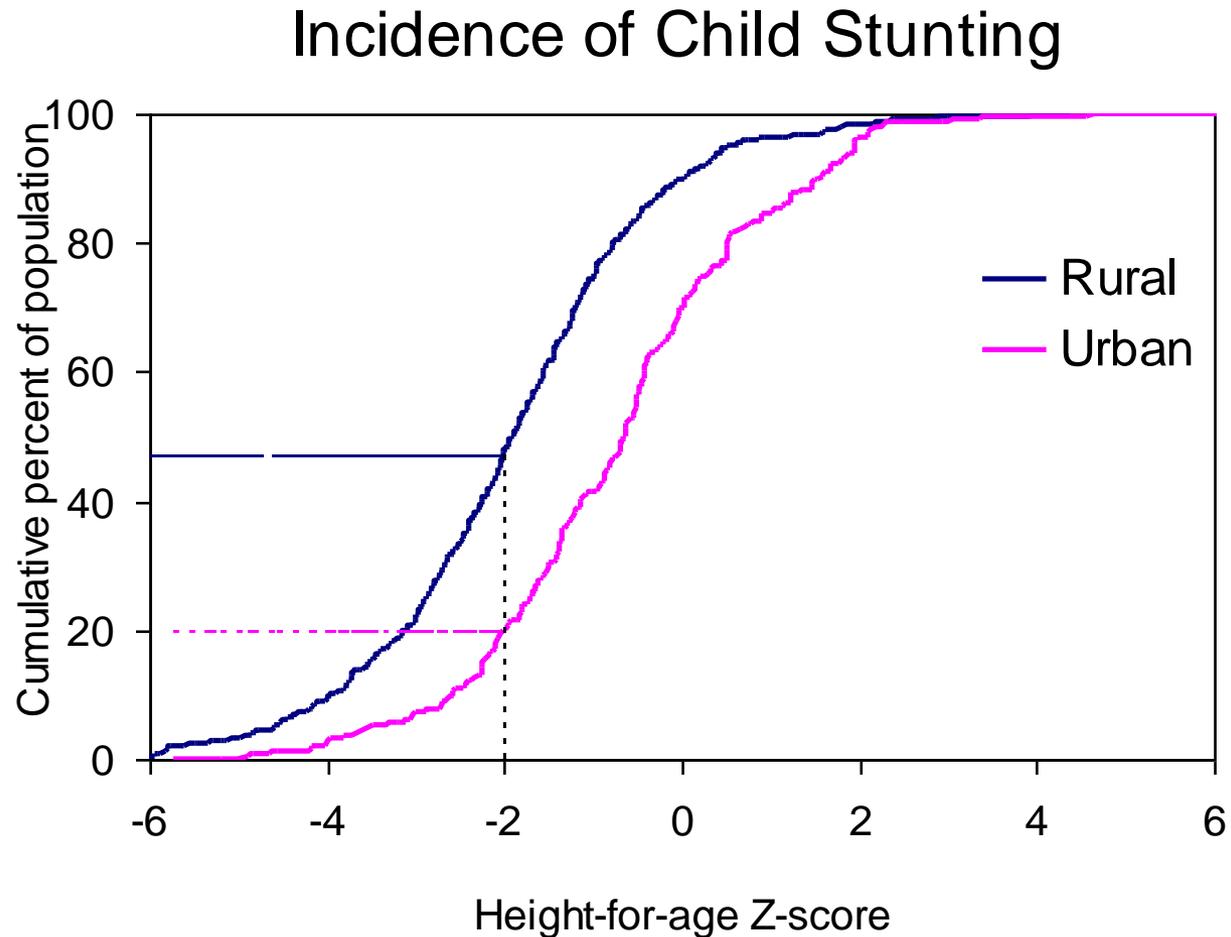
Lower poverty rate in NCD was robust to choice of poverty line

Distribution of Consumption by Region



Non-monetary indicators showed the same patterns

- E.g. incidence of child stunting was much higher in rural than urban, regardless of threshold used
 - almost one-half of children age 5 and lower were stunted (low height for age)



2009/10 Household Income and Expenditure Survey (HIES)

- Sampling differences

about three times larger (n=3600 usable observations)

- Almost half the sample in urban areas, since CPI updating was a major objective of the survey
- more households surveyed per Census Unit (18 vs 12) so bigger sample does not give three times as much variation in village conditions

- Data collection differences

- Only in Port Moresby did the 1996 survey have households keep a detailed diary of spending for two weeks, elsewhere used a recall method (“since my last visit...”)
- 2009/10 survey used the diary method everywhere, with interviewers living in the surveyed villages for up to 3 weeks to monitor the completion of the diaries

