Research on Poverty in Transition Economies: A Meta-analysis on Changes in the Determinants of Poverty

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- Poverty
  - Major issue in development economics; Rarely discussed on socialist states（Braithwaite, 1995）.

- No discussion on poverty in socialist countries:
  - Lack of data;
  - Income re-distribution
  - Social Security；
 - Houses provided by the government or enterprises.

1. The issues to be discussed

- Problems of poverty are seen everywhere;
  - Is that a problem which is connected with economic transition?
  - What kind of factors were discussed as determinants of poverty in transition economies?
  - How they differ from the ones in other regions, or they didn't differ?
  - Is there any difference among transition countries?

2. Poverty in Transition economies
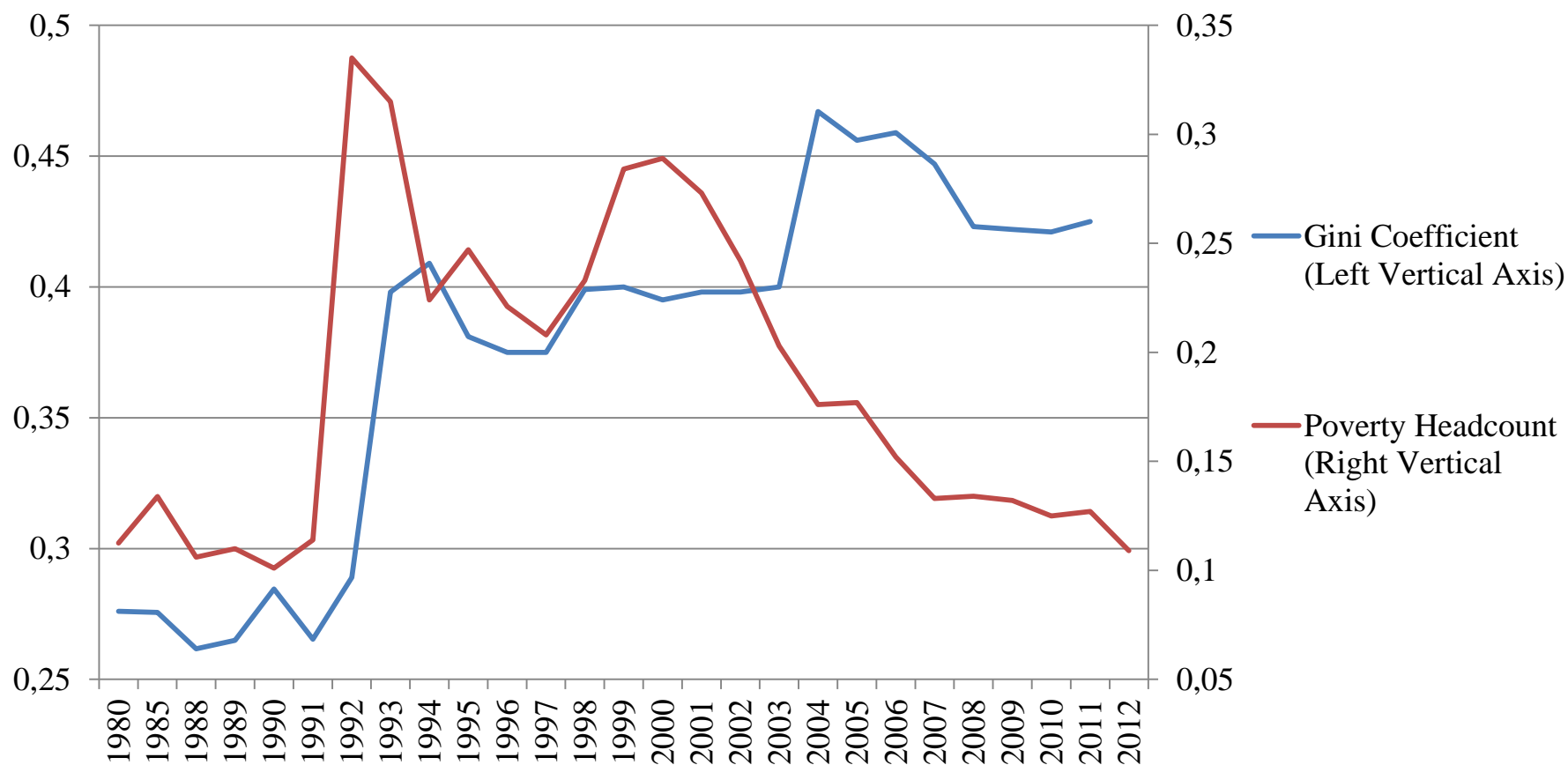
- Sudden poverty (Ruminska-Zemny, 1997)

    - An example: Russia
        - Households below the poverty line:
            - In 1991, 11.4%;
            - In 1993, 31.5%.
        - Gini coefficient increased: from 0.265 in 1991 to 0.398 in 1993.

