

The dynamics of monetary and multidimensional poverty in Vietnam

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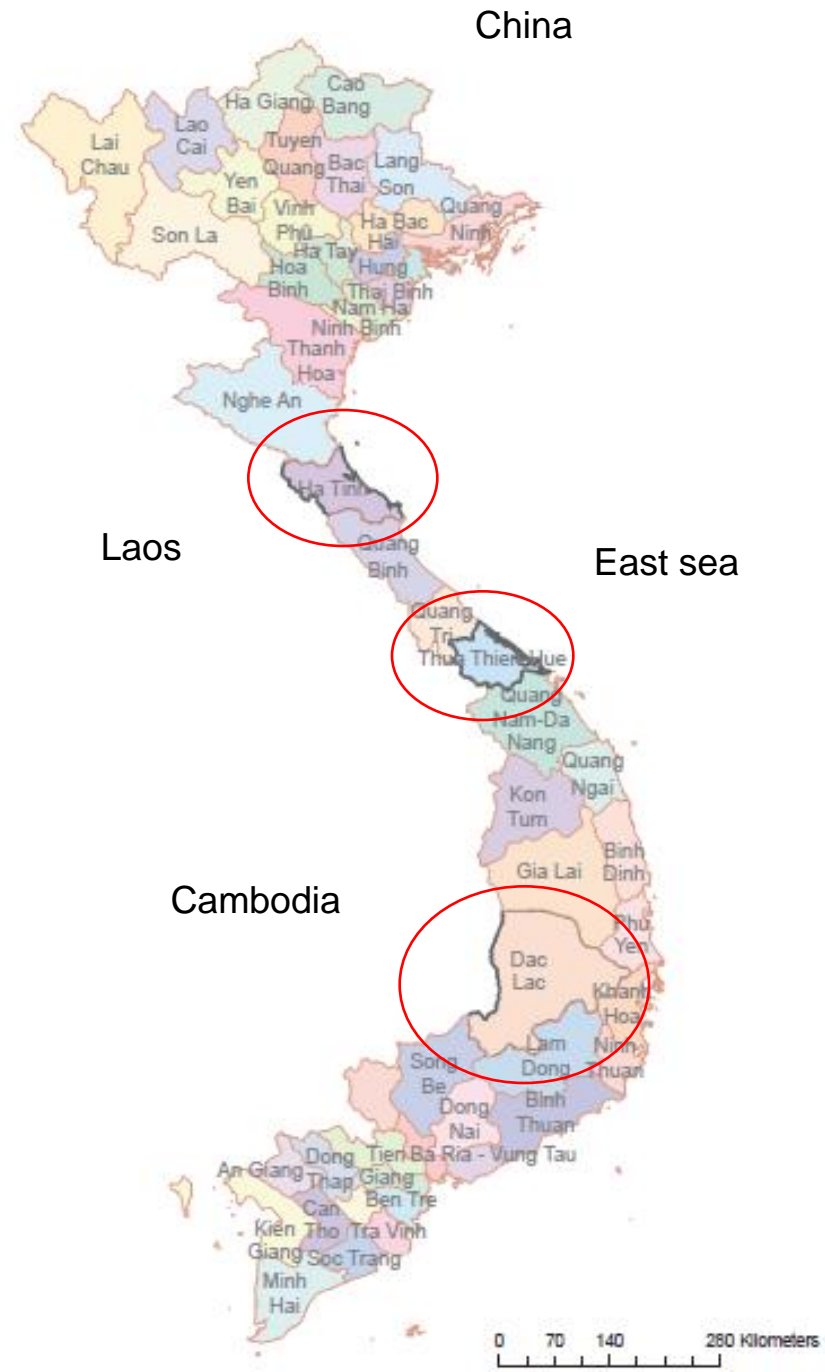
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Motivation