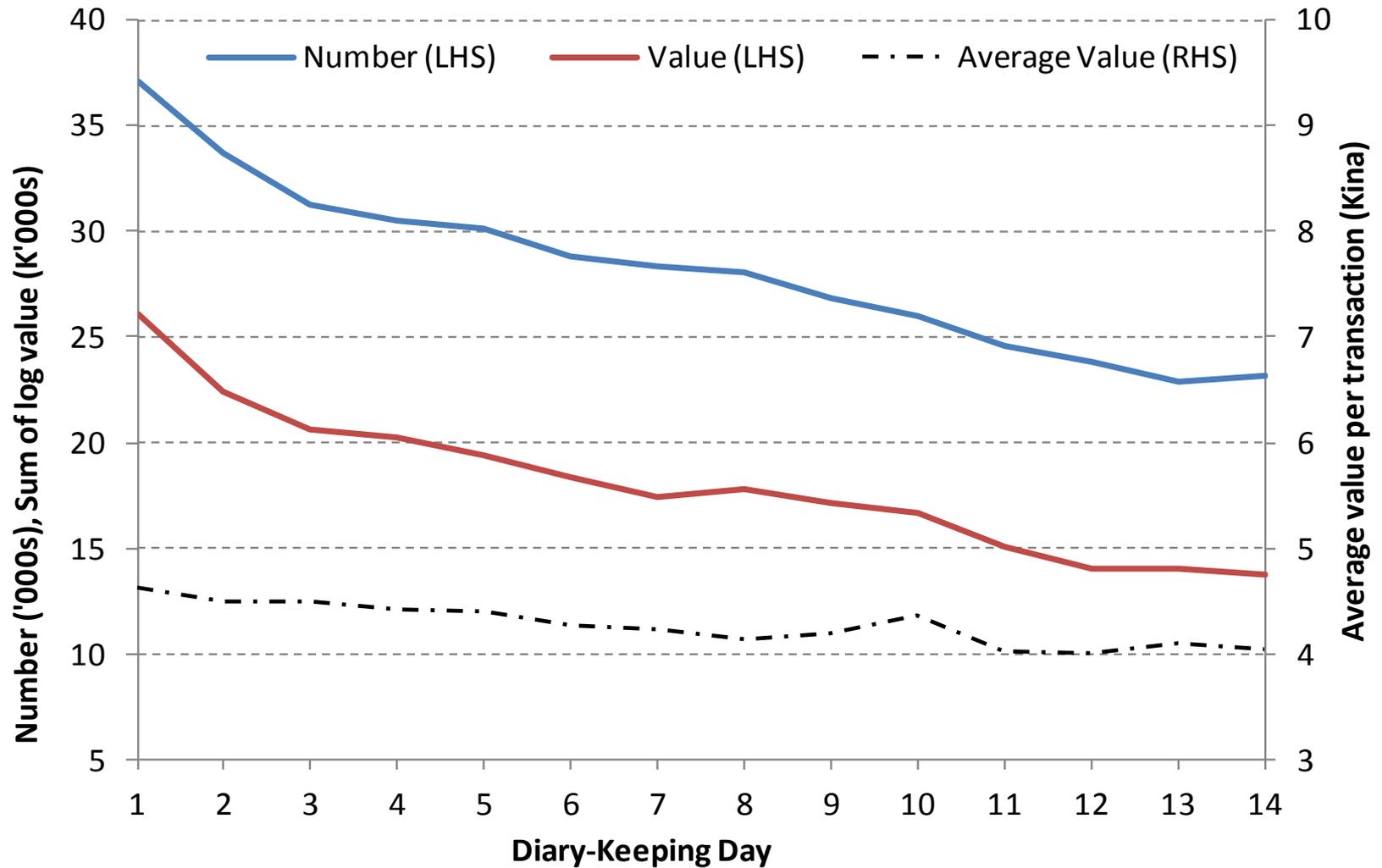
Respondent fatigue in 2009/10

- Many people in PNG are somewhat impatient with surveys
 - May have seen little evidence of development based on the information collected in previous surveys or by researchers and students
 - Expectations may be unrealistic based on resource projects
 - Some religious cults (“666”) make field work difficult
- ➔ cooperation with surveys is not especially high and very resource intensive efforts like 14 day diaries run into problems of non-compliance

Evidence of diary fatigue

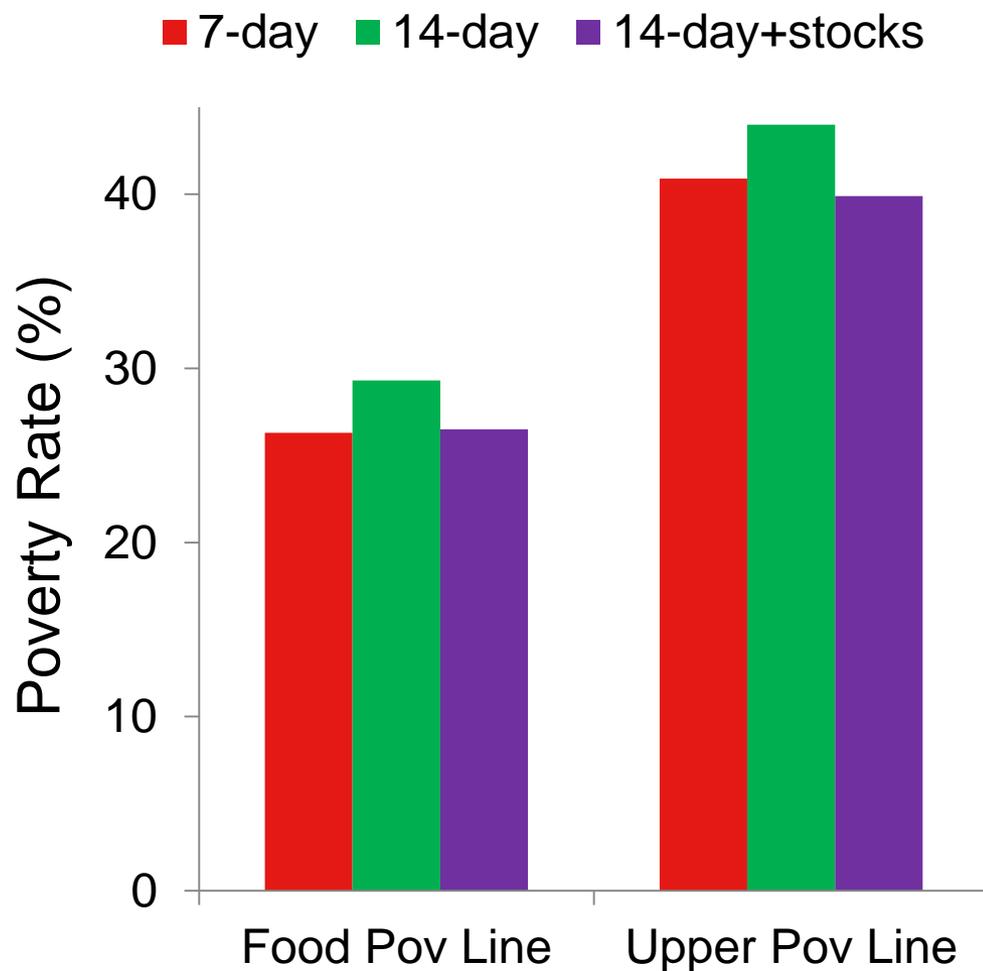
- Number of transactions declines by 3.4% per day
 - Total value of consumption transactions declines by 4.4% per day of diary keeping period
- Less cooperation in measuring ending food stocks than starting stocks
- ➔ the two errors tend to balance out

