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"Performance after Mass Privatisation :The Case of Slovenia"

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PERFORMANCE AFTER MASS PRIVATISATION:

THE CASE OF SLOVENIA[1]

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Abstract

Initial ownership structures resulting from the mass privatisation programme were intended as transitional, whereas optimal would be set up gradually and would result from secondary transactions.
Therefore, mass privatisation is typically considered successful if secondary transactions lead to improved ownership, in particular, with emergence of strategic investors. If this approach is correct, positive effects of mass privatisation are thus not shown only by companies remaining in control of initial owners but mostly by the companies that have already gone through secondary privatisation. Accordingly, the success of secondary sales is to be evaluated by how successfully companies perform after the sale to new owners.
This paper attempts to verify empirically those assumptions. The econometric analysis of panel data, after correcting for a selection bias, shows that TFP (total factor productivity) growth is highest in public companies. In addition we found that the secondary privatisation has had practically no positive effect on economic efficiency in the period 1995-99. We interpret these results as supporting evidence for the theoretical approach, which argues that the impact of strategic investors on performance may be ambiguous and that the quality of the capital market institutions is more important than ownership effects. The former creates incentives for performance by increasing the cost of expropriation of minority shareholders.

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I. INTRODUCTION

It is generally accepted that the mass privatisation programme did not result in ownership structures that would provide efficient corporate governance for privatised companies. The initial ownership structures were far from equilibrium and in many cases initial owners had only transitory functions, with corporate control evolving gradually towards a more stable configuration.

The mass privatisation model was adopted in many post-communist countries as a politically acceptable and practical solution leading to the rapid privatisation of the entire enterprise sector. Initial ownership structures were intended to be transitional, whereas the optimal was to be set up gradually and would result from secondary transactions. In that sense, the ultimate assessment of mass privatisation can be judged mainly by the results of the post-privatisation evolution of corporate control structures.

Recent extensive surveys of empirical studies on corporate restructuring after privatisation for most countries in transition can be found in Djankov and Murrel (2000) or Havrylyshyn and McGettingen (1999). There is also a growing body of empirical work in Slovenia that studies the effects of privatisation models and emerging ownership and control structures on corporate performance. The main findings are published in the collection of papers edited by Prašnikar (1999, 2000), Borak (1995) and Simoneti (2000). It is argued in this paper that the success of mass privatisation should also be judged by other non-traditional criteria. A mass privatisation is considered successful if temporary owners sell **fast and successfully** to other owners. The success of secondary sales is hence not to be evaluated by the achieved price but by how successfully companies perform after the sale to new owners. Thus, positive effects of mass privatisation may prevail not when companies remain in the control of initial owners but rather when they have gone through secondary privatisation. Therefore, it will be attempted to empirically verify for Slovenia if secondary transfers of ownership and corporate control have led to efficiency gains.

II. METHODOLOGY AND DATA

Data from financial accounts between 1995-99 is available for 426 companies, which participated in mass privatisation in Slovenia. Companies are grouped according to the prevailing privatisation mode into public, internal and external. **Public companies** are traded on the stock exchange, in **non-public 'internal' companies** internal owners dominate over external owners (mostly privatisation funds and para-state funds), while in **non-public 'external' companies** the situation is reversed. Internal and external companies are not traded on the stock exchange and, therefore, the consolidation of ownership in these two groups is less transparent than in public ones.

A transformation matrix was constructed by taking into account the initial and final categorization of companies[1]. It provides for distribution of 426 companies privatized as public (P), internal (I) and external (E) into the companies that remained in the same

[1] *More details on transformation matrix for companies from mass privatisation in Slovenia could be found in Simoneti et al (2001a).*

category (PP, II, EE) and into the companies outside the diagonal that were the subject of secondary privatisation (PS, IS, ES). Thus, the first letter always relate to the initial ownership type:

P	=	PP	+	PS	:	(80	=	65	+	15)
I	=	II	+	IS	:	(123	=	42	+	81)
E	=	EE	+	ES	:	(223	=	128	+	95)

Legend: P = Public; PP = Public/Public; PS = Public/Secondary
I = Internal; II = Internal/Internal; IS = Internal/Secondary
E = External; EE = External/External; ES = External/Secondary

The changes in performance of P, I and E companies may indicate the effectiveness of individual privatisation mode. Nevertheless, both initial owner effect and secondary transfer effect are present here due to changes in ownership structures and shifts to different ownership groups of companies. Changes in performance of PP, II and EE companies reflect primarily the (initial) owner effect, whereas changes in performance of PS, IS and ES reflect primarily the gains from transfer from initial owner to secondary owner.