- A remarkable poverty reduction: **58%** (1993) – **13%** (2010)
- However
 - 16% : under five mortality rate (2011)
 - 23% of children is **stunted** (height-for-age malnourished)
 - 29% of households has no access to clean **water** (2010)
 - 59%** of households has no access to improved **sanitation**
- **Has multidimensional poverty made the same progress as monetary one?**

Data

- Panel household survey
- 3 waves: 2007, 2008, 2010
- 3 poor provinces
- 2000 households
- 7000 individuals



Method

- Apply Alkire-Foster method
- Compare **Consumption** and **MD** poverty by sub-groups
- Compare **Changes** in Consumption and MD poverty over time
- **Decompose** the Changes in MPI by incidence and intensity

MD poverty: dimensions, indicators, weights

Dimensions	Indicators	Deprived if...	Relative weight
Health	<i>BMI</i>	Any adult (≥ 15 years old) has BMI less than 18 or more than 25	16.7%
	<i>Health functioning</i>	Any member suffering serious disease/injury and unable to pursue main occupation for at least 4 weeks	16.7%
Education	Schooling	No household member has completed five years of schooling	16.7%
	Child enrolment	Any school-aged child is not attending school in years 1 to 8	16.7%
Standard of living	Cooking fuel	The household cooks with dung, wood, rice leaf or charcoal	5.6%
	Sanitation	The household's sanitation facility is not improved, or it is improved but shared with other households	5.6%
	Water	The household does not have access to clean drinking water.	5.6%
	Electricity	The household has no electricity	5.6%
	<i>Housing</i>	The walls are of metal/clay/canvas/bamboo and/or the roof is straw/wood.	5.6%
	Assets	The household does not own more than one of: radio, TV, telephone, bike, motorbike or refrigerator, and does not own a car or truck.	5.6%

Analysis of association

	Cooking fuel	Sanitation	Water	Electricity	Housing	Assets
Cooking fuel	1.00 ***					
Sanitation	0.39 ***	1.00 ***				
Water	0.11 ***	0.26 ***	1.00 ***			
<i>Electricity</i>				1.00 ***		
<i>Housing</i>				0.04 ***	1.00 ***	
<i>Assets</i>				-0.01 ***	0.18 ***	1.00 ***

Cramer's V

Poverty cutoffs

Multidimensional poverty 2010			
Cutoff (%)	H	A	M ₀
10	91.4	32.4	0.296
20	72.6	37.0	0.268
30	48.8	42.8	0.209
35	28.6	49.5	0.141
40	23.6	51.7	0.122
45	16.7	54.7	0.091
50	16.7	54.7	0.091
60	3.9	67.2	0.026
70	1.0	76.1	0.008
80	0.2	83.3	0.001

Consumption poverty	
Poverty line	Poverty rate
\$2.50	43.1
\$2.02	28.7
\$1.60	16.7
\$1.25	6.7

Raw and Censored headcounts

Indicators	Raw headcount, 2010	Censored headcount, 2010	
		k = 35%	k = 45%
BMI	62.5	26.3	15.4
Health functioning	25.5	18.2	11.9
Schooling	8.8	5.2	4.3
Attendance	12.9	9.2	6.4
Cooking fuel	68.3	25.0	16.1
Sanitation	66.3	22.7	15.3
Drink water	69.7	22.5	15.2
Electricity	1.1	0.3	0.2
Housing	5.4	3.0	1.4
Assets	6.6	3.8	2.3
Total / Average		28.6	16.7

Cons. and MD poverty by household size, k=45, %

Household size	MPI poor	Cons. poor	MPI poor, Cons. non-poor	MPI non-poor, Cons. poor	Both	Population share
1	0.1	0.0	0.1	0.0	0.0	0.5
2	1.2	0.8	0.8	0.4	0.4	6.4
3	1.4	1.0	1.1	0.7	0.3	11.9
4	2.6	2.9	1.6	1.9	1.0	24.8
5	3.6	3.3	2.9	2.6	0.7	24.4
6	3.0	3.0	1.7	1.7	1.3	15.6
7 +	4.9	5.8	2.8	3.6	2.1	16.4
Total	16.8	16.7	11.0	10.9	5.7	100.0