Diary Fatigue Evident



Main poverty results are robust to these survey problems in 2009/10

1. Use the full 14 days of the diary
 2. Used first 7 days of diary before the fatigue sets in too much
 3. Use the 14 days plus allow for the apparent destocking of food
 - reduces headcount back to what it would be if using 7-day and no stock measurements
- Two errors working to offset each other



Summary comparison of the two surveys

1996 PNGHS

- Bounded recall (33 food, 28 freq non-food), average duration 13 days
- 12 HHs per rural EA, 6 per EA in capital city
 - Diaries for half capital city sample, or bounded recall
- Measuring device (empty 25 sack given for garden produce) used for 90% of root crops, 50% of others + weighing trials → kgs
 - Average 80 kgs root crops during obs period
- Market survey (2 visits)

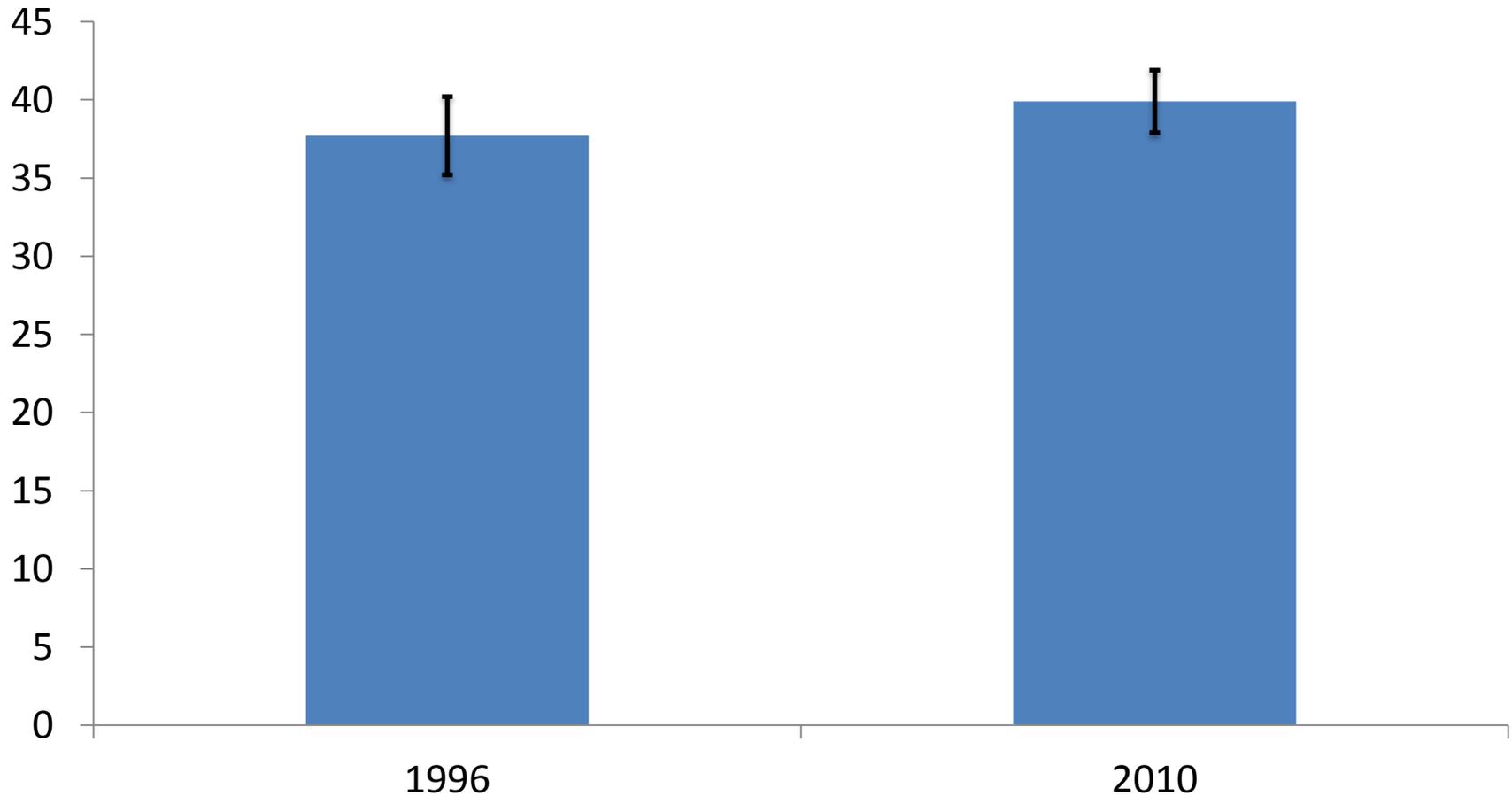
2009/10 HIES

- 14 day personal diary with daily or semi-daily checks by interviewers
 - Transaction level, with brand, unit size, price etc
 - 5-digit coding at head office
 - Personal notepad used in addition to the diary
- 18 HHs per rural EA, 6 in urban EA
- Self-reported kg or grams for own-production, gifts, purchases, no validation
- No market survey

What Do the Results Show?

