

Two Tales of Transition Economies – The Determinants of Economic Crisis and Recovery & Consequences of the Enterprise Privatization Implication for Possible North Korean Transition

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In today's presentation...

- Referring to the meta-studies with Kazuhiro Kumo at Hitotsubashi University and Satoshi Mizobata at University of Kyoto, I will first report what the last 25-year literature tells about the determinants of economic crisis and growth and the consequences of enterprise privatization in transition economies.
- Then, basing on the major findings from our meta-studies, I will argue policy implications for possible transition in North Korea.

The Tale 1

The Determinants of Economic Crisis and Recovery

Introduction

- Immediately after the collapse of socialism, the countries of Central and Eastern Europe (CEE) and the former Soviet Union (FSU) fell into a serious economic crisis, after which they experienced a gradual recovery. Therefore, without exception, these countries followed the **J-curved growth path**.
- However, there were marked differences among them in the degree of economic crisis and the speed of recovery.
- In order to identify the main drivers of the crisis and growth in the former socialist economies, researchers performed a variety of empirical analyses.
- Nowadays a lot of attention is being paid to this accumulated research, and it has become one of the most important research fields in the transition economics.

Introduction (2)

- The results of this aggressive research works has led us to share a common understanding of the determinants of macroeconomic growth in the CEE and FSU countries:
 - Not only education levels or human capital investment, which are emphasized in traditional growth theory, but even inputs such as capital and labor, were not effective explanatory variables for economic growth rates during the crisis and the initial phase of recovery.
 - Rather, five unique factors including: (a) **structural changes** in the national economic system toward a market economy; (b) **transformation policy**; (c) **the legacy of socialism** as an initial condition; (d) **inflation**; and (e) **regional conflict**, were extremely important in determining macroeconomic performance during these periods.

Introduction (3)

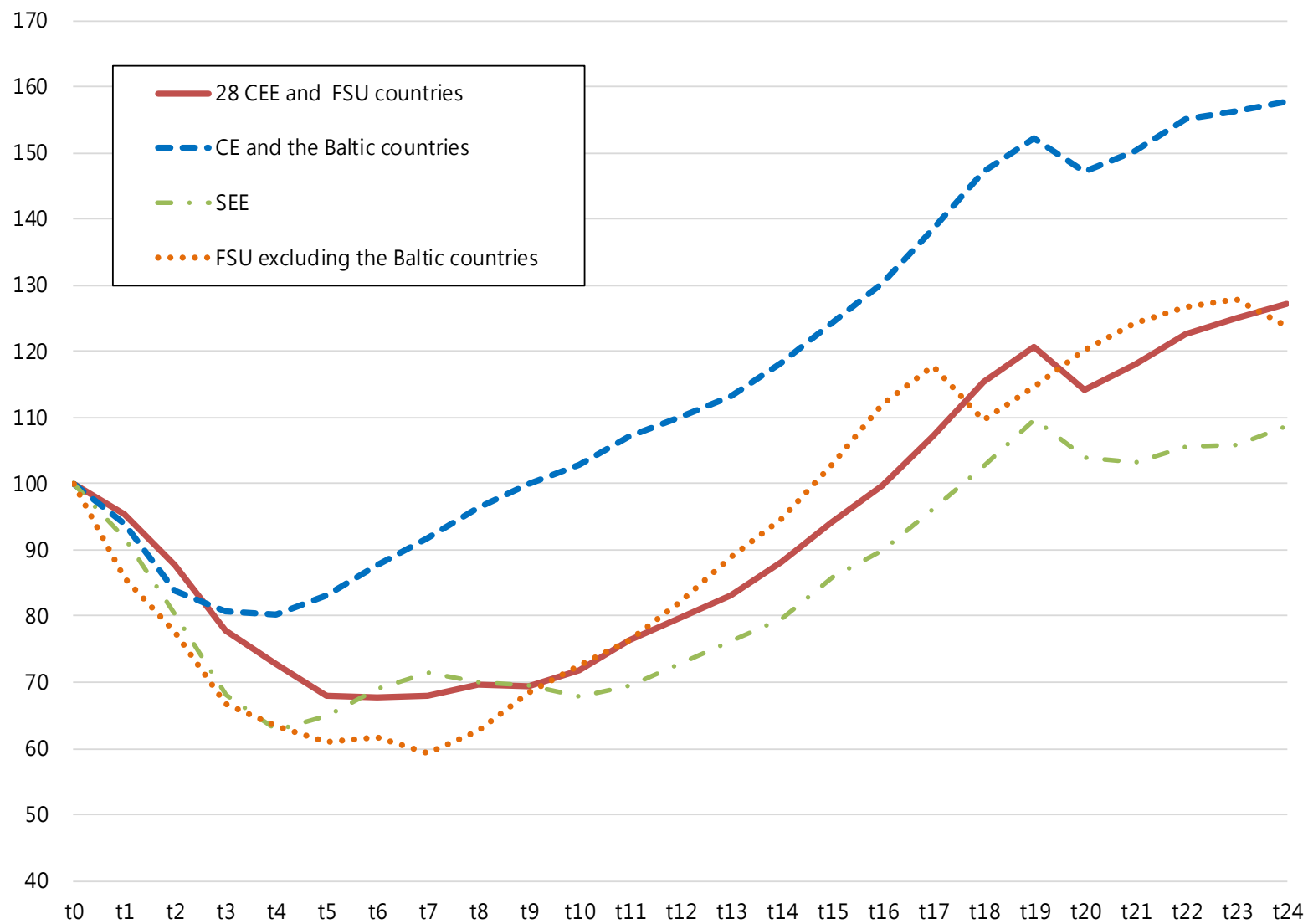
- Nevertheless, quite a few studies have produced results that contradict the above policy implications, so it cannot be said that the so-called transition economy growth debate has reached a final conclusion.
- Furthermore, no comparison has been conducted on the effect size and statistical significance of the above five determinants of economic growth.
- Hence, the question of why the CEE and FSU countries have followed not a U-shaped or V-shaped growth path, but a J-curved trajectory has still not been answered by previous research.
- Based on the above perception of the issues, we will attempt to shed light on the mechanism that generated the J-curved growth path by performing a meta-analysis to compare effect size and statistical significance of the five factors.

Introduction (4)

- Babecký and Campos (2011) and Babecky and Havranek (2014) are the earliest meta-analyses. In this paper, we will utilize the advantages of later research to supplement these two previous studies in three ways:
- **First**, whereas these two studies constituted meta-analyses focused on economic reform, we will verify the growth-enhancing effect of transformation policy in a broader sense.
- **Second**, as stated above, because this study deals simultaneously with five determinants of growth that differ in nature, the effect size and statistical significance of transformation policy is in clear contrast with the other four factors.
- **Third**, by involving an extensive examination of related studies covering almost every piece of literature targeted by these previous meta-studies, we will provide a wider picture of research on transition economies.

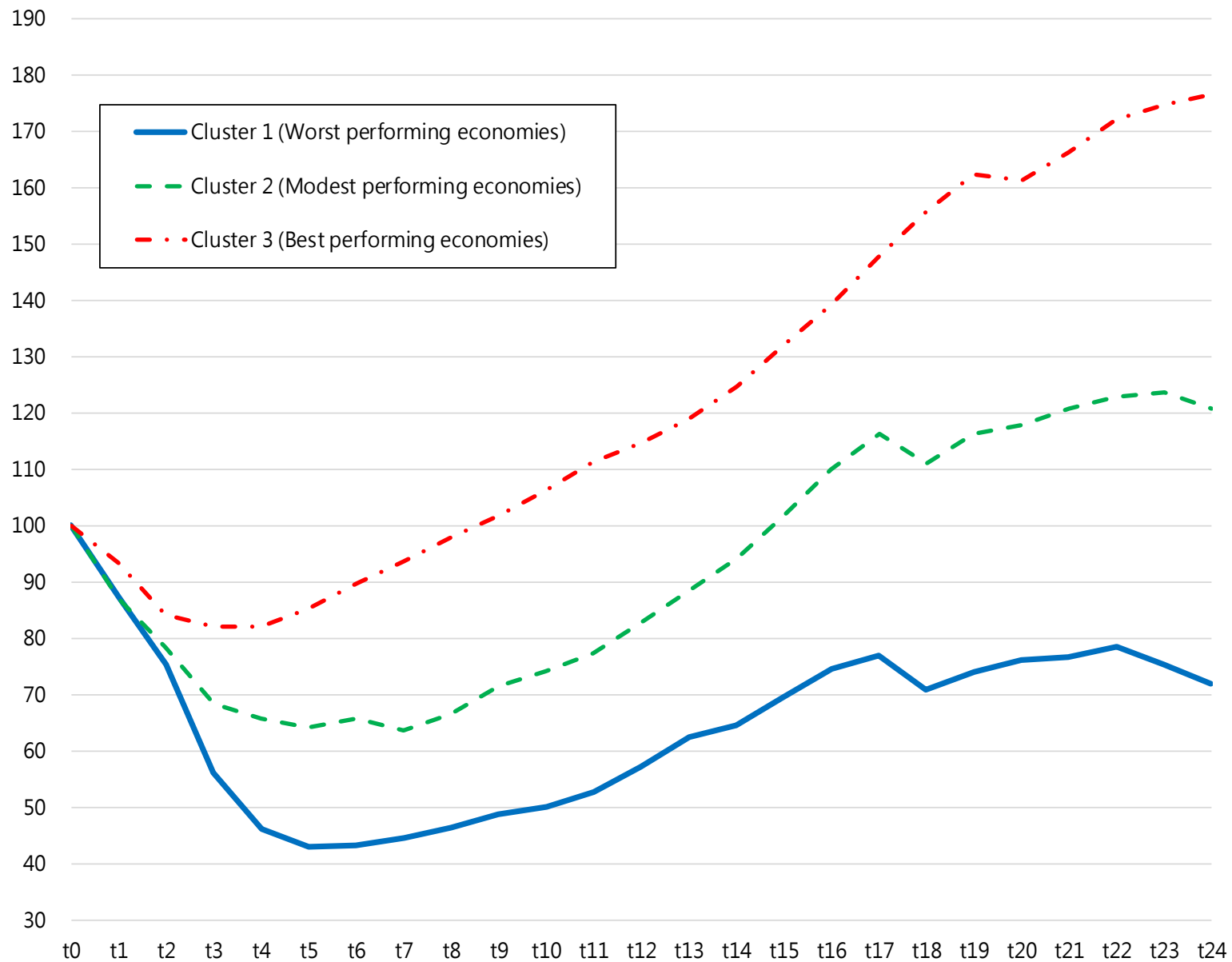
Crisis and Recovery in Transition Economies: Looking Back on the Past Quarter Century

Economic crisis and recovery in CEE and FSU countries during 25 years of transition



Note: The real GDP level at the end of socialist regime (t_0) is set at 100. Reference year for CEE countries is 1989, for FSU countries - 1991.

Growth path of three clusters of transition economies



Note: The real GDP level at the end of socialist regime (t_0) is set at 100. Reference year for CEE countries is 1989, for FSU countries - 1991.

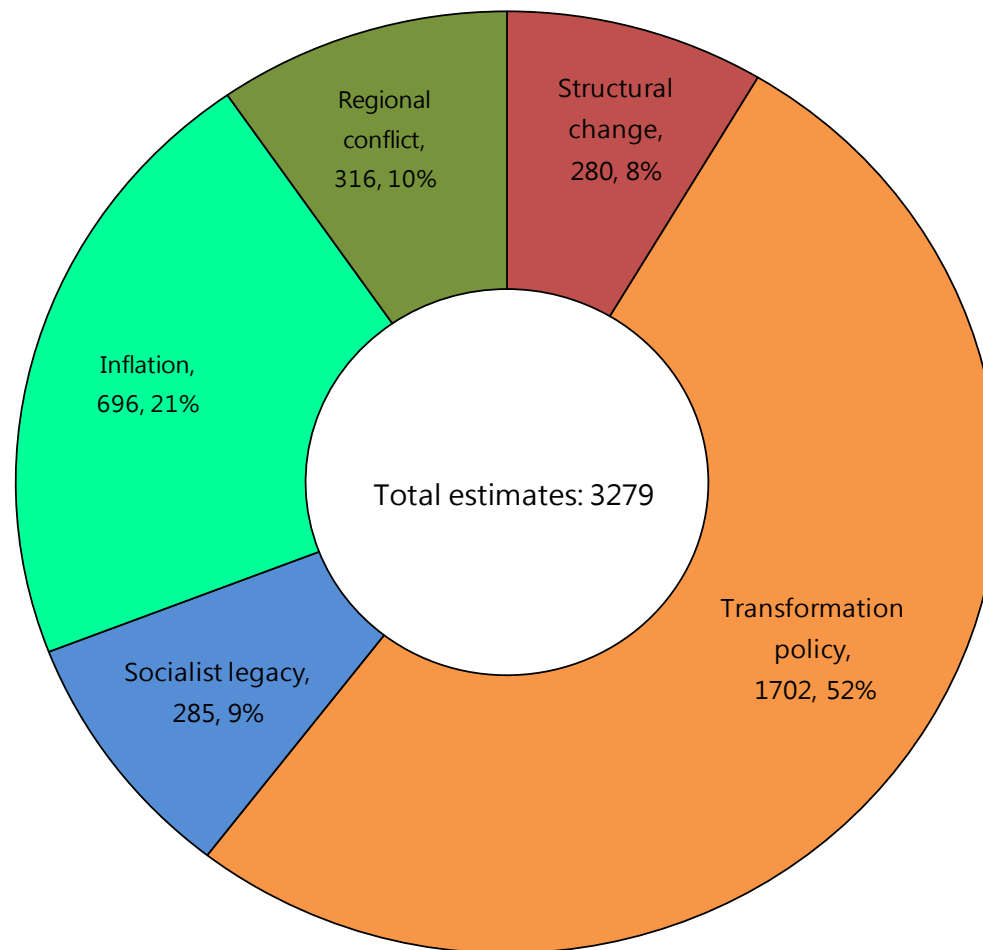
Growth Path in Transition Economies in the Last 25 Years

- A nonhierarchical cluster analysis divided CEE/FSU countries into 3 clusters beyond the regional boundaries.
- J-shaped growth curves that go beyond the differences among clusters is reproduced.
- However, it is clear that the differences between groups of nations in the shapes of the growth curves are more distinct than those for regions.
- This fact strongly suggests that the processes of economic crisis and recovery in CEE and FSU countries are highly likely to have been affected by differences in the aforementioned three transition-country clusters, and more so than by regional differences.