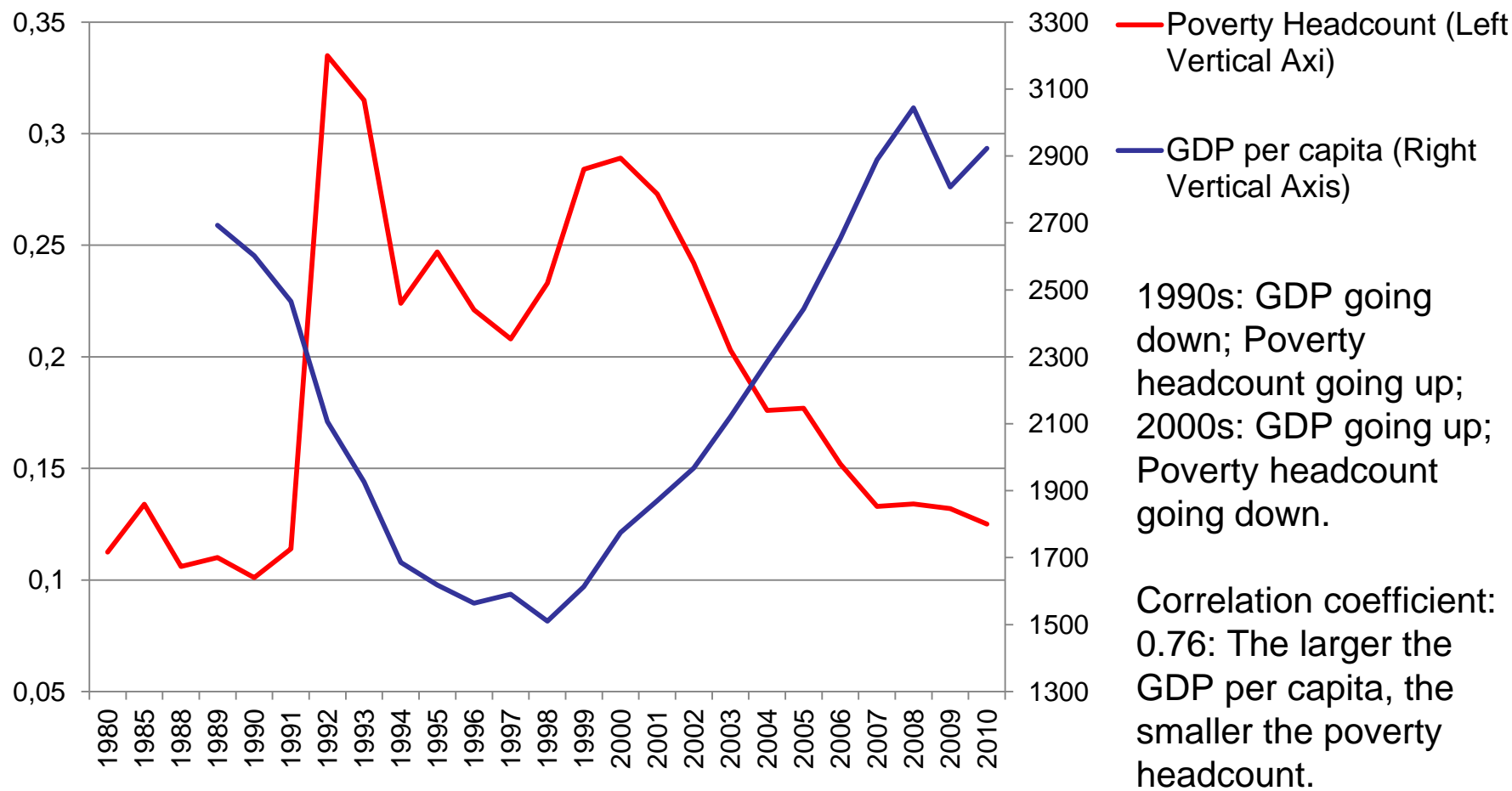# Sudden poverty following economic transition
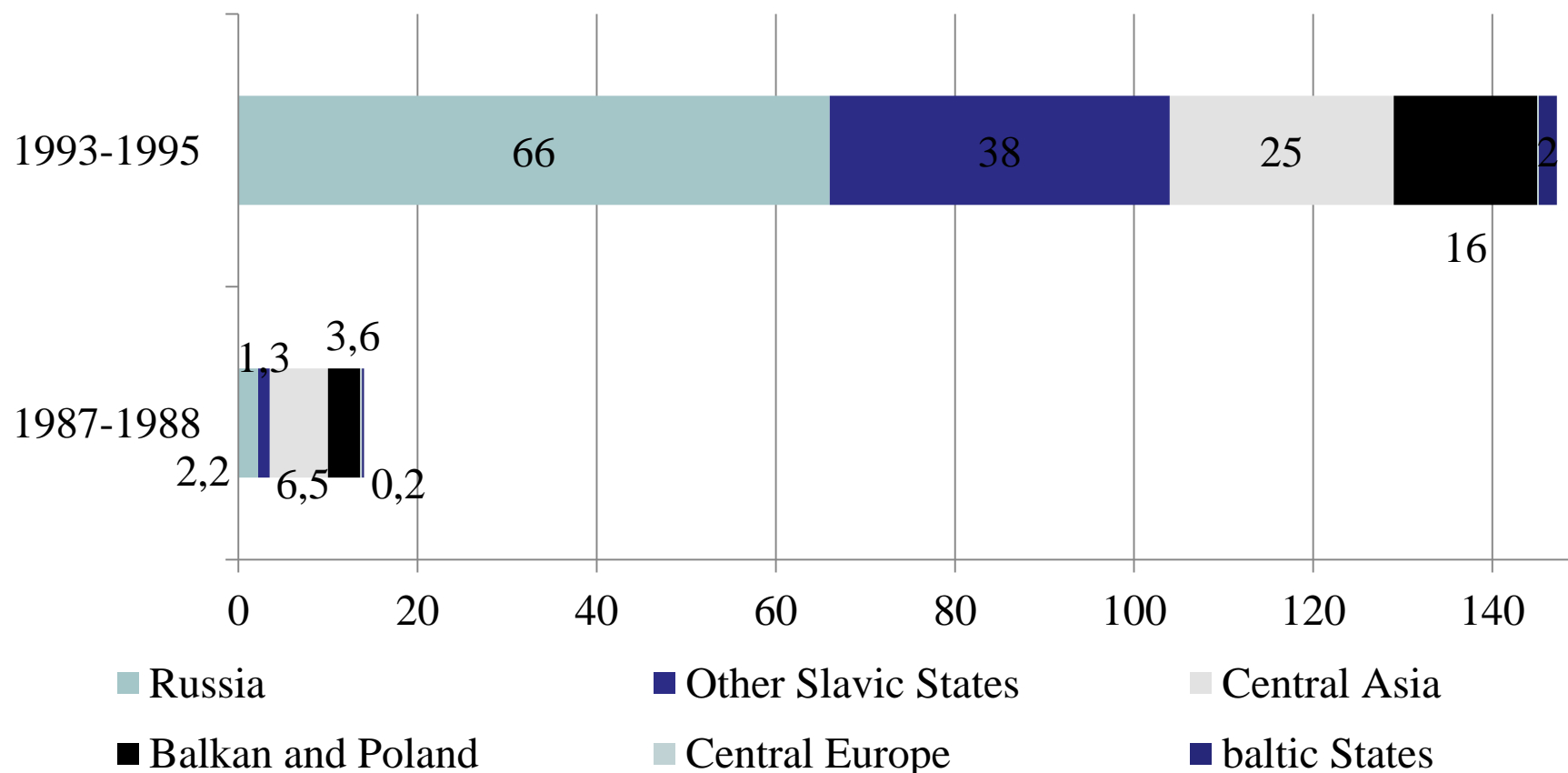
Source: Prepared by the author by Milanovic (1997), in million.