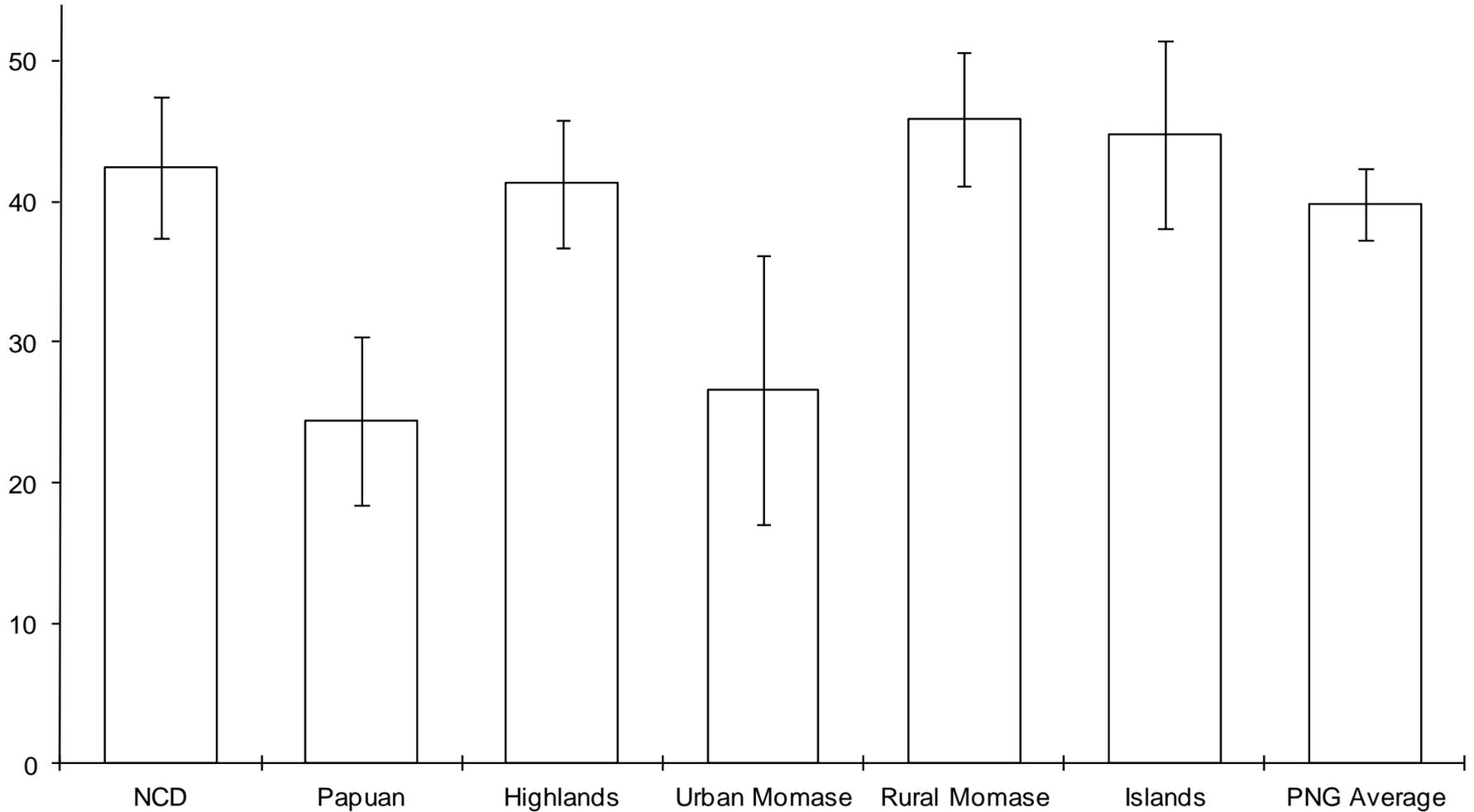
- Notwithstanding all the caveats due to imperfect comparability...
- There is no evidence of any decline in poverty in PNG between 1996 and 2009/10
 - No progress at all towards the first of the MDGs
 - An outlier in the East Asia and Pacific region, which has seen historically unprecedented poverty reduction in the last two decades
- Poverty in Port Moresby risen to be similar to the national average rate
 - But still only home to 6% of the total poor, so 'urbanization of poverty' story should not be overstated

PNG Headcount poverty rate, upper poverty line ($p=0.493$ for null of no change)

