

The Impact of Privatization on Export in Transition Economies: A Panel Study

Geçiş Ekonomilerinde Özelleştirmenin İhracat Üzerindeki Etkisi: Panel Analiz

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Abstract

In this study, we examine the relationship between various indicators of privatization and exports. We test the hypothesis that privatization contributes to boost exports in transition economies by exploiting a panel data set including the period 1989 to 2008 and 25 transition economies and using five privatization indicators. We identified a positive correlation between privatization and exports. This finding is statistically significant and valid for five different privatization indicators. Thus, the results suggest that privatization stimulates exports in transition economies, controlling for other factors that may contribute to increase in exports.

Keywords: Export, Privatization, Transition Economies, Panel Study

Öz

Bu çalışmada özelleştirmeye ilişkin farklı indikatörler kullanılarak özelleştirme ile ihracat arasındaki ilişki incelenmektedir. Beş farklı özelleştirme indikatörü için 1989-2008 periyodu ve 25 geçiş ekonomisinden oluşan panel veri kullanılarak, özelleştirmenin ihracatı arttırmada katkıda bulunduğu hipotezi test edilmiştir. Çalışmada özelleştirme ile ihracat arasında pozitif bir korelasyon tespit edilmiştir. Bu bulgu beş farklı özelleştirme indikatörü için geçerliliğini korumakta ve istatistiksel olarak da anlamlıdır. Bundan dolayı sonuçlar, geçiş ekonomilerinde özelleştirmenin ihracatı tetiklediğini ve diğer faktörlerin kontrol edildiği durumda ihracattaki artışa katkıda bulunduğunu ima etmektedir.

Anahtar Kelimeler: İhracat, Özelleştirme, Geçiş Ekonomileri, Panel Veri Çalışması

Introduction

Privatization has become an integral element of short term stabilization and long term structural adjustment policies implemented by many developing and transition countries since 1990's. Generally privatization policies are implemented simultaneously with the policies such as decrease in the level of interference of government to price mechanism, encouragement of free trade and free capital flow, and financial sector reform. Reforms aimed at reducing public sector deficit, increasing firm efficiency and productivity, and making domestic products internationally competitive.

Theoretically, it is ambiguous whether privatization leads to a larger possibility of exporting. One the one hand, privatization may have positive effects on exporting decisions of privatized firms through increasing competition in the market, improving productivity of the privatized firms, and changing incentives.

Decrease in the level of interference of government to price mechanism and encouragement of free trade and free capital flow increase the number of firms and firm size in the market. Thus, domestic and international competition may force privatized firms without government protection to export to foreign markets to survive. Another factor that affects firm's decision to export is the productivity level. Productivity growth of privatized firm may lead to exporting. Many firm level studies find that exporting decisions of firms are affected by the productivity level of the firm (see, for example, Greenaway and Kneller, 2004; Bernard and Jensen, 2004). Privatization may increase productivity of the privatized firm, in turn

productivity increase may stimulate exporting. Change in incentive structure may also lead managers of privatized firms to export. Previous to economic reforms in transition countries, import substitution was encouraged and exporting was conducted through a small number of state-owned foreign trade firms. With privatization and right incentives, managers of privatized firms may take risk and undertake export-promoting strategies.

However, privatization does not necessarily cause increased exports. Depends on privatization method, incentives in the post-privatization environment, and exporting costs may cause privatized firms' reluctance to export.

The impact of privatization on export may depend on the personal commitment of the new owner to the efficient management of a privatized enterprise. Some forms of privatization may require the new owner to maintain certain levels of employment and/or to make specified investments in the privatized enterprise whereby the goals of privatization are to stimulate investment and to preserve 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 (stimulate) export in transition economies. Cost of exporting may also affect the decision to export of privatized firm. Starting export requires some additional costs and expenses such as packaging and labeling, marketing abroad, product modification and compliance with foreign standards which may lead reluctance to export.

Thus, at the theoretical level, privatization does not necessarily cause increased exports. Hence, the effects of privatization on exports are an empirical question. The empirical literature on the impact of privatization on export is limited. There are quite few studies examining the impact of privatization on export in transition countries.

Filatotchev, Dyomina, Wright and Buck (2001, p.871) analyzed how changes in managerial incentives and other aspects of corporate governance affect export-promoting strategies in Russia, Ukraine and Belarus using a longitudinal, multi-industry dataset of 152 privatized firms in Russia, Ukraine and Belarus. They find that export-oriented product development is

positively and significantly associated with export intensity. Using firm-level data for the Chinese manufacturing sector for the period 2000-2007, Todo, Inui and Yuan (2012, p. 1) find that privatization has a positive effect on exporting decisions.

Earlier privatization-export analyses on transition economies are typically firm-level studies, rely on cross-section data or very short panels from a wide variety of sources. Unlike the earlier studies, this paper analyzes exporting effects of privatization using country-level variables, much longer time series, and more comprehensive coverage of countries. Our finding points out a positive impact of privatization on exporting. This finding remains valid for five different privatization indicators. Hence, the results imply that privatization increases exports in transition economies.

The sample including only transition countries enable us to address question of whether privatization boost exports 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, privatizations were implemented around the same time, and economic design of the transition policies were similar to some extent.

This article proceeds as follows. In the following section we introduce our data, model, and our empirical strategy. Following this, we present our estimation result. We offer concluding thoughts in the final section.

Empirical Framework

We investigated the impact of privatization on export by using five privatization indicators. The period under study is between 1989 and 2008. Our largest sample includes 25 transition economies.

