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# Effect of Privatizations on Poverty: A Cross-Country Evidence*

## *Özelleştirmelerin Yoksulluk Üzerindeki Etkisi: Ülkeler Arası Bir Kanıt*

İsmail Çağrı Özcan **

Dr. Öğr. Üyesi, Ankara Yıldırım Beyazıt Üniversitesi, Havacılık ve Uzay Bilimleri Fakültesi, Havacılık Yönetimi Bölümü, 06050, Ankara/Türkiye.
ORCID: 0000-0002-3809-1847

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ÖZ

Özelleştirme politikaları oldukça ihtilaflı bir konudur. Bu konuda yapılan akademik çalışmalar özelleştirmelerin şirket düzeyindeki performans etkileri üzerine odaklanmakta, toplu anlamda finansal ve ekonomik etkileri nispeten daha az çalışılmaktadır. Bu çalışmanın amacı, özelleştirme programlarının yoksulluk üzerindeki etkilerini araştırarak bu alandaki boşluğa katkı yapmaktır. 83 adet ülkeyi içeren ve 1988-2007 dönemini kapsayan bir veri seti kullanılarak yapılan analizlerin sonucuna göre, özelleştirme uygulamaları yoksulluk oranlarını düşürücü bir etkiye sahiptir.

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ABSTRACT

Privatization policies are quite controversial. But the academic studies regarding the effect of privatization mostly focus on the firm level performance impacts and the aggregate financial and economic impacts remained relatively untouched. The aim of this study is to contribute to this policy gap by examining how privatization programs affect poverty levels. Using a sample of 83 countries over the 1988-2007 period, our analyses suggest that privatization implementations tend to reduce poverty rates.

## 1. Introduction

The role of the state-owned enterprises (SOEs) in the economy has been questioned for many years. The opponents of the public involvement in economic activities argue that the state should be a regulator and a policymaker rather than an owner and an operator of an economic activity whereas proponents claim that state involvement in the provision of certain goods and services is necessary for responding to market failures, ensuring national ownership and control of so-called strategic industries, and enabling the facilitation of huge investments that private sector may fail to undertake. As the idea of lesser involvement of state

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** Sorumlu yazar/*Corresponding author*.
e-posta: icozcan@ybu.edu.tr

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within economic activities becomes more widely accepted over time, the paradigm has shifted from state-control economy towards privatization and private sector participation.

But privatization of SOEs is not free from criticism. One major criticism is that new management of the privatized enterprises can exploit its market power at the expense of consumers' wealth by charging abnormally high tariffs for the goods and service they produce. For example, the new owner of a privatized electricity company may charge higher fees for the electricity it sells and the consumers may be adversely affected due to such a pricing scheme. Another criticism is that privatization can sometimes be used as a transfer of public resources to the favored parties through corrupted auctions.

Being a controversial issue, privatizations, their impact on enterprises' performance, and the factors forcing the governments to privatize are widely studied. However, the number of studies on the impact of privatization on some aggregate financial and macroeconomic indicators is limited. This study attempts to contribute to this policy question by analyzing how privatization efforts affected poverty. Our findings based on a sample of 83 countries over the 1988-2007 period suggest that poverty tends to reduce with increasing privatizations. Section 2 of this paper outlines the literature and explains both the methodology and data. Section 3 presents the empirical findings. Section 4 discusses the conclusion and the policy discussions.

## 2. Literature Review, Methodology, and Data

The majority of the privatization literature focuses on the performance impacts on the privatized enterprises. A larger group of these studies reported the improved performance after privatization (see Megginson et al. (1994) and Boubakri and Cosset (1998)). Several theories attempt to bring an explanation to these performance enhancements. The agency theory, for example, underlines the high agency costs in the state ownership due to the lack of effective reward and punishment mechanisms for the managers of SOEs. On the other hand, organizational theory indicates that SOEs donot have the right organizational structure to operate efficiently.

Though the main debate on privatization is the performance change of the SOEs after privatizations, the aggregate financial and economic impacts of privatization efforts remained relatively untouched. The linkage between privatization programs and poverty is one of these less-studied topics.

The privatization implementations can affect poverty in both directions. If the privatization really brings efficiency gains to the privatized firms, then it should reduce poverty assuming that improved efficiency will foster increased production and employment. In addition, if the government transfers the privatization revenue to the poor via some poverty reduction programs or spends the privatization revenue for necessary infrastructure projects which may induce new businesses and jobs, the privatization is said to reduce poverty. On the other hand, if the new profit-seeking management starts with reducing the redundancy in employment, then privatization may increase poverty due to the lay-offs. In addition, if the privatized enterprise is a public utility or a public service provider and the regulation is poor in that country, then the new private management may exploit its market power by increasing the tariffs and the consumers, as a whole, may adversely be affected.

