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Does Privatization Affect Economic Growth?: An Evidence From Transition Economies

Özelleştirme Ekonomik Büyümeyi Etkiler mi?: Geçiş Ekonomilerinden Bir Kanıt

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Abstract

This study examines the relationship between privatization and economic growth. The study test the hypothesis that privatization contributes to boost economic growth in transition economies by exploiting a panel data set including the period 1990 to 2008. The largest sample of the study includes 21 transition economies. Six distinct privatization indicators and two different economic growth indicators were used. In the light of estimation results, a positive correlation between privatization and economic growth was identified. This finding is statistically significant and remains valid for six different privatization and two economic growth indicators. Thus, the results suggest that privatization stimulates economic growth in transition economies, controlling for other factors that may contribute to economic growth.

Keywords: *Economic Growth, Privatization, Transition Economies, Panel Study*

Öz

Bu çalışma özelleştirme ile ekonomik büyüme arasındaki ilişkiyi incelemektedir. Çalışma 1990-2008 yıllarına ait panel data kullanarak özelleştirmenin ekonomik büyümeye katkı sağladığı hipotezini sınamaktadır. Çalışmada içerilen en geniş örneklem 21 geçiş ekonomisini kapsamaktadır. Altı farklı özelleştirme indikatörü ve iki farklı ekonomik büyüme indikatörü kullanılmıştır. Tahmin sonuçlarının ışığında, özelleştirme ile ekonomik büyüme arasında pozitif bir ilişki tespit edilmiştir. Bu bulgu istatistiksel olarak anlamlıdır ve altı farklı özelleştirme indikatörü ve iki farklı ekonomik büyüme indikatörü içinde geçerliliğini korumaktadır. Dolayısıyla sonuçlar; büyümeye katkıda bulunan diğer faktörlerin kontrol edildiği durumda özelleştirmenin geçiş ekonomilerinde ekonomik büyümeyi tetiklediğini ortaya koymaktadır.

Anahtar Kelimeler: *Ekonmik Büyüme, Özelleştirme, Geçiş Ekonomileri, Panel Çalışma*

Introduction

At the theoretical level, the relationship between privatization and economic growth is ambiguous. Privatization can improve profitability, productivity, and investment of privatized firms which eventually lead to faster growth as a result of change in the ownership, incentives, and entry of private enterprises into the economy.

Managerial efficiency of publicly owned firms would be lower than that of privately owned firms since the managers of publicly owned companies may aim to maximize the interest of the politicians while the managers of privately owned companies aim to maximize the profitability of the firm. Corruption, politi-

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cal influence, and the lack of motivation, financing, capital and market discipline would be the other factors which lower the efficiency and productivity of publicly owned companies (Dessy and Florio 2004; Gronblom and Willner, 2008).

Privatization and change in ownership may induce firms to improve efficiency, increase productivity and investment, and adopt new technologies as well as decrease their cost. If privatization tends to improve firm level performance, then this effect should be reflected in macroeconomic level such as stimulating economic growth.

However, depends on the method of privatization, political preferences, objectives of the new owners, and the degree of corruption in the government, privatization does not necessarily cause increased economic growth.

Under corrupt regime, privatization process may be designed to maximize benefits of government officials instead of the efficiency of the economy. Thus, privatization under a corrupt regime may result in a highly concentrated industry structure and concentrating ownership in wrong hands whereby it may lead to reduced economic efficiency and hence economic growth.

The impact of privatization on economic growth may also depend on the personal commitment of the new owner to the efficient management of a privatized enterprise. Main goal of some forms of privatization is to preserve employment so that the new owner may be required to maintain certain levels of employment. Also, some methods of privatization might lead state assets to be allocated to less efficient owners whereby new owners might pursue non-economic objectives such as their own status and political power. These methods of privatization may fail to accelerate economic growth in transition economies (Kaufmann and Siegelbaum, 1997).

Thus, at the theoretical level, privatization could accelerate as well as hinder the economic growth depends on the design of privatization process. Hence, the effects of privatization on economic growth are an empirical question.

The empirical literature on the impact of privatization on economic growth is limited. There are few studies empirically examining the impact of privatization on economic growth for developing countries. However, limited number of studies has yielded conflicting results.

