Measurements of Vulnerability to Poverty
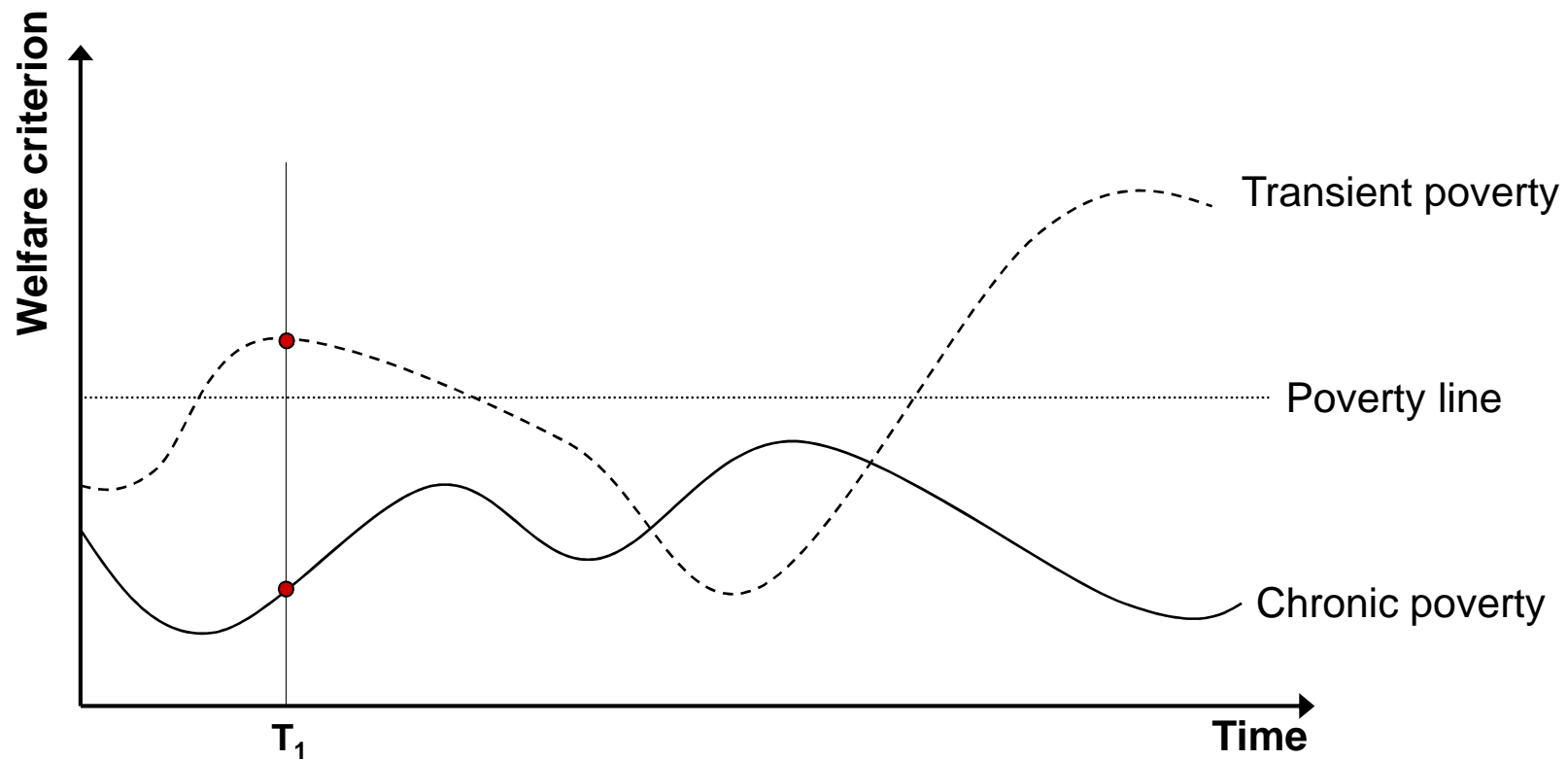
- some discussion points -

