THE PERFORMANCE OF SERBIAN ENTERPRISES
AFTER FIVE WAVES OF PRIVATISATION

ABSTRACT: This paper deals with the impact privatisation process has on the performance of Serbian enterprises. Since the most frequently quoted obstacle for good economic performance in the past is the delay in privatisation process and enterprise restructuring, the present analysis might help in obtaining a better insight into the problems preventing the acceleration of growth rate in Serbia. Hence, the present work evaluates the relationship between different methods of privatisation leading to different ownership structures and the performance of enterprises in Serbia.

KEY WORDS: privatisation, performance of enterprises

INTRODUCTION

Since mid-1980s the countries of Eastern Europe faced a common challenge of creating a normal market economy on the remains of the old system. The general belief was that former Yugoslavia (SFRY = Socialist Federal Republic of Yugoslavia) had a substantially greater potential for transformation and integration with Europe and West than most of its neighbouring countries (Mediš, 1997). However, while most of the Central and Eastern European countries undertook serious and systematic reforms, what today has been left of former Yugoslavia (Serbia and Montenegro = SM) remains quite away from what it should have attained despite the fact that infrastructure (buildings, railroads, highways, airports and ports) although not in their best shape, is in place (EBRD, 2004; Arsić et al., 2001). Therefore, the main issue to be addressed is why Serbian economy still generates only mediocre growth rates? (Montenegrin economy in this paper is left aside because it makes only 5% of the SM's GDP.)

Growth rates in Serbian economy should have been significantly higher for many reasons. One is that economies with relatively lower initial levels of per capita GDP grow at relatively rapid rates, or that poor countries
tend to grow faster than rich countries (Barro, 1996; Horvat, 1974). Another is that the Serbian financial system has improved in the recent years (OECD, 2003), whereas, low national savings should not lead, necessarily, to low investment (Udovicki, 2004), since funds could be obtained from different sources (i.e. foreign funds) at this stage of economic development. However, foreign direct investment (FDI) in Serbia remains low despite the fact that the country achieved acceptable levels in all of the common mentioned factors affecting FDI, such as price, trade and exchange rate liberalization, macroeconomic stability and bank restructuring. Thus, although everything is in proper place to help Serbia to accelerate its growth, still the reported growth rates are very low.

The most frequently quoted obstacle for accelerating GDP growth rates in Serbia is the delay in the privatisation process and the enterprise restructuring. This paper provides valuable answers to these highly debated issues, at least as far as Serbian economy is concerned and with the use of relevant data, the relationship between different methods of privatisation and enterprise performance is explored. The remaining paper is structured as follows: section 2 presents briefly the recent developments of the Serbian economy and compares it with the various countries in transition in the region; section 3 refers to various privatisation waves that took place in Serbian economy in the last decade; section 4 presents the data, the methodology and the results used to analyze the relationship between the ownership structure and the performance of Serbian enterprises. Analyzing this relationship, we examine the impact that privatisation per se might have on the enterprise performance and we investigate the relationship between different methods of privatisation, leading to different ownership structures, and enterprise’s growth. In the final section we present our concluding remarks.

PAST PERFORMANCE OF SERBIA (AND MONTENEGRO)

Although with different preconditions, Eastern European countries faced the same challenge of going through the transitional process, aiming at improving economic conditions, increasing standard of living and competitiveness of their economies. As a group, South East European countries (SEEK) experienced much slower economic growth and progress in transition as compared to fast-reforming Central-East European countries (CEEC). The SEEK had different starting positions and experienced disparity in the progress of economic reforms and growth during the last decade. In spite of the greater potential for transformation and integration with Europe and West than most of its neighbouring countries, at the beginning of the 21st century SM economy is one of the least reformed transition economies

1 Slower progress in transition of SEEK can be attributed not only to inconsistent macroeconomic stabilization policies and unfavourable initial conditions, but also to the outcomes of wars and political-ethnic conflicts in the region (Penev, 2002).
(EBRD, 2004). To some extent, this slowdown in reforming of Serbia and other former Yugoslav countries may be the consequence of political and armed conflicts in the region, which suspended significantly the transition for long periods.

Among the basic constituents for a successful transitional process, the theoretical and empirical evidence support the liberalization of prices, the free foreign exchange operations, the disciplined monetary and fiscal policies for stabilization, the reduction of inflation, the deep structural adjustments and the belief in market principles (Mediš, 1997). Additionally, one may include the adoption of new tax system, the reforming of central and commercial banking system, the privatisation of state and socially owned enterprises, the breaking up of monopolies, all of which should be supported by legal and institutional reforms. While the majority of Eastern European countries reached some acceptable levels of macroeconomic stability through implementation of curious stabilization policies, their performance in terms of economic growth differ greatly. For example, Poland's GDP expanded by 30% in real terms since the start of the reforms, whereas Serbia is able to generate a little more than 50% of its 1989 GDP (EBRD, 2004). In times when Poland, Hungary and Czech Republic attracts tens of billions of dollars in direct and portfolio investment from foreign countries, inflow of foreign funds to Serbia remains significantly low. Since, at the present time, Serbia undergone the majority of the suggested processes and completed successfully major steps toward stabilization and increased growth, it becomes imperative to investigate the factors that are impediments to its growth.