The main problem in our analyses concerns controlling for original differences in performance among the companies privatized as public, internal and external. The most straightforward solution that at least partially excludes the influence of selection bias is not to focus the analysis directly on the values of indicators but on the changes in their values. Thus the tables that follow give only changes in weighted mean values of indicators in the period between the initial year (1995) and the final year (1999) for all groups of companies.

A. The privatisation mode effect

Table 1:
Changes in operation of companies privatized as public (P), internal (N) and external (E), between 1995-99, n = 426

Changes in average indicators of operation	Public	Internal	External
	Index 1999/1995		
Number of employees	93,4	92,7	94,8
Assets in 000 SIT	106,2	107,8	110,8
Sales in 000 SIT	115,1	105,6	107,2
Assets per employee in 000 SIT	113,7	116,3	116,9
Sales to assets	108,4	98,0	96,8
Sales per employee in 000 SIT	123,2	113,9	113,1
	Differences in percentage points		
EBITDA to sales	1,7	0,7	0,8
EBIT to sales	2,2	0,0	-0,5
Net profit to sales	6,1	-0,1	0,7

Table 1 documents changes in average indicators of performance and operation of companies initially privatized as public (P), internal (I), or external (E). Here the presentation of individual privatisation modes effect does not separate initial owner

effect from effect of transfer to secondary owner. The shrinking of labour force and expansion of assets occurred in all groups. Sales were increased by 15 percent in public companies, by only 5.6 percent in internal companies and by 7.2 percent in external companies. Labour productivity (measured as sales per employee) also increased the most in public companies (+23,2 percent) and substantially less in internal and external companies (+13 percent). Asset productivity (measured as sales to assets) increased only in companies privatized as public. The indicators of the most interest for true corporate investors that show financial performance of companies (EBITDA, EBIT, and net profit to sales) also show positive changes only in companies privatized as public. It is a well known fact that the best performing companies were already privatized as public[2]. It is shown here that those companies as a group also document the largest progress in economic and financial performance. It is attempted to establish, in continuation, whether that progress was due to initial owner effect or secondary owner effect.

B. The (medium term) initial owner effect

Table 2:
Changes in operation of companies that between 1995-99 operated as public (PP), internal (II) or external (EE), n = 242

Changes in average indicators of operation	Public	Internal	External
		Index 1999/1995	
Number of employees	93,3	93,2	94,0
Assets in 000 SIT	106,6	102,5	104,0
Sales in 000 SIT	119,7	102,2	107,3
Assets per employee in 000 SIT	114,3	109,7	110,6
Sales to assets	112,3	99,7	103,2
Sales per employee in 000 SIT	128,3	109,6	114,2
		Differences in percentage points	
EBITDA to sales	2,1	1,1	-0,2
EBIT to sales	2,7	0,7	-2,1
Net profit to sales	7,5	-0,8	0,3

Table 2 documents changes in the group of companies that in the beginning and in the end of the observed period belonged to the same type of companies: PP, II, EE. Medium term owner effect can be observed for those groups of companies. Sales were expanded the most in the PP companies, while labour force was reduced in all groups. Labour productivity was increased significantly more in PP companies than in the II and EE companies. According to the indicators of changes in economic efficiency the PP companies were thus doing better than the II and EE companies. The PP companies also performed significantly better judged by indicators of financial performance.
Table 2 allows for making the following general conclusions: shareholders of public companies are efficient long-term owners, internal owners and funds in non-public companies follow with a large lag in that respect.