Literature Search and Coding

- Using the EconLit and Web-of-Science databases, we searched out research works that empirically examine the growth determinants in transition economies published in 1989-2016.
- 123 papers from Åslund et al. (1996) to Cojocaru et al. (2016) were selected for our meta-analysis.
- All of these previous studies are multinational, covering seven or more countries.
- The period covered by these works is the 33 years from 1979 to 2011 as a whole.
- From these 123 research works, we collected total 3279 estimates.

Breakdown of collected estimates by growth determinant variable type



Note: Values following category name denote number of estimates and its share in total collected estimates, respectively.

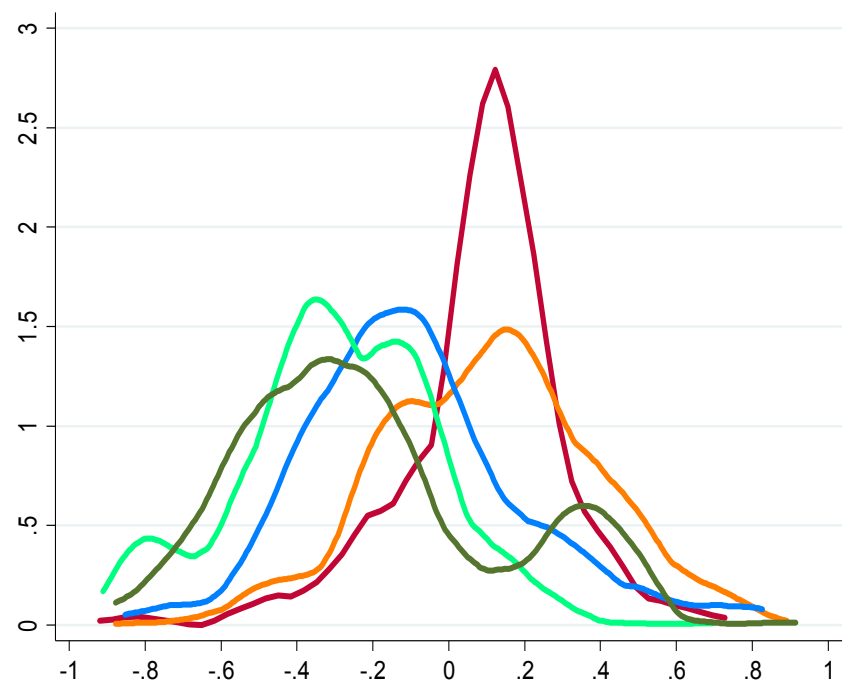
Meta-analysis

Methodology

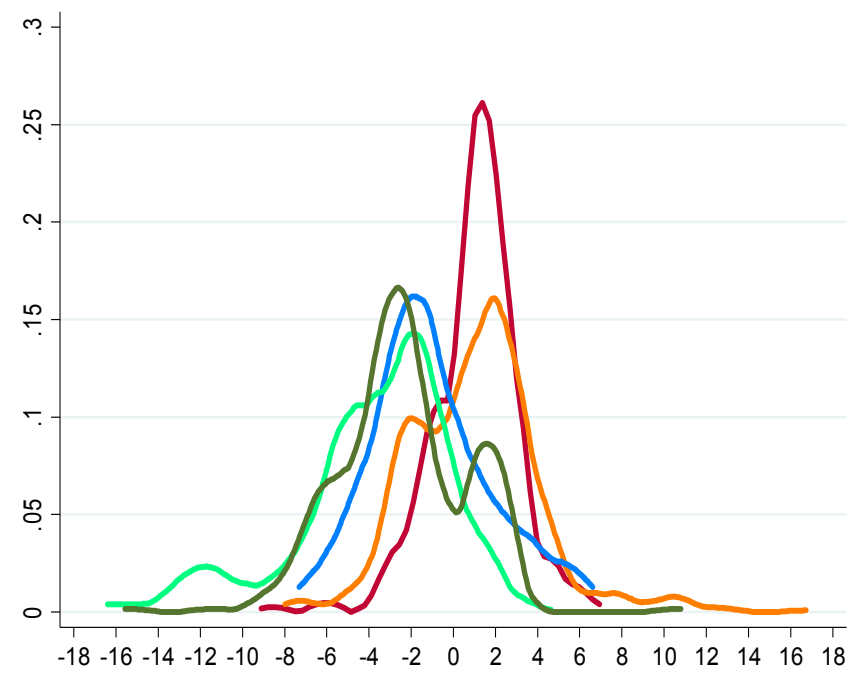
- We use the associated partial correlation coefficients (PCCs) and t values of the reported estimates for meta-analysis.
- We synthesize PCCs using the fixed-effect model and the random-effects model and, according to the test of homogeneity, we adopt one of the two estimates as an integrated effect size.
- We combine t values using a 10-point scale of research quality for its weight.
- Taking possible heterogeneity between different studies into consideration, we estimate meta-regression models using 8 estimators to check statistical robustness.
- To examine publication selection bias (PSB), we employ the FAT-PET-PEESE approach advocated by Stanley and Doucouliagos (2012) along with the use of funnel graph and Galbraith plot.

Kernel density estimation of partial correlation coefficients and t values by growth determinant variable type

(a) PCC



(b) t value

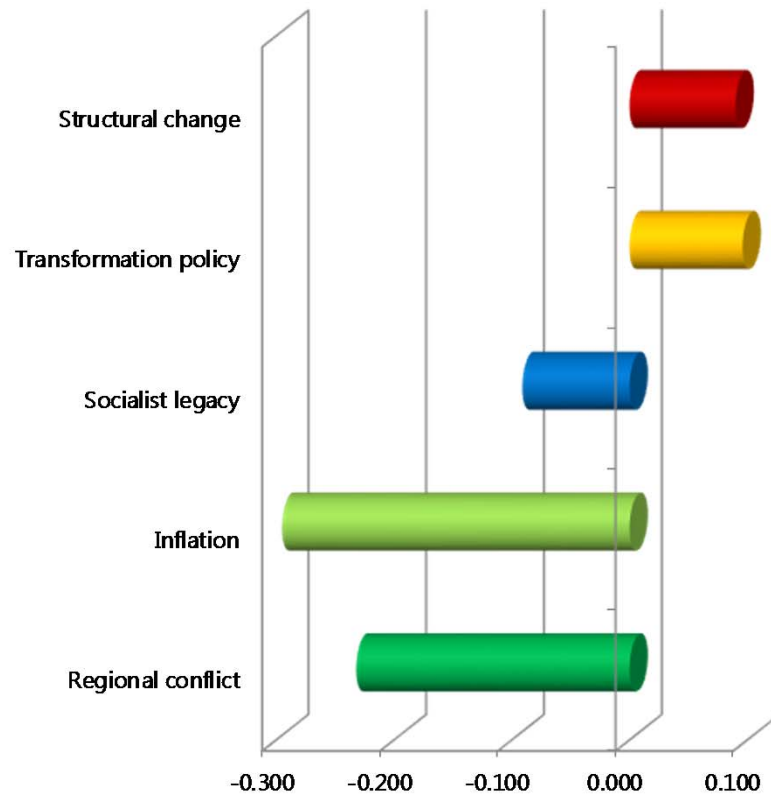


— Structural change — Transformation policy — Socialist legacy — Inflation — Regional conflict

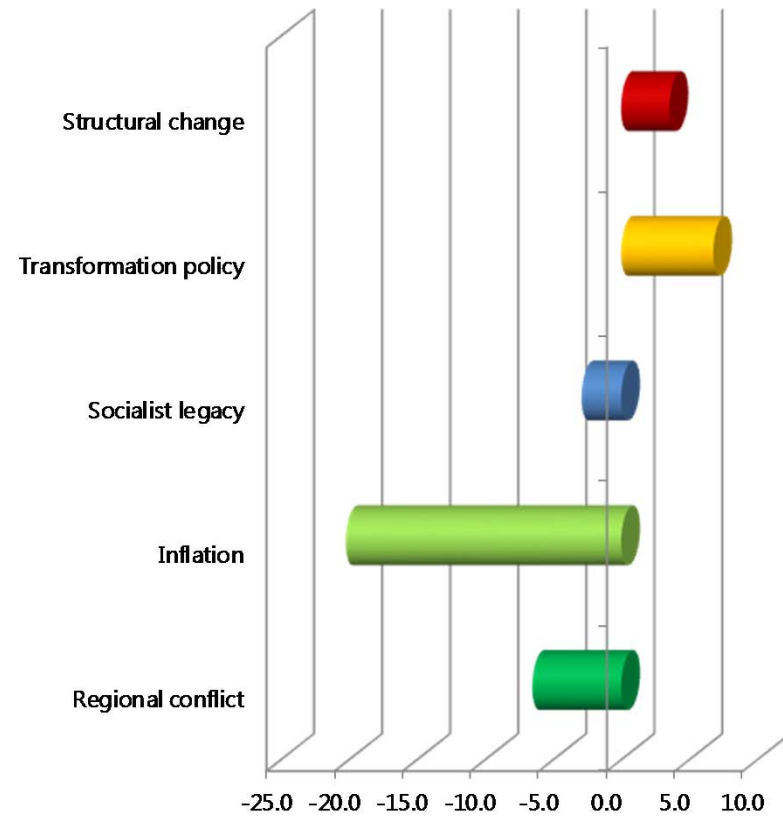
Note: Vertical axis is Kernel density. Horizontal axis is variable value.

Synthesis of estimates by growth determinant variable type

(a) Synthesized PCC - Random-effects model



(b) Combined t value weighted by research quality



Meta-regression analysis using all collected estimates - Dependent variable: PCC

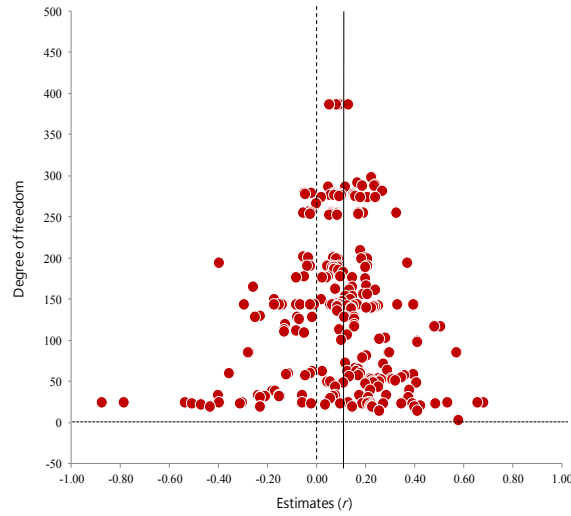
Estimator (Analytical weight in parentheses)	Cluster-robust OLS	Cluster-robust WLS [Quality level]	Cluster-robust WLS [M]	Cluster-robust WLS [d]	Cluster-robust WLS [1/SE]	Multi-level mixed effects RML	Cluster-robust random-effects panel GLS	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (Default) / Model	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Growth determinant variable type (Structural change)								
Transformation policy	0.0105	0.0016	-0.0203	-0.0194	0.0047	0.0335	0.0333	0.0239
Socialist legacy	-0.1433 ***	-0.1443 ***	-0.1198 ***	-0.1199 ***	-0.1255 ***	-0.1117 **	-0.1113 **	-0.1111 **
Inflation	-0.3664 ***	-0.3522 ***	-0.3328 ***	-0.3345 ***	-0.3747 ***	-0.3457 ***	-0.3457 ***	-0.3510 ***
Regional conflict	-0.3004 ***	-0.3087 ***	-0.3018 ***	-0.3024 ***	-0.3097 ***	-0.2682 ***	-0.2681 ***	-0.2744 ***
Composition of target countries (CEE EU countries)								
Proportion of other CEES	-0.0647	0.1363	0.0467	0.0513	-0.0114	-0.1753 ***	-0.1744 ***	-0.1600 ***
Proportion of FSU countries	-0.0763	-0.0268	-0.0968 *	-0.1065 **	-0.0996 *	-0.0552	-0.0546	-0.0582
Proportion of non-CEE and FSU countries	-0.4829	-0.5147	-0.0317	-0.0264	-0.2710	-0.4661	-0.4829	-0.7500 ***
Estimation period								
First year of estimation	0.0166 ***	0.0178 ***	0.0098 ***	0.0093 ***	0.0139 ***	0.0349 ***	0.0357 ***	0.0508 ***
Length of estimation	0.0023	0.0032	0.0034	0.0027	0.0037	0.0147 ***	0.0153 ***	0.0297 ***
Data type (Panel data)								
Cross-section data	0.0420	0.0628	0.0630	0.0690	0.0533	-0.0062	-0.0092	-0.1352
Estimator (OLS)								
GLS	-0.1053 ***	-0.1287 ***	-0.0887 ***	-0.0872 ***	-0.1012 ***	-0.0666 ***	-0.0650 ***	-0.0324 *
FE	-0.0285	-0.0441	-0.0265	-0.0249	-0.0286	-0.0091	-0.0082	0.0142
RE	-0.0343	-0.1010 **	-0.0430 *	-0.0266	-0.0253	-0.0342 **	-0.0332 **	-0.0102
SUR	-0.2706 ***	-0.3226 ***	-0.3177 ***	-0.3135 ***	-0.2827 ***	-0.0305	-0.0213	0.0992 ***
GMM	-0.0342	-0.0463	-0.0117	-0.0113	-0.0225	-0.0127	-0.0118	0.0114
Other estimators	-0.1132 ***	-0.1113 ***	-0.0937 ***	-0.0937 ***	-0.0954 ***	-0.0357 ***	-0.0350 ***	-0.0390 ***
IV/2SLS/3SLS	0.0717 ***	0.0781 ***	0.0734 ***	0.0742 ***	0.0768 ***	0.0232	0.0220	0.0041
Baseline index of economic growth variable (GDP)								
GDP per capita	0.0343	0.0301	0.0321	0.0356	0.0345	-0.0188	-0.0201	0.1407 ***
GDP per worker	-0.0623	-0.0564	-0.0164	-0.0194	-0.0594	-0.0903	-0.0945	-0.0124 *
Benchmark index of economic growth variable (Growth rate)								
Growth level	-0.0251	0.0182	-0.0082	0.0151	-0.0032	-0.0932	-0.0953	-0.1848 ***
Other characteristics of growth determinant variable								
Lagged variable	0.1139 **	0.1020 *	0.0844 **	0.0843 **	0.0967 **	0.1613 ***	0.1617 ***	0.1646 ***
With an interaction term(s)	-0.1048 *	-0.0906	-0.0893 **	-0.0909 **	-0.1005 *	-0.0242	-0.0237	-0.0214
Degree of freedom and research quality								
√Degree of freedom	-0.0008	-0.0003	-0.0009	-	-0.0009	0.0069	0.0070	0.0077
Quality level	0.0086 *	-	0.0035	0.0039	0.0062	0.0075	0.0077	dropped
Intercept	-33.0555 ***	-35.4172 ***	-19.4525 ***	-18.3827 ***	-27.6109 ***	-69.6136 ***	-71.2976 ***	-101.5778 ***
K	3279	3279	3279	3279	3279	3279	3279	3279
R2	0.328	0.315	0.346	0.355	0.362	-	0.252	0.137