At the outset of the transition, (rump) Yugoslavia (named in 1992 as Federal Republic of Yugoslavia = SM) experienced two hyperinflations during the 1989–1993 years. The problem was solved in the short-run by implementing a concept that resembled currency board, which was not followed by adequate structural changes aiming to the restructuring of enterprises and banks, to the privatisation and creation of open-market environment, and to the necessary steps that could increase financial discipline and impose hard budget constraint (Jovović, 1999; Pitić, 1997). During the years 1995–2000, Serbian economy faced dramatic increase in public consumption coupled with rise in wages and money supply, which proved to be the major destabilizing factors (Jovović, 1999; Labus, 1997; Pitić, 1997; Penev, 1997). Government kept increasing money supply to stimu-

---

2 The causes (political and economic), characteristics and degree of severity of 1993 hyperinflation can be compared to the one that struck Europe between 1921 and 1924 and Greece, Hungary and China after World War II (Pitić, 1997; Labus, 1997). The inflation peaked amounting 1.16x10 230/0 and all characteristics of hyperinflation were fully expressed: removal of national currency from circulation and country's monetary collapse, drastic budget deficit of over 30% of GDP, reduction of the real money balances to about 1% of GDP at the end of 1993, enormous growth of money supply, parallel exchange rate depreciation, a fall in output, drastic wage cut and collapse of all contract wage plans (Pitić, 1997; Dimitrijević, 1996).
late further production growth, but resulted only in mediocre production increase and huge rise in general price levels (Gavrilo\vi\c, 1995)\(^3\).

Besides having high inflation rates, until the year 2000, Serbian economy was characterized as an economy with inadequate structure, nonexistent hard-budget constraints, lack of financial discipline by the state and the socially owned enterprises, delayed privatisation process, no structural changes, slow internal and external liberalization of economy, delayed bank restructuring and rehabilitation, and volatile real exchange rate (Penev, 1997). After more than ten years of decaying and armed conflicts, the economy of Serbia faced the challenge of undertaking quick reforms in 2000. The main focus of economists and politicians was macroeconomic stabilization, that is inflation and monetary control were at the top of the agenda (NBY, 2001). Since 2000, authorities committed themselves to achieve real characteristics of economy in transition, undertaking real reforms in terms of internal and foreign trade liberalization, achievement of currency stability, convertibility and design of appropriate exchange rate regime, continuation of privatisation and development of small and medium enterprises, restructuring of big enterprises and implementation of hard budget constraint policy (OECD, 2003; Vukotić and Pejović, 2002; Lazović and Cvjeti\canin, 2001). Hence, Serbian economy achieved certain level of economic stability; however, its economic growth figures are still not as bright as expected.

According to Arsić \textit{et al}. (2001), Serbian economy produced less than half of its capacity during the 1990s, and the capacity utilization in most industries dropped to one third, mainly due to international embargo and mismanagement of economy. Non-agricultural output growth accounted only for 1.5\% (Arsić \textit{et al}., 2001) showing that no real structural reform in the economy took place during the nineties. After the reforms in 2000, substantial growth of non-agricultural output was expected in 2002, but the growth remained modest at 5\% (Penev, 2002). Certain industries, such as metal processing, automobile industry and electrical appliances recorded substantial decrease in output, since the government employed hard budget constraint toward large socially owned enterprises that were previously relying on soft loans from the banking sector. Recession in some industries, the result of the stabilization program, was offset by the growth in other industries. However, the Serbian economy did not experience further decrease in output at the outset of reforms in 2000 (Penev, 2002). GDP growth was 5\% in 2000, 5.5\% in 2001 and 5\% in 2002\(^4\). In year 2003, however, the Serbian economy grew at approximately 2\% (Republički zavod za razvoj, 2004).

There is a widely spread belief that relatively high growth rates are feasible in Serbia because infrastructure, although not in its best shape, is in

\(^3\) Inflation rates during the period 1995-2000 were 120\%, 58\%, 18.3\%, 30\%, 41.1\%, 113\%, respectively (Republic Statistical Office, 2004).