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

$$\text{Export}_{it} = \alpha_{0i} + X_{it}'\beta + u_{it}$$

And the following multivariate random effect (RE) model:

$$\text{Export}_{it} = \alpha_0 + X_{it}'\beta + \varepsilon_i + u_{it}$$

$$\text{where } X_{it}'\beta = \beta_1 \text{GROWTH}_{it} + \beta_2 \text{REALEXCHANGE}_{it} + \beta_3 \text{FDI}_{i(t-1)} + \beta_4 \text{PRIV}_{it}$$

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.

Our dependent variable is Export. Export is the exports of goods and services as a percentage of GDP. The Data regarding Export variable comes from World Development Indicators of the World Bank.

The theoretical and empirical literatures have identified a vast array of variables potentially associated with Export. The variables used in our 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 five 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).

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. We expect to have a positive association between exports and PRIVREVENUE, PRIVEMP, PRIVSHARE, SMALL, and LARGE.

We also introduced three more determinants of exports into our analysis to see how robust our finding is:

GROWTH refers to annual percentage growth rate of GDP. The data comes from World Development Indicators of the World Bank. Growth led export theory suggest that economic growth lead to export growth due to export development benefits the output growth such as work force skills and technological advancement (Krugman, 1995, p.335). Thus, a positive relationship between GDP growth and exports is expected in our model.

REALEXCHANGE refers to real exchange rate of the relevant country. It is obtained by multiplying the nominal exchange rate by US Consumer Price Index (CPI) and divided by domestic CPI. The data was collected from World Development Indicators of the World Bank. A depreciation of domestic exchange rate makes exports of the relevant country more competitive and cheaper in international markets, leading to increase in demand for the exports of the relevant country. UNCTAD (2005, p. 60) research on the determinants of export finds that on average a 1 per cent real depreciation could increase exports by 6 to 10 per cent. Thus, we expect a positive relationship between reel exchange rate and exports.

FDI refers to foreign direct investment (net inflows) as a percentage of GDP. One year lagged FDI variable is used in our study. The data was gathered from World Development Indicators of the World Bank. FDI may positively impact export depends on the main motive of foreign direct investors. If foreign direct investors invest for capturing domestic market, this kind of investments doesn't contribute to export

growth. On the other hand if the main motive of the foreign direct investors to invest for exporting to other countries around the host country, this kind of investment positively contribute to export growth. Thus, while we are expecting a positive relationship between FDI and export in our model, the coefficient on this variable may be weak or insignificant.

Estimation Results

Estimation results are reported in Table 1 below. Table 1 has 5 models for 5 different privatization indicators. Table 1 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. Hausman test results for all models indicate that estimations using random effects must be chosen.

All coefficients of privatization indicators are statistically significant and take the expected signs. PRIVREVENUE, PRIVEMP, PRIVSHARE, SMALL, and LARGE variables have consistently positive and significant coefficients, indicating that privatization process seems to boost export.

In regard to other variables in the model, the coefficients of REALEXCHANGE variable are positive and statistically significant in all models except model 2. Thus, real exchange rate seems to increase exports in transition countries. The estimated coefficients of GROWTH variable are positive and statistically significant in all models except model 1 and 3. The results support the proposition that GDP growth is positively correlated with exports. The coefficients on FDI variable are positive and statistically significant in all models except model 1 and 2. This shows that FDI is positively correlated with exports.

Overall, our results indicate that privatization contributes to boost exports in transition economies over the period 1989 to 2008.

Conclusion

In addition to other determinants of export, this study examines the explanatory power of privatization. By using five privatization indicators, we test the hypothesis that privatization contributes to boost exports in transition economies over the period 1989 to 2008. The sample includes 25 transition economies. We identified a positive correlation between privatization and export. This finding is statistically significant and valid for five distinct privatization indicators. Thus, the results suggest that privatization has a positive and significant effect on exports in transition economies, controlling for other factors that may contribute to increase in exports.

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Table 1. Estimation Results Using Export (the exports of goods and services as a percentage of GDP) as Dependent Variable

	1	2	3	4	5
Constant	35.21163	3.3404	25.8080	26.5261	25.5286
Standard Error	2.99752	5.5473	4.0343	5.0143	3.9599
P-value	0.0000	0.0000	0.0000	0.0000	0.0000
GROWTH	0.0357	0.2596	0.0646	0.1746	0.1739
Standard Error	0.0815	0.1160	0.1015	0.1046	0.0898
P-value	0.6611	0.0261	0.5250	0.0960	0.0535
REALEXCHANGE	0.0120	0.0119	0.0116	0.0107	0.0130
Standard Error	0.0030	0.0073	0.0033	0.0034	0.0033
P-value	0.0001	0.1049	0.0007	0.0020	0.0001
FDI-1	0.0262	0.0384	0.0463	0.0572	0.0615
Standard Error	0.0244	0.0328	0.0276	0.0279	0.0272
P-value	0.2838	0.2428	0.0943	0.0414	0.0244
PRIVREVENUE	0.7857				
Standard Error	0.0764				
P-value	0.0000				
PRIVEMP		0.1534			
Standard Error		0.0694			
P-value		0.0281			
PRIVSHARE			0.2828		
Standard Error			0.0478		
P-value			0.0000		
SMALL				4.1916	
Standard Error				1.1250	
P-value				0.0002	
LARGE					5.5748
Standard Error					0.9547
P-value					0.0000
Number of Observations	351	265	373	381	382
Number of Countries	25	21	25	25	25
R-squared	0.298557	0.082856	0.173819	0.129231	0.170712
Estimated Model	RE	RE	RE	RE	RE
Hausman-statistics	4.240091	4.944175	1.907587	1.507379	2.545758
P-values for Hausman-stat.	0.3745	0.2931	0.7528	0.8253	0.6365