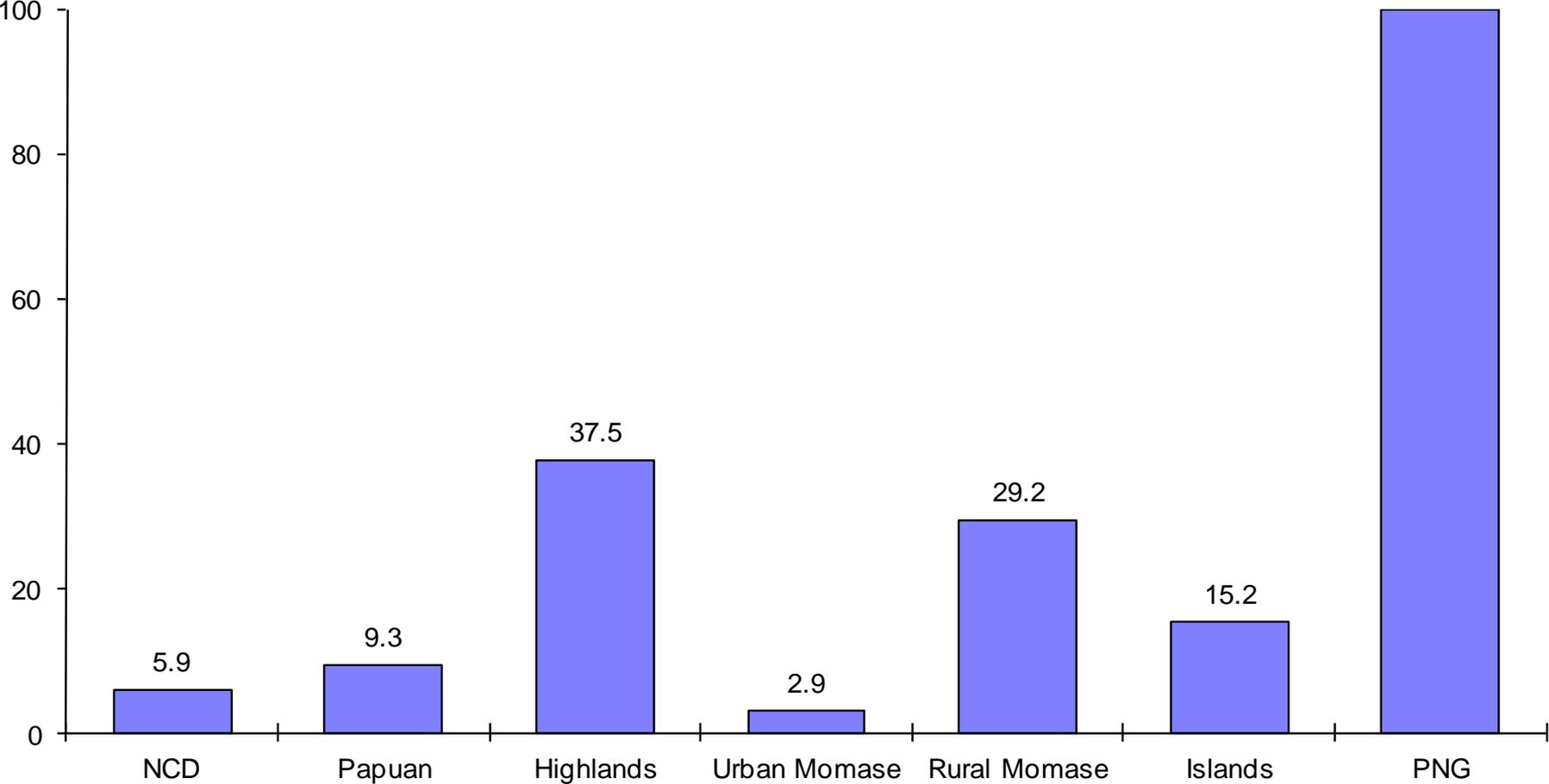


Regional Poverty Profile

Percentage Living in Households Below Upper Poverty Line: HIES 14 day + stocks



Contribution to National Poverty (%)