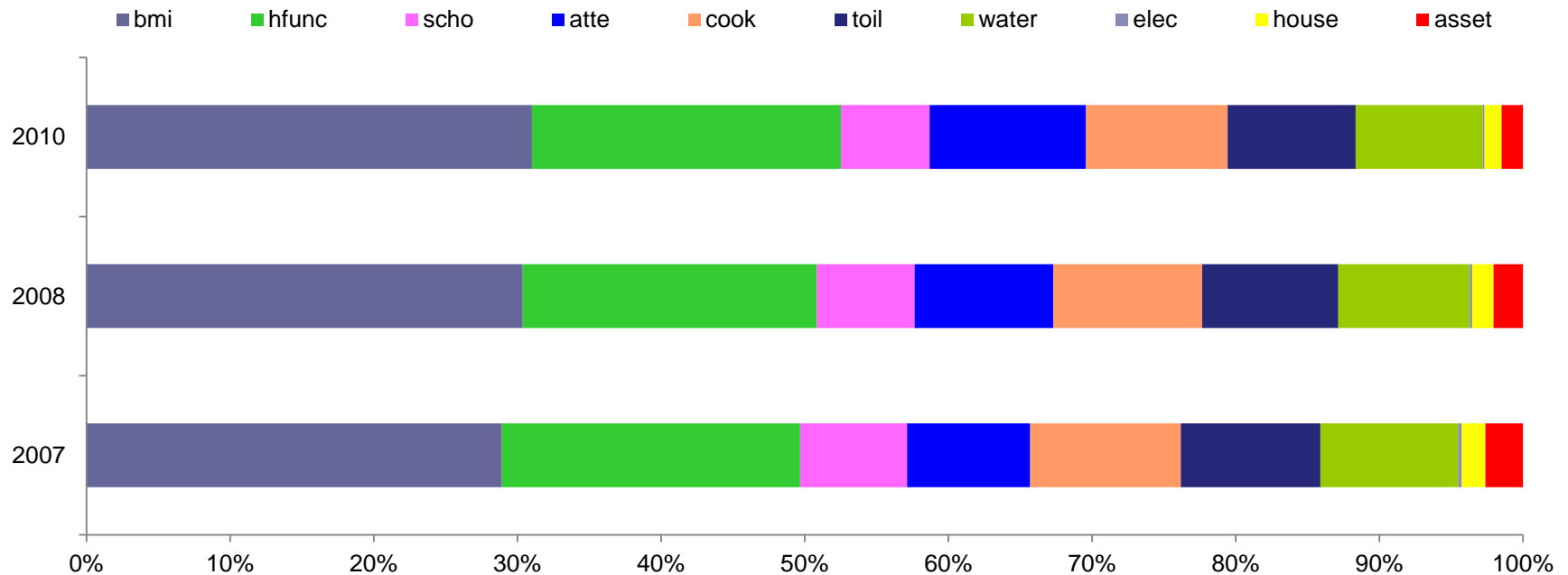
Cons. and MD poverty by cons. quintile, k=45, %

Consumption quintile	MPI poor	Cons. poor	MPI poor, Cons. non-poor	MPI non-poor, Cons. poor	Both	Population share
First (poorest)	6.4	16.7	0.7	10.9	5.7	20.1
Second	4.0	0.0	4.0	0.0	0.0	19.9
Third	2.8	0.0	2.8	0.0	0.0	20.1
Fourth	2.2	0.0	2.2	0.0	0.0	19.9
Fifth (richest)	1.3	0.0	1.3	0.0	0.0	20.0
Total	16.8	16.7	11.0	10.9	5.7	100.0