Meta-regression analysis using all collected estimates - Dependent variable: t value

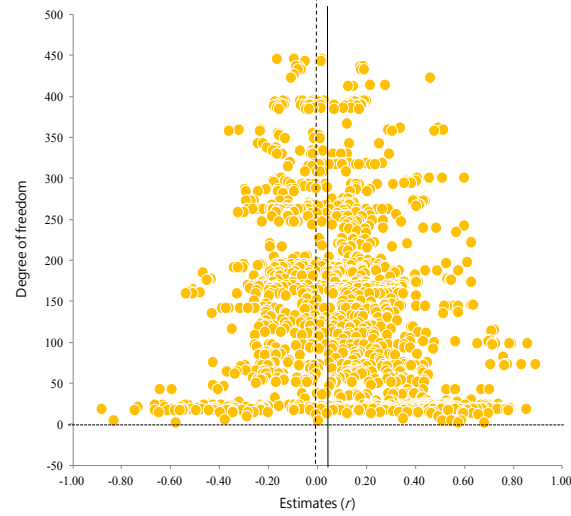
Estimator (Analytical weight in parentheses)	Cluster-robust OLS	Cluster-robust WLS [Quality level]	Cluster-robust WLS [<i>N</i>]	Cluster-robust WLS [<i>df</i>]	Cluster-robust WLS [1/ <i>SE</i>]	Multi-level mixed effects RML	Cluster-robust random-effects panel GLS	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (Default) / Model	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]
Growth determinant variable type (Structural change)								
Transformation policy	0.1679	0.0658	-0.2190	-0.2334	0.1502	0.5978	0.6049	0.6108
Socialist legacy	-1.2831 ***	-1.3238 ***	-1.5540 ***	-1.5826 ***	-1.3688 ***	-0.9670 **	-0.9516 **	-0.8454
Inflation	-4.4848 ***	-4.3779 ***	-4.8242 ***	-4.8957 ***	-5.1052 ***	-4.2021 ***	-4.1976 ***	-4.1893 ***
Regional conflict	-3.0447 ***	-3.0993 ***	-4.1402 ***	-4.2383 ***	-3.6988 ***	-2.6281 ***	-2.6114 ***	-2.5394 ***
Control for other study conditions	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>K</i>	3279	3279	3279	3279	3279	3279	3279	3279
<i>R</i> ²	0.345	0.327	0.344	0.348	0.368	-	0.321	0.258

Funnel plot of estimates by growth determinant variable type

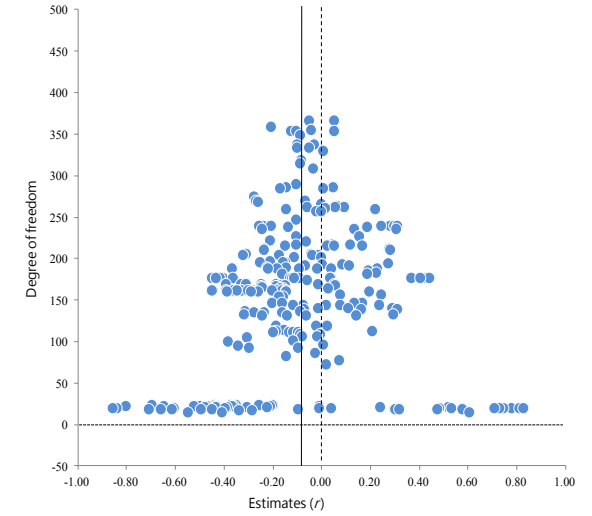
(a) Structural change ($K=280$)



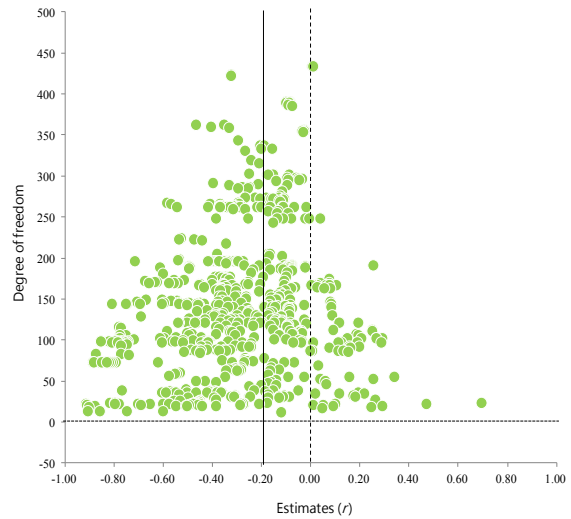
(b) Transformation policy ($K=1702$)



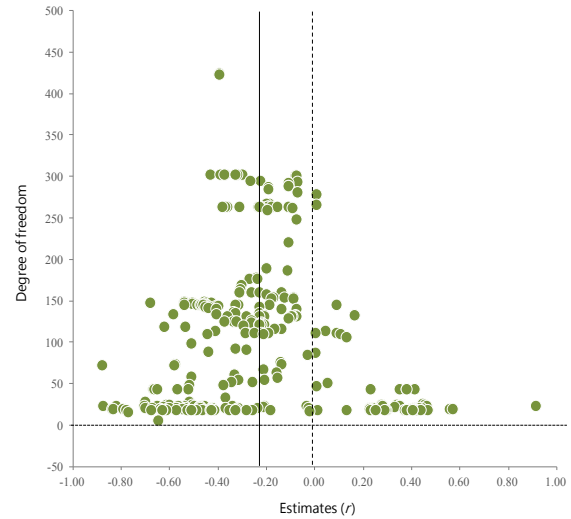
(c) Socialist legacy ($K=285$)



(d) Inflation ($K=696$)



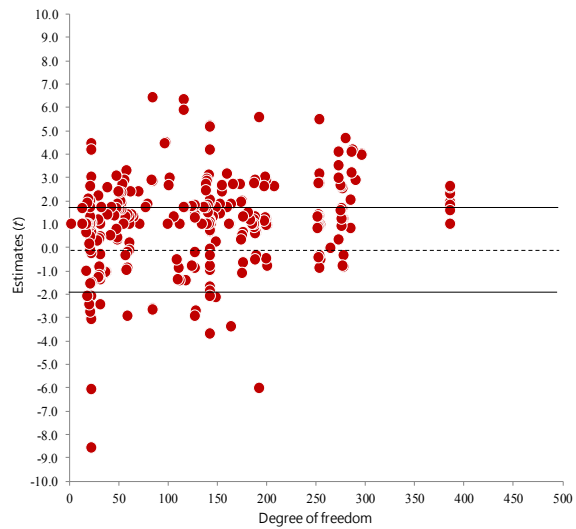
(e) Regional conflict ($K=316$)



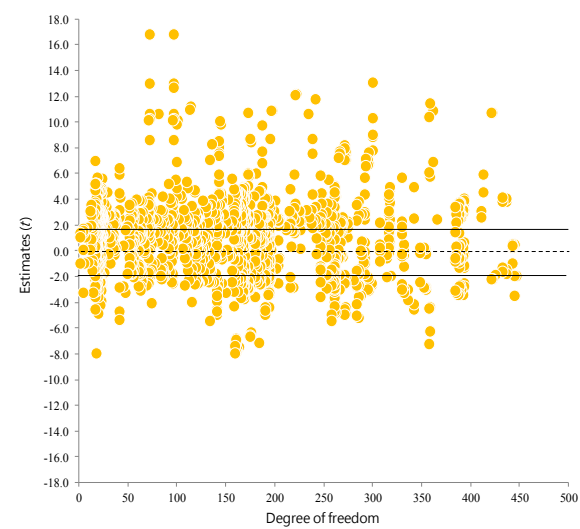
Note: Solid line indicates the mean of the top 10% most-precise estimates. The values for structural change variable, transformation policy variable, socialist legacy variable, inflation variable and regional conflict variable are 0.120, 0.052, -0.078, -0.187, and -0.223, respectively.

Galbraith plot of estimates by growth determinant variable type

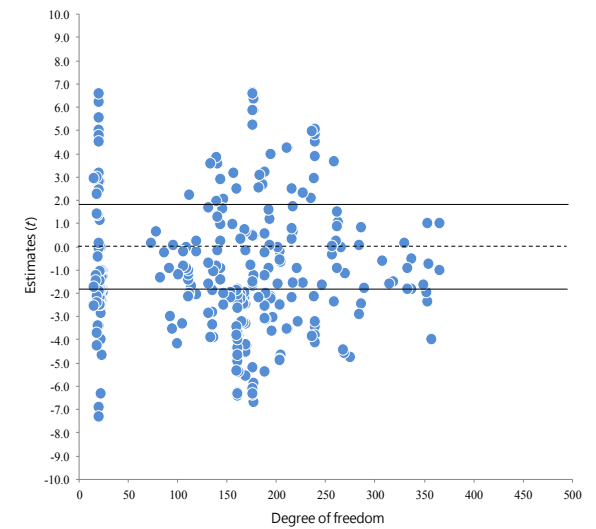
(a) Structural change ($K=280$)



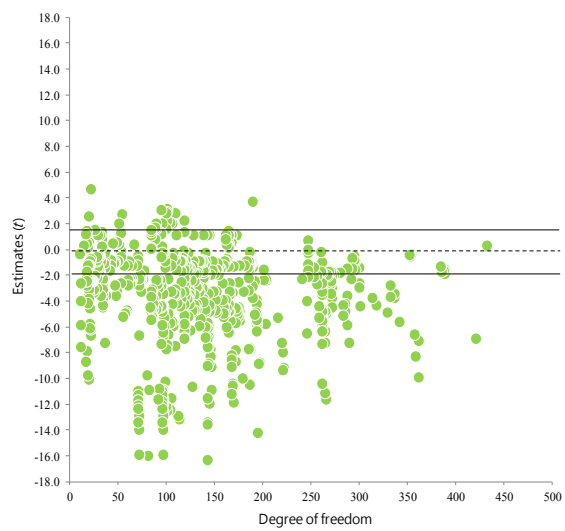
(b) Transformation policy ($K=1702$)



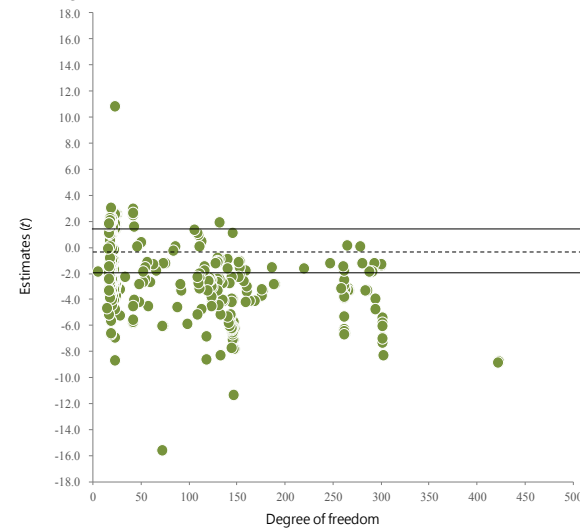
(c) Socialist legacy ($K=285$)



(d) Inflation ($K=696$)



(e) Regional conflict ($K=316$)



Note: Solid lines indicate the thresholds of two-sided critical values at the 5% significance level ± 1.96 .