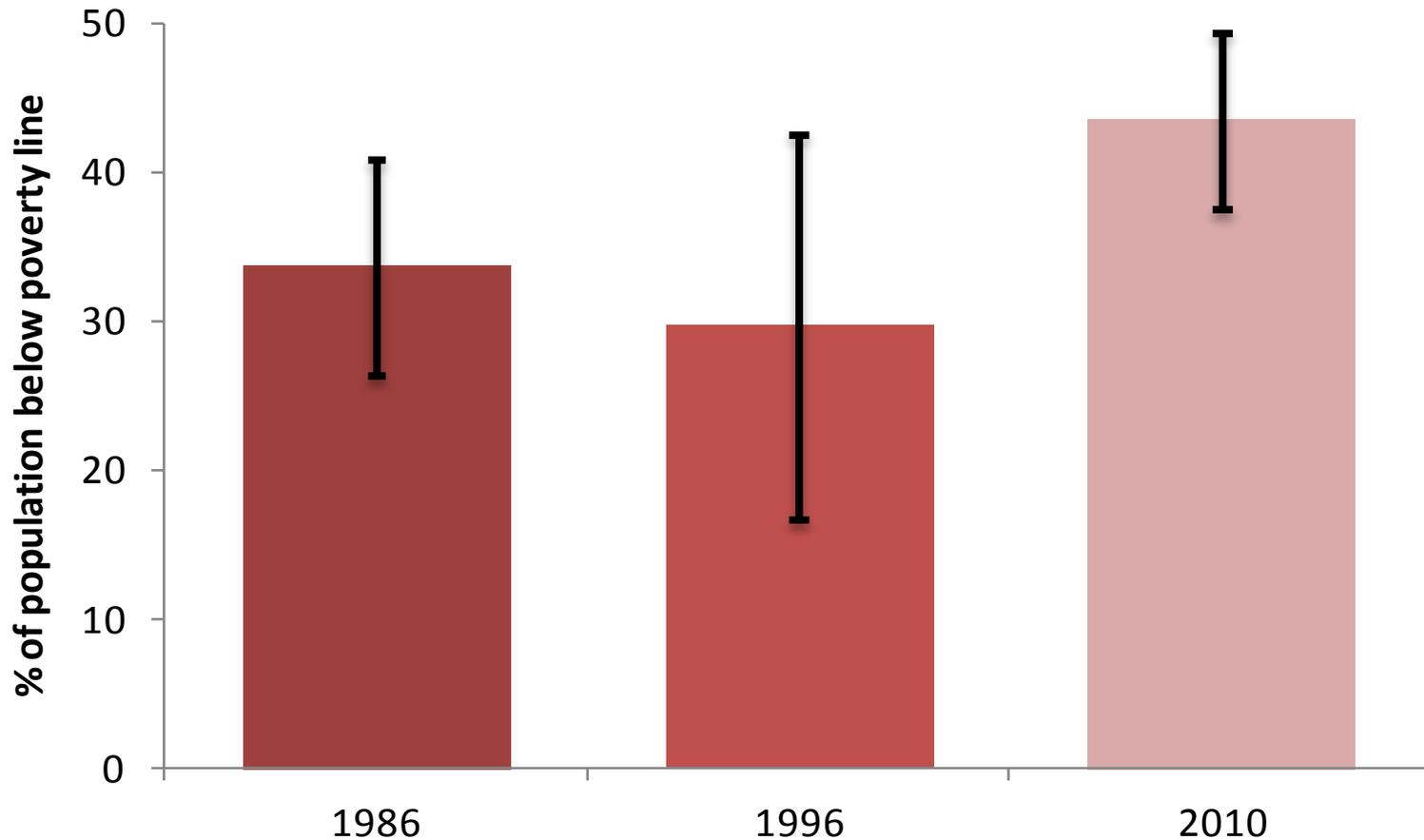


Temporal Poverty Comparisons for Port Moresby

- 1986 Urban Household Survey (UHS), the diary-keeping half of the Port Moresby sample in 1996 PNGHS and the 2009/10 HIES all use same data collection method
 - Fewer comparability issues than PNG-wide comparisons
 - CPI for Port Moresby available to update the Port Moresby-specific poverty line
 - K623 per adult equivalent in 1986
 - K1265 in 1996 and K3500 in 2009/10
- Increase in poverty between each survey, but of a different nature each time
 - Initial increase due to higher inequality amongst poor
 - Second increase is in terms of how widespread is poverty

Changing Prevalence of Poverty

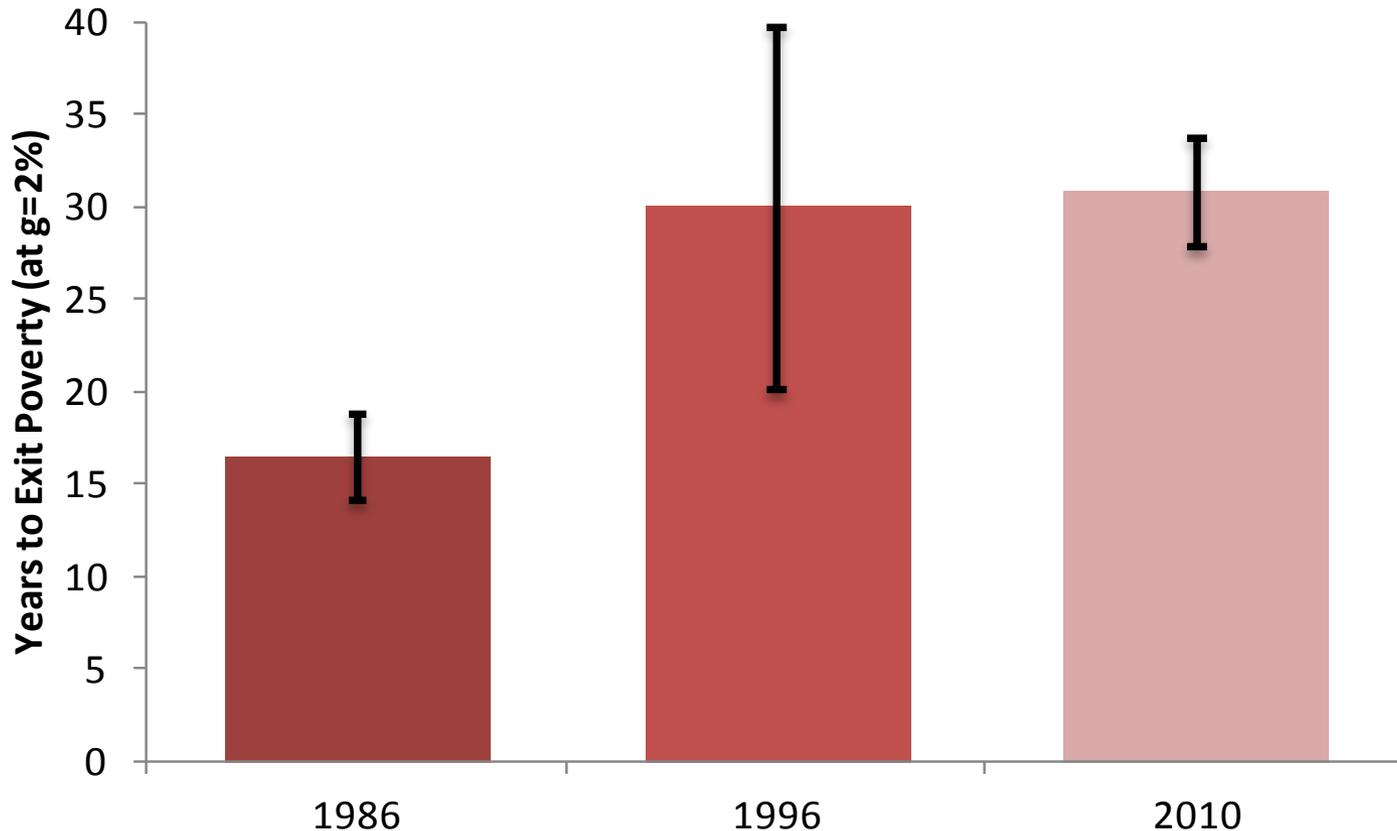
(Head Count Index for Port Moresby)