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Asia Policy Forum May 28 – 30, 2013, Jakarta, Indonesia

$$V_{h,t}^{EP} = P(c_{h,t+1} < z)$$

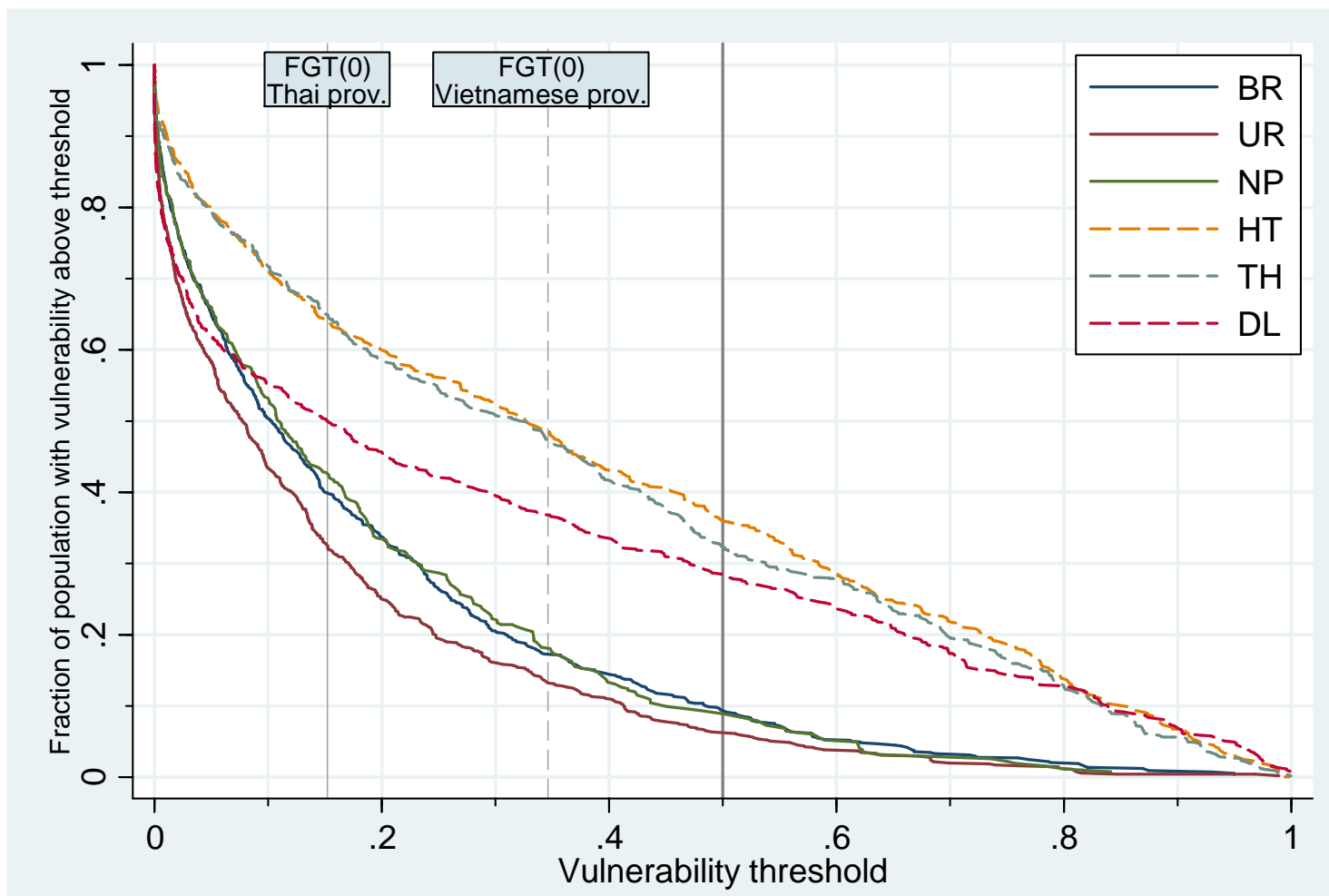V_h: vulnerability

c_h: consumption of HH

z: poverty line
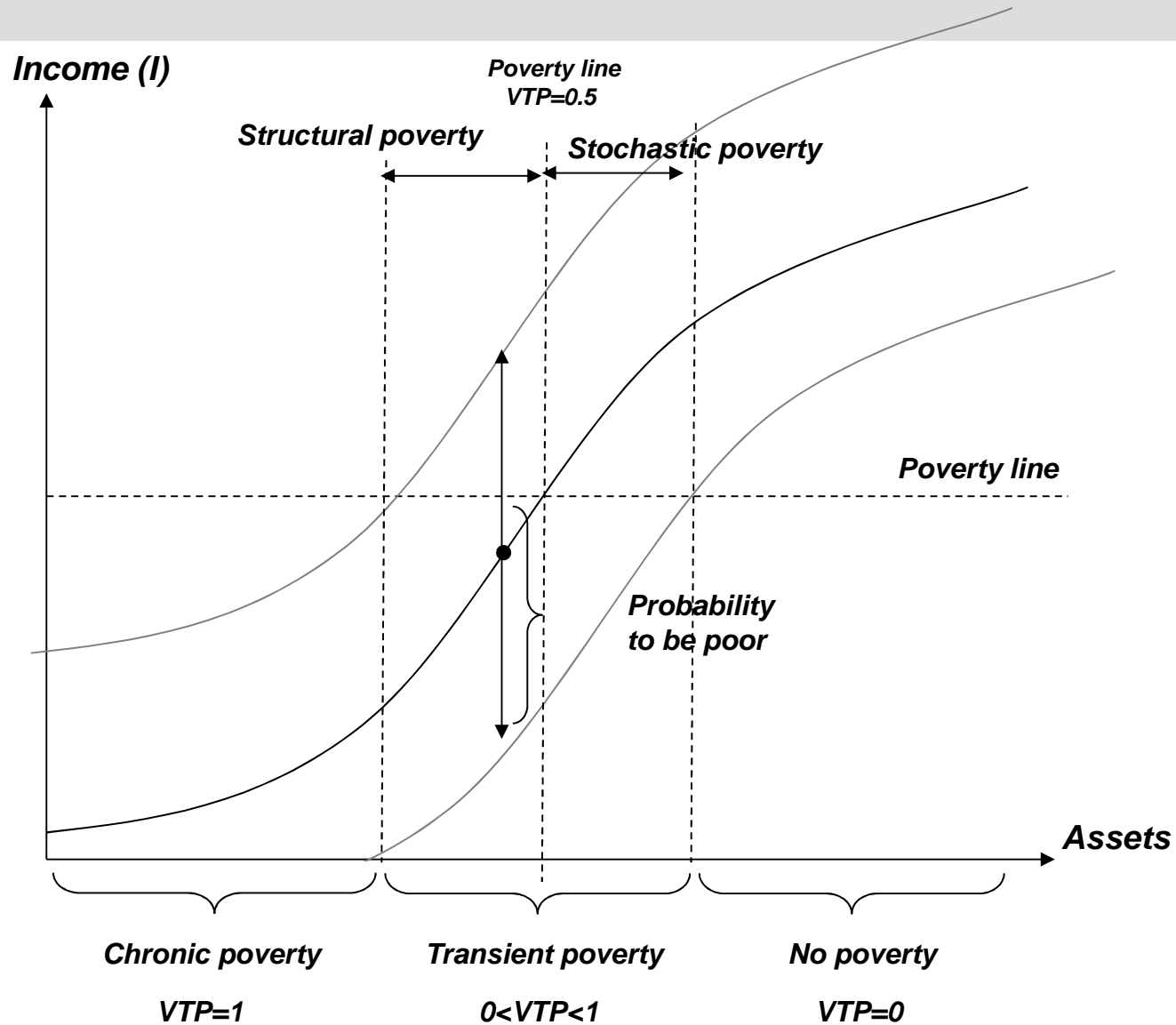
p: probability

EP: expected poverty

Example: VEP in six provinces in Thailand and Vietnam

Source: Hardeweg, Wagener and Waibel, 2013

Types of Vulnerability: „Asset-based vulnerability"

Source: Chiwaula, Witt and Waibel, 2011

Example: VEP of oil palm small holders in Jambi, Sumatra

Types of vulnerability	VEP	$ 2 PPP	$ 1.25 PPP	National poverty line ($1.15 PPP)
Structural-chronic poor	1	7.3	0	0.0
Structural-transient poor	0.5 Vep<1	23.3	1.2	0.8
Stochastic-transient poor	0<Vep<0.5	42.5	40.4	31.0
Non poor	0	26.9	58.4	68.2
Total		100	100	100
Poverty headcount		35.9	6.5	4.1

Source: Cahyadi and Waibel 2013

- Vulnerability measurement requires information on shocks and risks

- Requires the setting of a time horizon

- Definition of shocks is subjective and conditional to circumstances

- Culturally sensitive questions cannot be asked!