Summary of publication selection bias test

Growth determinant variable type	Number of estimates (K)	Test results			
		Funnel asymmetry test for type I PBS (FAT) ($H_0: \beta_0=0$)	Test for type II PBS ($H_0: \beta_0=0$)	Precision-effect test (PET) ($H_0: \beta_1=0$)	Precision-effect estimate with standard error (PEESE) ($H_0: \beta_1=0$)
Structural change	280	Accepted	Rejected	Rejected	Rejected (0.1046/0.1049)
Transformation policy	1702	Rejected	Rejected	Rejected	Rejected (0.0602/0.1631)
Socialist legacy	285	Accepted	Rejected	Accepted	Accepted
Inflation	696	Accepted	Accepted	Rejected	Rejected (-0.3683/-0.3487)
Regional conflict	316	Rejected	Rejected	Rejected	Rejected (-0.3290/-0.3084)

Conclusions

- Our meta-analysis made the following findings concerning five factors regarded as being closely connected to the emergence of a J-curved growth path in transition economies:
- **First**, structural changes in national economic systems, as well as transformation policies have only delivered a small growth-enhancing impact.
- **Second**, in contrast to these two factors, it is highly likely that the hyperinflation and regional conflicts that erupted at the beginning of transition period led to a massive reduction in output.
- **Third**, the legacy of socialism is also thought to have contributed to the economic crisis, and with a similar effect size as structural changes and transformation policy.

Conclusions (2)

- In sum, the interactions among the five factors, while delivering a J-curved growth path to all the CEE and FSU countries, differences among the countries in terms of historical initial conditions, political circumstances, and reform efforts resulted in major differences in their growth trajectories.
- We also found that previous research has, on the whole, achieved great success in specifying the true effects of the most important determinants of the growth path in the CEE and FSU countries except for the legacy of socialism.
- Therefore we pay our respects to the great efforts made by researchers specialized in transition economics from the late 1990s until today.

The Tale 2

Consequences of the Enterprise Privatization



Introduction



▣ Privatization is transition (Brada, 1996). There are wide variation of privatization methods and privatization results.

▣ Key issue: 1) Does privatization policy improve firm performance?

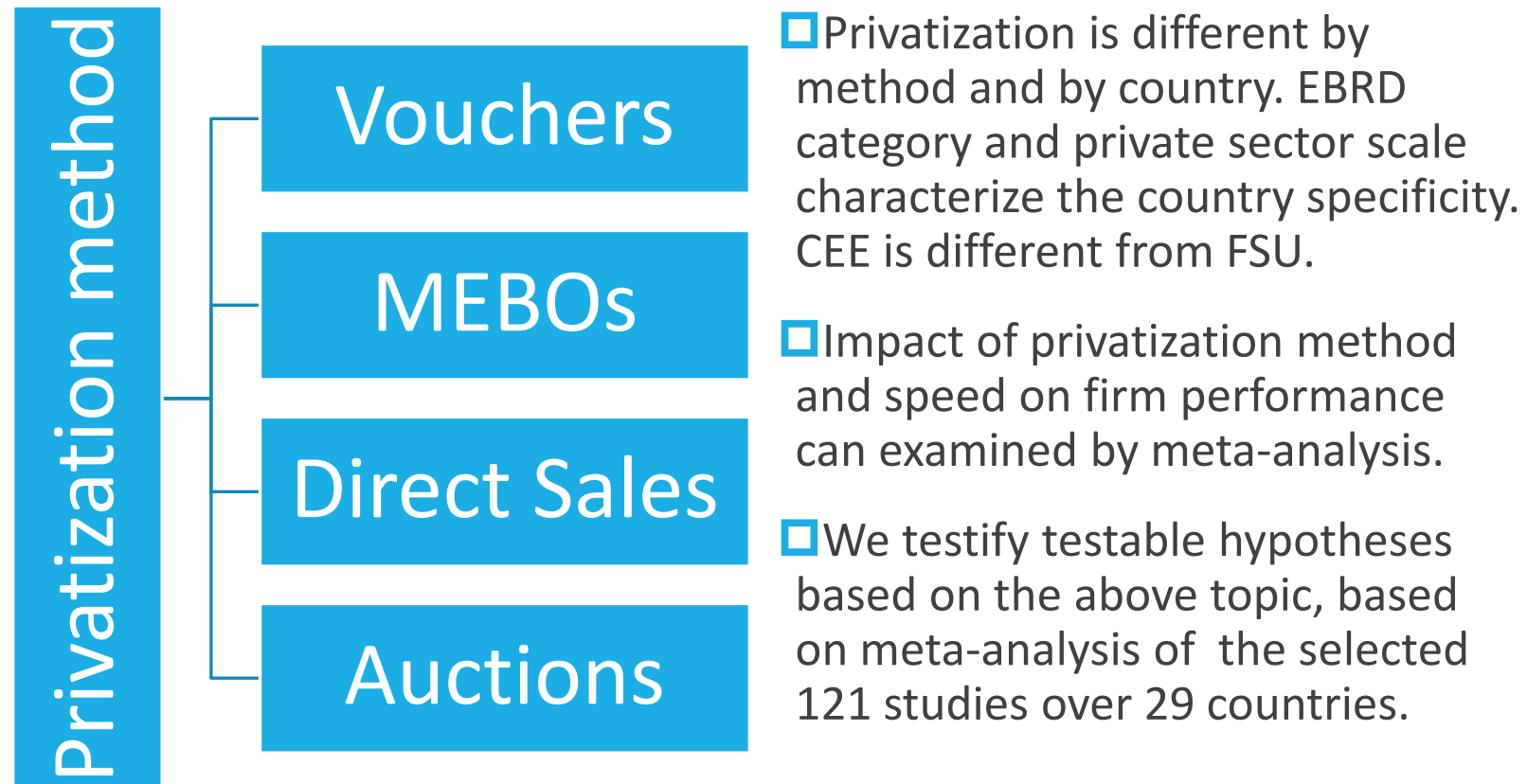
➤ Correlation between privatization accomplishment and firm reconstruction (EBRD evaluation)

➤ The evidence of privatization results is mixed.

▣ Key issue: 2) controversy on variety of ownership after 1990s: insider or outsider, insider managers or insider employees, different outsiders, and others.

◆ Following the systemic reviews on this topic, we try to find the contemporary arrival of researches on ownership structure and firm performance in the post-privatization period by building large-scale data-base and its meta-analysis.

Introduction (2)



Paper Structure

1. Post-privatization ownership and firm performance: theoretical consideration and testable hypothesis
2. Methodology of literature search, cording, and meta-analysis
3. Synthesis of estimates
4. Meta-regression analysis: baseline estimation
5. Idiosyncrasy of transition economies and privatization policy: estimation of extended model
6. Assessment of publication selection bias
7. Conclusions

1. Post-privatization ownership and firm performance

□ Basing on the arguments in the previous literature, we hypothesize:

- Private Ownership > The State
- Outside Ownership > Insider Control
- Managers > Employees
- Institutional Investors > Individual Investors
- Foreign Ownership > Domestic Ownership
- Voucher Privatization < Other Methods
- Direct Sales to Strategic Investors > MEBO
- Rapid Privatization ? Slow Privatization

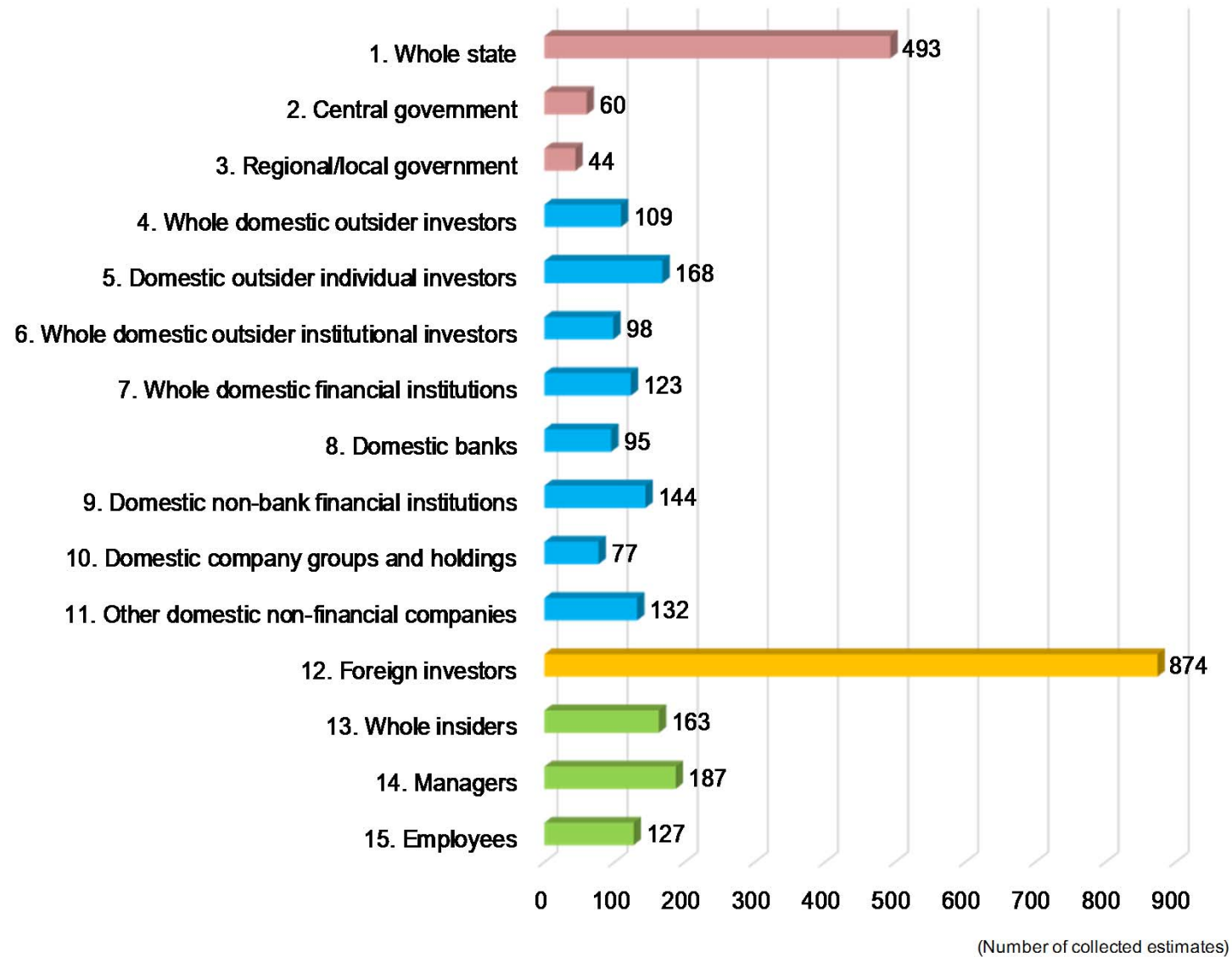
2. Methodology of literature search, cording, and meta-analysis

- ❑ Using the Econ-Lit and Web-of-Science databases, we searched out studies related to the relationship between post-privatization ownership and firm performance in transition economies published in 1989-2015 and obtained more than 1000 papers.
- ❑ Then we examined the contents of the above works and narrowed the literature list to those containing estimates that could be subjected to our meta-analysis.
- ❑ The total number of selected studies are 121 including Earle et al. (1996) as a pioneering study and Vintilă and Gherghina (2015) as the latest one.

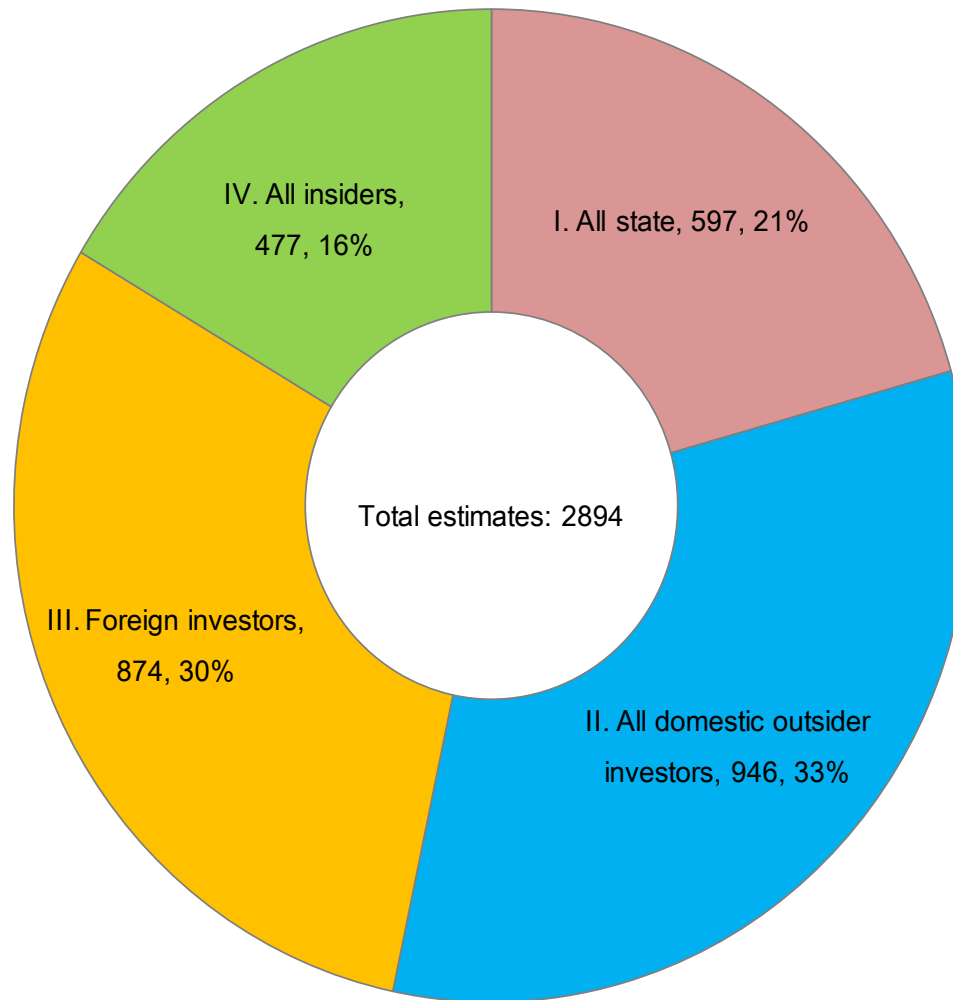
Methodology of Literature Search, Cording, and Meta-analysis (2)

- ❑ The 121 selected studies cover 29 countries as a whole. More than 30 works deal with the Czech Republic and Russia. 20 or more papers treat Hungary, Poland, and Romania.
- ❑ 65 papers take mining and manufacturing industries as their target industry and 57 study various sectors, while only 6 studies touch on services.
- ❑ Whole estimation period of the 121 studies is 27 years from 1985 to 2011. Average (median) year of estimation period is 4.16 (4) years.
- ❑ From these 121 studies, we collected total 2894 estimates (mean: 23.9; median: 13).