[2] *See the selection bias analysis in the next section.*

C. The gain from ownership transfer

Table 3:
Changes in operation of companies that between 1995-99 changed the ownership type in consequence of secondary privatisation: PS, IS and ES companies, n=184

Changes in average indicators of performance	Public	Internal	External
	Index 1999/1995		
Number of employees	94,0	92,5	95,8
Assets in 000 SIT	103,6	110,3	118,0
Sales in 000 SIT	92,6	107,3	107,1
Assets per employee in 000 SIT	110,2	119,2	111,8
Sales to assets	89,5	97,3	90,8
Sales per employee in 000 SIT	98,5	116,0	111,8
	Differences in percentage points		
EBITDA to sales	-0,2	0,4	2,1
EBIT to sales	0,4	-0,5	1,8
Net profit to sales	0,0	0,3	1,3

Note: first letter always corresponds to initial owner category

Table 3 gives data for the groups of companies in which individual companies were shifted to a different category (PS, IS, ES) by the end of 1999 as the result of significant ownership changes (secondary privatisation). Signs of significant growth of sales and assets are observed especially in companies sold by internal owners, as well as by external owners, i.e. funds. Those two groups of companies also score best according to the indicators of labour productivity growth. On the other hand, the PS companies did not manifest any positive shifts with respect to the indicators of economic efficiency and financial performance. The overview of changes in average indicators suggests that the companies privatized as external (i.e. with funds as owners) gained the most from the transfer to a different category.

Therefore, on the basis of this data the conclusion could be that para-state funds and privatisation funds are relatively poor owners and internal owners score not much better. The same findings have been derived from the analyses of sales to strategic owners only (See Table 4, about half of the companies in this group were transferred towards strategic (institutional) investors). Again, the IS and ES companies stand out in terms of productivity increases and the ES companies especially in terms of improved financial performance. Also, a comparison with Table 3 reveals that the transfer of corporate control from internal owners towards strategic investors had particularly beneficial effects on financial indicators.

Table 4:
Changes in operation of companies that were between 1995-99 in consequence of secondary privatisation acquired by strategic investors, n=87

Changes in average indicators of operation	Public	Internal	External
	Index 1999/1995		
Number of employees	90,1	86,3	95,1
Assets in 000 SIT	101,7	109,6	107,5
Sales in 000 SIT	91,3	96,6	103,8
Assets per employee in 000 SIT	112,9	126,1	113,0
Sales to assets	89,8	88,2	96,2
Sales per employee in 000 SIT	101,3	111,9	109,2
	Differences in percentage points		
EBITDA to sales	-0,1	0,9	1,3
EBIT to sales	0,7	-0,3	0,7
Net profit to sales	0,1	1,0	1,1

The results presented in Tables 1-4 allow the formulation of the following main hypotheses regarding mass privatisation in Slovenia:

(1) Among the privatisation models, public privatisation was relatively successful; positive owner effect on performance is relatively stronger in companies privatized as public;

(2a) Transfer of ownership had a strong positive effect on performance in companies privatized initially as 'external' and 'internal';

(2b) The poor results from internal and external privatisation stem from the modest initial owner effect.

III. EMPIRICAL TESTING OF HYPOTHESIS

The above hypotheses have been formulated on the basis of comparison of average values of various performance indicators for public, internal and external companies. In the following, they are tested by econometric methods employing panel data on operations of 426 companies between 1995-99. All companies are grouped in one of the main categories: PP, PS, II, IS, EE and ES.

A. Selection bias problem

In the analysis it has to be taken into account that the initial break up of companies into groups of public, internal and external companies is not independent from the initial differences in companies' performances (i.e. the so called selection bias or ownership endogeneity problem[3]). At the time of selection of privatisation modes, the operational characteristics and performance of companies influence the ownership structure and not *vice versa.* There was a strong bias in selection of privatisation modes in Slovenia due to the principle of autonomy of companies in the selection of privatisation method.

[3] On this, see: Bishop *et al.* 2002.