Poverty Headcount and Gini Coefficients of Income in Russia, 1980-2011.

Poverty Headcount and GDP per capita in Russia, 1989-2010.

Poverty Headcount (Left Vertical Axi)

GDP per capita (Right Vertical Axis)

1990s: GDP going down; Poverty headcount going up; 2000s: GDP going up; Poverty headcount going down.

Correlation coefficient: 0.76: The larger the GDP per capita, the smaller the poverty headcount.

2. Poverty in Transition economies

- Difference among transitional states;
- Difference from time to time.

  – Former Soviet Union (FSU) vs. Central and East Europe (CEE) :
    - FSU: 30.1%; CEE: 19.2%
  – 1990s vs. 2000s:
    - 1990s – FSU 46.7%; CEE 21.6%;
    - 2000s – FSU 27.4%; CEE 18.6%.

Table 1. Poverty headcount: Former Soviet States.

Table 1. Poverty Headcount. Poverty lines were defined by each country.

Year	Armenia	Azerbaijan	Georgea	Kazakhstan	Tajikistan	Turkmenstan	Kyrgiz	Belorus	Moldova	Ukraine	Russia
1993											
1994											30.9
1995		68.1									
1996				34.6				38.6			
1997								32.1			
1998								33			31.4
1999	55.5				96			46.7			
2000								41.9		31.5	
2001	48.3	49.6		46.7				28.9			
2002			52.1	44.5				30.5		28.1	19.6
2003			54.5	37.5	72.4			27.1	29	19.3	17.4
2004				33.9				17.8	26.5	14.7	14.1
2005				31.6				12.7	29	8.4	11.9
2006				18.2			61	11.1	30.2	6.8	11.1
2007			23.4	12.7	53.5		54.6	7.7	25.8	4.6	
2008	27.6	15.8	22.7	12.1			31.7	6.1	26.4	2.9	
2009	34.1		24.7	8.2	46.7		31.7	5.4	26.3		
2010	35.8							33.7	21.9		

Table 1. Poverty headcount (cont'): East Europe and Asia.

Year	Hungary	Poland	Croatia	Latvia	Romania	Serbia	Macedonia	Bosnia	Kosovo	Arbania	China	Viet Nam
1993	14.5	23.8										58.1
1994					21.5							
1995					25.4							
1996		14.6									6	
1997	17.3											
1998											4.6	37.4
1999		14.3										
2000		14.8			35.9							
2001		15.6			30.6							
2002		16.6	11.2	7.5	28.9	14	19.1			25.4		28.9
2003					25.1		19.2		37.7			
2004		19	11.1	5.9	18.8	14.6	18.5	17.7	43.7		2.8	19.5
2005		18			15.1		20.4		34.8	18.5		
2006		15.1			13.8	9	19		45.1			16
2007		14.6				6.6		14				
2008		10.6				6.1				12.4		14.5
2009						6.9			34.5			
2010						9.2						

2. Poverty in Transition economies

- Sudden poverty from the beginning of economic transition in 1989-1992 (Ruminska-Zimny, 1997);

- Widespread poverty in urban areas in 1990s (Gerry, Nivorozhkin and Rigg, 2008);

- Shrinking poverty in urban areas in 2000s (Ravallion, Chen and Sangraula, 2007).

- 1990s: Increasing poverty headcount; Stably high poverty headcount;

- 2000s: Decreasing trends in poverty headcount.

3. Determination of the Literature to be Surveyed: Literature Search Procedures

- Econlit;

- Papers published during the period of January 1989 – October 2013;

- "poverty or poor" and "transition economies or Eastern Europe or Central Europe"; "poverty" and "(the name of individual countries)".

3. Determination of the Literature to be Surveyed: Literature Search Procedures

- Commentary on already-published papers or correspondences, book reviews were excluded;

- Chapters in books and discussion papers were excluded;

- Papers written in English only;

- 825 papers remain. Selecting papers to be utilized in meta-analysis from these.