**Breakdown of collected estimates
by basic category of ownership variable (Total 2894)**



Breakdown of collected estimates
by aggregated category of ownership variable



Methodology of Literature Search, Cording, and Meta-analysis (3)

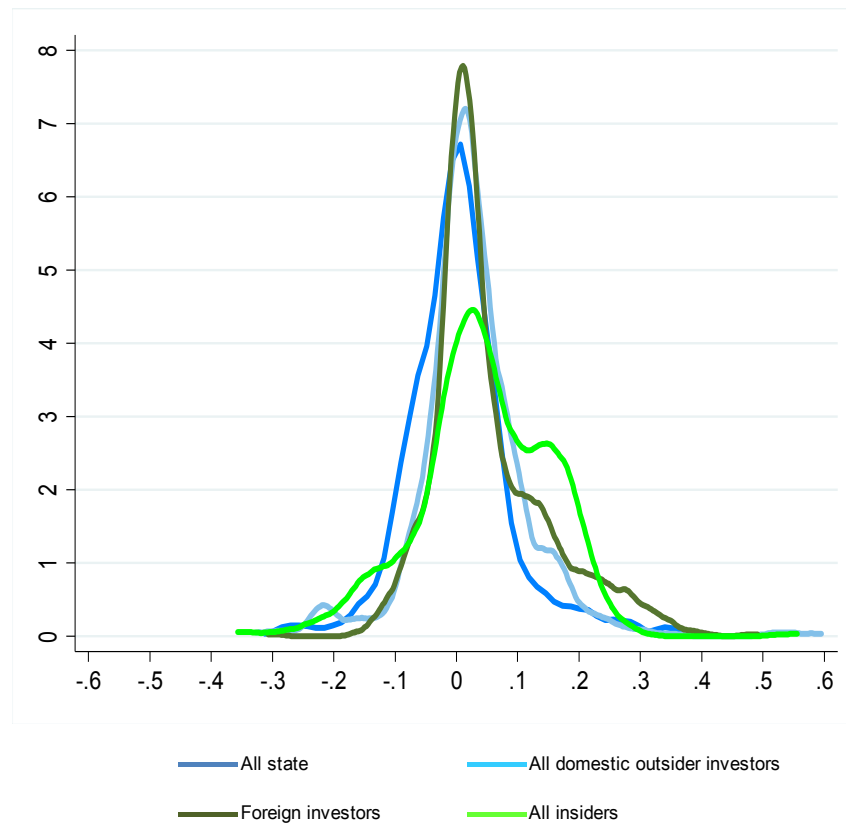
- We use the associated partial correlation coefficients (PCCs) and t values of the reported estimates for meta-analysis.
- We synthesize PCCs using the fixed-effect model and the random-effects model and, according to the test of homogeneity, we adopt one of the two estimates as an integrated effect size.
- We combine t values using a 10-point scale of research quality for its weight. We also report unweighted t values and failsafe N .
- Taking possible heterogeneity between different studies into consideration, we estimate meta-regression models using 7 estimators to check statistical robustness.
- To examine publication selection bias (PSB), we employ the FAT-PET-PEESE approach advocated by Stanley and Doucouliagos (2012) along with the use of funnel graph and Galbraith plot.

3. Synthesis of estimates

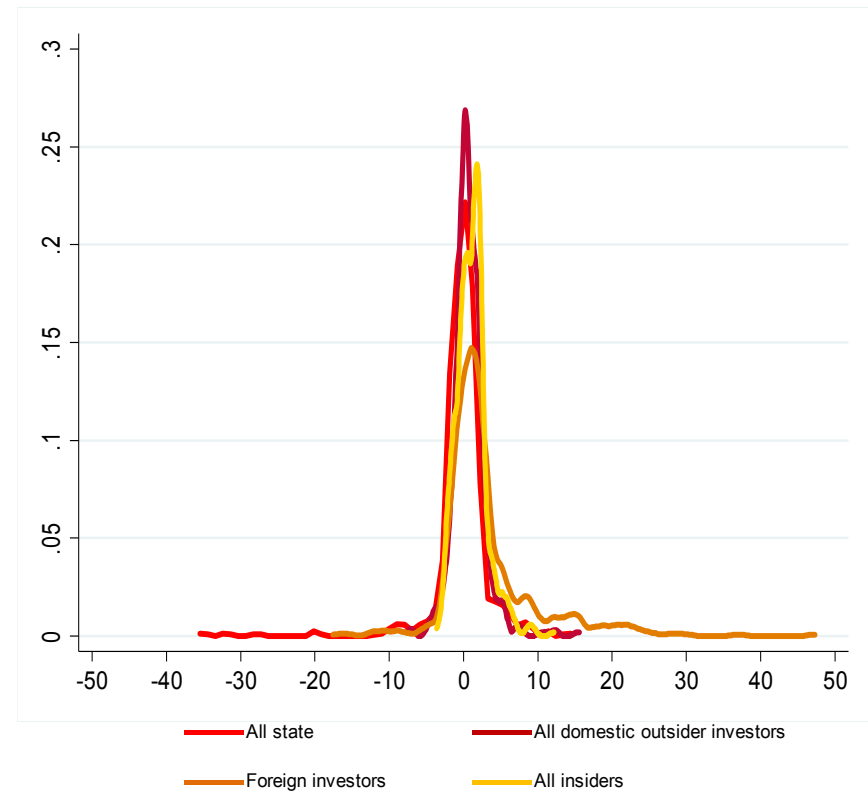


Kernel density estimation of partial correlation coefficients and t values by aggregated category of ownership variable

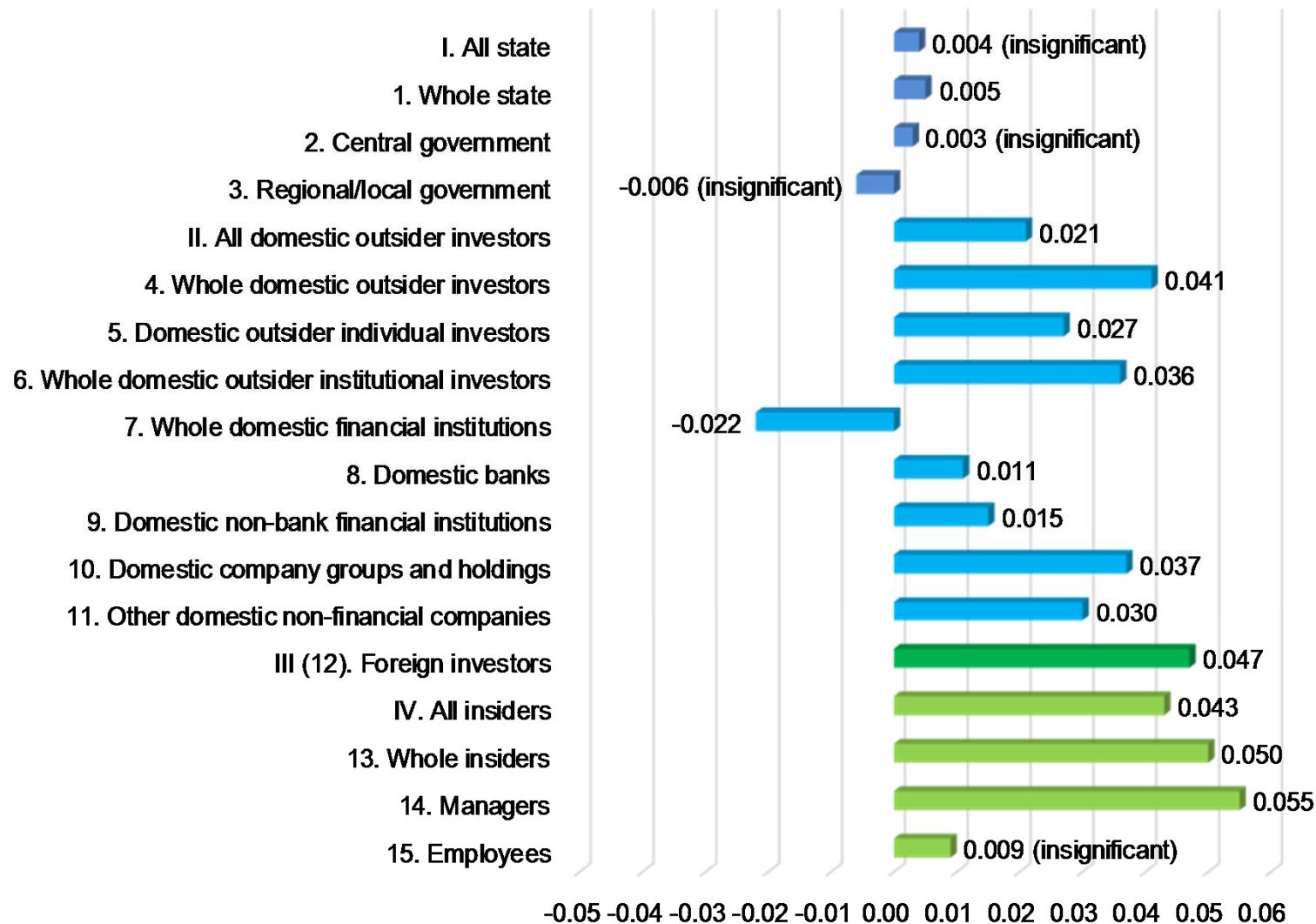
(a) PCC



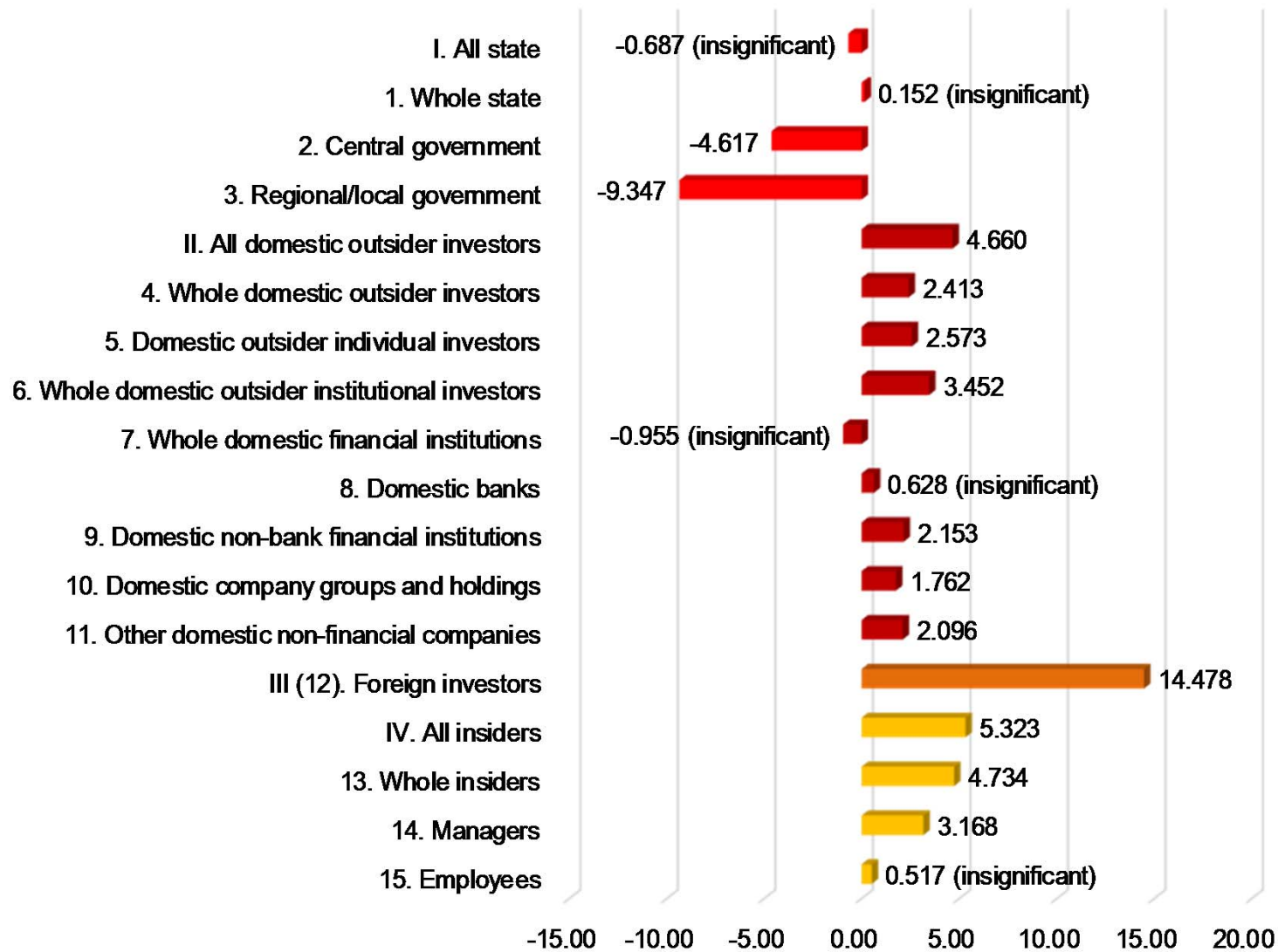
(b) t value



Illustrated comparison of synthesized collected estimates: partial correlation coefficients



Illustrated comparison of synthesized collected estimates: t value



Synthesis of estimates: summary

- ❑ The results from synthesis of estimates strongly support the hypothesis of superiority of private sector over state and that regarding relative advantage of managers in comparison with employees.
- ❑ However, we cannot find clear evidence for the hypothesis concerning the relationship among private entities (i.e., insiders vs. outsiders vs. foreigners).
- ❑ The above results may be caused by various study conditions including target country, industry, estimation period and empirical methodology and research quality.
- ❑ We, therefore, should carry out meta-regression analysis to examine the hypotheses controlling for these factors simultaneously.