\(^4\) Increase in GDP growth in 2001 was merely due to the recovery of agricultural output in 2001, which significantly increased after the 2000 draft (OECD, 2003; Arsić \textit{et al}., 2001).
place to produce output at least twice as large (Arsić et al., 2001). In terms of development theory, Serbian economy is not at its initial level of development since it is not without railroads, highways, airports and ports. As a result, small investments can result in large GDP growth, since they would trigger the utilization of existing but not currently utilized fixed assets (Ekonomski institut, 2002). Also, the mere absence of wars and lifting of embargos and sanctions, followed by price liberalization, stabilization and inflow of international support should, by definition, have created favourable conditions for a rapid economic recovery (OECD Surveys, 2003). Therefore, observing the low economic achievements, the question that arises is why the Serbian economy does not utilize the given opportunities for faster growth?

According to OECD Economic Survey (2003), there are a number of causes that potentially account for the sluggish performance of the Serbian economy. Foreign trade liberalization, increase in the demand of domestic labour, increase energy costs and a steady appreciation of local currency (dinar) exposed domestic firms to foreign competition and resulted in sluggish growth of Serbian enterprises. In addition, the new laws and regulations have also increased the overall, formal and informal, burden to many businesses and prevented them from growing at higher rates. Also, the collapse of the banking sector and domestic financial markets caused liquidity problems for many enterprises as it is evidenced from complaints about the lack of access to credit (East West Institute, 2003). Another possible cause relies on low national savings rate which fell from 10.3% in 2000 to 6.8% in 2003, while the average savings rate worldwide accounts for 23% of GDP (Udovički, 2004). However, while high level of national savings is necessary for economic growth, investment funds could be obtained from different sources, i.e. FDI can fill the liquidity gap in an economy and accelerate its growth rate. The level of FDI in Serbia, however, remains one of the lowest in the region (Penev, 2002).

It is argued that the most important obstacle for FDI inflows to Serbia is a delay of large-scale privatisation and enterprise reforms (Penev, 2002). Moreover, Voszka (2003) argues that fluctuations in FDI distribution among various countries are largely attributed to the schedule and method of privatisation. Therefore, it is beneficial to analyse and assess the state of the privatisation process in Serbian economy and to examine the performance of the already privatised firms.

---

5 It is worth mentioning that OECD (2003) estimates that credit to the small businesses has risen over the last years due to the foreign involvement and argues that the closure of major but insolvent Serbian banks together with intervention of foreign banks resulted in restoration of the banking sector and the confidence in it. Therefore, banking sector performance cannot be held responsible for the slow growth of Serbian economy.
PRIVATISATION PROCESS IN SERBIA

Privatisation gained world-wide recognition and acceptance since 1980, ant next to stabilization and liberalization, it currently represents one of the pillars of the new paradigm for economic reforms. It is commonly argued that the long-term poor performance and the final collapse of the command economies can ultimately be traced back to the overwhelming state or “collective” ownership of properties. This argument lays on the grounds that for the production and delivery of goods and services, the competitive economy and the private sector in practice do better than the state or the public sector, since the latter is organically connected to the exclusion of market competition, monopolistic tendencies and over-bureaucratization of company management and public companies usually fail to invest or produce rationally, waste resources and fail to innovate. In addition, public enterprises are open to political influence and diverge from the profit maximization objective (Ettori, 2002; Madden and Savage, 1997; Estrin, 1994; Elgar, 1993; Rees, 1984). On the other hand, there are arguments in favor of public ownership and, as it is argued, public enterprises exist and should exist for their ability to correct market failures, alter the structure of income distribution in an economy and facilitate centralized long-term economic planning (Rees, 1984). Moreover, Kornai (1995) argues that it is not the form of ownership but the type of organization and management of companies that determine economic efficiency and performance of the enterprise; therefore, state/public enterprises can be as efficient as private ones, if they operate in a competitive market environment.

Studies on the public sector performance and on the motivating factors for public and private sector managers obtained mixed results (Heinrich, 2002; Hayes, 2000; Estrin, 1994; Elgar, 1993; Khojasteh, 1993). Several studies argue that only responsible private owners can be expected to utilize resources efficiently, while public or state ownership usually results in careless spending, in wasteful resource allocation and in lack of company flexibility (Kornai, 1995; Estrin, 1994; Elgar, 1993; Dornbusch et al., 1991). Arguments in favour of private ownership in Western countries are based merely on the superior performance of this type of enterprises. While greater efficiency of the private sector remains of high significance for SEE countries, there are additional arguments that support the development of private enterprises in these transitional economies. Frydman and Rapaczynski (1991) argue that the development of a sound private sector in SEE countries does not entail the simple transfer of ownership from state to private, but rather it is the process by which the very institution of property is re-introduced.7