Changes in Cons. and MD poverty

		2007	2008	2010	Absolute change 2010-2007	Sig.
Cons. poverty (\$2.02)	(%)	38.1	34.0	28.7	-6.6	***
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MPI poverty (35%)	H (%)	32.6	30.1	28.6	-4	***
	A (%)	50.2	49.6	49.5	-0.7	***
	M ₀	0.164	0.149	0.141	-0.023	***
<hr/>						
Cons. poverty (\$1.60)	(%)	38.1	34.0	28.7	-9.3	***
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MPI poverty (45%)	H (%)	21.3	18.1	16.7	-4.6	***
	A (%)	55.0	54.9	54.7	-0.3	***
	M ₀	0.117	0.099	0.091	-0.026	***

Changes in composition of MPI, at $k = 35\%$



Changes in MPI by ecological zone, k=35%

	M ₀			H			A		
	2007	2010	'10-'07	2007	2010	'10-'07	2007	2010	'10-'07
Coastal	0.168	0.132	(-0.04)	33.4	26.7	(-6.7)	50.3	49.6	(-0.7)
Plain	0.162	0.132	(-0.03)	32.4	26.6	(-5.8)	50.0	49.7	(-0.3)
Mountainous	0.163	0.157	(-0.01)	32.3	31.8	(-0.5)	50.4	49.3	(-1.1)
Average	0.164	0.141	(-0.02)	32.6	28.6	(-4.0)	50.2	49.5	(-0.7)

Changes in MPI by ethnic group, $k=35\%$

	M ₀			H			A			Population share
	2007	2010	'10-'07	2007	2010	'10-'07	2007	2010	'10-'07	
Minority groups	0.245	0.230	(-0.02)	47.1	44.4	(-2.7)	52.1	51.9	(-0.2)	19.7
Kinh (majority)	0.144	0.120	(-0.02)	29.1	24.7	(-4.4)	49.5	48.4	(-1.1)	80.3
Average	0.164	0.141	(-0.02)	32.6	28.6	(-4.0)	50.2	49.5	(-0.7)	100

Comparison of Consumption and MPI changes, %

Cons. 2007 ↓	Consumption 2008				Multidimension (MPI) 2008				MPI 2007 ↓
	<1.60	1.6-2.5	2.5+	Total	≥45	33-45	≤33	Total	
<\$1.60	11.9 (51.2)	8.8 (37.6)	2.6 (11.2)	23.3 (100)	9.1 (42.7)	9.3 (43.6)	2.9 (13.7)	21.3 (100)	≥45%
\$1.6- \$2.5	5.3 (16.7)	14.5 (45.5)	12.1 (37.9)	31.9 (100)	6.8 (19.3)	16.1 (45.3)	12.6 (35.4)	35.5 (100)	33-45%
\$2.5 +	1.4 (3.1)	8.8 (19.6)	34.7 (77.3)	44.9 (100)	2.1 (4.9)	10.5 (24.4)	30.5 (70.7)	43.2 (100)	≤33%
Total	18.6	32.0	49.4	100.0	18.1	35.9	46.0	100.0	Total

Cons. 2008 ↓	Consumption 2010				Multidimension (MPI) 2010				MPI 2008 ↓
	<1.60	1.6-2.5	2.5+	Total	≥45	33-45	≥33	Total	
<\$1.60	9.7 (52.0)	5.8 (31.4)	3.1 (16.6)	18.6 (100)	6.8 (37.4)	7.4 (41.1)	3.9 (21.4)	18.1 (100)	≥45%
\$1.6- \$2.5	5.3 (16.6)	13.1 (40.8)	13.6 (42.6)	32.0 (100)	6.8 (18.9)	15.2 (42.3)	13.9 (38.9)	35.9 (100)	33-45%
\$2.5 +	1.7 (3.4)	7.9 (16.0)	39.8 (80.7)	49.4 (100)	3.1 (6.8)	9.5 (20.6)	33.4 (72.6)	46.0 (100)	≤33%
Total	16.7	26.8	56.5	100.0	16.7	32.1	51.2	100.0	Total