4. Meta-regression analysis: baseline estimation



Meta-regression analysis: estimation strategy

- We regress PCC or t value into 3 kinds of aggregated ownership type dummy variables taking the state as a default category.
- In the right hand side of the regression equation, we introduce 34 “meta-independent variables” to control for the other research conditions.
- They include: firm performance variable type, target industry, estimation period, data type and source, estimator, equation type, treatment for selection bias of privatized companies, presence of control variables, proportion of sample firms by target country as well as degree of freedom and research quality.
- We estimate using 7 different estimators to deal with possible heterogeneity among studies and to check robustness.

Meta-regression analysis using aggregated category of ownership variable:
base-line estimation: Dependent variable — PCC

Estimator (analytical weight in parentheses)	Cluster-robust OLS	Cluster-robust WLS [quality level]	Cluster-robust WLS [M]	Cluster-robust WLS [1/SE]	Multilevel mixed effects RML	Cluster-robust random-effects panel GLS	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (default) / Model	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Ownership variable type (all state)							
All domestic outsider investors	0.0187 *	0.0161	0.0174	-0.0056	0.0100	0.0101	0.0088
Foreign investors	0.0596 ***	0.0648 ***	0.0406 ***	0.0730 ***	0.0459 ***	0.0461 ***	0.0427 ***
All insiders	0.0204	0.0141	0.0242 **	0.0141	0.0073	0.0074	0.0057
Other characteristics of ownership variable							
Dummy-type variable (ownership share)	-0.0130	-0.0226 **	-0.0160 ***	-0.0180	-0.0030	-0.0033	0.0023
Lagged variable	0.0260	0.0269	-0.0064	0.0079	-0.0066	-0.0061	-0.0131 ***
With an interaction term(s)	-0.0023	-0.0065	-0.0195 **	-0.0074	-0.0152	-0.0151	-0.0144
Firm performance variable type (sales/output)							
Efficiency	0.0053	-0.0025	-0.0058	0.0343 *	-0.0092	-0.0091	-0.0106

Meta-regression analysis using aggregated category of ownership variable:
base-line estimation: Dependent variable — PCC

Estimator (analytical weight in parentheses)	Cluster-robust OLS	Cluster-robust WLS [quality level]	Cluster-robust WLS [M]	Cluster-robust WLS [1/SE]	Multilevel mixed effects RML	Cluster-robust random-effects panel GLS	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (default) / Model	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Ownership variable type (all state)							
All domestic outsider investors	0.0187 *	0.0161	0.0174	-0.0056	0.0100	0.0101	0.0088
Foreign investors	0.0596 ***	0.0648 ***	0.0406 ***	0.0730 ***	0.0459 ***	0.0461 ***	0.0427 ***
All insiders	0.0204	0.0141	0.0242 **	0.0141	0.0073	0.0074	0.0057
Treatment for selection bias of privatized firms (no treatment)							
Treatment for selection bias	-0.0008	-0.0065	0.0096	-0.0461	0.0128	0.0126	0.0095
Control variable							
Market competition	-0.0007	0.0087	-0.0008	-0.0124	0.0056	0.0060	-0.0079
Location fixed effects	0.0083	0.0099	0.0151	-0.0227	0.0001	0.0004	-0.0049
Industry fixed effects	0.0181	0.0269 *	0.0234 ***	0.0257	0.0178	0.0175	0.0236
Time fixed effects	0.0001	-0.0033	-0.0023	0.0170	-0.0160	-0.0159	-0.0236 **
Proportion of sample firms in observations (Czech)							
Russia	0.0075	0.0085	0.0108	-0.0378	-0.0046	-0.0044	-0.0023
Poland	0.0056	0.0017	0.0307 *	0.0346	0.0241	0.0231	0.0439
Hungary	0.0167	-0.0028	-0.0014	0.0109	0.0216	0.0219	0.0081
Ukraine	0.0274	0.0287	-0.0084	0.0447 *	0.0197	0.0206	-0.0063
Other CEE and FSU countries	0.0151	0.0112	0.0029	-0.0048	0.0125	0.0125	0.0125
Degree of freedom and research quality							
√Degree of freedom	-0.0001	-0.0001 **	-0.0001	-0.0002	-0.0002 ***	-0.0002 ***	-0.0002 **
Quality level	-0.0013	-	-0.0012	-0.0049 **	0.0017	0.0017	dropped
Intercept	7.7500 ***	6.0188 **	5.9049 ***	6.1382	3.1985	3.3363	-0.9048
K	2894	2894	2894	2894	2894	2894	2894
R ²	0.154	0.229	0.364	0.529	-	0.049	0.012

Meta-regression analysis using aggregated category of ownership variable:
base-line estimation: Dependent variable — t value

Estimator (analytical weight in parentheses)	Cluster-robust OLS	Cluster-robust WLS [quality level]	Cluster-robust WLS [N]	Cluster-robust WLS [1/SE]	Multilevel mixed effects RML	Cluster-robust random-effects panel GLS	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (default) / Model	[8]	[9]	[10]	[11]	[12]	[13]	[14]
Ownership variable type (All state)							
All domestic outsider investors	0.7370 ***	0.5100	3.3549 ***	0.6633	0.4266	0.4335	0.3964
Foreign investors	2.7076 ***	2.2623 ***	7.8449 ***	4.1089 ***	1.5008 ***	1.5294 ***	1.3910 ***
All insiders	0.6971	0.4122	3.6765 **	0.6887	0.6344 *	0.6368	0.6275
Other characteristics of ownership variable							
Dummy-type variable (ownership share)	-0.7162	-0.2935	-4.3007 ***	-0.9045	-0.5982	-0.6156	-0.5134
Lagged variable	0.6150	0.6813	-0.3927	-0.8980	-0.3448 *	-0.3243 *	-0.4071 ***
With an interaction term(s)	0.1743	0.1695	-6.3883 ***	0.0260	-1.7996 *	-1.7513 *	-2.0074 *
Firm performance variable type (sales/output)							
Efficiency	-0.3797	-0.2873	-2.3972 **	0.1356	-0.3781	-0.3838	-0.3537
Productivity	-0.5390	-0.4674	-6.6233 ***	-0.1231	-0.4277	-0.4328	-0.4101

Meta-regression analysis using aggregated category of ownership variable:
base-line estimation: Dependent variable — t value

Estimator (analytical weight in parentheses)	Cluster-robust OLS	Cluster-robust WLS [quality level]	Cluster-robust WLS [N]	Cluster-robust WLS [1/SE]	Multilevel mixed effects RML	Cluster-robust random-effects panel GLS	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (default) / Model	[8]	[9]	[10]	[11]	[12]	[13]	[14]
Ownership variable type (All state)							
All domestic outsider investors	0.7370 *	0.5100	3.3549 *	0.6633	0.4266	0.4335	0.3964
Foreign investors	2.7076 ***	2.2623 ***	7.8449 ***	4.1089 ***	1.5008 ***	1.5294 ***	1.3910 ***
All insiders	0.6971	0.4122	3.6765 **	0.6887	0.6344 *	0.6368	0.6275
Treatment for selection bias	-0.7540	-0.6751	2.5709	-3.9125	0.3218	0.3256	0.2369
Control variable							
Market competition	-0.2186	0.2052	-2.3155	-1.9755	-1.1516 *	-1.1191	-1.2321 *
Location fixed effects	0.2210	-0.0459	-0.1574	-0.4430	0.0078	-0.0485	0.3891
Industry fixed effects	1.4270 **	1.4888 **	4.8539 ***	2.5885 **	0.6050	0.6810	0.1376
Time fixed effects	0.2344	0.2417	-1.2020	0.6769	0.0260	0.0904	-0.5722
Proportion of sample firms in observations (Czech)							
Russia	0.9441	1.7882	6.2227 **	-0.7303	0.6829	0.7602	-0.1395
Poland	1.3689	0.9148	6.2682 ***	3.5384	2.9005 **	2.7353 **	4.2817 **
Hungary	1.8178	0.9609 ***	-0.2073	3.0367	2.6147 *	2.5345 *	3.5396 *
Ukraine	0.4974	0.0838	-1.4166	-0.3649	0.1825	0.1944	0.5003
Other CEE and FSU countries	1.3532	0.8091	1.6270	0.7880	2.3616	2.2209	3.6953
Degree of freedom and research quality							
√Degree of freedom	0.0084	0.0041	-0.0113	-0.0051	0.0064	0.0059	0.0098
Quality level	-0.0005	-	-0.0049	-0.2780 *	0.0738	0.0755	dropped
Intercept	360.4910 ***	384.3074 ***	451.7466	806.4356 ***	392.8722	392.6808	381.4948
K	2894	2894	2894	2894	2894	2894	2894
R ²	0.216	0.291	0.590	0.393	-	0.095	0.040

Meta-regression analysis: summary of baseline estimation

- The results of our baseline estimation indicate that foreign investors have a stronger impact on firm performance in their own companies than the state both in terms of effect size and statistical significance.
- With regard to domestic outsider investors, we fail to verify the hypothesis that they outperform the state and insiders.
- In sum, the baseline estimation provides evidence to support the hypotheses only partially.



This disappointing result leads us to consider the idiosyncrasy of transition economies and privatization policy into account.

5. Idiosyncrasy of transition economies and privatization policy: estimation of extended model



Estimation of extended model to deal with idiosyncrasy of transition economies and privatization policy

□ As important differences among transition economies and their privatization policy, we pay attention to the following five aspects:

1. CEE versus FSU;
2. Voucher privatization countries versus others;
3. MEBO privatization countries versus others;
4. Direct-sale privatization countries versus others;
5. Slow-speed privatization countries versus others.

□ To identify the possible idiosyncrasy of the above factors, we estimate an interaction term of the ownership type dummy variables and proportion of sample firms in concerned countries in total observation used for estimation.

Meta-regression analysis of idiosyncrasy of CEE countries: estimation using aggregated category of ownership variable

(a) Dependent variable — PCC

Estimator (analytical weight in parentheses)	Cluster-robust OLS	Cluster-robust WLS [quality level]	Cluster-robust WLS [N]	Cluster-robust WLS [1/SE]	Multilevel mixed effects RML	Cluster-robust random-effects panel GLS	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (default) / Model	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Ownership variable type (all state)							
All domestic outsider investors	0.0480 ***	0.0487 **	0.0337	0.0071	0.0182	0.0185	0.0152
Foreign investors	0.1143 ***	0.1367 ***	0.0898 ***	0.1209 ***	0.0865 ***	0.0868 ***	0.0851 **
All insiders	0.0479	0.0127	0.0227	0.0300	0.0231	0.0233	0.0208
Interaction term							
All domestic outsider investors × CEE countries	-0.0454 **	-0.0455 *	-0.0253	-0.0158	-0.0113	-0.0116	-0.0084
Foreign investors × CEE countries	-0.0737 ***	-0.0886 ***	-0.0603 **	-0.0565 *	-0.0544 *	-0.0546 *	-0.0565
All insiders × CEE countries	-0.0416	0.0082	-0.0015	-0.0259	-0.0268	-0.0269	-0.0259
CEE countries	0.0340 **	0.0281 *	0.0444 **	0.0309	0.0399 **	0.0391 **	0.0662
<i>K</i>	2894	2894	2894	2894	2894	2894	2894
<i>R</i> ²	0.163	0.248	0.373	0.519	-	0.048	0.008

(b) Dependent variable — *t* value

Estimator (analytical weight in parentheses)	Cluster-robust OLS	Cluster-robust WLS [quality level]	Cluster-robust WLS [N]	Cluster-robust WLS [1/SE]	Multilevel mixed effects RML	Cluster-robust random-effects panel GLS	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (default) / Model	[8]	[9]	[10]	[11]	[12]	[13] ^c	[14] ^d
Ownership variable type (all state)							
All domestic outsider investors	1.5947 **	1.4006 **	5.9944	1.5255	0.5396 *	0.5688 *	0.4531
Foreign investors	5.6981 ***	5.6708 **	21.2447 ***	6.8343 **	2.1282 ***	2.2072 ***	1.9391 ***
All insiders	1.5219 *	0.9194 *	5.6822	1.5556	0.8122 *	0.8350 *	0.7406
Interaction term							
All domestic outsider investors × CEE countries	-1.4603 *	-1.3355 *	-4.9372	-1.3505	-0.1590	-0.1894	-0.0749
Foreign investors × CEE countries	-3.7021 *	-4.2192 *	-16.5619 ***	-3.2993	-0.8187	-0.8744	-0.7204
All insiders × CEE countries	-1.0029	-0.3403	-3.2844	-1.3911	-0.2741	-0.3003	-0.1893
CEE countries	1.4257	1.0500	9.6088 ***	3.1031	1.3799	1.2871	2.0263
<i>K</i>	2894	2894	2894	2894	2894	2894	2894
<i>R</i> ²	0.221	0.302	0.601	0.387	-	0.078	0.028