---

6 Economic privatization of state-owned enterprises was drastically initiated in Great Britain during 1980s, and it was considered to be ‘revolutionary’ or reactionary approach against to the previous decades of social welfare and socio-economic management in Europe and the western world (Ettori, 2002).
Privatisation in Serbia mainly implies the abolishment of social ownership of capital through the determination of ownership rights (Đuričin, 1997). Since 1990 five waves of privatisation took place. The first wave was carried out in 1990 and during that time, the governments of all former Yugoslav countries allowed employees to buy the firms they were working in at extremely favourable terms, using the book value instead of the market value. During the following year, 1991, Serbia regulated privatisation by its own Law, according to which employees again had the major role in the privatisation process. While privatisation was still optional, the conditions under which employees could obtain shares were stricter in terms (Službeni glasnik RS, 1991). New impetus for privatisation came in 1993 with hyperinflation, which dramatically decreased the real cost of shares (Lazić and Sekelj, 1997). Since the capital was valuated at one point in time and the nominal amount was paid in several following months, inflationary gains for buyers of the shares were enormous and privatisation accelerated. Monetary stabilisation in 1994 had an adverse impact, reducing the pace of privatisation.

This privatisation, however, did not decrease dependency of enterprises on the state, since the reliance of the enterprises on the banking sector did not diminish. Immediately after the 1993 stabilisation program, the privatisation law changed forcing the owners of the shares to pay the real price of the shares previously bought (Službeni glasnik RS, 1994). Since the employees were unable to afford real prices, the share of their ownership was reduced from 95% or 100% to less than 2% (Đuričin, 1997). In order to induce privatisation, a new Law was introduced in 1997, which allowed 60% of company shares to be distributed freely among employees, while the remaining 40% was available for sale at discount. According to this Law approximately 800 enterprises were privatised until 2001, and the majority of them are considered to be the ‘best’ companies in Serbia (Lazo-ović and Cvjetičanin, 2001).

Due to the deficiencies of 1997 privatisation law, a new Law was introduced in 2001 and has been implemented to the present day. According

---

7 Further, it is argued that without a sound market economy and extensive private ownership, the danger of a backlash in the democratisation process is always present and privatisation is the best way to create the solid foundation for a viable democracy (Ejgar, 1993; UN, 1992;)

8 The existence of socially - owned enterprises is limited to the boundaries of ex-Yugoslav countries. This ownership structure emerged in 1950 through the attempt of ex-Yugoslavia to reach massive decentralization toward workers’ self-management socialism (Prychitko, 1989).

9 There are many implications to socially owned enterprise; firstly, this type of ownership provides the employees with opportunity to choose their own working strategy (i.e. working versus leisure time). Secondly, maximization of per employee income results in low level of retained earnings, and in little, if any, incentive to invest voluntry in the enterprise. Thirdly, there is no incentive for innovation, since the individual worker can neither acquire productive assets nor determine their use. Finally, all possible innovative ideas cannot be implemented directly, but through workers’ council, which consists of individuals with diverse attitudes toward risk. limited business experience and different time horizons (Milovanović, 1990; Prychitko, 1989; Pejovich, 1989)
to the new Law, both sale and free distribution are used (Službeni glasnik, 2001). Privatisation by sale is presently conducted through public tender and public auction, while free distribution is done through distribution to employees and to adult population. Apart from introducing the sale method, this law differs from the previous one, because the majority of capital (70%) has to be offered through sale while the remaining 30% is distributed free of charge. In addition, companies with less than 50% of capital sold cannot give their employees shares free of charge. All shares issued in any privatisation process can be freely traded in the secondary market. Revenues from the sale of the capital are distributed as follows: 10% to the budget for the pension funds; 50% to the financial restructuring and development of the economy; 5% to the individuals from whom the assets were confiscated; 5% to financial development of the infrastructure; and remaining 30% to the repayment of debts owed by the Republic of Serbia.

The last Law that is currently implemented in Serbia is in accordance to the suggestions made by IMF, World Bank and European Bank for Reconstruction and Development and it was expected to produce positive results in short time period; however, a slowdown in the privatisation process is evidenced (OECD, 2003). It is argued that the slowdown in the process is due to that enterprises easily privatized without major restructuring have been already privatized and the majority of the remaining companies are large insolvent enterprises, generally overburdened with debts, multiple subsidiaries and large workforce, which need corporate and financial restructuring before being offered for sale (Ettori, 2002).