The Number of Papers by Target Country,
by Keyword Searches Using "Poverty + <Specific Country Name>"
(1,463 in total, though some were overlapped. 1,320 if without overlapping)
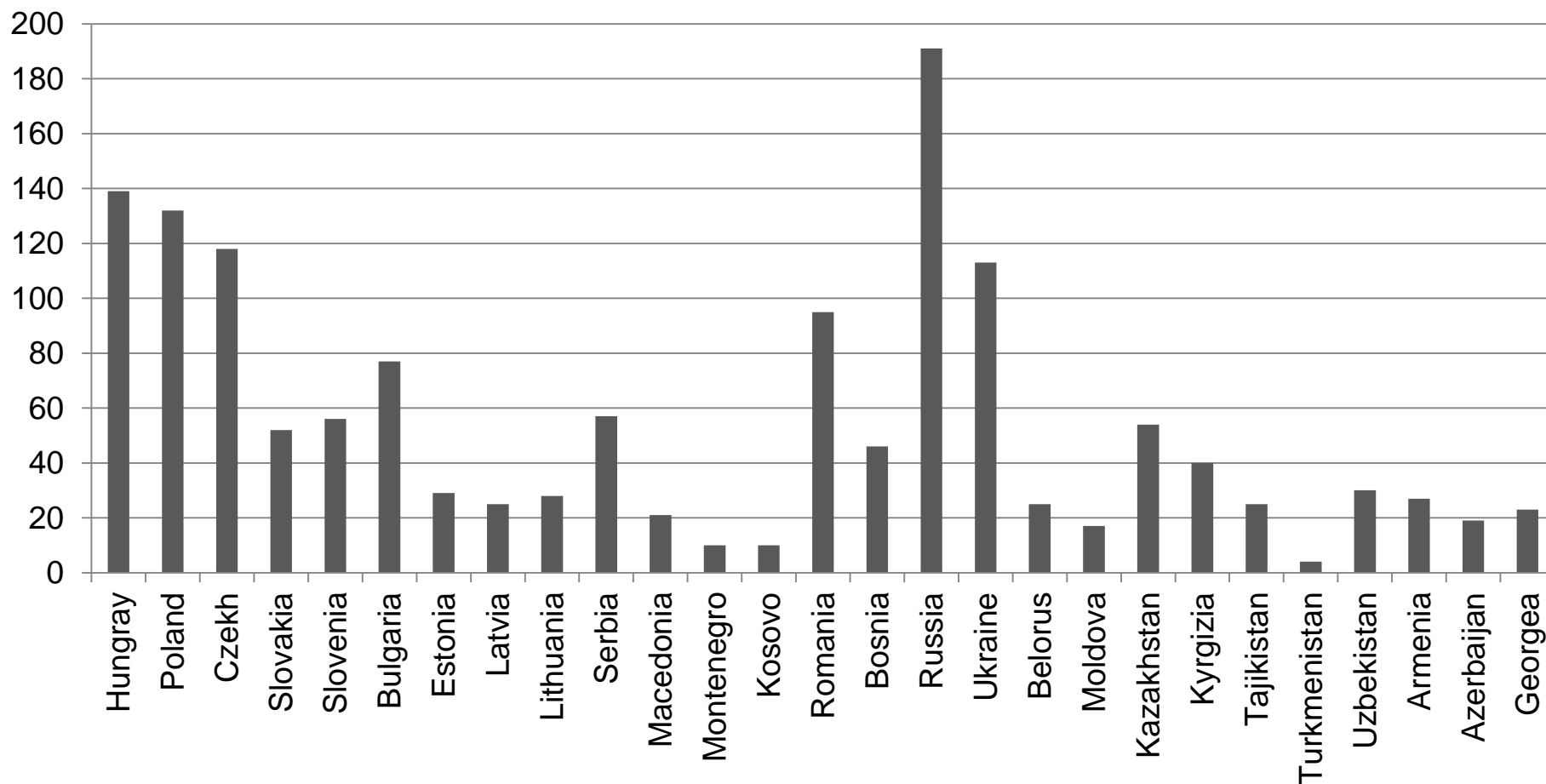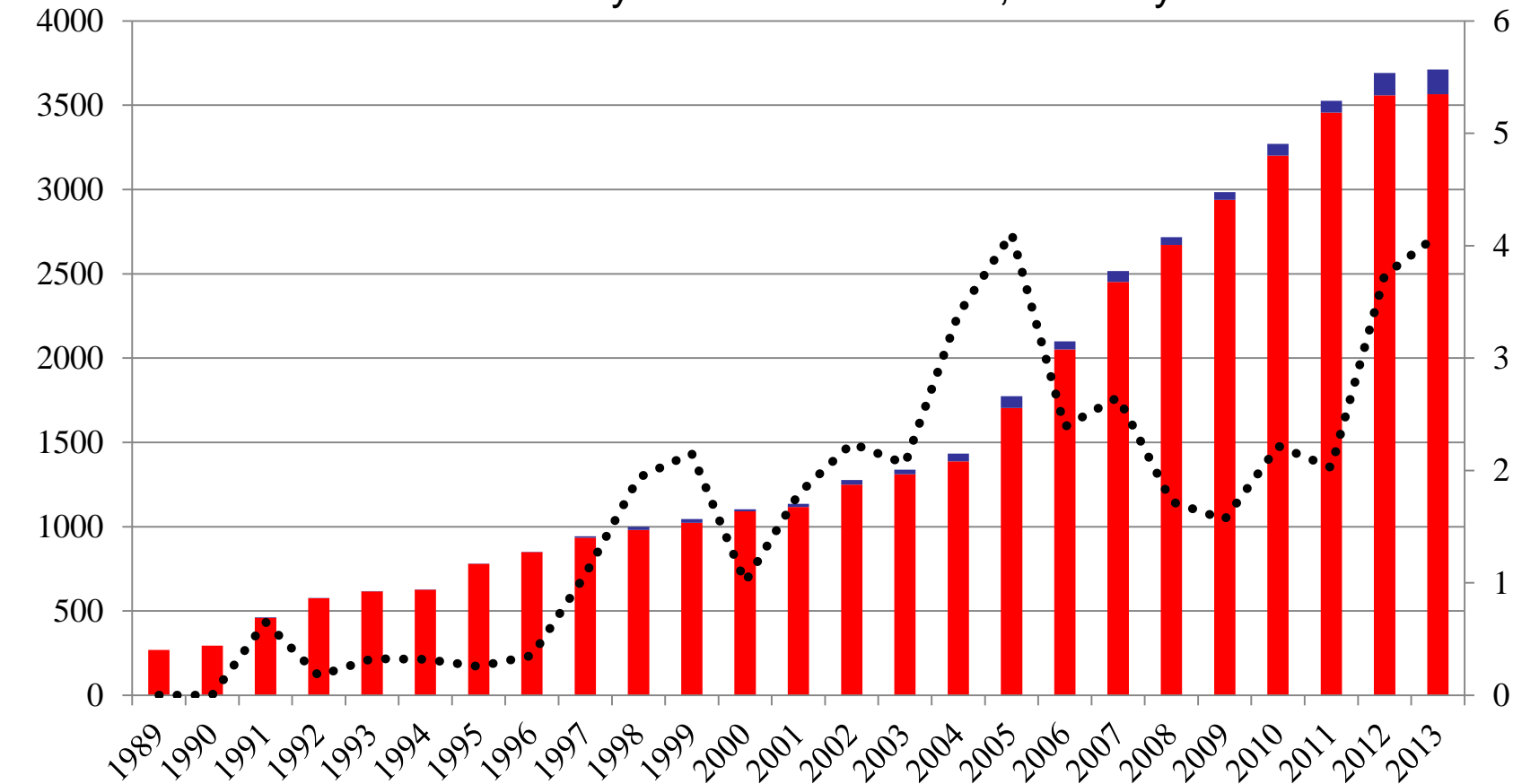
3. Determination of the Literature to be Surveyed: Literature Search Procedures