- Timing of interview

- Respondent – enumerator Interaction

a. What were the three major shocks that affected your household between 05/07 and 04/08?

1	2	2a	3	4	5a	5b	6a	7	8	9	10	11	12
Event ID	Type of event	HH-Member -ID */	When did the event occur?	Estimated severity of the event on your household? Interv.: Read code B 1-4	Estimated total loss of income due to the event in the reference period?	Estimated total extra expenditure due to the event in the reference period THB/1000 VND	Estimated loss of assets due to the event in the reference period?	Aside from your HH who else was affected by the event?	Coping activity to deal with the event			Did the household still have to reduce household consumptionexpen ditures because of the event?	How many months did it take to recover from the event? (number of months; if not yet)
	A		month	B 1-4	THB/1000 VND	VND	THB/1000 VND	C	D	D	D	E	
1													
2													
3													

d. Causal relationships between shocks.

21	22	23a	23b	23c
Enumerators: List Event IDs of all shocks mentioned by the household in sections 3.1.a to c	Did shock … lead to any of the other shocks you mentioned? (ask for all the shocks indicated by the household in sections 3.1.a and 3.1.c) (if "No" go to next row) E	Which of the shocks you mentioned were consequence of shock … (write down event IDs)		

| 1	2	4	3	3a	13	14	15	16
Type of event	Do you think that ... will occur in the next 5 years? If "No" go to Q13 A	How often, do you think, will ... occur in next 5 years? B	If ... occured within the next 12 months, what would be the impact on your household? income C	 assets C	Do you do anything to prevent ... from happening OR to mitigate its impact on your household's income and assets? A	What do you do to prevent ... from happening OR to mitigate its impact on your household's income and assets? (most important strategy only) do not ask if Q13=no D	Concerning ..., approximately how much does it cost you per year to prevent/mitigate? (incl. forgone income) do not ask if Q13=no do not record expenses twice THB/1000 VND	If the same measure is taken to prevent/mitigate for another type of risk and costs have been recorded there, record the code of the event type here
1 Illness of household member								
3 Household member left the household								
4 Person joined the household								
5 Money spent for ceremony in the household								
24 Accident								
38 Law suit								
6 House damage								
7 Theft								
8 Conflict with neighbours in the village								
9 Relatives/Friends stopped sending remittances								
10 Flooding of agricultural land								
11 Drought								
12 Unusually heavy Rainfall								
13 Crop pests								
14 Storage pests (including rats)								
15 Livestock Disease								
16 Landslide, Erosion								
55 Storm								
46 Was cheated								
60 Job loss (agricultural)								
61 Job loss (non-agricultural)								
18 Collapse of business								

- Data on risk attitude mostly based on experiments

- Can we ask simple questions on risk attitude in surveys?