DATA, METHODOLOGY, RESULTS

In what follows, we evaluate the impact of ownership structure on the performance of enterprises in the Serbian economy. The study uses cross sectional data\footnote{While in some transitional economies it is possible and rather straightforward to analyse the effect of privatisation on economic growth of the economy as a whole and directly assess the changes at the macroeconomic level, it is difficult, if possible at all, to obtain such results for the Serbian economy. Firstly, in order to quantify the effects of the privatisation on the macroeconomic level, previously conducted research in this area relied on time-series analysis. Time-series analysis for the Serbian economy is, however, not superior due to the fact that economic data for the period 1990–2000 are doubtful for numerous reasons. For example, GDP data for 1990 and 1991 seem to be vague and arbitrarily evaluated. Further, some years lack GDP data since they were not recorded by any official source, while the ones recorded may be imprecise due to the substantial fluctuation of inflation rate. Even if the GDP data were obtainable and precise, information on privatisation process and its results are not available and accurate. This is quite understandable if we recall the five waves of privatisation and abolishment of results provided by some earlier privatisation waves.}, since there are no reliable data to conduct time series analysis.
Data

The five privatisation waves that took place since early 1990’s have created the following ownership structures for companies in Serbian economy: socially owned enterprises, private enterprises, cooperative enterprises, mixed enterprises and public enterprises. Data used in our analysis refer to financial reports of enterprises for the years 2002–2003 and obtained through the National Bank of Serbia and the Privatisation Agency. The initial database consisted of 74,104 companies’ financial reports. Companies lacking critical data were excluded from the analysis; such companies are the public and cooperative enterprises; public enterprises were also removed from our sample because by receiving large grants and soft credits, showed artificially high investment levels. Additionally, companies with less than 5 employees were excluded from the analysis. The ownership structure of the remaining categories was redefined to allow a large number of enterprises to reach their appropriate categorization\(^{11}\). To obtain this proper categorization of enterprises on the basis of ownership structure the following steps were conducted:

a) The list of enterprises that were privatised by voucher method was obtained from Serbian Ministry of Economy. These companies were under either „mixed” or „socially owned” category in the original database, and redefined as insider ownership structure. The ownership structure of 758 companies was corrected for.

b) List of companies privatised according to the new law, by sale, was obtained from Privatisation Agency. These companies are truly private now, but due to bureaucracy they were labelled as still socially owned, mixed or, in some cases, private companies. Ownership structure classification for 1,136 enterprises was corrected\(^{12}\).

c) The remaining companies that were labelled „socially-owned” and not corrected by the above reclassification are the true socially – owned enterprises.

d) The remaining companies categorized as „private ownership” and not corrected by above reclassifications are treated as originally private companies.

The final database of companies used in our econometric model consists of 15,021 enterprises, out of which 3,151 are socially-owned enterprises; 10,705 originally private companies; 636 insider owned companies; and 529 companies privatised by sale

\(^{11}\) The delay in proper categorization of enterprises is attributable to bureaucratic processes in Serbia.

\(^{12}\) Only enterprises privatised until July 1, 2003 were reclassified, while the rest remained in social ownership category. This is done due to the fact that many companies were privatised by auction or tender in 2004, while the financial reports used for the analysis are from 2003, when companies still operated like socially owned. In addition, only those privatised until July 1, 2003 were reclassified, assuming that half of the year, but not less, is enough for the new owner to react on the needs of the enterprise to invest.
The Econometric Model

The first relationship we examine is between investment level and ownership structure for social and private enterprises without distinguishing between privatisation methods. The proposed model is:

\[ \text{INV} = a_1 - a_2D_2 \]

where \( \text{INV} \) is the log of the sum of net value of fixed assets in 2002 plus purchases of fixed assets in 2003 divided by the net value of fixed assets in 2002. The investment level of the enterprise\(^{13} \) is used as a proxy to the performance of an enterprise. \( D_2 \) is a dummy variable, which is used to capture the ownership structure of the company. The values for these variable is \( D_2 = 1 \) if socially owned enterprise and \( D_2 = 0 \) if otherwise. The coefficient \( a_1 \) shows the level of investment of all private enterprises independently of their exact ownership structure.

To distinguish between various ownership structures, the model is extended as follows:

\[ \text{INV} = b_1 - b_2D_2 + b_3D_3 - b_4D_4 \]

where \( D_3 \) and \( D_4 \) are new dummy variables and their values are \( D_3 = 1 \) if originally private enterprise, \( D_3 = 0 \) if otherwise; \( D_4 = 1 \) if insider ownership, \( D_4 = 0 \) if otherwise. From the way the dummies are set, we can interpret our results as follows:

\( Y = b_1 \) is the equation presenting the level of investment of enterprises privatised through the method of sale

\( Y = b_1 - b_2 \) is the equation representing investment in fixed assets by the socially-owned enterprises. The socially-owned enterprises are expected to invest less than the enterprises privatised by the sale's method

\( Y = b_1 + b_3 \) represents the level of investment of the originally private sector, pointing to the theoretical expectation that originally private sector still invests more than the sector privatised by the method of sale, and

\( Y = b_1 - b_4 \) depicts the level of investment achieved by the enterprises characterized by the insider ownership, which is expected to be lower than the investment level achieved by the sector privatised by sale.