- Continuously increasing trends in the number of studies on poverty in transition economies;

- No studies were found in 1989 and 1990. Accumulation of household survey results might be required.

- The number of journals might have been increasing;

- Poverty studies in general became widespread in 2000s. Poverty studies in transition economies may simply follow this general trends.

The Number of Research Article on Poverty, targeting Transition Countries and Published in Academic Journals, January 1998-October 2013.
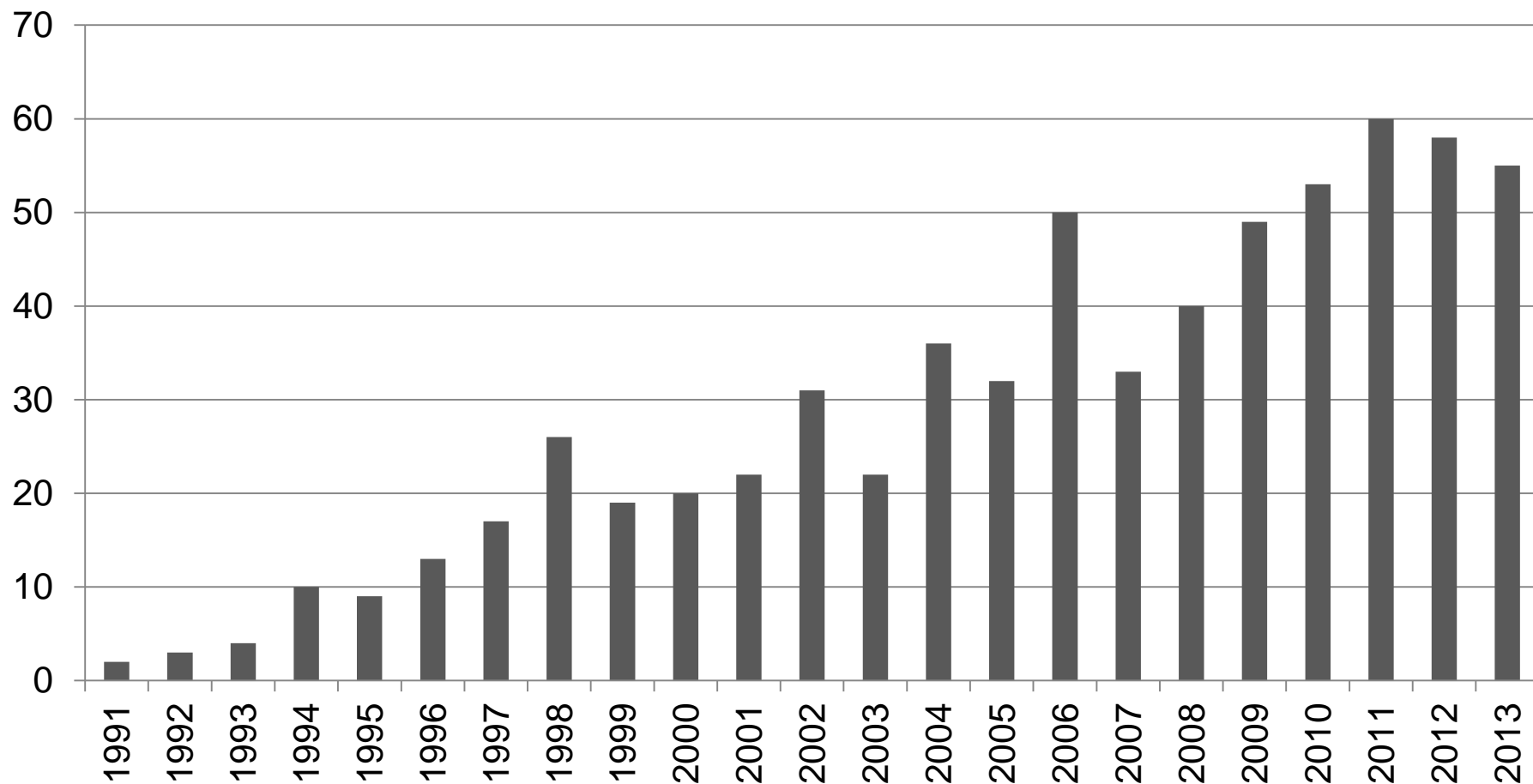
The Number of (1) Poverty Studies in General in Academic Journals, (2) Poverty Studies on Transitional Countries in Journals, and (3) The Ratio of Poverty Studies in Transitional Countries to Poverty Studies in General, January 1989 – October 2013.