Table 5:
Initial characteristics of operation of companies privatized as public (P), internal (I) and external (E), year 1995, n = 426

Average indicators of operation of companies	1995		
	Public	Internal	External
Number of employees	448	287	234
Assets in 000 SIT	9.766.208	1.879.742	2.897.793
Sales in 000 SIT	6.917.831	2.197.563	2.797.208
Value added in 000 SIT	1.519.486	683.861	605.286
Asset per employee in 000 SIT	31.220	8.779	14.841
Sales per employee in 000 SIT	13.214	10.331	12.557
Sales to assets	0,71	1,17	0,97
Labour cost per employee in 000 SIT	2.954	2.630	2.781
Share of capital in assets	71,3%	60,8%	65,4%
Share of export in sales	27,7%	24,1%	21,5%
Value added per employee	2.933	2.736	2.740
Value added to assets	20,5%	42,7%	27,9%
Labour cost to sales	28,2%	35,9%	31,4%
Value added to sales	26,7%	35,9%	29,7%
EBITDA to sales	6,5%	4,1%	3,8%
EBIT to sales	-1,7%	-0,5%	-1,9%
Net profit to sales	0,8%	0,5%	-0,1%
Number of companies	*80*	*123*	*223*

Table 5 presents the break up of companies from the survey that includes 80 companies privatized as public, 123 companies privatized as internal and 223 companies privatized as external. The basic hypothesis is that internal ownership depends on financial capability of employees to exercise their rights to buy out majority stakes and on their willingness for such buyouts resulting from the company performance.

Public companies are by far the largest in terms of labour force, sales and assets. Internal owners could not acquire majority stakes because of the large size of those companies.[4] There were also obvious differences in capital intensity. Public companies were characterised by the largest assets per employee, followed immediately by external companies and by internal companies at the end. The financial capability of internal owners to acquire large stakes in companies was also dependent on companies' indebtedness, which was the largest in internal companies and the smallest in public companies. The value added which is in relation to assets significantly larger in internal companies than in external and public companies indicates the capability of internal owners to buy out companies from the resources generated by respective companies. According to the performance indicators (EBITDA, EBIT and net profit to sales) internal owners acquired majorities in average performing companies, while the best performing ones were floated on the stock exchange and the poorly performing ones - not suitable for public offerings to small shareholders - as external companies. Detailed econometric analysis of the selection mechanism has further confirmed this analysis of mean values for individual groups of companies.

The evaluation of selection mechanism in primary privatisation was performed with the Heckman (1979) two-step method. In the first phase a multinominal logit model (see more in Greene, 2000) was used to evaluate the optional multiple selection of companies among the three dominant privatisation models (public, internal and external) on the basis of their operational characteristics in 1994. In the second phase

[4] On the significance of size as a factor affecting ownership stuctures, see Bishop *et al.* 2002.

of evaluation the Amemiya procedure (see Amemiya, 1984) served to calculate the appropriate correction factors (the so called 'inverse Mills ratios', i.e. lambda) on the basis of the probability (likelihood) of selection of individual privatisation model.
In further evaluation of effectiveness of individual privatisation modes and of owners, the bias effects due to the selected privatisation model was eliminated by inclusion of these correction factors in order to obtain unbiased estimates of regression coefficients. Thus, it is hypothesised that the selection of one of the three modes of privatisation in primary privatisation was not random but depended on operational characteristics of companies in pre-privatisation. Any evaluation of individual model of privatisation is therefore biased, if the non-random selection mechanism among three privatisation models is not explicitly taken into account[5].

Table 6:
Evaluation of the selection mechanism in primary privatisation by multinomial logit model (base group=internal privatisation; data for 1994)

Variable	Coef.	z-stat.
Parameters of selection of public privatisation		
a	****6.51E-07**	4.099
l	***-0.003**	-2.245
a_l	***5.68E-05**	2.174
c_a	****0.034**	2.882
ebitda_s	***-0.054**	-2.462
s_l	-2.65E-05	-1.297
ex_s	0.003	0.348
Cons	***-2.783**	-2.274
Sector dummies	Yes	
Parameters of selection of external privatisation		
a	****5.78E-07**	3.67
l	****-0.003**	-2.749
a_l	4.27E-05	1.68
c_a	***0.018**	2.052
ebitda_s	****-0.054**	-2.963
s_l	-2.1E-05	-1.497
ex_s	***-0.016**	-2.132
Cons	-1.861	-1.773
Sector dummies	Yes	
Number of obs	391	
LR chi^2(60)	186.45	
Prob > chi^2	0.000	
Pseudo R^2	0.233	

