

**PRIVATIZATION VERSUS DEBT STOCK : A PRELIMINARY
ANALYSIS ON TURKEY**

**ÖZELLEŞTİRMEYE KARŞI BORÇ STOĞU: TÜRKİYE ÜZERİNE
BİR ÖNÇALIŞMA**

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ABSTRACT

Large-scale privatization efforts began to have an important place in governments' economic programs in many countries in the last two decades including Turkey. The main goal of privatization is to put an end to the inefficiencies of the state owned enterprises by freeing the resources of this huge organism to enhance the living standards of the people. A successful privatization process requires supportive market environment with four essential elements of macroeconomic stability, hard budget constraints, competitive markets, and adequate property rights. This study focuses on the hard budget constraint and investigates whether the Turkish government substitutes privatization revenue for the debt stock or not.

Keywords: Privatization, debt stock, public investment, private investment

ÖZET

Büyük ölçekli özelleştirme çabaları, son yirmi yıl içinde Türkiye dahil bir çok ülkenin ekonomi programları içinde önemli bir yer almaya başladı. Özelleştirmenin en önemli hedefi, kamu iktisadi teşebbüslerinin kaynaklarının serbest bırakılarak verimsizliklerine son verilmesi ve dolayısıyla kişilerin hayat standartlarının yükseltilmesidir. Başarılı bir özelleştirme programı, destekleyici piyasa ortamıyla birlikte, makroekonomik istikrar, sert bütçe kısıtları, rekabetçi piyasalar, ve yeterli özel mülkiyet haklarının mevcut olmasını gerektirmektedir. Bu çalışma, sert bütçe kısıtı üzerinde durmakta ve devletin borç stoğunun özelleştirme gelirleriyle ikame edip etmediğini incelemektedir.

Anahtar Sözcükler: Özelleştirme, borç stoğu, kamu yatırımları, özel yatırımlar

INTRODUCTION

Global economic system forces countries to adjust to global economic integration and the inherent pressures that the new economy imposes on countries to deregulate, liberalize and privatize. Especially countries having serious debt stock, have no choice but follow this powerful force of globalization. The aim of this paper is to concentrate on the relationship between the budget deficit and/or debt stock and the privatization revenue. Main goal of privatization is to put an end to the inefficiencies of the state owned enterprises by freeing the resources of this huge organism to enhance the living standards of the people.

Privatization revenues offer large amounts of instant money to the governments without political implications of tax increases. Since Turkey is one of the highly indebted countries in the world (debt stock over 115 billion dollars in 2002), it is not difficult to understand how important these revenues are for the Turkish government. Therefore, privatization can be considered as an important instrument for providing additional revenue in order to finance Foreign and Public Sector debt (Public Sector Debt / GNP has reached 31.08 in 2000 and 47.18 in 2001). This view is heavily criticized because opponents argue that it would be inappropriate to consider the process of privatization of State Economic Enterprises as a way to obtain debt relief rather than a strategy to improve the functioning of the market, because eventually it will come to an end (Dartan, 1996, p.126, Boratav, 1994, p.177-214). In this paper, our concern is neither privatization models (techniques) nor the benefits of privatization in certain sectors but to search the relationship between the budget deficit and/or debt stock and the privatization revenue. Privatization may lead to 1) a decrease in public investment and/or 2) a shift in public investment to another area and/or 3) the use of privatization revenue in the finance budget deficit/debt stock (Easterly, 1999,68-70). This study investigates whether the Turkish government substitutes privatization revenue for the debt stock or not. If this is true, a negative relationship will be observed between privatization revenue and debt stock and/or public investment; as privatization revenue increases, debt stock and/or public investment decreases.

The paper is organized as follows; section 2 provides descriptive statistics and correlations on the above-mentioned relationships. Section 3 reports the results and concludes.

EMPIRICAL ANALYSIS

As it is stated before, this study aims to investigate whether the Turkish government substitutes privatization revenue for the debt stock or not. Therefore, our hypothesis is that if the government engages in mass

privatization efforts, increased privatization revenue should lead to a lower debt stock of the government and/or a lower public investment. So, in this section, an expected negative relationship between privatization revenue and debt stock and/or public investment will be searched.

In this study debt stock and public investment will be used interchangeably because we expect that an increase in the privatization revenue will reduce either the debt stock of the government or the investments carried out by the government. This is because, with the additional income government has gained;1) it will choose either to repay its debt or 2)it will decrease public investment, which is expenditure for the government. However this statement must be taken account with serious reservation; because mostly governments cut down on capital expenditures, (Hicks, 1991, p. 72) however, public investment contains investments that will pay returns to future governments (Easterly,2000, p.59). The decrease in the public investment due to increased privatization revenue represents, in a way, a “crowding-in effect” of reduced government spending.

While searching the relationship between these two variables, the macroeconomic stability will have utmost importance and will be controlled with these variables; inflation and/or budget deficit, interest rates, and exchange rates.