- Requires intensive enumerator training and close survey supervision
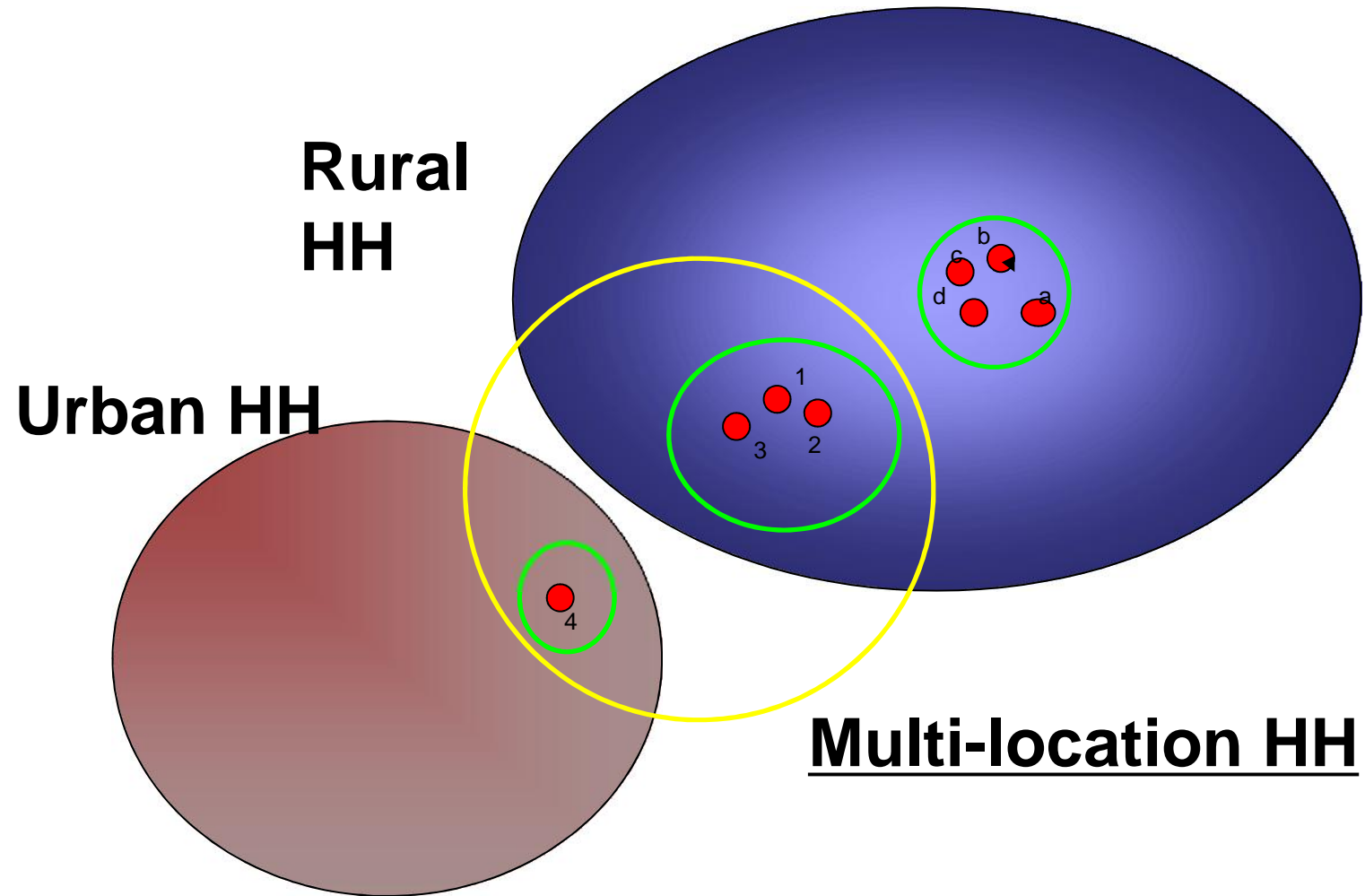