** and * indicate statistical significance of coefficients at 1 and 5 percents respectively; Dependent variable: ownership (ownership = 1, 2, 3)

The likelihood of the selection of public privatisation (see Table 6) is significantly related in a positive way with assets (a), capital intensity (a_l) and share of capital in assets (c_a), whereas the relationship with labour force, and interestingly, also with performance (EBIDTA-s) is negative. Similar pre-privatisation characteristics have an effect on the likelihood of the selection of external privatisation apart from significant negative relation with export orientation (ex_s), which is considered a good proxy variable of the long term prospects of the company.

[5] *Only a few earliest empirical studies of the effects of privatisation on company performance in Slovenia have explicitly taken into account the selection bias problem: Dubey and Vodopivec (1995) and Smith, Vodopivec, Beom-Cheol Cin (1997).*

On the other hand, these results suggest that the likelihood for the selection of internal privatisation model is negatively related to the size of assets and capital intensity and positively to the number of employees, performance of the company (ebitda_s, ex_s) and also to indebtedness. In general, indebtedness is not problematic in internal companies that perform relatively successfully. We believe that higher indebtedness plays a role of financial leverage that helps internal owners in gaining the controlling stakes with relatively small resources. In-depth analysis of the selection mechanism in primary privatisation thus shows that internal owners behaved quite rationally in the selection of privatisation model taking into account their financial capabilities to acquire control, as well as the performance of companies.

B. Total factor productivity growth model

To study the impact of changes on economic efficiency, the total factor productivity growth model was used. The evaluation of marginal production function was performed by regressing changes in production on the changes in employed capital and labour with additional dummy variables for different ownership groups of companies and additional time and sector dummies. The model using annual data for the period between 1995-1999 is estimated in the differences of logarithms - the estimated coefficients thus represent growth rates.

Before switching to estimation results different appropriate econometric techniques for estimating the models should be addressed. As we deal with the panel data the OLS may give biased and inconsistent estimates of the consecutive models. These models may suffer from probable correlation between the productivity effects and the output variable. As there are no suitable firm specific instruments to control for this problem, one should rather use one of the two panel data techniques (random or fixed effects model) that do explicitly take into account the firm specific effects.[6] None of the two techniques, though preferable to OLS, is absolutely accurate for the purposes of our estimations. Fixed effects model (FEM) assumes constant TFP growth over time for a single firm. In the present context, this is an inappropriate assumption, as the aim is to examine the impact of different factors on changes in TFP growth. On the other hand, a major disadvantage of random effects model (REM) is in the assumption that changes in TFP growth at the firm level are random and only reflected in the error term, i.e. uncorrelated over time. We perform estimations using both the OLS, REM and FEM techniques. The Hausman (1978) test shows that FEM provides better specification of our models relative to REM. However, as argued above FEM is not a proper specification in our case due to the assumption of the firm's constant TFP growth over time. In addition, as the consecutive models are estimated in first differences, fixed effects are leveled out. On the other hand, due to estimates of models in first differences Hausman test found no significant differences between OLS and REM estimations. We therefore report only OLS estimations that provide biased, though more efficient estimations relative to REM and FEM specifications.

[6] *For discussion on use of different panel data techniques refer to Hsiao (1986), Baltagi (1995), and Greene (2000).*

Table 7: Economic efficiency – TFP growth:
Selection bias and the privatisation model effects

	w.o.correction		with correction.	
	Coef.	t-stat.	Coef.	t-stat.
Assets	**0.269	9.667	**0.296	10.641
Labour	**0.682	33.009	**0.669	32.765
Internal	0.000	-0.018	*-0.149	-2.321
External	-0.012	-1.084	**-0.186	-2.565
lamp2			*0.100	2.344
lamp3			*0.112	2.469
Cons.	*0.043	2.333	**0.239	3.369
Time dummies	Yes		yes	
Sector dummies	Yes		yes	
Adj.R2	0.489		0.508	
F-stat.	53.32		51.33	
Observations	1564		1564	

** and * indicate statistical significance of coefficients at 1 and 5 per cent respectively
Dependent variable: lp_d (growth of production); reference = P (public companies)

The first model in Table 7 does not take into account the eventual biases of parameters that may be due to initial selection bias of sample. In this case variables for both internal and external privatisation are insignificant.