Meta-regression analysis of idiosyncrasy of voucher privatization countries: estimation using aggregated category of ownership variable

(a) Dependent variable — PCC

Estimator (analytical weight in parentheses)	Cluster-robust OLS	Cluster-robust WLS [quality level]	Cluster-robust WLS [M]	Cluster-robust WLS [1/SE]	Multilevel mixed effects RML	Cluster-robust random-effects panel GLS	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (default) / Model	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Ownership variable type (all state)							
All domestic outsider investors	0.0529 ***	0.0511 ***	0.0228 **	0.0205	0.0527 ***	0.0528 ***	0.0509 ***
Foreign investors	0.0564 ***	0.0660 ***	0.0261 *	0.0844 ***	0.0283 *	0.0294 ***	0.0172 *
All insiders	0.0194 *	0.0439 ***	0.0212 *	0.0078 *	0.0173 *	0.0175 *	0.0150
Interaction term							
All domestic outsider investors × Voucher privatization countries	-0.0440 **	-0.0456 *	-0.0128	-0.0308	-0.0521 ***	-0.0522 ***	-0.0507 ***
Foreign investors × Voucher privatization countries	0.0090	0.0048	0.0431 **	-0.0072	0.0350	0.0338 ***	0.0482 ***
All insiders × Voucher privatization countries	0.0056	-0.0510 *	0.0013	0.0120	-0.0126	-0.0127	-0.0110
Voucher privatization countries	-0.0008	0.0157	-0.0329 *	0.0031	-0.0263	-0.0244 *	-0.0576 ***
<i>K</i>	2894	2894	2894	2894	2894	2894	2894
<i>R</i> ²	0.159	0.235	0.377	0.517	-	0.047	0.011

(b) Dependent variable — *t* value

Estimator (analytical weight in parentheses)	Cluster-robust OLS	Cluster-robust WLS [quality level]	Cluster-robust WLS [M]	Cluster-robust WLS [1/SE]	Multilevel mixed effects RML	Cluster-robust random-effects panel GLS	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (default) / Model	[8]	[9]	[10]	[11]	[12]	[13]	[14]
Ownership variable type (all state)							
All domestic outsider investors	2.1523 ***	1.8615 ***	3.4696 *	2.4447	2.0389 ***	2.0446 ***	2.0043 ***
Foreign investors	2.8218 **	2.2100 ***	3.8810 *	6.1283 **	1.6552 *	1.6990 *	1.4715 ***
All insiders	1.0585 *	1.3551 **	2.5830	1.3920	1.5045 **	1.4987 **	1.5069 ***
Interaction term							
All domestic outsider investors × Voucher privatization countries	-1.9097 **	-1.8192 **	-0.5576	-2.3252	-2.0283 **	-2.0275 **	-2.0128 ***
Foreign investors × Voucher privatization countries	-0.0096	0.1505	10.6914 ***	-2.5233	-0.0219	-0.0403	0.1078
All insiders × Voucher privatization countries	-0.5166	-1.4793 **	1.0759	-0.8256	-1.2179	-1.2074	-1.2308 ***
Voucher privatization countries	-0.6493	0.0677	-8.0449 ***	-0.0667	-1.5370	-1.3988	-2.2777 ***
<i>K</i>	2894	2894	2894	2894	2894	2894	2894
<i>R</i> ²	0.219	0.286	0.594	0.390	-	0.098	0.039

Meta-regression analysis of idiosyncrasy of MEBO privatization countries: estimation using aggregated category of ownership variable

(a) Dependent variable — PCC

Estimator (analytical weight in parentheses)	Cluster-robust OLS	Cluster-robust WLS [quality level]	Cluster-robust WLS [M]	Cluster-robust WLS [1/SE]	Multilevel mixed effects RML	Cluster-robust random-effects panel GLS	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (default) / Model	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Ownership variable type (all state)							
All domestic outsider investors	0.0156	0.0133	0.0061	-0.0061	0.0080	0.0073	0.0081
Foreign investors	0.0655 ***	0.0694 ***	0.0430 ***	0.0804 ***	0.0578 ***	0.0577 ***	0.0579 ***
All insiders	0.0264	0.0090	0.0210	0.0189	0.0114	0.0104	0.0115
Interaction term							
All domestic outsider investors × MEBO privatization countries	0.0242	0.0248	0.0200	0.0152	0.0367	0.0361	0.0367
Foreign investors × MEBO privatization countries	-0.0462	-0.0397	-0.0166	-0.0032	-0.0835 ***	-0.1070 ***	-0.0819 ***
All insiders × MEBO privatization countries	-0.0382	0.0120	0.0020	-0.0167	-0.0295	-0.0310	-0.0293
MEBO privatization countries	0.0313	0.0220	0.0041	0.0022	0.0864 ***	0.1347 ***	0.0833 ***
<i>K</i>	2894	2894	2894	2894	2894	2894	2894
<i>R</i> ²	0.159	0.231	0.363	0.515	-	0.044	0.007

(b) Dependent variable — *t* value

Estimator (analytical weight in parentheses)	Cluster-robust OLS	Cluster-robust WLS [quality level]	Cluster-robust WLS [M]	Cluster-robust WLS [1/SE]	Multilevel mixed effects RML	Cluster-robust random-effects panel GLS	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (default) / Model	[8]	[9]	[10]	[11]	[12]	[13]	[14]
Ownership variable type (all state)							
All domestic outsider investors	0.4687	0.2616	0.8801	0.6199	0.3273	0.3367	0.3008
Foreign investors	3.1397 ***	2.4301 ***	8.0491 ***	4.7872 ***	1.7929 ***	1.8296 ***	1.7132 ***
All insiders	0.6463	0.2414	1.3559	0.6518	0.5883	0.5970	0.5611
Interaction term							
All domestic outsider investors × MEBO privatization countries	1.5012	1.8745	3.8744	0.8927	1.3825	1.3706	1.4114
Foreign investors × MEBO privatization countries	-2.1237	-1.6721	-4.3168	-0.4557	-1.8739 *	-1.8051	-2.1461 *
All insiders × MEBO privatization countries	-0.3624	0.7337	2.9605	0.6802	0.1769	0.1331	0.2999
MEBO privatization countries	2.1539 **	1.2591	0.5309	0.6406	4.1625 ***	3.9137 ***	5.0217 ***
<i>K</i>	2894	2894	2894	2894	2894	2894	2894
<i>R</i> ²	0.223	0.289	0.578	0.381	-	0.096	0.022

Meta-regression analysis of idiosyncrasy of direct-sale privatization countries: estimation using aggregated category of ownership variable

(a) Dependent variable — PCC

Estimator (analytical weight in parentheses)	Cluster-robust OLS	Cluster-robust WLS [quality level]	Cluster-robust WLS [N]	Cluster-robust WLS [1/SE]	Multilevel mixed effects RML	Cluster-robust random-effects panel GLS	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (default) / Model	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Ownership variable type (all state)							
All domestic outsider investors	0.0111	0.0072	0.0224 *	-0.0073	0.0027	0.0028	0.0018
Foreign investors	0.0553 ***	0.0616 ***	0.0533 ***	0.0769 ***	0.0467 ***	0.0468 ***	0.0455 **
All insiders	0.0175	0.0021	0.0296 **	0.0145	-0.0004	-0.0002	-0.0023
Interaction term							
All domestic outsider investors × Direct-sale privatization countries	0.0521 **	0.0526 *	0.0008	0.0482	0.0581 ***	0.0579 **	0.0585 **
Foreign investors × Direct-sale privatization countries	0.0246	0.0231	-0.0263	0.0136	0.0103	0.0111	0.0021
All insiders × Direct-sale privatization countries	0.0278	0.0568 *	-0.0009	-0.0084	0.0476	0.0473	0.0493
Direct-sale privatization countries	-0.0261	-0.0381 ***	0.0243	-0.0092	-0.0193	-0.0198	-0.0150
<i>K</i>	2894	2894	2894	2894	2894	2894	2894
<i>R</i> ²	0.154	0.231	0.363	0.516	-	0.045	0.009

(b) Dependent variable — *t* value

Estimator (analytical weight in parentheses)	Cluster-robust OLS	Cluster-robust WLS [quality level]	Cluster-robust WLS [N]	Cluster-robust WLS [1/SE]	Multilevel mixed effects RML	Cluster-robust random-effects panel GLS	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (default) / Model	[8]	[9]	[10]	[11]	[12]	[13]	[14]
Ownership variable type (all state)							
All domestic outsider investors	0.4198	0.1795	4.9810 ***	0.3448	0.1175	0.1242	0.0897
Foreign investors	2.4751 ***	2.0010 ***	10.5036 ***	3.5933 ***	1.3678 ***	1.3998 ***	1.2377 ***
All insiders	0.7271	0.3138	6.1062 ***	0.8981	0.3306	0.3360	0.3115
Interaction term							
All domestic outsider investors × Direct-sale privatization countries	1.8244 *	1.5999 *	-2.1961	3.5369	2.3581 **	2.3502 **	2.3778 **
Foreign investors × Direct-sale privatization countries	1.4413	0.9601	-6.4624 *	3.6916	1.0623	1.0606	1.0597
All insiders × Direct-sale privatization countries	0.8524	1.2875	-5.1380 *	-0.9933	1.9606 *	1.9499 *	1.9813 *
Direct-sale privatization countries	-0.9745	-1.1446	6.4581 **	-1.1174	-1.7406	-1.6865	-2.0098
<i>K</i>	2894	2894	2894	2894	2894	2894	2894
<i>R</i> ²	0.209	0.280	0.577	0.391	-	0.071	0.011

Meta-regression analysis of idiosyncrasy of slow-speed privatization countries: estimation using aggregated category of ownership

(a) Dependent variable — PCC

Estimator (analytical weight in parentheses)	Cluster-robust OLS	Cluster-robust WLS [quality level]	Cluster-robust WLS [N]	Cluster-robust WLS [1/SE]	Multilevel mixed effects RML	Cluster-robust random-effects panel GLS	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (default) / Model	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Ownership variable type (all state)							
All domestic outsider investors	0.0014	0.0017	0.0083	-0.0087	0.0049	0.0049	0.0048
Foreign investors	0.0410 ***	0.0482 ***	0.0297 **	0.0644 ***	0.0311 ***	0.0313 ***	0.0275 **
All insiders	0.0071	0.0215	0.0210 **	0.0047	-0.0047	-0.0045	-0.0063
Interaction term							
All domestic outsider investors × Slow-speed privatization countries	0.0490 **	0.0494 *	0.0281	0.0159	0.0180	0.0183	0.0157
Foreign investors × Slow-speed privatization countries	0.0727 ***	0.0876 ***	0.0598 **	0.0568 *	0.0578 *	0.0579 *	0.0608
All insiders × Slow-speed privatization countries	0.0405	-0.0104	0.0024	0.0234	0.0307	0.0307	0.0306
Slow-speed privatization countries	-0.0308 **	-0.0258 *	-0.0433 **	-0.0310	-0.0414 **	-0.0403 **	-0.0705 *
<i>K</i>	2894	2894	2894	2894	2894	2894	2894
<i>R</i> ²	0.163	0.249	0.372	0.519	-	0.049	0.009

(b) Dependent variable — *t* value

Estimator (analytical weight in parentheses)	Cluster-robust OLS	Cluster-robust WLS [quality level]	Cluster-robust WLS [N]	Cluster-robust WLS [1/SE]	Multilevel mixed effects RML	Cluster-robust random-effects panel GLS	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (default) / Model	[8]	[9]	[10]	[11]	[12]	[13]	[14]
Ownership variable type (all state)							
All domestic outsider investors	0.1343	0.0687	1.0421	0.1819	0.3593	0.3582	0.3567
Foreign investors	2.0256 ***	1.5061 ***	4.6994 **	3.5412 ***	1.3013 ***	1.3256 ***	1.2077 **
All insiders	0.5564	0.6494	2.3723	0.1885	0.5232	0.5203	0.5350
Interaction term							
All domestic outsider investors × Slow-speed privatization countries	1.4589 *	1.3111 *	5.0914	1.3621	0.2288	0.2575	0.1517
Foreign investors × Slow-speed privatization countries	3.6388 *	4.0240 *	16.6145 ***	3.3199	0.8445	0.8981	0.7610
All insiders × Slow-speed privatization countries	0.9118	0.1307	3.3611	1.3154	0.3227	0.3465	0.2475
Slow-speed privatization countries	-1.2734	-0.7717	-9.5625 ***	-3.0870	-1.3523	-1.2504	-2.0658
<i>K</i>	2894	2894	2894	2894	2894	2894	2894
<i>R</i> ²	0.221	0.302	0.602	0.387	-	0.077	0.028

Main findings from estimation of the extended model

- ❑ FSU studies report a greater impact of foreign ownership on firm performance in comparison with the state and domestic private ownership than that in CEE studies both in terms of effect size and statistical significance.
- ❑ This result suggests that foreigners in the FSU countries had a remarkable advantage as a new owner of privatized enterprises.
- ❑ Studies of non-voucher privatization countries provide strong supporting evidence for all the hypothesis regarding relative relationship between different ownership types.
- ❑ The above result indicates that free distribution of state properties through voucher privatization is ineffective to inspire ex-post restructuring efforts of new owners, perhaps, due to lack of monetary incentive and appropriate selection of investors.

Main findings from estimation of the extended model (2)

- In countries with a high degree of domestic ownership, the primary method of privatization (domestic vs. foreign) has a significant impact on the performance of privatized enterprises.
- This finding is robust to counter value comparisons.
- In high-speed privatization countries, the impact of domestic and foreign investors on the performance of privatized enterprises is significantly larger than in low-speed privatization countries in terms of effect size and impact on performance.
- The above result suggests that the expansion of private sector tends to reduce the gap among different types of company owners through selection process in a market economy.