In turn, our model is extended to include numerical variables in an attempt to investigate to what extent enterprises in Serbia behave in a manner predictable by the microeconomic theory that is they behave as organized business entities. The extended model is given below:

\[ \text{INV} = b_1 - b_2D_2 + b_3D_3 - b_4D_4 - b_5\text{NEW} + b_6\text{EQT} + b_7\text{SLS} + b_8\text{EMP} \]

\(^{13}\) The investment level of a specific company can be measured in few ways, one being the increase in total assets of the company. However, increase in total assets of the company does not necessarily imply growth since it could be generated from the increase in inventory or accounts and other receivables. Instead, increase in new fixed assets directly implies enterprise growth.
where, NEW is the log of net fixed assets in 2002 over the gross fixed assets in 2002 and it is used as a proxy to capture the need of an enterprise to invest. If the company possesses old fixed assets or obsolete assets, it faces higher investment needs. The newer the assets are, the less depreciated and the lower the need for investment. \textsuperscript{14} EQT equals the difference of equity in 2002 minus accumulated losses in 2002 (net equity in 2002) over net fixed assets in 2002 and it is used to approximate the debt of the enterprise. The higher the debt of a company is, the lower its ability to cover additional investments by its own equity and the lower its prospects to obtain credit for investment purposes. Instead of using debt figures, whose accuracy is more questionable, we utilize the ratio of net equity to fixed assets, increase in which implies lower debt financing. Hence, the greater the ratio is the greater the company's ability to finance investments from its own resources or greater its prospects to obtain credit, since it is less debt financed. Thus, the theoretically expected relationship between this variable and the growth of fixed assets is positive. SLS captures the increase in sales, taken from company's income statement and balance sheet, and it is equal to sales in 2002 minus sales in 2001 over sales in 2001. A positive sign is expected for this variable since the higher the ratio the better the prospects for growth of a company. The fourth explanatory variable, EMP, depicts the size of the company, which is approximated by the log of the number of employees in 2003. It is expected that large companies invest more since they are more credit worthy, have better access to credit, occupy larger market share, and are market leaders. With the exception of the number of employees, we use lagged explanatory variables.

The Results

Table 1 summarizes the results of our empirical work in which we used various model specifications. Moreover, where appropriate we used White's correction test for robust standard errors and we check for multicollinearity among the independent variables in all models used. In the brackets, are standard errors. Additionally, in an attempt to homogenize our sample, a second round of estimations was made in a sample of 2,802 enterprises, which included only the enterprises with workforce of more than 50 employees.

\textsuperscript{14} Data are taken from enterprises' balance sheet. Defined like this, the variable increases if the assets are newer and not depreciated and decreases if the assets are older and thus depreciated to higher extent. Older assets impose higher need for replacement and thus higher need for investment is generated. Therefore, the relationship between this independent variable and the dependent variable is expected to be negative. Logarithms and not absolute values are used since it is more beneficial to determine the percentage change in the dependent variable as the result of the percentage change in this independent variable.
Table 1: Econometric Results

<table>
<thead>
<tr>
<th>Sample of 15,023 enterprises</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ( \text{INV} = 0.433617 - 0.313855D_2 )</td>
</tr>
<tr>
<td>((0.0098)(0.006319))</td>
</tr>
<tr>
<td>2. ( \text{INV} = 0.193 - 0.074D_2 + 0.270D_3 - 0.069D_4 )</td>
</tr>
<tr>
<td>((0.017)(0.018)(0.019)(0.02))</td>
</tr>
<tr>
<td>3. ( \text{INV} = 0.049 - 0.070D_2 + 0.323D_3 - 0.058D_4 - 0.124\text{NEW} + 0.004\text{EQT} + 0.004\text{SLS} )</td>
</tr>
<tr>
<td>((0.022)(0.018)(0.02)(0.02)(0.016)(0.0007)(0.001))</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample of 2,802 enterprises</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. ( \text{INV} = 0.280 - 0.193D_2 )</td>
</tr>
<tr>
<td>((0.014)(0.016))</td>
</tr>
<tr>
<td>5. ( \text{INV} = 0.199 - 0.113D_2 + 0.257D_3 - 0.069D_4 )</td>
</tr>
<tr>
<td>((0.026)(0.027)(0.037)(0.028))</td>
</tr>
<tr>
<td>6. ( \text{INV} = 0.113 - 0.120D_2 + 0.22D_3 - 0.082D_4 - 0.202\text{NEW} + 0.020\text{EMP} )</td>
</tr>
<tr>
<td>((0.092)(0.027)(0.044)(0.028)(0.100)(0.008))</td>
</tr>
</tbody>
</table>

The relationship between investment level and ownership structure for social and private enterprises, without distinguishing between privatisation methods, is examined in our first model specification. The sample used refers to the total of 15,021 enterprises and the outcome of this simple model confirms the hypothesis that ownership structure has a significant independent effect on the growth of fixed assets of enterprises. The results are in alignment with the theoretical expectations, showing that, if only social and private companies are compared, social enterprises tend to invest 31.4% less than private companies.