- Tendency to choose „risk neutral"
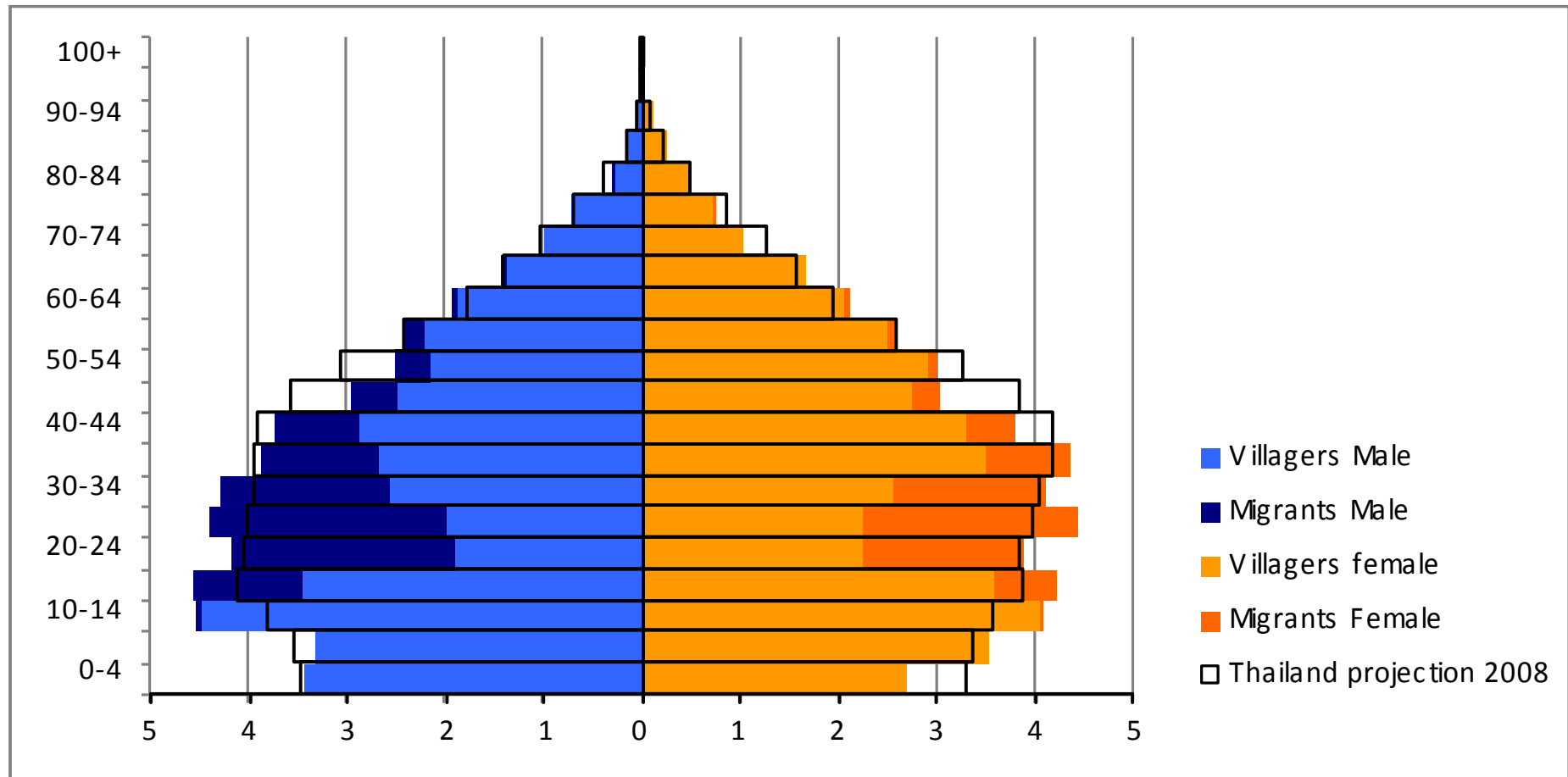
3. Risk attitudes, experiment, Thailand
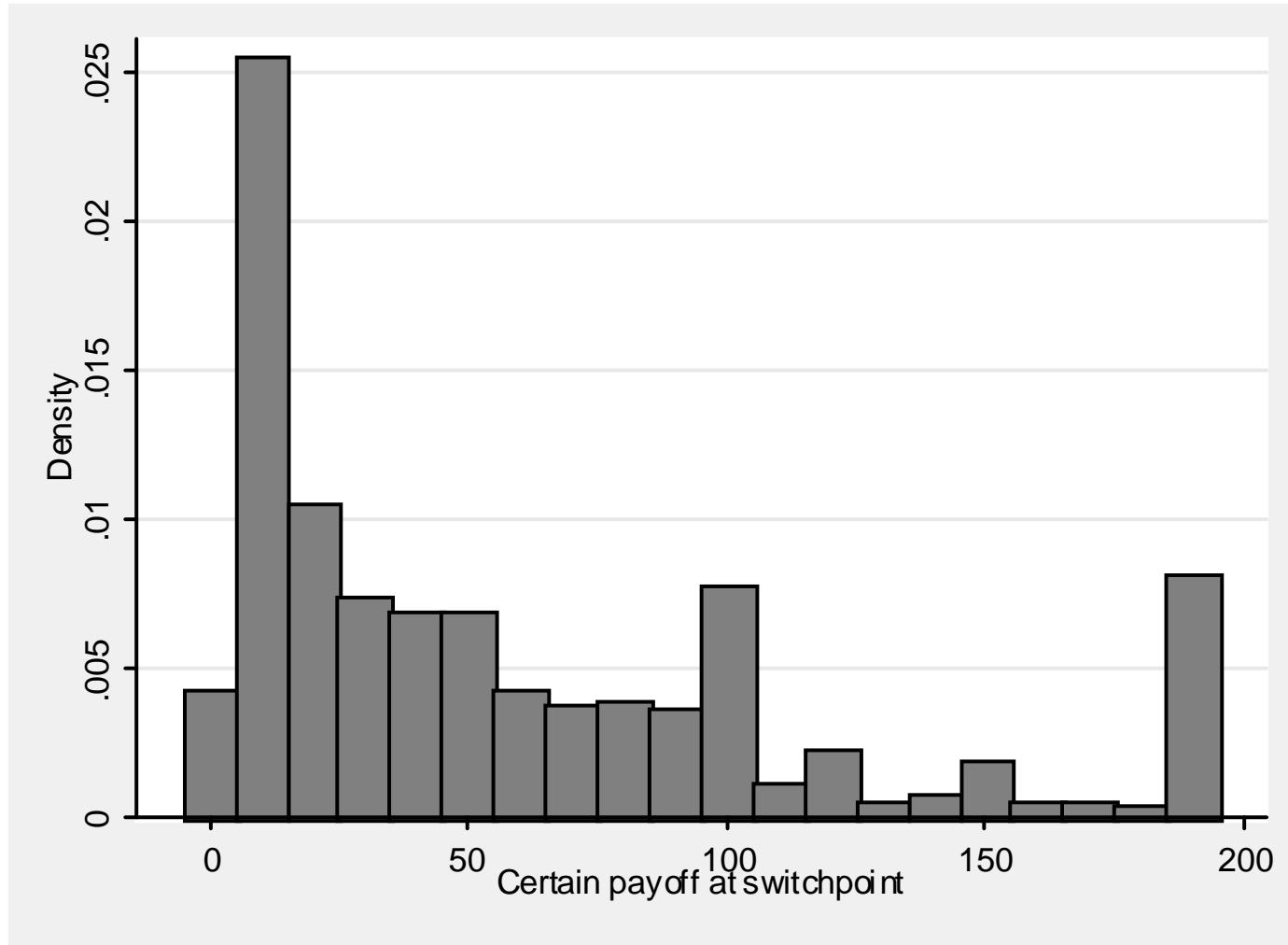