Poverty Studies on Transitional Countries (Left Vercial Axis)

All Poverty Studies (Left Vertical Axis)

Percentage Share of Poversy studies on Tnransition Countries in Poverty Studies in General (Right Vertical Axis)

The Number of (1) Studies on Transition Economies in General in Academic Journals, (2) Poverty Studies on Transitional Countries in Journals, and (3) The Ratio of Poverty Studies in Transitional Countries to Studies on Transition Economies in General, January 1989 – October 2013.

■ Poverty Studies on Transition Countries (Left Vertical Axis)

■ Studies on Transition Economies in General (Left Vertical Axis)

•••• Ratio of Poverty Studies on Transition Countries to Studies on Transition Economies in General (Right Vertical Axis)
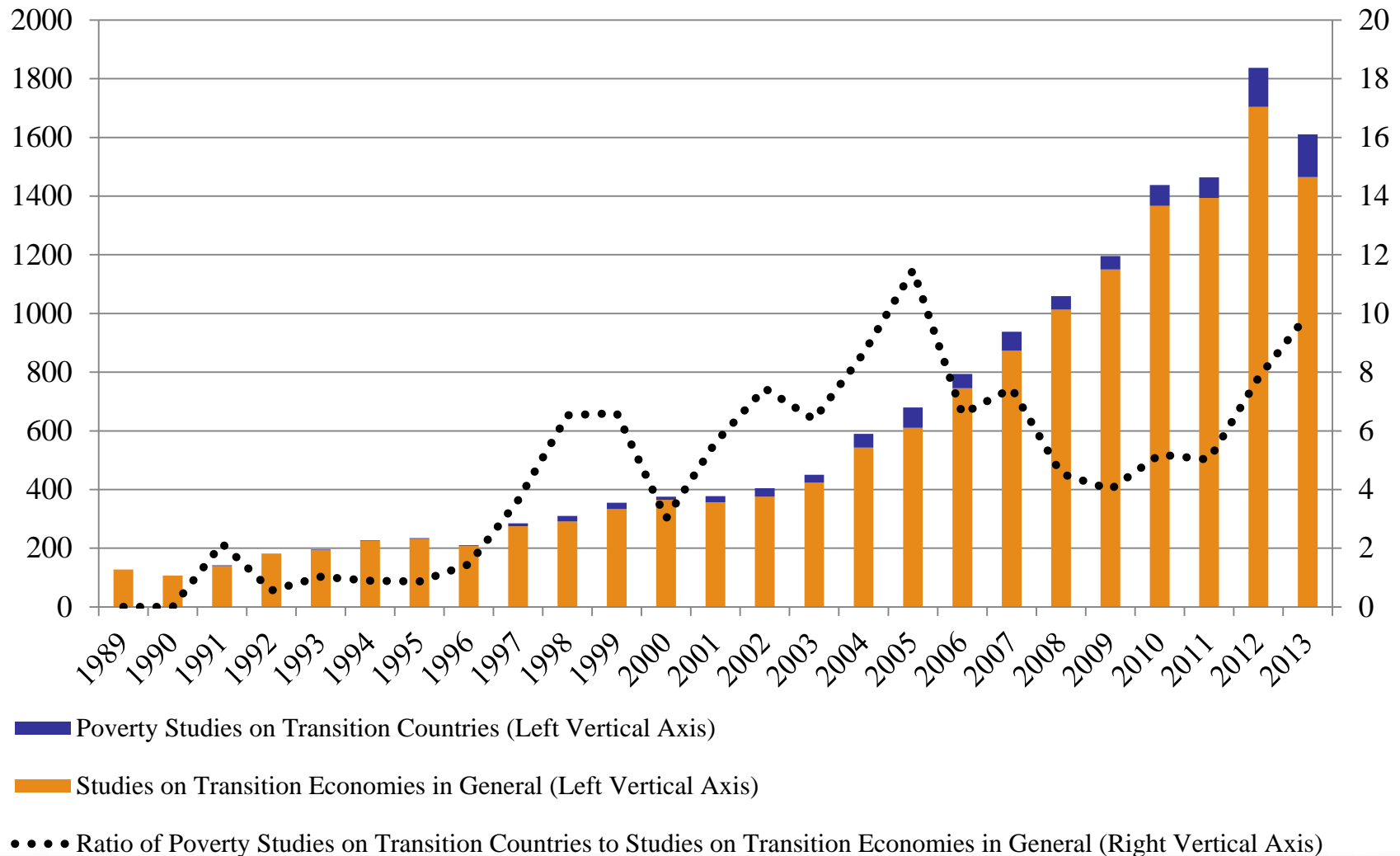
3. Determination of the Literature to be Surveyed: Literature Search Procedures

- China and Viet Nam are excluded;
- Neither of these countries experienced transitional shock/transitional economic deterioration;
- The factors determining poverty may differ in these countries from the ones in European transition economies;
- Found 1993 literatures by keywords search by "China /and/ poverty". Studies on poverty in China must be overrepresented if they would be included.