The second formulation of the model distinguishes not only between social and private ownership structures but also between two different privatisation methods, sales method and free distribution method. Free distribution method results in inside ownership while privatisation by sale method results in less dispersed ownership by outside party. The ownership structure coefficients are significant, proving the hypothesis that while privatisation does increase the investment level of the enterprises, this increase differs among the privatisation methods. Here, we should recall that the privatisation by sale is omitted when dummy variables were defined, and that the value of the investment achieved by companies privatized in this manner is presented from the constant coefficient. We can then observe that the output of this equation suggests that social enterprises invest 7.4 and inside-owned firms 6.9 percentage points less than the enterprises privatized by sales method. Originally private companies, however, outperform firms privatized by
sale in terms of investment, since their investment in fixed assets proves to be 27 percentage points higher. The ANOVA model used next (model 3) provides the theoretically expected results. Running the proposed equation for all 15,021 observations while making a distinction among privatisation methods, we conclude that numerical variables depicting age, level of equity financing and increase in sales exert a significant independent influence on fixed assets growth, alongside with ownership structure explanatory variables. The size variable remains insignificant and thus it is excluded.

In an attempt to homogenize our sample, a second round of estimations was made in a sample of 2,802 enterprises, which included only the enterprises with workforce of more than 50 employees. The sample obtained in this manner consists of enterprises, out of which 249 are privatized by sale, 478 are privatized by free distribution of shares, 520 belong to the initially private sector and 1,552 are socially-owned. Once again, the analysis of the relationship between the ownership structure and growth of enterprises’ fixed assets reveals that ownership structure exerts significant independent impact on our dependent variable. Estimations show that socially owned firms grow at 19 percentage points less than private companies (model 4).

When the distinction is made between the ownership structure outcomes of the various privatisation methods (model 5), once again it is proven that ownership structure exerts a significant independent effect on growth of enterprises’ fixed assets. We can observe that fixed assets of the companies privatized by sale tend to grow at 19.9%, while growth of socially and insider owned enterprises’ fixed assets are 11.4 and 6.9 percentage points lower, respectively. Once again, initially private companies outperform all other ownership structures in terms of growth, growing at 25.7 percentage points higher than companies privatized by sale.

Inclusion of numerical variables to the analysis of the smaller sample shows that numerical variables depicting the level of equity financing of the company and the variable determining the increase in sales prove to have no significant independent impact of growth of fixed assets of the enterprises (model 6). From the output of this specification we can observe that, everything else remaining constant, if the measure of newness of fixed assets increases by one percentage point, investment will be reduced by 20 percentage points. Increasing the workforce size by one percentage point will, *ceteris paribus*, results in increase in investment in fixed assets by two percentage points. Everything else ignored, companies privatized by sale will experience growth of fixed assets equal to 11% fixed assets of enterprises privatized by free distribution will growth at 3%, while initially private sector will grow at 33%. Here, if we compare the investment levels of benchmark enterprises, those privatized by sale, and socially-owned companies we can observe that socially-owned companies, in this formulation, do not invest in fixed assets at all.

The results provided in our analysis are in alignment with the theory but the coefficient of determination remains low for all models ($R^2 < 0.15$).
However, no statistical problems are observable in the various models, the sample is large enough and the inclusion of slope dummies does not yield any significant results.

CONCLUDING REMARKS

This paper examines the effect that various privatisation methods have on the growth performance of Serbian enterprises. The findings of the study support the hypothesis that private ownership yields higher investment levels than social ownership and voucher privatisation, leading to inside ownership, provides worse results in terms of investment than privatisation by sale. Moreover, enterprises privatized by free distribution still invest more than enterprises that did not go through the process of privatisation. However, initially private firms outperform all other forms of ownership. Hence, the findings of our study are in agreement with the theoretical proposition that sales method is superior to free distribution in the Serbian environment (Dornbusch et al., 1991; Friedman and Rapaczynski, 1991; Lazović and Cvetičanin, 2001; Maksimović, 1995). While voucher privatisation has its advantages, (faster pace, lower costs, employees’ compliance), privatisation by sale is still more suitable for the Serbian economic environment since employees do not possess the necessary investment funds for the activation of the old or purchase of new assets. Since the ex-social enterprises are usually highly indebted they are not eligible for credit approval and thus the inflow of funds is further restricted.