Some empirical studies have found a positive relationship between economic growth and privatization. Plane (1997), examined the cross-sectional relationship between the change in the average GDP growth rate over the 1984-88 and 1988-92 periods and a set of explanatory variables including the implementation of privatization programs for the sample of developing market economies and found that privatization contribute to boost economic growth. Plane (1997) used cumulative privatization revenues as privatization variable. Barnett (2000) analyzed the fiscal and macroeconomic impact of privatization for 18 developing countries and found that privatization measured as total privatization proceeds as a percentage of GDP is positively correlated with real GDP growth rate. Boubakri, Smaoui and Zamiti (2009), found that privatization measured by privatization proceeds over GDP plays an important role in stimulating economic growth and privatization through public offer on the stock market contributes to economic growth by analyzing the impact of privatization on economic growth for a sample of 56 developed and developing countries over the period 1980-2004.

On the other hand, some other empirical studies have found a negative relation between privatization and economic growth. Cook and Uchida (2003) examined the relation between privatization and economic growth using data for 63 developing countries over a time period of 1988-97 and the framework of an extreme-bounds analysis. They found a negative relation between privatization and economic growth. Cook and Uchida (2003) measured the privatization ratio as the cumulative privatization revenue as a percentage of the average GDP for the same period. Filipovic (2005) found negative but insignificant relation between privatization and economic growth in a cross-country regression analysis on 92 developing countries. Filipovic (2005) used privatization proceeds during 1990-1999 as a percentage of GDP in 2000 as privatization variable. Naguib (2012) found that privatization had negative significant effects on economic growth in Argentina by using time-series model over the period 1971–2000.

Furthermore, some authors examining the relationship between privatization and economic growth found mixed results. Estimating a cross-country panel growth model of 118 developing countries over the period 1988-2007, Moshiri and Abdou (2010) found that privatization per se has no statistically significant impact on growth in most regions, but has a positive impact in East Asia and the Pacific, and South Asia. They measured privatization as the value of the cumulative revenue over five years divided by the average GDP for the corresponding period. Rahbar et al. (2012) investigated the effects of privatization on the economic growth of 41 developing countries in 2000-2008. Their results of estimation in different areas show that privatization in the MENA region, Latin America and Caribbean region, and sub-Saharan Africa had not significant effects on economic growth but for west Asia and Pacific areas, Central Asia and Western Europe, and South Asia had significant positive effects on economic growth. They used privatization revenues as a percentage of GDP as their privation variable in their model.

Only a few empirical studies on the relationship between privatization and economic growth focus on transition economies separately. Bennett, Estrin and Urga (2007) examined the relationship between methods of privatization and economic growth in transition economies. They find that only voucher privatization to have been significantly associated with faster growth by estimating a cross-country panel growth model for 1990-2003. In regard to privatization variable they employ three time-specific dummy variables, SALE, VOUCHER and MEBO, each taking the value of zero in the years prior to privatization and the value of unity in the year of privatization and subsequent years in countries that adopted sale, voucher and MEBO privatization, respectively, in their model. Cieslik and Tarsalewska (2013) analyzed the empirical relationship between privatization, income convergence, and economic growth for transition countries by using the open economy versions of two competing growth models and static and dynamic panel data estimation techniques. Their results indicate that only small-scale privatization is positively associated with growth.

The sample including only transition countries enable us to address question of whether privatization boost economic growth in a much more precise way since these countries started their privatization process with high levels of state ownership, private sector was non-existent or negligible when privatization process begins, and privatizations were implemented around the same time.

This paper extends the existing literature in three respects. First, transition countries are analyzed separately. Second, my data set on privatization is relatively recent. Third, six different privatization indicators are used in this study.

The finding of the study points out a positive impact of privatization on economic growth. This finding remains valid for two different economic growth indicators and six different privatization indicators. Hence, the results imply that privatization boost economic growth in transition economies.

This article proceeds as follows. In the following section I introduce my data, model, and my empirical strategy. Following this, estimation results are presented. concluding thoughts are offered in the final section.

Empirical Framework

By using two economic growth indicators and six privatization indicators, I investigated the impact of privatization on economic growth. The period under study is between 1990 and 2008. The largest sample includes 21 transition economies.

By using unbalanced panel data and a sample including transition countries, I estimate the following multivariate fixed effect (FE) model:

$$Growth_{it} = \alpha_i + X_{it}^{'}\beta + u_{it}$$

And the following multivariate random effect (RE) model:

$$Growth_{it} = \alpha_0 + X_{it}^{'}\beta + \varepsilon_i + u_{it}$$

where

$$X'_{it}\beta = \beta_1 GROSFIXCAP_{it} + \beta_2 GROSENRA_{it} + \beta_3 EMPLOYMENTGR_{it} + \beta_4 PRIV_{it}$$

where *it* subscript stands for the *i-th* country's observation value at time *t* for the particular variable. α_{0i} represents country specific factors not considered in the regression, which may differ across countries but not within the country and is time invariant. ε_i is a stochastic term, which is constant through the time and characterizes the country specific factors not considered in the regression. u_{it} is error term of the regression.