GDP per capita in Transitional Economies. (1989=100)
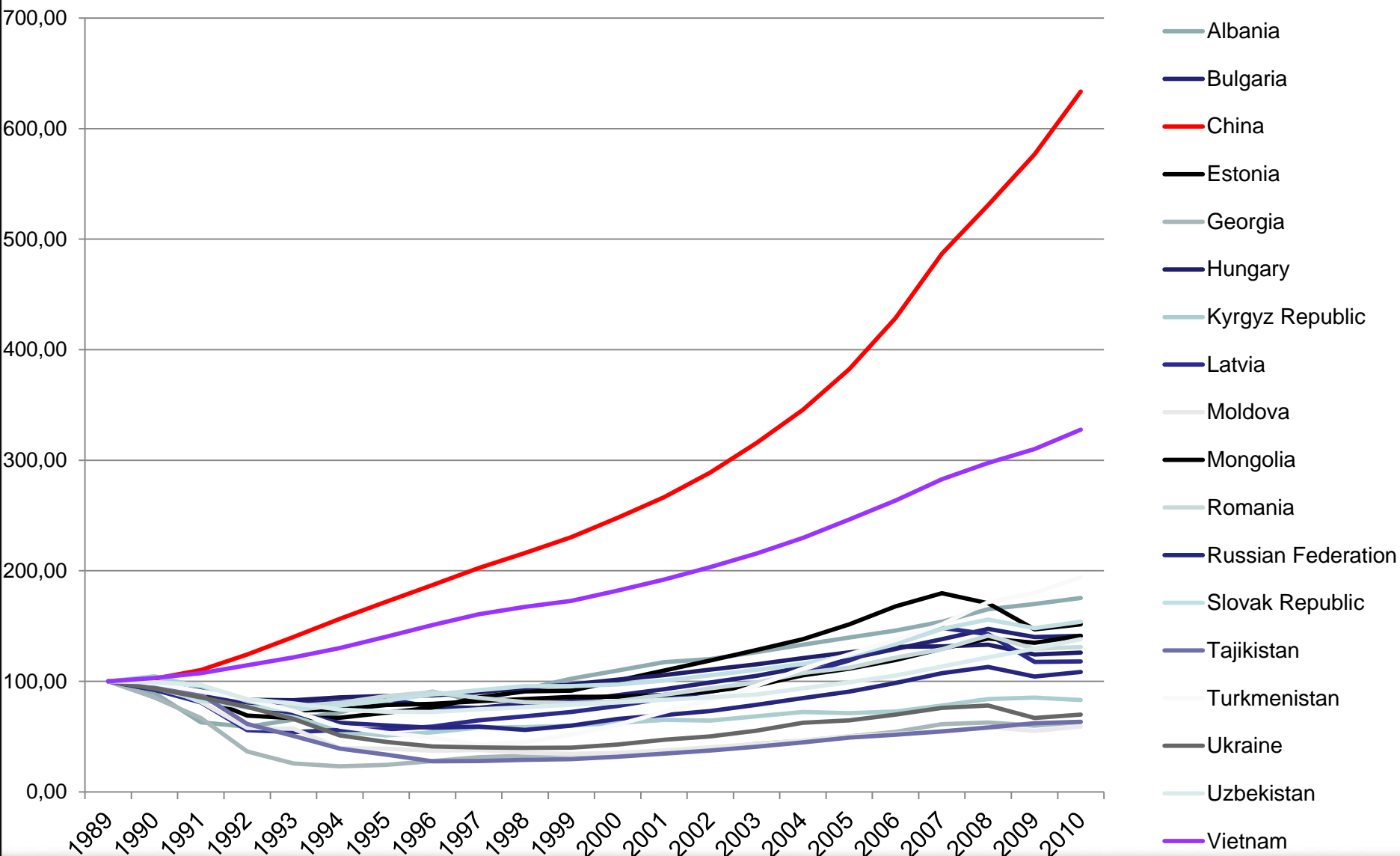
3. Determination of the Literature to be Surveyed: Literature Search Procedures

- Extracted results of analysis from 15 papers;

- Fewer than 3% (2.74%) of total number of the papers obtained (547);

- Many policy reviews, non-poverty studies;

- Another problem: the very limited number of quantitative studies on poverty in the target regions.

3. Determination of the Literature to be Surveyed: Literature Search Procedures

Evaluation on poverty studies in Russia by Lokshin (2009):

Journal Articles in the US in 1965 v.s. Russian Journal Articles in Russia, 1992-2006		
	US, 1965	Russia, 1992-2006
Parameter Estimation	100%	75%
Report of Standard Errors	53%	8%
Regression Analysis	48%	12%

Lokshin (2009), Table 3.

4. Meta-analysis of Poverty Research in Transition Countries

- Combining partial correlation coefficients and integrating t-values. The values to be examined will be selected by testing homogeneity (Borenstein, Hedges, Higgins and Rothstein, 2009);

- Weighted t-value by journal ranking/impact factors and unweighted t-values;

- Reliability of integrated t-values will be confirmed by calculating the failsafe numbers (Mullen, 1989) at 5% significance level;

- Examination of publication biases (Mullen, 1989) – Funnel plots, confirming the existence of real effects by meta- regression estimation.

4. Meta-analysis of Poverty Research in Transition Countries

- Difficulties in grasping poverty dynamics by "transition al factors";

- Examination on economic policy or path-dependency or other macro-economic issues may be possible by transition index by EBRD or other indicators;

- However, for example, privatization of houses was introduced at once to all the households in Russia: the event which occurred equally to all the household cannot be an explaining variable in determining poverty situation at the individual household level.

4. Meta-analysis of Poverty Research in Transition Countries

- All the utilized explaining variables were the same with poverty studies in general:
  - Education attainment of the leading breadwinner;
  - Sex of the breadwinner;
  - Location of the household – urban or rural;
  - The number of children;
  - The number of pensioners;
  - The economic sector where the breadwinner is working;
  - Ethnic group, etc.

  - No "transitional factors" were introduced.

4. Meta-analysis of Poverty Research in Transition Countries

- Russia Longitudinal Monitoring Survey (RLMS) can identify the owner of the company in which the breadwinner works, but no studies utilized such variables;

- How the situation changed accompanied by the progress in economic transition:
  - Poverty in 1990s and poverty in 2000s may differ;
- How the situation differ among regions:
  - Poverty in FSU and poverty in CEE may differ.

4. Meta-analysis of Poverty Research in Transition Countries

- Focusing on the difference in the followings and combine the results by each group:
  - 1990s vs. 2000s;
  - Former Soviet Union vs. Central and East European Countries;

- Explained variables: probability of becoming poor (studies which defined a poverty line and the dependent variable was zero/unity).