Source: Hardeweg, Menkhoff and Waibel, 2013
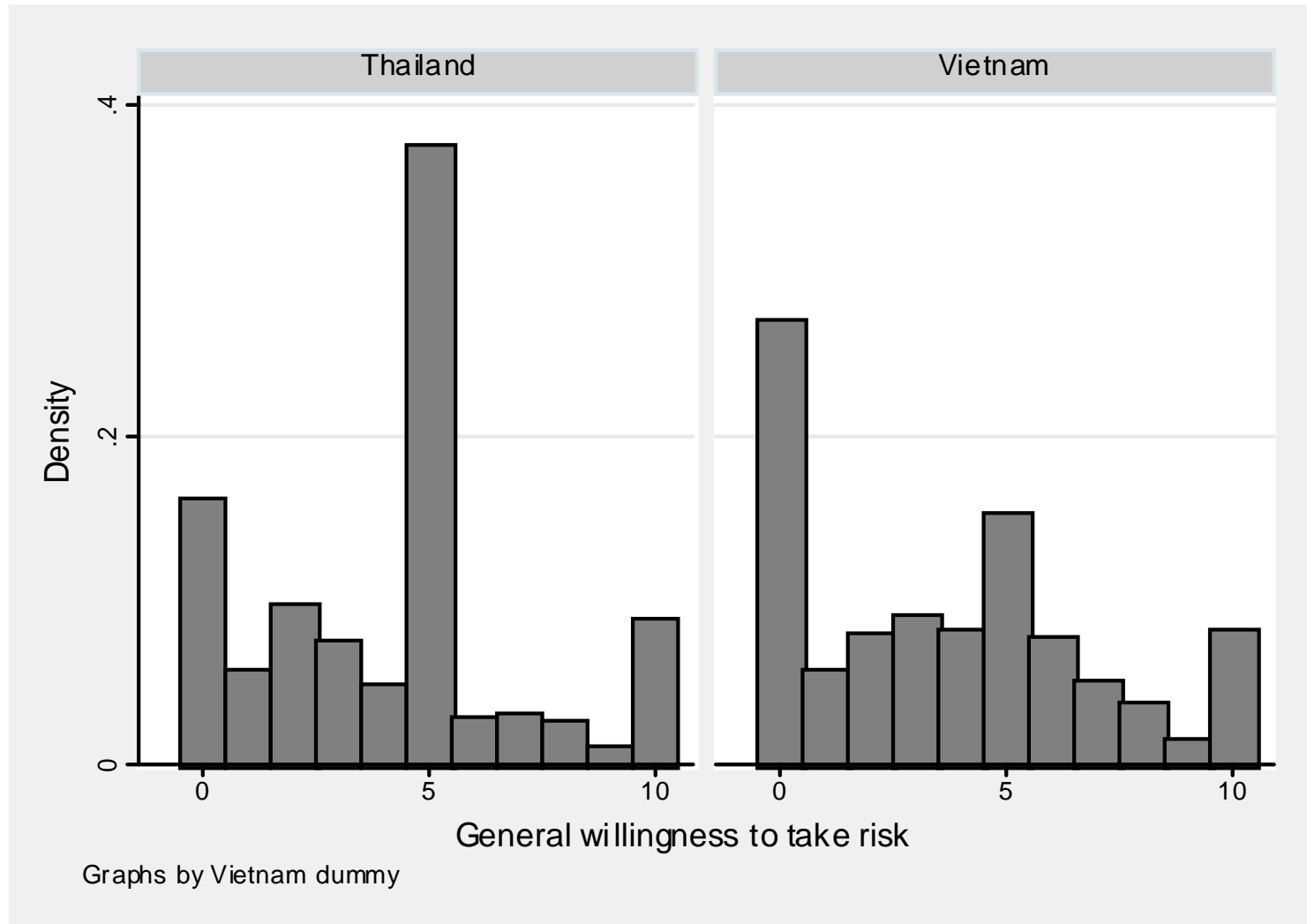
Graphs by Vietnam dummy