The dependent variable is economic growth. Two different indicators of economic growth are used to evaluate the sensitivity of my empirical results: GDP per capita growth (annual %) and GDP growth (annual %). Results may vary depending on which growth indicator is used. If the results hold across different growth indicators, it will be an indication of their robustness. The data regarding economic growth variables come from World Development Indicators of the World Bank.

The theoretical and empirical literatures have identified a vast array of variables potentially associated with economic growth. The variables used in my analysis were chosen in the light of previous studies found in the literature, the availability of the data and our main hypothesis. Explanatory variables are defined below.

The level of privatization (PRIV) in above models is represented by six distinct variables defined below:

PRIVREVENUE is the privatization revenue (cumulative, in per cent of GDP).

PRIVEMP is the private sector share in total employment (in per cent).

POESHARE is the ratio of employment in publicly owned enterprises to total employment.

PRIVSHARE is the private sector share in GDP (in per cent).

SMALL is the index of small-scale privatization created by EBRD on a scale of 1 to 4.33, with higher numbers indicating higher levels of achievement in the effort to privatize small-scale enterprises.

LARGE is the index of large-scale privatization created by EBRD on a scale of 1 to 4.33, with higher numbers indicating higher levels of achievement in the effort to privatize large-scale enterprises.

The data for the variables PRIVREVENUE, PRIVEMP, PRIVSHARE, SMALL, and LARGE come from Structural Change Indicators of EBRD. The data for POESHARE variable is gathered from ILO. I expect to have a positive association between economic growth and PRIVREVENUE, PRIVEMP, PRIVSHARE, SMALL, and LARGE whereas a negative association is anticipated between economic growth and POESHARE.

I also introduced three more determinants of productivity into my analysis to see how robust my finding is:

GROSFIXCAP refers to the gross fixed capital formation (percentage change in real terms) of the relevant country. The data come from EBRD. GROSENRA refers to gross tertiary enrolment ratio of the relevant country. The data were obtained from EdStats of World Bank. EMPLOYMENTGR refers to employment growth (the annual change in employment) of the relevant country. The data come from EBRD. Growth theories argue that economic growth is positively related to each of these variables.

Estimation Results

Estimation results are reported in Table 1 and 2 below for two different economic growth indicators. Each Table has six models for six different privatization indicators. Tables also present Hausman test statistics for choosing between Fixed Effect and Random Effect models at the 5% significance level and proposed models by Hausman Test Statistics. According to the Hausman test statistics, FE model is chosen for six models in both Table 1 and 2.

Table 1. Estimation Results Using GDP Per Capita Growth as Dependent Variable

	1	2	3	4	5	6
C	-0.6001	-9.1364	-6.0422	13.7413	-12.8561	-6.2786
Standard Error	1.0244	1.4321	1.7423	2.4050	2.0496	1.7519
P-value	0.5586	0.0000	0.0006	0.0000	0.0000	0.0004
GROSFIXCAP	0.1069	0.0832	0.0341	0.0328	0.0834	0.0910
Standard Error	0.0178	0.0162	0.0187	0.0194	0.0168	0.0176
P-value	0.0000	0.0000	0.0701	0.0924	0.0000	0.0000
EMPLOYMENTGR	0.3561	0.2360	0.3493	0.2674	0.3029	0.3622
Standard Error	0.0959	0.0898	0.1030	0.1217	0.0915	0.0962
P-value	0.0003	0.0091	0.0009	0.0294	0.0011	0.0002
GROSENRA	0.0613	-0.0203	-0.0054	-0.0567	0.0331	0.0333
Standard Error	0.0290	0.0236	0.0296	0.0356	0.0222	0.0246
P-value	0.0354	0.3903	0.8537	0.1134	0.1379	0.1776
PRIVREVENUE	0.1608					
Standard Error	0.0603					
P-value	0.0082					
PRIVSHARE		0.2274				
Standard Error		0.0262				
P-value		0.0000				
PRIVEMP			0.1720			
Standard Error			0.0306			
P-value			0.0000			
POESHARE				-35.4288		
Standard Error				6.9331		
P-value				0.0000		
SMALL					4.1142	
Standard Error					0.5641	
P-value					0.0000	
LARGE						2.8901
Standard Error						0.6230
P-value						0.0000
Number of Observations	264	291	212	187	291	291
Number of Countries	21	21	19	18	21	21
R-squared	0.520	0.602	0.589	0.413	0.575	0.528
Estimated Model	FE	FE	FE	FE	FE	FE
Hausman-statistics	27.47	54.07	40.55	48.41	56.41	46.40