Previous studies focusing on how privatization might affect poverty mostly presented negative impacts. McKenzie et al. (2003) examined the welfare effects of the privatization program in Argentina, Bolivia, Mexico, and Nicaragua. Their findings failed to document a negative impact of privatizations (especially utility privatizations) on consumer welfare but they showed a negative effect on the employment. After going over various privatization implementations in a group of countries, Birdsall and Nellis (2003) underlined that many privatization implementations added to the income inequality. The analyses of Nixson and Walters (2006) revealed that the privatization of livestock contributed to both poverty and the imbalance of wealth distribution in Mongolia. Dagdeviren (2006) examined the association between privatizations and poverty reduction through the Sudan case. Her findings presented that the privatization program led to significant job cuts. Pham and Mohnen (2012) noted that privatization did not have a positive impact on creating new jobs in Vietnam.

This study aims at predicting the linkage between poverty and privatization implementations. To achieve this goal, the following specification is constructed:

$$Y = \alpha + \beta X + \acute{\varepsilon} \quad (1)$$

where Y is the measure for poverty, X is a vector of explanatory variables, and ε is the error term.

In the literature, there are several ways to measure poverty. The two mostly used ones are the headcount ratio and poverty index. The headcount ratio is equal to the percentage of the population living below the poverty line. The advantage of this measure is that it is easier to interpret and use. The second common measure, the poverty gap index, takes into account the magnitude of the poverty and shows the average poverty gap of the population. Therefore, this measure conveys more information regarding poverty but it may be relatively more difficult to interpret this index. In this study, we opt to use the headcount ratio (*HEADCOUNT*) to measure the poverty (Y) in each country.

The policy variable in X is the privatization. The extent of the privatization implementations can be evaluated in various ways. One option is to take the number of the privatized SOEs. Another option might be to use the privatization proceeds. We believe that the latter method can more truly reflect the extent of privatization. However, using absolute figures for privatization revenues would be misleading. Because privatization revenue of $ 10 million may mean almost nothing to China but it may mean a lot to a small country like Vanuatu. Therefore, we normalized the privatization revenues by the GDP of each country to adjust for size. We also believe that there should be a time lag to see the financial and economic impacts of privatization. Accordingly, we decided to aggregate the privatization revenues. Our policy variable, *PRI_REV*, is the ratio of the sum of privatization revenues for the last 5 years (from $t_{-5}$to $t_{-1}$ where $t_0$ is the year we measure poverty) to the 5-year average of GDP (from $t_{-5}$to $t_{-1}$). We expect *PRI_REV* to get a negative coefficient.

In addition to the policy variable, *PRI_REV*, we adopt several control variables that may affect the poverty rates. The first control variable we use is the foreign direct investments (*FDI*). Being our second independent variable in X, *FDI* aims at capturing the possible effect of foreign direct investments on poverty rates. The previous literature mostly documented how foreign direct investments stimulated the income of the poor. Jalilian and Weiss (2002) adopted a dataset from ASEAN countries to test the linkage between FDI and poverty. They showed that foreign direct investment inflows contributed to the income growth of the poor. Zhang (2006) documented that foreign direct investments reduced poverty in China. The analyses of Karim and Ahmad (2009) showed that foreign direct investments tended to decrease poverty levels in Malaysia. Gohou and Soumare (2011) adopted a multinational dataset of 52 African countries over the 1990–2007 period. Their findings revealed that higher foreign direct investment levels were associated with poverty reduction. Contrary to these studies, the findings of Huang et al. (2010), based on a sample of 12 middle-income countries, suggested that foreign direct investment flows decreased the income levels of the poorest groups of the population. We anticipate that our independent variable *FDI*, which is equal to the ratio of the sum of foreign direct investment for the last 5 years (from $t_{-5}$to $t_{-1}$) to the 5-year average of GDP, should be reducing poverty.