The second model in Table 7 includes correction factors for the initial selection bias of the sample. Both correction parameters are significant meaning that the selection bias has a significant effect on the parameters of the model. With the elimination of that bias both regression coefficients for internal and external privatisation become significant. The estimated values of coefficients allow for the conclusion that the growth of TFP is typically higher in public privatisation than in internal and external privatisation. In other words, **in the period between 1995-1999 companies privatized as internal document an average annual growth rate at 15 percent lower and companies privatized as external at 19 percent lower in comparison with the respective rate of companies privatized as public, controlling for initial position.**

These results thus confirm the first hypotheses concerning the mass privatisation in Slovenia formulated on the basis of aggregate data: public privatisation is the best from the angle of economic efficiency of companies. In the next step it is attempted to find out how important the effects of ownership transfers are.

Table 8: Economic efficiency – TFP growth:
Ownership transfers (off-diagonal positions) versus stable ownership (diagonal positions)

	Coef.	t-stat.	Coef.	t-stat.
Assets	****0.294**	10.554	****0.296**	10.587
Labour	****0.670**	32.737	****0.669**	32.755
Diagonal	0.002	0.252		
II			***-0.143**	-2.163
IS			***-0.136**	-2.085
PS			-0.025	-1.097
EE			***-0.176**	-2.403
ES			***-0.175**	-2.392
Lamp1	0.165	1.683		
Lamp2	0.168	1.718	***0.090**	2.039
Lamp3	0.157	1.633	***0.102**	2.202
Cons.	***0.270**	1.948	***0.223**	3.092
Time dummies	yes		yes	
Sector dummies	yes		yes	
Adj.R2	0.508		0.499	
F-stat.	50.98		48.63	
Observations	1564		1564	

** and * indicate statistical significance of coefficients with 1 and 5 percents respectively,
reference = PP (public diagonal companies)

Legend: II = Internal/Internal; IS = Internal/Secondary; PS = Public/Secondary;
EE = External/External; ES = External/Secondary

The first model in Table 8 compares the TFP growth in companies that have not changed ownership (i.e. diagonal companies) in secondary privatisation in relation to TFP growth in companies that have changed it (off-diagonal companies). Insignificant estimate of regression coefficient for diagonal companies show that TFP growth in diagonal companies in general is not different from off-diagonal public companies: hence differences between companies with stable and transient ownership are not significant. Such a result means that secondary privatisation as such has no additional positive effect on the economic efficiency of companies. Data for Slovenia in the period between 1995-99 allows for such a general evaluation.

However, the second model in Table 8 evaluates the effects of secondary privatisation on the basis of more disegregated ownership by taking diagonal public companies as the reference. The evaluation of the model (after taking into account the selection bias) again shows that diagonal internal and external companies grow with a typically slower rate than diagonal public companies meaning that owners of public companies are better owners than the owners of internal and external companies. Expressed in figures, **it has been found that among the companies that did not undergo secondary privatisation in the period between 1995-99 internal and external companies recorded growth at average annual rates lower by 14 percent and 18 percent respectively in relation to the respective rate of public companies.**

On the other hand, the estimates of parameters show that initial owner effects dominate those of ownership transfers. This is demonstrated by insignificantly different coefficient for off-diagonal public companies in relation to diagonal public companies. Similarly, they are not significantly different when comparing internal (II vs IS) and external (EE vs ES) companies. Such results actually mean that incremental positive effects on economic efficiency of companies cannot be observed for any of the mass

privatisation models in Slovenia in consequence of the changes in ownership structures in secondary privatisation. Yet, the results may be simply affected by their short term character.

The results in Tables 9 and 10 confirm the results in Table 7 even more strongly.