Statistically significant increase ($p < 0.05$) from 1996 to 2010, no change from 1986 to 1996

Changing Severity of Poverty

(Average Exit Time Amongst the Poor in Port Moresby under ideal conditions of constant and uniform growth)



Statistically significant increase ($p < 0.05$) from 1986 to 1996, but no change from 1996 to 2010

Changing patterns of urban poverty

- Poverty in Port Moresby initially worsened from 1986-1996 because the poor fell further behind
 - Decompositions show that it was due to rising inequality rather than failure of real growth as experienced at the mean
- Poverty in Port Moresby further worsened from 1996-2010 because a larger share of the city joined the poor
 - Real incomes near the mean stagnating due to rapid rise in prices
- Change in the poverty profile also reflects this shift
 - In 1980s households whose head was employed in the informal sector had the same (lower) poverty risk of those in the formal sector but in 2009/10 the informal sector households had same (higher) risk of poverty as those with no economic activity
 - Only formal sector employment provided protection against poverty in 2010 (presumably due to higher wage buffering against price rises)

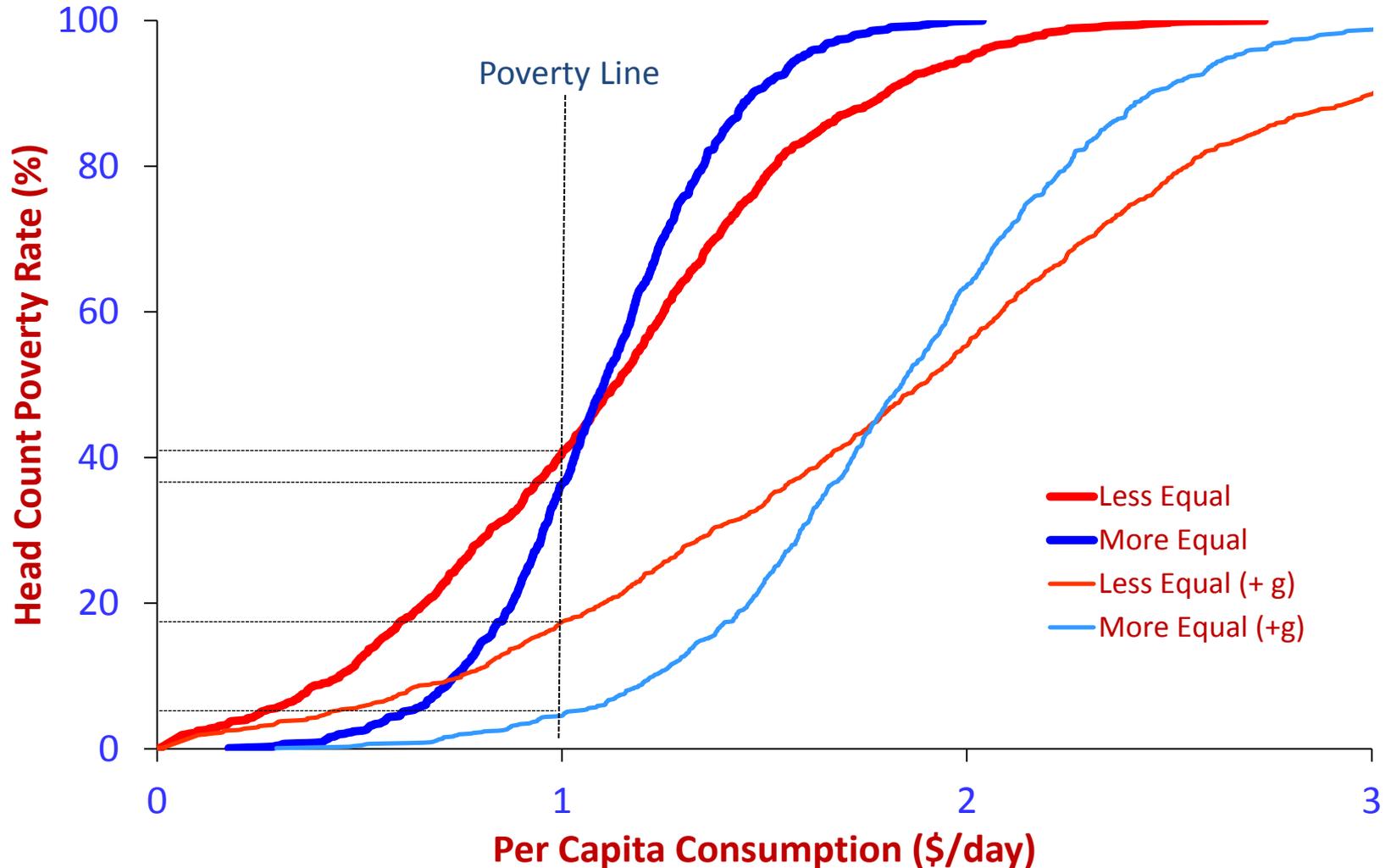
Conclusions (Backward Looking)