Our third independent variable focuses on how the foreign trade of the countries contributed to their poverty alleviation. The previous literature offered contradicting results on this linkage. While some studies suggest that there is no relation between openness and inequality (Edwards 1997; Ravallion 2001; Dollar and Kraay, 2002), other studies documented either a negative or a positive association. For example, Gourdon et al. (2008) employed a large dataset to examine the association between trade and poverty. They found that foreign trade added to the inequality in poor countries with higher proportions of the low-education workforce. On the other hand, using a sample of 30 African countries over the 1981-2010 period, Le Goff and Singh (2013) documented that higher trade openness was more likely to decrease poverty. We calculated the *OPENNESS* variable as the sum of imports of goods and services (% of GDP) and exports of goods and services (% of GDP). The *OPENNESS* variable can get both positive and negative coefficient.

We would like to take the price levels into account for our analyses. Obviously, higher price levels for goods and services is not desirable for the low-income groups and previous literature underlined how inflation added to poverty. Easterly and Fischer (2001) found, employing a data set consisting of 31,869 households from 38 countries, that higher inflation rates stimulated poverty. Chani et al. (2001) examined the Pakistani evidence when testing the linkage between inflation and poverty. Their results showed that a higher inflation rate was associated with higher poverty levels. Talukdar (2012) analyzed the possible effects of inflation on poverty levels. He used a large sample of 155 developing countries between 1981 and 2008. His findings based on panel data estimations revealed a positive linkage between inflation and poverty. Fujii (2013) made a simulation for the Philippines to measure how the food inflation affected the poor. He documented that food inflation negatively affected the poorest segments of the population. Our fourth independent variable, *INF*, is equal to the inflation rate in each country and we expectto have a positive coefficient for *INF*.

Our fifth independent variable, EXT_DEBT, is the ratio of the 5-year average of external debt stocks (DOD, current US$) to the average of GDP for the last 5 years. Using a dataset consisting of 67 low-income countries and covering the 1985-1999 period, Loko et. al. (2003) showed that external debt had a statistically significant negative effect on poverty. Uzochukwu (2003) documented that external debt had a negative impact on poverty in Nigeria over the 1970-2001 period. Similarly, Saungweme and Mufandaedza (2013) focused on the Zimbabwean case and examined the association between external debt and poverty over the 1980-2011 period. Their findings revealed that payments for external debt service led to higher poverty levels in Zimbabwe. In line with the previous literature, we expect a positive coefficient for the EXT_DEBT variable since countries having substantial external debt are less likely to allocate necessary funds for poverty reduction programs.

**Table 1.** Variable Definitions

| Variable | Definition |
|---|---|
| HEADCOUNT ($t_0$) | poverty headcount ratio at the national poverty line (% of the population) |
| PRI_REV | (the sum of privatization revenues from $t_{-5}$ to $t_{-1}$)/( the average of GDP from $t_{-5}$ to $t_{-1}$ ) |
| FDI | the sum of foreign direct investment, net inflows (BoP, current US$) from $t_{-5}$ to $t_{-1}$ |
| OPENNESS ($t_0$) | the sum of imports of goods and services (% of GDP) and exports of goods and services (% of GDP) |
| INF | the 5 year average of Inflation, GDP deflator (annual %) from $t_{-5}$ to $t_{-1}$ |
| EXT_DEBT | (the 5 year average of external debt stocks (DOD, current US$) from $t_{-5}$ to $t_{-1}$ )/(the average of GDP from $t_{-5}$ to $t_{-1}$ ) |
| GDP_PER_CAP | the 5 year average of GDP per capita from $t_{-5}$ to $t_{-1}$ |

Our last control variable is the GDP per capita (*GDP_PER_CAP*). It is equal to the 5-year average of GDP per capita between t-5 to t-1. By its definition, we expect a negative relation between *GDP_PER_CAP* and poverty. We also added year dummies to account for the year specific events.

Table 1 shows the definition of the variables and Table-2 presents the descriptive summary statistics. The statistics illustrated in Table-2 suggest that the distributions of several variables in our sample are not homogeneous. When we look at PRI_REV, FDI, INF, and EXT_DEBT, we see that their standard deviations are much higher than their mean values. Therefore, we may conclude that the heterogeneous distribution of PRI_REV can be explained by the fluctuating patterns of some independent variables included in our estimations. Table-3 depicts the correlation matrix among variables.