We also attempted to investigate the relationship of enterprise growth performance to the age of its fixed assets, its ability to invest from its own resources or ability to obtain credit for investment purposes, its motive for further investment in terms of sales growth and its workforce size. However, these measures of internal factors affecting enterprises’ decision to invest do not capture the whole spectrum of variables that may exert influence on these decisions, as it is evidenced from the low coefficient of determination found in our research. For example, relative political instability adds to the uncertainty of the future conditions in which business operate. Although the Serbian economy reached adequate level of macroeconomic stability, the experience of hyperinflation or, at least, high inflation rates and the deterioration of its performance deter investment decisions. Moreover, the lost faith in the banking sector is not fully recovered and the trust of both domestic and foreign banks in Serbian enterprises is not yet developed, and interest rates charged on loans are significantly higher than in other transitional economies (National Bank of Serbia, 2004). These two factors together might bring about the reluctance of the enterprises to engage in transactions with the banking sector, which limits their ability to grow.

In conclusion, the privatisation process in Serbian economy, in its broad and narrow sense does have an impact on enterprises’ growth, the ex-
tent of which differs among the various privatisation methods. This process, alongside with institutional, financial market and legal framework development, will need time to bring the Serbian economy to its pre-war and pre-sanctions period. Although many Serbian enterprises were privatized in one or another way, still several enterprises undergo a restructuring process preparing them for privatisation.\textsuperscript{15} Moreover, our analysis showed that Serbian businesses behave as organized business units, but this behavior is still new to the owners, regardless of who they are, and the real growth-oriented attitude is only at the inception in Serbia. Apart from revealing the impact of privatisation process on enterprise growth, this study showed that Serbian enterprises are not characterized by chaotic behavior, but instead they perform in accordance to microeconomic theory. The companies’ investment level reacts negatively to the age of the fixed assets, investing less when they are newer and less depreciated; positively to the level of equity-financing of fixed assets and positively to its size. The relatively low strength of a model, however, suggests that there are other forces, possibly macro-economic or political, that still influence the entrepreneurs’ decision to invest and future research should be conducted to that direction.

\textbf{REFERENCES}


\textbf{East West Institute} (2003): \textit{Konkurentnost privrede Srbije} (Beograd, East West Institute)


\textsuperscript{15}These companies are small in number but employ large workforce and used to produce large fraction of Serbian GDP. Inability of government to privatize these enterprises as they are is one of the obstacles for GDP growth acceleration.


Миловановић, М. (1990): Неуспешност самоуправног преузења: Историјска и економска анализа (Београд, Научна књига)


Penev, S. (2002): *Foreign Direct Investment Trends and Investment Climate in the Countries of South-East Europe*, in: Attracting Private Investment-Putting the
ЕФИКАСНОСТ СРПСКИХ ПРЕДУЗЕЋА ПОСЛЕ ПЕТ ТАЛАСА ПРIVATEЗАЦИЈЕ

Јована Зелић

Резиме

Анализа теоријских питања везаних за привредни раст и анализу стања еконо-
мије Србије указују на одступање постигнутог од очекиваног раста бруто друштвеног
производа (БДП). Овај рад се бави анализом фактора који могу да утичу на убрза-
вање привредног раста, као и фактора који онемогућавају бржи привредни раст, ста-
влажући при томе нагласак на значај процеса приватизације. У овом истраживању
рационализован је апаратички оквир за анализу утицаја процеса приватизације и различитих
метода приватизације на раст предузећа. Да би се испитало утицај који приватизаци-
ја per se, као и различите методе приватизације имају на раст предузећа коришћена
je cross-section анализу предузећа у Србији. Економетријски модели, поред вештачких
варијабли које описују својинску структурин предузећа, обогаћени су и нумеричким ва-
ријаблама како би се испитало да ли се и у ком обиму предузећа у Србији понашају
у складу с очекивањима микроекономске теорије. Анализом су добијени резултати
који потврђују хипотезу да приватизована предузећа инвестишу више од друштвених
предузећа. Приватизација путем продаже показала се као супериорна метода у одно-
су на приватизацију путем бешифитне поделе акција, док је доказано да аутентично
приватни сектор расте брже од предузећа које карактеришу остали власничке струк-
туре. Анализа је даље показала да се српска предузећа понашају као организоване
пословне јединице у складу с микроекономским очекивањима. Показало се, међутим,
и да је овакво понашање још ново за предузетнике-власнике, независно од тога ко
су они, и да је пословање оријентисано на раст у Србији тек у зачелу.