Rural HH

Urban HH

Multi-location HH

Sources: Hardeweg, Klasen and Waibel 2012.

- **Coverage error**

- **Non- response error**

- **Measurement errors**

  - ➤ Coverage error: occurs when the list from which the sample is selected does not cover the right targeted population

  - ➤ Non-response error: results from failure to obtain observations from some sample units or some items

  - ➤ Measurement errors: that occurs when the data obtained are not correct or different from actual values of the sample units

5. Non sampling error: model results

	All sections	Sensitive Questions
Log of interview duration (minute)	15.040***	-0.034
Interview in morning (dummy)	-8.331***	-2.948***
Interviewed in the afternoon (dummy)	-6.567***	-2.431***
Harvested time (dummy)	3.569***	-0.040
Sex of interviewer (dummy)	-4.560***	-1.863***
Age of interviewer (year)	-2.052***	-0.765***
Square age of interviewer	0.033***	0.009***
Local interviewers (dummy)	-3.446***	-0.661**
Sex of respondent (dummy)	2.037*	0.752**
Ethnicity of respondent (dummy)	-3.755***	-2.317***

Source: Tung Phun et al 2013

5. Non sampling errror: model results

	All sections	Sensitive Questions
Age of respondent (year)	0.809***	0.040
Square age of respondent	-0.008***	-0.001
Respondent education	1.417***	-0.023
Square respondent education	-0.078***	-0.005
Respondent is household head	-3.704***	-0.514*
Interaction of gender	-1.057	-1.030***
Number of observation	8223	8223
Adjusted R2	0.637	0.219

Source: Tung Phung et al 2013