- no evidence of any decline in poverty in PNG between 1996 and 2009/10
 - Evidence base for temporal poverty comparisons in PNG is weak
 - due to changing survey methods, lack of spatially detailed price data for comparing cost of living over time and space
- Firmer (and longer term) evidence available for Port Moresby
 - Poverty has recently become more widespread, previously it became more severe
 - Rapidly rising costs of living in NCD appear to be a major contributor to this pattern

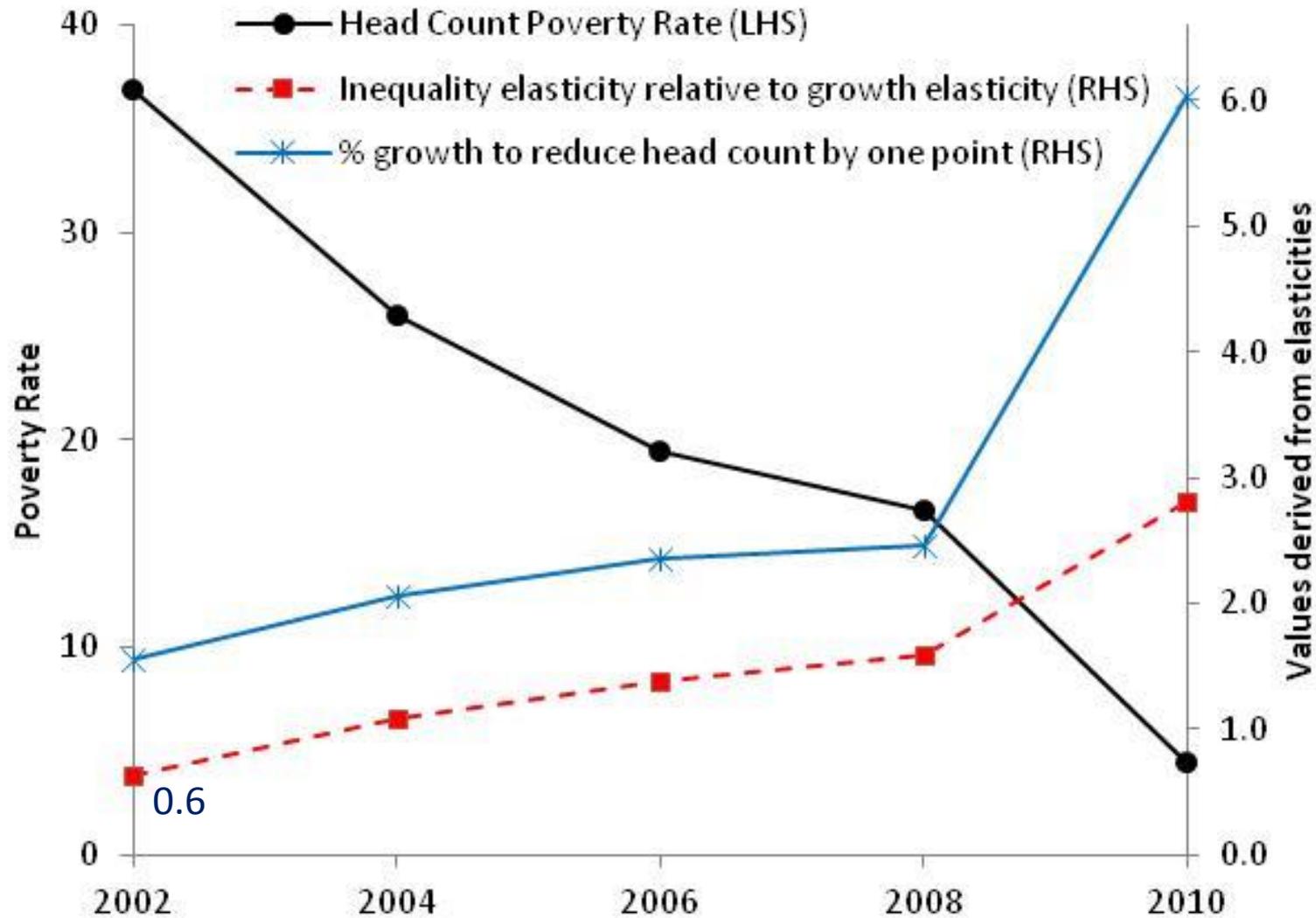
A Final, Forward-looking Point

- How does the nature of poverty change as a country escapes widespread poverty
 - PNG at the moment has widespread poverty but hopefully that will reduce in future
- Poverty measures become increasingly sensitive to inequality and less sensitive to growth
 - ➔ Implications for policy and for practitioners

Headcount becomes more sensitive to inequality as poverty rate falls



Example from Vietnam's poverty escape



Implications for policy

- If attempt to intervene to reduce inequality, how does this:
 - Influence incentives to accumulate human capital
 - Remain viable in a world of increasing international labour mobility
 - E.g. emigration of highly skilled much more fiscally costly in PNG than in Tonga, which has low, flat taxes and leaves family migration networks to provide most of the insurance
 - Interact with traditional, informal transfer mechanisms
 - E.g. beneficiaries of a formal social protection system could be the better off, who withdraw their support of the informal system
 - “can PNG rely on the Wantok system?”

Implications for practitioners

- Are surveys doing a good job of measuring nominal inequality for detecting trend changes?
 - Services from durables and housing
 - Non-quantified, income-elastic items
 - New goods (e.g. mobile phones + services)
 - Transfers between households
- Are your price surveys allowing you to measure real inequality or just nominal inequality
 - resources that may have been unpriced in the past (house stilts, firewood, etc) have widening spatial and temporal price variation, and even more so for immobile items like land and dwelling rentals

Em Tasol

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