4. Meta-analysis of Poverty Research in Transition Countries

- Combining all the studies:
  - Higher educational attainment decreased probability of becoming poor;
  - Larger number of household members increases the risk to be poor;
  - Rural location increases probability of becoming poor.
    - …Generally accepted results.

- What should be noted are the results obtained from combining the studies by subset (1990s/2000s, FSU/CEE).

Meta-Analysis of Estimation Results:
Explained Variables – Risk of Poverty/Poverty Ratio

	The Number of Estimation Results to be Utilized in Meta-Analysis	Combined Partial Correlation			Integrated T-value			Failsafe Number
		Fixed Effect	Random Efect	Test for Homogeneity	Weighted T	Unweighted T	Median	(Rosental's Method)
All the Studies								
Household Size	56	0.11*** (105.70)	0.067** (2.46)	809.57***	30.17***	4.63***	1.98	19455
Higher Education	46	-0.05*** (49.31)	-0.069*** (8.38)	2152.08***	-42.48***	-6.21***	-3.37	30623
Rural Residence	43	0.044*** (44.63)	0.025*** (3.15)	1924.09***	28.33***	4.17***	1.98	17702

Meta-Analysis of Estimation Results:
Explained Variables – Risk of Poverty/Poverty Ratio

1990s v.s. 2000s.

The Number of Estimation Results to be Utilized in Meta-Analysis	Combined Partial Correlation			Integrated T-value			Failsafe Number
	Fixed Effect	Random Efect	Test for Homogeneity	Weighted T	Unweighted T	Median	(Rosental's Method)
1900s vs. 2000s							
1990s							
Household Size 26	0.017*** (10.72)	0.036*** (6.82)	211.96***	14.69***	2.05*	1.98	2204
Higher Education 26	-0.018*** (11.45)	-0.051*** (7.38)	297.92***	-16.9***	-2.36**	-1.98	2705
Rural Residence 24	0.011** (6.34)	**0.01 (0.013)**	57.93***	5.79***	**0.8**	1.98	695
2000s							
Household Size 30	0.06*** (42.60)	0.064*** (11.98)	217.94***	59.56***	10.16***	2.85	9398
Higher Education 20	-0.088*** (56.64)	-0.093*** (7.55)	934.11***	-45.11***	-7.06***	-5.64	15021
Rural Residence 19	0.076*** (53.62)	0.043*** (3.77)	1044.69***	36.1***	5.79**	4.28	9133

Meta-Analysis of Estimation Results:
Explained Variables – Risk of Poverty/Poverty Ratio
FSU v.s. CEE

	The Number of Estimation Results to be Utilized in Meta-Analysis	Combined Partial Correlation			Integrated T-value			Failsafe Number (Rosental's Method)
		Fixed Effect	Random Efect	Test for Homogeneity	Weighted T	Unweighted T	Median	
Soviet Union vs. Central and East Europe.								
Soviet Union								
Household Size	31	0.073*** (42.54)	0.069*** (14.49)	131.53***	58.18***	8.98***	2.85	9621
Higher Education	25	-0.063*** (35.97)	-0.078*** (12.88)	183.19***	-29.6***	-4.36***	-4.03	8070
Rural Residence	22	0.063*** (40.56)	0.035*** (3.08)	790.30***	23.60***	3.53***	1.75	4505
Central and East Europe								
Household Size	25	0.020*** (14.47)	0.03*** (6.14)	202.07***	15.44**	2.36**	1.98	2177
Higher Education	21	-0.050*** (34.15)	-0.059*** (3.94)	1898.29***	-30.57***	-4.43***	-1.98	7158
Rural Residence	21	0.03*** (23.31)	**0.015** **(1.43)**	909.20***	5.94***	**0.86**	1.98	252

4. Meta-analysis of Poverty Research in Transition Countries

- Combined/integrated by 1990s/2000s, FSU/CEE

- 1990s/2000s
  – In 1990s, rural location did not increase the probability of becoming poor (urbanization of poverty);
  – In 2000s, rural location increased the risk of being poor.

- FSU/CEE
  – Rural location does not increase the risk of being poor in CEE;
  – This is not a result by sample biases. In examining the effect of rural location on poverty in 1990s, the number of sample was 24. Among them 10 were studies conducted on FSU.

4. Meta-analysis of Poverty Research in Transition Countries

- In 1990s the risk of becoming poor did not differ between rural and urban areas.

- Probability of being poor in rural areas is higher in FSU than in CEE.

- The situation changed in 2000s. "Ruralization of poverty" (Gerry, Nivorozhkin and Rigg, 2008).

- It may indicate the stabilization of economic turmoil accompanied by system transition.

4. Meta-analysis of Poverty Research in Transition Countries

- Tests on publication biases and the existence of real effects:
  - Funnel plot;
  - Meta-regression analyses.

- Funnel plot and meta-regression analysis for 3 explaining variables (household size; educational attainment; urban location).

4. Meta-analysis of Poverty Research in Transition Countries

- In all the subsets, publication biases were detected. However,

- Real effects exist in all the subsets.

  – Household size, educational attainment and urban residence definitely affect probability of being poor in transition economies.

Concluding remarks

- With regard to poverty research in the countries that formerly comprised the Soviet Union and countries in Central and Eastern Europe, this paper has verified the results of empirical research on the factors that determine the poverty situation of households by combining them using a basic meta-analytical approach.

- Studies on poverty in target regions started soon after the beginning of economic transition.

- The situation may differ between FSU and CEE, and there seemed to be different situation between 1990s and 2000s.

Concluding remarks

- In 1990s urban/rural location did not matter in determining poverty. In 2000s urban location significantly decreases the risk of becoming poor.

- It was confirmed that the determinants of poverty differ between FSU and CEE. This may show the direction of the future research.

- The trend with the previous research examined here, which has been to expand the applicability of poverty-level determinants that are employed in stylized household analysis, can probably be regarded as indicating steady progress in "transition".

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