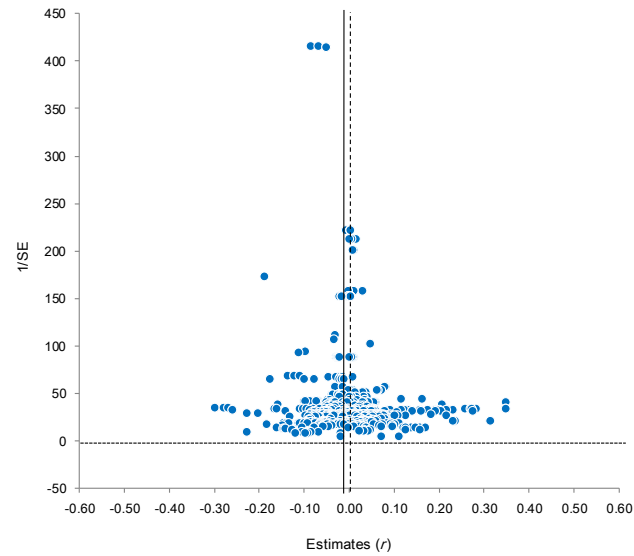
***In sum, regional preconditions
and privatization method/speed
do matter to determine
performance of new owners in
privatized enterprises!***

6. Assessment of publication selection bias

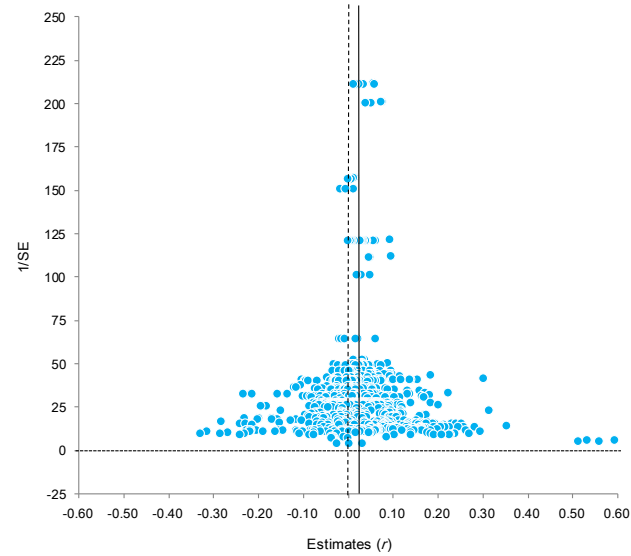


Funnel plot of estimates by aggregated category of ownership variable

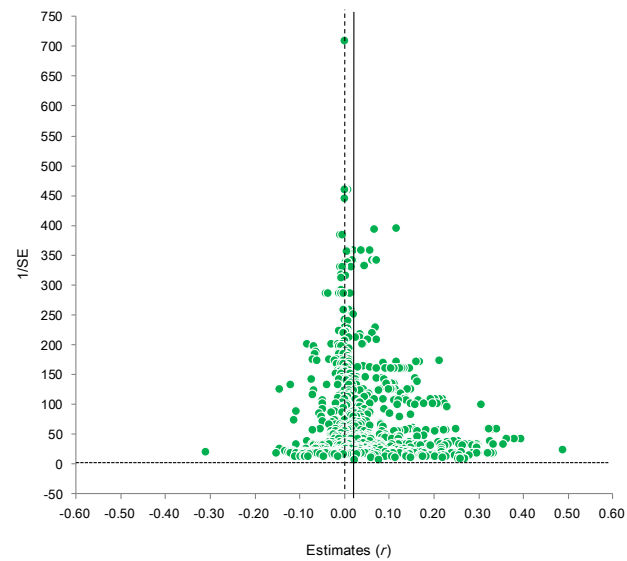
I. All state ($K=597$)



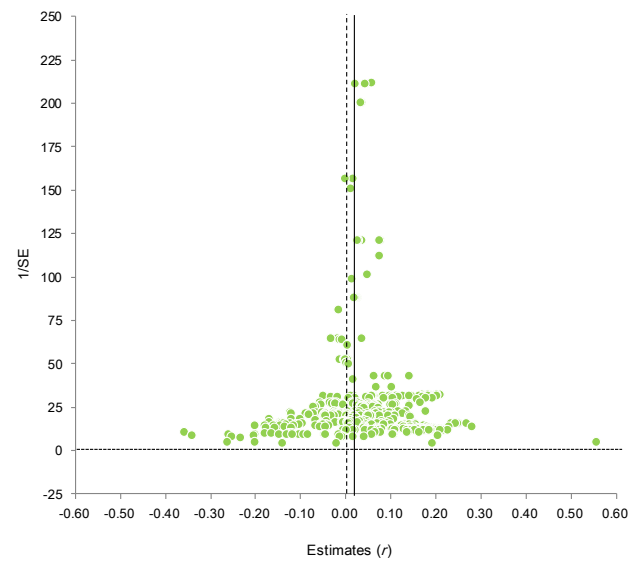
II. All domestic outsider investors ($K=946$)



III. Foreign investors ($K=874$)

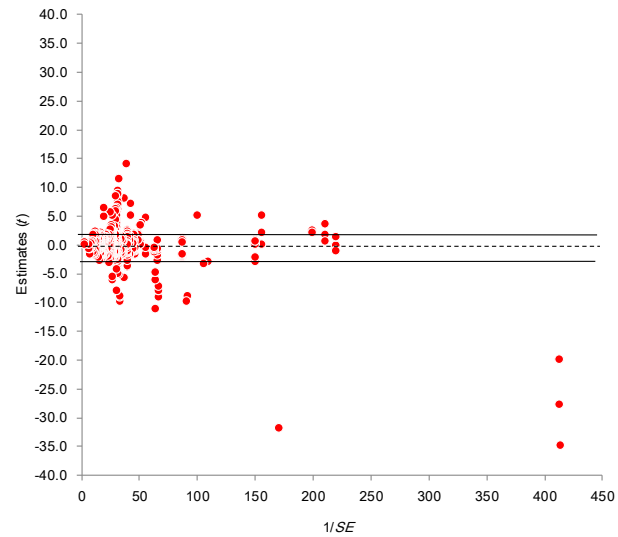


IV. All insiders ($K=477$)

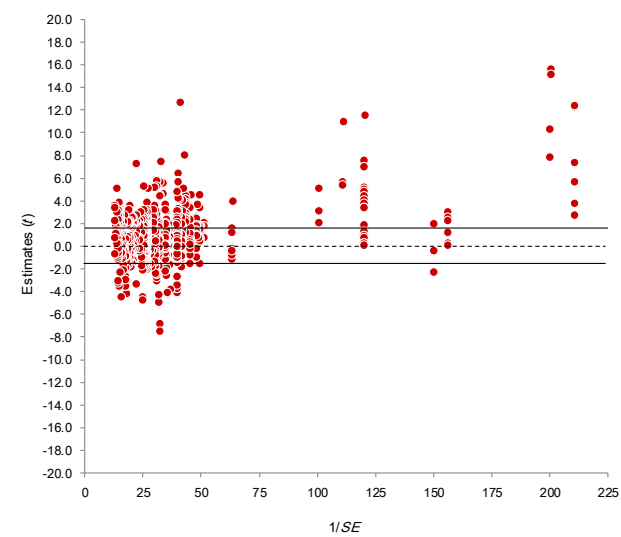


Galbraith plot of estimates by aggregated category of ownership variable

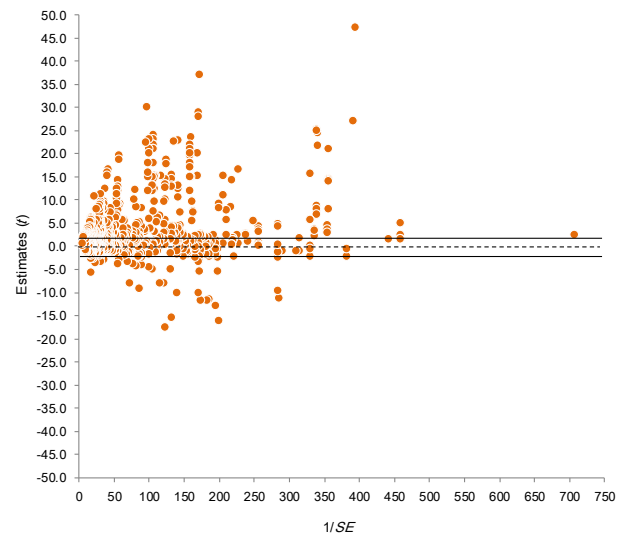
I. All state ($K=597$)



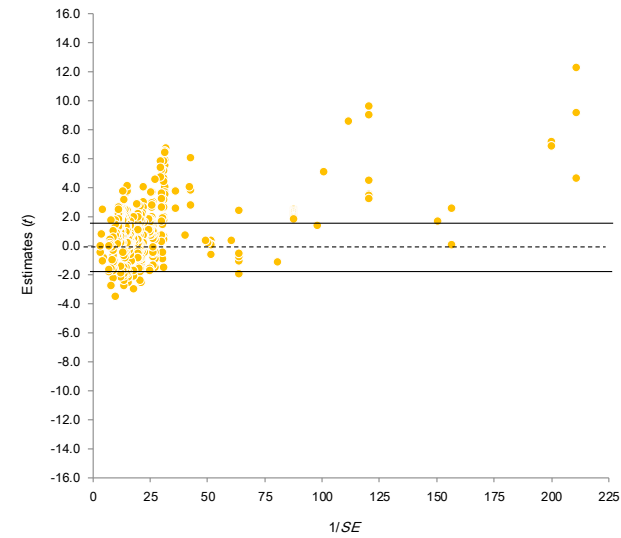
II. All domestic outsider investors ($K=946$)



III. Foreign investors ($K=874$)



IV. All insiders ($K=477$)



Summary of publication selection bias test

Ownership variable type	Number of estimates (K)	Test results			
		Funnel asymmetry test for type I PBS (FAT) ($H_0: \beta_o=0$)	Test for type II PBS ($H_0: \beta_i=0$)	Precision-effect test (PET) ($H_0: \beta_i=0$)	Precision-effect estimate with standard error (PEESE) ($H_0: \beta_i=0$)
I. All state	597	Accepted	Rejected	Accepted	Rejected (-0.0267/-0.0205)
1. Whole state	493	Accepted	Rejected	Accepted	Accepted
2. Central government	60	Rejected	Accepted	Rejected	Rejected (-0.0459/-0.0384)
3. Regional/local government	44	Rejected	Rejected	Rejected	Rejected (-0.0748/-0.0743)
II. All domestic outsider investors	946	Accepted	Rejected	Rejected	Rejected (0.0224/0.0261)
4. Whole domestic outsider investors	109	Rejected	Rejected	Accepted	Rejected (0.0137/0.0193)
5. Domestic outsider individual investors	168	Accepted	Rejected	Rejected	Rejected (0.0251/0.0265)
6. Whole domestic outsider institutional investors	98	Accepted	Accepted	Rejected	Rejected (0.0375/0.0426)
7. Whole domestic financial institutions	123	Accepted	Rejected	Accepted	Accepted
8. Domestic banks	95	Accepted	Rejected	Accepted	Accepted
9. Domestic non-bank financial institutions	144	Accepted	Rejected	Rejected	Rejected (0.0112)
10. Domestic company groups and holdings	77	Accepted	Accepted	Rejected	Rejected (0.0537/0.0689)
11. Other domestic non-financial companies	132	Rejected	Rejected	Accepted	Rejected (0.0222)
III (12). Foreign investors	874	Rejected	Rejected	Rejected	Rejected (0.0124/0.0228)
IV. All insiders	477	Accepted	Rejected	Rejected	Rejected (0.0302/0.0330)
13. Whole insiders	163	Accepted	Rejected	Rejected	Rejected (0.0340/0.0363)
14. Managers	187	Accepted	Rejected	Accepted	Rejected (0.0284/0.0261)
15. Employees	127	Accepted	Rejected	Accepted	Accepted

Conclusions: Results of meta-analysis

Testable hypotheses	Results
Superiority of private firms over state firms	Positive
Superiority of outsider over insider	Negative
Superiority of insider managers over insider employees	Positive
Superiority of domestic institutional investors over domestic individual investors	Positive in MEBOs case
Superiority of foreign investors over domestic investors	Positive, but
Superiority of CEE over FSU	Positive, but foreign impact is high in FSU
Inferiority of vouchers in performance improvement	Strongly positive
Superiority of direct sales over MEBOs	Positive, but
Speed of privatization contradictory	Speed is efficient. Negative in FSU.

Implication for Possible North Korean Transition – Macroeconomic Aspects

- The experiences in the CEE and FSU countries suggest that, to avoid serious economic downturn in the first period of systemic transformation, it is essential not to cause hyper-inflation and regional conflict. **Is it possible in North Korea?**
- The legacy of the planned system may also hamper transition to a market economy. **How is this factor strong in North Korea?**
- We cannot expect the strong impacts of transition policies and structural changes on economic growth and, thus, technical and financial assistances from outside are necessary. **Can we expect for North Korea?**

Implication for Possible North Korean Transition – Microeconomic Aspects

- The consequences of enterprise privatization in the CEE and FSU countries indicate that free-of-charge transfer of state assets to insiders (employees in particular) should be avoided for ex-post firm restructuring. **Is it politically possible to privatize North Korean companies by direct sales to strategic investors?**
- Foreign investors may play a significant role. **How can we expect FDI into North Korea in the transition period?**
- Rigid screening of strategic investors is effective to find out desirable company owners among domestic investors. **Is North Korean government capable to effectively evaluate candidates of acquiror of state assets?**