**Table 2.** Summary Statistics

| Variable | Observations | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| HEADCOUNT | 171 | 37.16203 | 17.65839 | 2.8 | 82.8 |
| PRI_REV | 166 | 9.64E-08 | 1.01E-06 | 0 | 1.31E-05 |
| FDI | 160 | 0.02543 | 0.030152 | -0.03557 | 0.259613 |
| OPENNESS | 161 | 69.97457 | 34.97277 | 17.01594 | 222.2578 |
| INF | 163 | 77.2836 | 450.8986 | -1.90758 | 5577.272 |
| EXT_DEBT | 160 | 2.26E+10 | 4.22E+10 | 3.08E+08 | 2.37E+11 |
| GDP_PER_CAP | 166 | 1209.702 | 1193.815 | 135.3657 | 6134.896 |

**Table 3.** Correlation Coefficients

| | HEADCOUNT | PRI_REV | FDI | OPENNESS | INF | EXT_DEBT | GDP_PER_CAP |
|---|---|---|---|---|---|---|---|
| HEADCOUNT | 1 | | | | | | |
| PRI_REV | -0.0152 | 1 | | | | | |
| FDI | 0.1114 | 0.257 | 1 | | | | |
| OPENNESS | -0.0025 | 0.3518 | 0.4217 | 1 | | | |
| INF | 0.0569 | -0.0115 | -0.0547 | 0.0237 | 1 | | |
| EXT_DEBT | -0.4248 | -0.0419 | -0.0615 | -0.2684 | 0.013 | 1 | |
| GDP_PER_CAP | -0.4505 | -0.0189 | 0.0404 | -0.0316 | -0.0209 | 0.5118 | 1 |

Our data come from two different World Bank Databases. World Bank Privatization Database includes all the privatizations from all over the world starting from the year 1988. World Bank Privatization Database also consists of the name of the privatized companies, privatization years, sectors (such as infrastructure, competitive financial, energy, primary), deal types (such as greenfield project, divestiture, auction, concession), and proceeds from privatizations (in $ basis). The second World Bank Database we used, World Bank World Development Indicators Database, provides data for 54 different development indicators from 227 countries. After eliminating the countries with missing data, our final dataset contains 171 observations from 83 countries.

This study has several drawbacks. First, despite its practicality, using headcount measure as a proxy for poverty fails to capture the depth of poverty. Second, privatization revenue may not always be the best proxy to measure the extent of the privatizations. In some cases, the SOEs were transferred to the private sector for free or for a symbolic price like $ 1 (provided that the new management would assume the current debts, would keep the workforce or would make additional investments).

## 3. Empirical Results

Table 4 shows the regression results. Our policy variable, *PRI_RE*, has a statistically significant negative coefficient. This result implies privatization (at least privatization revenue) has a reducing impact on poverty. More concretely, if the PRI_RE increases by E-9 (which is almost equal to the mean value for PRI_RE in our sample as presented in Table 2), then the *HEADCOUNT* ratio is expected to decrease by 0.11. Such a decrease in the *HEADCOUNT* ratio is not very high but it is statistically significant at the 10% significance level.

Regarding *FDI*, *OPENNESS*, and *INF*, our OLS estimation failed to document a statistically significant association between these parameters and poverty rates. Our other control variables, *EXT_DEBT* and *GDP_PER_CAP* had statistically significant coefficients.

**Table 4.** Regression Results

| Variable | Coefficient |
|---|---|
| PRI_REV | -1107108*<br>(1.72) |
| FDI | 68.14958<br>(1.31) |
| OPENNESS | -0.07616<br>(1.50) |
| INF | -0.003<br>(1.34) |
| EXT_DEBT | 5.427975**<br>(2.49) |
| GDP_PER_CAP | -0.0061***<br>(5.66) |
| constant | 32.49383***<br>(6.52) |
| $R^2$ | 0.37 |

Notes:
(1) t-statistics in parenthesis based on robust regressions
(2) Number of observations=153
(3) Year dummies not shown
(4) ***, **, and * stand for significance levels at 1%, 5%, and 10%, respectively

## 4. Conclusion

Privatizations have always been a challenging issue. The proponents of the privatization implementations underline the performance improvements in the privatized enterprises and point out the privatization revenues as a critical source of public finance. The opponents, on the other hand, stress the public service provider nature of some privatized SOEs and mark the necessity of state-ownership in such strategic sectors. As surveyed in this paper, the majority of the literature demonstrated how the privatizations, especially those of the utilities, led to higher poverty and income inequality. This paper, however, presents an opposite evidence. Our results suggest that privatization implementations reduce poverty.

Further research should focus on the dynamics of this linkage. In other words, we should uncover if the reduction in poverty is happening because the inefficient privatized SOEs become more productive leading to higher income or because the privatization revenues are transferred to social programs targeting poverty.

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