Inflation is a crucial variable; high inflation brings high nominal and real interest rates and adds to the cost of the private sector investments. This in turn affects the consequences of the privatization process. An increase in inflation, causes an increase in demand for money which directly causes an increase in the rate of interest in the economy unless it is accompanied by an adequate increase in money supply. On the other hand, if monetary growth is used to finance large amounts of government budget deficits without any increase in productivity, it results in high and persistent inflation (this has been the case for Turkey for at least the last thirty years (Subaşı, 1999:27-31)), therefore nominal government budget deficit will be used interchangeably with inflation rate.

The interest rate is obviously necessary for this analysis as it represents both the cost of the government debt stock and the cost of the private sector investments. Accompanying depreciation and volatility of the exchange rate will increase uncertainty on the part of private sector, international trade and finance participants, overall harming the economy's growth prospects. Therefore, our last additional variable is the exchange rate.

Data

The data on privatization is insufficient and inconsistent in Turkey. The data on privatization obtained from the Privatization Administration

consists of privatization revenue and value of the privatization transactions for 1986-2002 and they are in billions of TL. These variables will also be used interchangeably. The data for debt stock, public investment, inflation, government budget deficit, interest rate and exchange rate are obtained from State Planning Organization and the Statistical Institute of the State and are available for years 1960-2002. All of our data are annual.

As it can be seen, the data on privatization restricts our data set to 1986-2002. This is rather a very short time period considering yearly data; however there is no way at this point to extend the data. We are aware that sound econometric techniques are impossible to apply in this case. Therefore, we will use correlations and a simple econometric model, hoping to be a starting point for further research.

Estimation and Findings

Table 1 gives the contemporaneous correlations for the relationships indicated by our study. All variables are represented in real terms. As debt stock and public investment will be used interchangeably, the correlation coefficient between these two variables is expected to be positive and closer to unity. As it can be seen from the table, the sign is positive and statistically significant but the magnitude is not as high as expected.

Debt stock and privatization revenue are expected to be negatively related, however the correlation is positive and statistically significant. The correlation coefficient between the debt stock and the value of privatization transactions is also positive but insignificant. The correlation coefficients between public investment and privatization revenue and the value of privatization transactions are also positive, reverse of the expected and insignificant.

These positive correlation coefficients between debt stock and/or public investment and privatization revenue and the value of privatization transactions could be an indicative of the fact that Turkish government does not substitute privatization revenue for the debt stock and/or public investment. Another explanation could be that the privatization efforts of the Turkish government have not been successful in the sense to reduce its debt stock or to reduce crowding-out effect of government expenditure¹.

Contemporaneous correlations are simple statistics in the sense that they give an initial idea about the relationships between the variables.

¹ External factors may also lead to these results. For example, in periods where privatization revenue is high and a big portion of this revenue is transferred to the budget, an increase in the interest rate will cause the budget deficit/debt stock to increase. Therefore, the relationship between privatization revenue and budget deficit/debt stock would realize opposite of the expected.

However, to understand and investigate these relationships in detail, they are not sufficient. So, we apply two simple models, which can be shown as below:

$$\begin{aligned} (\text{dbs or pbi})_t = & a_0 + a_1 (\text{prvinc or prvrns})_t + a_2 (\text{exc})_t + a_3 (\text{int})_t \\ & + a_4 (\text{inf or budgdef})_t + e_t \end{aligned} \quad (1)$$

$$\begin{aligned} (\text{dbs or pbi})_t = & b_0 + b_1 (\text{prvinc or prvrns})_t + b_2 (\text{exc})_t + b_3 (\text{int})_t \\ & + b_4 (\text{inf or budgdef})_t + b_5 (\text{prvi})_t + e_t \end{aligned} \quad (2)$$

where dbs : real debt stock
pbi : real public investment
prvinc : real privatization income
prvrns : real value of privatization transactions
exc: exchange rate
int : real interest rate
inf : inflation rate
budgdef : nominal government budget deficit
prvi : real private investment
e : error term.

In both models, debt stock and public investment will be used interchangeably as the dependent variables. For the first model, the independent variables include the exchange rate, the real interest rate, real privatization income and the real value of privatization transactions (used interchangeably), inflation and nominal government budget deficit (used interchangeably). For the second model, the independent variables are the same except for the inclusion of the real private investment. In both models, the signs of real privatization revenue and the real value of privatization transactions (a_1 and b_1) are expected to be negative. In addition, we expect that the fit of the model will improve with the inclusion of the real private investment to the second model. If the privatization efforts of the government are successful, debt stock and/or public investment should fall and private investment should increase, so the sign of private investment (b_5) is expected to be positive (Apergis, 2000: 232).

Table 2 gives the results of the first model. Regressions 1 through 4 use debt stock as the dependent variable where regressions 5 through 8 use public investment as the dependent variable. As the independent variables are the same in all regressions, we expect the signs of the variables to be consistent across equations 1-4 and 5-8.

In all the equations, both the real privatization revenue and the real value of privatization transactions have positive signs, which is the reverse of our assertions. Exchange rate and real interest rate are seen to have a positive effect on the debt stock and on the public investment. Inflation and

budget deficit have different signs across the regressions. Inflation and budget deficit are positively related with the debt stock of the government but negatively related with public investment. Besides, it can be seen that the fit of the model is better with the debt stock as the dependent variable.