Changes in MPI by consumption poverty track

Cons. poverty track	M_0 (2007)	%	M_0 (2010)	%	ΔM_0 ('10-'07)		Population share
\$1.08							
Rising (PN)	0.234	(41.1)	0.210	(36.6)	-0.024	*	6.4
Falling (NP)	0.215	(34.8)	0.276	(48.2)	0.061	***	3.6
Staying (PPP)	0.183	(33.6)	0.389	(59.4)	0.206	***	0.8
\$1.25							
Rising (PN)	0.227	(40.1)	0.194	(34.2)	-0.033	***	9.2
Falling (NP)	0.209	(35.7)	0.257	(44.9)	0.048	*	4.1
Staying (PPP)	0.294	(49.8)	0.266	(42.3)	-0.028		2.3
\$1.60							
Rising (PN)	0.176	(31.8)	0.130	(24.3)	-0.046	***	14.1
Falling (NP)	0.178	(32.2)	0.130	(23.1)	-0.047	***	6.9
Staying (PPP)	0.287	(49.0)	0.271	(45.6)	-0.016	*	7.7
\$2.02							
Rising (PN)	0.120	(22.2)	0.095	(17.6)	-0.025	***	18.4
Falling (NP)	0.145	(26.7)	0.087	(16.7)	-0.058	***	8.6
Staying (PPP)	0.246	(42.2)	0.218	(37.9)	-0.027	***	17.2
\$2.50							
Rising (PN)	0.102	(19.5)	0.079	(15.3)	-0.023	***	20.7
Falling (NP)	0.108	(20.5)	0.067	(13.0)	-0.040	***	8.8
Staying (PPP)	0.212	(37.2)	0.177	(30.9)	-0.036	***	30.0

Conclusion

- **Improvement** in Monetary and Multidimensional poverty
- Monetary poor is the issue of **the poorest** of the poor
Multidimensional poor happens people of **all** income ranges
- People from the **Kinh** (majority) / **Educated** background make **much progress** than others
- There is more **fluctuation** in **MPI** poverty than in Cons. poor
- **Extreme poor**: Monetary poor and MPI poor show the same +/- changes
Moderate- & Non-poor: make progress in MPI despite +/- in monetary wealth

End of presentation

Changes in MPI of 'rising' group at \$1.6, k=45%

	Poverty incidence (H)		Intensity of poverty (A)		M_0	ΔM_0
	ΔH	Contribution to ΔM_0	ΔA	Contribution to ΔM_0	2010	2010-2007
Head's education						
None	-5.3	(78.6)	-1.4	(21.4)	0.213	-0.067
Primary	-0.5	(66.6)	-0.2	(33.4)	0.159	-0.007***
Middle	-3.0	(83.7)	-0.6	(16.3)	0.100	-0.035***
Secondary	-16.3	(95.5)	-0.8	(4.5)	0.102	-0.171***
Head's ethnicity						
Minority groups	-0.4	(100.9)	0.1	(-0.9)	0.171	-0.002
Kinh (majority)	-5.6	(86.2)	-0.9	(13.8)	0.112	-0.065***
Ecological zone						
Coastal	-0.8	(29.1)	-2.0	(70.9)	0.151	-0.028
Plain	-7.8	(102.2)	0.9	(-2.2)	0.110	-0.070
Mountainous	-1.4	(52.7)	-1.3	(47.3)	0.143	-0.027
Total	-4.1	(89.0)	-0.5	(11.0)	0.130	-0.046

Changes in censored headcounts ratios, $k=45\%$



Changes in censored headcount ratios at $k=45\%$, 2010-2007

MD & Consumption poverty by cons. quintile, %

	Neither	MPI poor, Cons. non-poor	MPI non-poor, Cons. poor	Both	Total/Average
Population share	72.3	11.0	10.9	5.7	100
Head's education (years)	7.7	5.8	5.7	3.3	7.0
Head is Kinh (%)	87.1	72.6	57.9	52.9	80.3
Ecological zone (%)					
Coastal	27.4	26.1	20.7	20.5	26.2
Plain	37.9	31.0	34.3	34.4	36.5
Mountainous	34.7	42.8	45.1	45.0	37.3