Table 9: Economic efficiency – TFP growth:
Initial owner effect vs ownership transfer effect separated for individual privatisation model

	Public		Internal		External	
	Coef.	t-stat.	Coef.	t-stat.	Coef.	t-stat.
Assets	0.088	0.965	****0.276**	6.175	****0.402**	10.897
Labour	****0.928**	31.810	****0.472**	13.316	****0.375**	9.006
Diagonal	0.038	1.414	-0.009	-0.661	-0.002	-0.185
Lamp	-0.115	-1.623	0.152	1.796	-0.057	-0.686
Cons.	0.077	1.507	-0.059	-0.921	-0.099	-1.166
Time dummies	Yes		Yes		Yes	
Sector dummies	Yes		Yes		Yes	
Adj.R2	0.817		0.424		0.298	
F-stat.	62.32		13.17		12.61	
Observations	304		464		796	

** and * indicate statistical significance of coefficients at 1 and 5 percents respectively,
reference = non-diagonal companies

The model in Table 9 separately evaluates initial owner effect and ownership transfer effect in secondary privatisation for each privatisation model. The results reveal that there are no significant differences in economic efficiency of privatized companies in any of the three privatisation models if it is taken into account that incremental effect of ownership transfer should be captured by the difference between diagonal companies and off-diagonal companies.

Table 10: Economic efficiency – TFP growth:
Initial owner effect vs ownership transfer effect separated for individual privatisation model, taking into account sales to strategic investors only

	Public		Internal		External	
	Coef.	t-stat.	Coef.	t-stat.	Coef.	t-stat.
Assets	0.084	0.908	****0.275**	6.116	****0.395**	10.678
Labour	****0.930**	31.500	****0.471**	13.258	****0.375**	9.018
Diagonal	-0.024	-0.149	-0.009	-0.315	0.046	1.122
Strategic	-0.034	-0.383	-0.018	-0.900	-0.034	-1.911
Lamp	-0.127	-1.462	0.150	1.710	-0.101	-1.191
Cons.	0.138	0.850	-0.058	-0.909	0.042	0.550
Time dummies	Yes		Yes		Yes	
Sector dummies	Yes		Yes		Yes	
Adj.R2	0.815		0.422		0.300	
F-stat.	56.77		12.29		11.99	
Observations	304		464		796	

** and * indicate statistical significance of coefficients at 1 and 5 percents respectively,
reference = non-strategic non-diagonal companies

The model in Table 10 disegregates sales of companies in a way to distinguish the sales to strategic (domestic and foreign) investors from the sales to other new owners in secondary privatisation. The results reiterate that there are no significant differences among privatisation modes with respect to diagonal and transferred ownership effects on economic efficiency of companies. The companies sold to strategic investors do not document higher economic efficiency than the companies sold to non-strategic owners or the diagonal companies that were not subject of secondary transfer of corporate control.

IV. CONCLUSIONS

The presented econometric results are conclusive that secondary privatisation has had practically no significant effect on economic efficiency in the period 1995-99 in Slovenia. The analyses by individual privatisation modes, individual years and for the whole period did not render any different results.

The aggregate analysis still allows the possibility that the problem of secondary privatisation in Slovenia essentially concerns its slowness, as the aggregate effects of changes in ownership in companies privatized internally and externally were strongly positive. This suggested that the positive effects of changed ownership would prevail in the future in consequence of accelerated secondary privatisation of internal and external companies. The econometric analysis of individual data however revealed that such positive effects on economic efficiency could not be confirmed in the observed period. Thus, the problem of secondary privatisation in Slovenia does not only concern

its relatively slow pace but especially its failure to yield the expected positive effects on economic efficiency.

An important result that emerges from the analysis (esp. Table 8) is that the performance of publicly quoted companies strongly dominates that of non-public companies, both insiders' controlled firms and companies controlled by funds. Moreover, ownership transfer towards strategic investors produces no visible efficiency gains. This suggests that the capital market framework has the critical impact on performance. Dominant owners of publicly quoted companies face higher costs of minority shareholders' expropriatation and that implies better performance. In this respect, our empirical analysis supports theoretical intuitions presented in literature (see: Filatotchev and Mickiewicz 2001).

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