Estimation results by using GDP per capita growth as dependent variable indicate that:

All coefficients of privatization indicators are statistically significant and take the expected signs. PRIVREVENUE, PRIVEMP, PRIVSHARE, SMALL, LARGE variables have consistently positive and significant coefficients, indicating that privatization process seems to boost economic growth. POESHARE variable has a negative and significant coefficient, indicating that as the ratio of public employment in total employment increases, economic growth decreases.

In regard to other variables in the model, the coefficient of the GROSFIXCAP variable is positive and statistically significant in all models. Thus, investment seems to increase economic growth in transition countries. The estimated coefficient of EMPLOYMENTGR variable takes the expected positive sign and is statistically significant in all models. The results support the proposition that employment is positively correlated with economic growth. GROSENRA variable, as anticipated, is positive and statistically significant only in Model 1. It shows that gross enrolment rate is positively correlated with the economic growth.

Table 2. Estimation Results Using GDP Growth as Dependent Variable

	1	2	3	4	5	6
C	-1.0459	-9.7706	-6.4761	13.9509	-13.3995	-6.4817
Standard Error	1.0162	1.4185	1.7543	2.3438	2.0385	1.7506
P-value	0.3045	0.0000	0.0003	0.0000	0.0000	0.0003
GROSFIXCAP	0.1068	0.0819	0.0327	0.0303	0.0823	0.0905
Standard Error	0.0177	0.0160	0.0188	0.0189	0.0167	0.0176
P-value	0.0000	0.0000	0.0849	0.1107	0.0000	0.0000
EMPLOYMENTGR	0.3763	0.2608	0.3701	0.2611	0.3308	0.3956
Standard Error	0.0951	0.0890	0.1037	0.1186	0.0910	0.0961
P-value	0.0001	0.0037	0.0005	0.0291	0.0003	0.0001
GROSENRA	0.0648	-0.0155	0.0017	-0.0532	0.0394	0.0419
Standard Error	0.0287	0.0234	0.0298	0.0347	0.0221	0.0246
P-value	0.0251	0.5092	0.9531	0.1279	0.0757	0.0902
PRIVREVENUE	0.1688					
Standard Error	0.0598					
P-value	0.0052					
PRIVSHARE		0.2312				
Standard Error		0.0260				
P-value		0.0000				
PRIVEMP			0.1727			
Standard Error			0.0308			
P-value			0.0000			
POESHARE				-39.2790		
Standard Error				6.7569		
P-value				0.0000		
SMALL					4.1363	
Standard Error					0.5610	
P-value					0.0000	
LARGE						2.7737
Standard Error						0.6226
P-value						0.0000
Number of Observations	264	291	212	187	291	291
Number of Countries	21	21	19	18	21	21
R-squared	0.524	0.614	0.588	0.463	0.584	0.534
Estimated Model	FE	FE	FE	FE	FE	FE
Hausman-statistics	25.79	61.09	41.59	55.56	62.73	51.26

Estimation results using GDP growth as dependent variable indicate that:

All coefficients of privatization indicators are statistically significant and take the expected signs. The coefficients of EMPLOYMENTGR variable are positive and statistically significant in all models while the coefficients of GROSFIXCAP and GROSENRA variables are positive and statistically significant in all models except Model 4 for GROSFIXCAP and Model 2, 3, and 4 for GROSENRA.

Overall, the results indicate that privatization contributes to boost economic growth in transition economies over the period 1990 to 2008.

Conclusion

In addition to other determinants of economic growth, this study examines the explanatory power of privatization. By using two economic growth indicators and six privatization indicators, I test the hypothesis that privatization contributes to boost economic

growth in transition economies over the period 1990 to 2008. The sample includes 21 transition economies. I identified a positive correlation between privatization and economic growth. This finding is statistically significant and valid for two different economic growth indicators and six distinct privatization indicators. Thus, the results suggest that privatization has a positive and significant effect on economic growth in transition economies, controlling for other factors that may contribute to economic growth.

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