Table 3 gives the results of the second model. This model adds real private investment into the independent variables. Regressions 9 through 12 use debt stock as the dependent variable where regressions 13 through 16 use public investment as the dependent variable. Again, as the independent variables are the same in all regressions, we expect the signs of the variables to be consistent across equations 9-12 and 13-16.

In all the equations, the real privatization revenue is seen to have a negative sign. This is the expected result of our model. However, the sign of the real value of privatization transactions is inconsistent across the equations. It affects the debt stock negatively but affects public investment positively. Exchange rate is seen to have a positive effect on the debt stock and on the public investment whereas the real interest rate is seen to have a positive effect on the debt stock and on the public investment, on average. The signs of inflation and budget deficit are also not consistent across the equations. The real private investment is seen to have a positive effect, on average, on both the debt stock and the public investment. It can be seen that the fit of the model is improved with the addition of real private investment to the equations and the fit is again better with the debt stock as the dependent variable.

CONCLUSION

Considering the results of the correlations and the regressions, it can be concluded that the evidence for the hypothesis that if the government engages in intensive privatization efforts, increased privatization revenue leads to a lower debt stock of the government and/or a lower public investment is uncertain in Turkey for the 1986-2002 period. While the correlations show that the reverse of the hypothesis is true, the results of the regressions are mixed.

These inconsistent results could be due to two factors: 1) the data on privatization is insufficient to search for the relationship in question and 2) as mentioned before, either Turkish government does not substitute privatization revenue for the debt stock and/or public investment or the privatization efforts of the Turkish government have not been successful

and effective in the sense to reduce its debt stock or to reduce crowding-out effect of government expenditure².

Theoretically, the advantage of private enterprises stems from its profit-maximizing behavior under competitive market environment. A successful privatization process requires supportive market environment with four essential elements of macroeconomic stability, hard budget constraints, competitive markets, and adequate property rights (Oleh Havrylyshyn and Donald Mc Gettigan, 1999:7-12). However, most of the time without having these necessary underlying factors governments try to privatize the national assets, aiming to increase efficiency. Academic research shows that international and domestic economic factors and domestic political institutions affects to governments decision to privatize. And also, governments that receive financing from the IMF have privatized or announced to privatize a greater share of their national assets (Brune, 2000,p.2).

At this point, considering the inconsistent results of this preliminary study, we should be further investigated by asking the question: “how sincere has the Turkish government been towards privatization?”. While searching this question in future work, domestic economic conditions, domestic political conditions, position in the international economy and intervention by international financial institutions should be analyzed with utmost attention.

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² In addition to these, two minor factors are apt to be mentioned. First of all, only part of the privatization revenue is transferred to the government budget. However, this data is not available. This can be considered as the limitation of the research. Also, total privatization revenue from the beginning of privatization efforts is about 7,5 billion dollars whereas total debt stock is about 140 billion dollars. The ratio of annual privatization revenue to the debt stock is small. This also could undermine the results of our analysis.

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Privatization Versus Debt Stock : A Preliminary Analysis on Turkey

Table 1. Correlations

Variables	Correlation Coefficient
Debt stock & public investment	0,608**
Debt stock & privatization income	0,868*
Debt stock & privatization transactions	0,558
Public investment & privatization income	0,291
Public investment & privatization transactions	0,546

* : significant at 1 % level

** : significant at 5 % level

Table 2. The Results of Regression (1)

Independent variables	Dependent variable : dbs				Dependent variable : pbi			
	1	2	3	4	5	6	7	8
Constant	+***	+	+*	+*	+*	+**	+*	+**
Prvinc	+		+		+		+	
Prvtrns		+		+		+		+
Exc	+**	+	+***	+	+	+	+	+
int	+	+	+	-	+	-	+	+
inf	+	+			-	-		
budgdef			+***	+			+	-
R ²	0,86	0,87	0,89	0,91	0,46	0,56	0,42	0,43
DW	2,10	2,21	2,09	2,10	1,35	1,82	1,38	1,59
F	10,55*	6,52**	14,13*	9,50*	1,47	1,27	1,28	0,76

* : significant at 1 % level

** : significant at 5 % level

*** : significant at 10 % level

Table 3. The Results of Regression (2)

Independent variables	Dependent variable : dbs				Dependent variable : pbi			
	9	10	11	12	13	14	15	16
Constant	+	+	+**	+	+*	+***	+	+
prvinc	-		-		-		-	
prvtrns		-		-		+		+
Exc	+	+	+	+	-	+	-	+
int	+	-	-	-	-	-	+	+
inf	+	-			-	-		
budgdef			+	+			-	+
prvi	+	+	+	+	+	+	+	-
R ²	0,90	0,94	0,92	0,91	0,58	0,58	0,46	0,47
DW	1,43	2,31	1,99	2,21	1,58	1,73	1,53	1,72
F	10,64*	9,37**	13,43*	8,99**	1,65	0,81	1,04	0,54

* : significant at 1 % level

** : significant at 5 % level

*** : significant at 10 % level