enterprise, which in 1991 were restructured into state treasury joint stock companies.

The importance of these state-owned enterprises can be observed by the following facts. In Szcecin/Swinoujscie Port, the state-owned enterprise took care of 81% of the 18 million tons that the port handled in 1990. In Gdansk Port 99.8% or almost all of the 10 million tons of throughput. Each company employed between 5,000 and 6,000 people.

A legal basis to transform and de-monopolize Polish port operation spheres was created by the Privatization Act of July 13, 1990.The indirect way of privatization by first transforming the state-owned enterprise into a company with 100% shares owned by the State Treasury and then making the shares accessible to third parties did not succeed:

- The attractiveness to shareholders (natural and legal persons) guided by expected dividends was low because of inclusion of the infrastructure, huge in value but with low profitability.
- As a result of this, firms within the maritime sector would have to purchase a control stock package, the cost of which was too huge, to fulfill their investment goals.
- The inclusion of the suprastructure also increases goal achievement costs to public investors like towns and communities.

2. Creation of operating companies

In mid 1991 limited companies arose: 17 in Szcecin/Swinoujscie Port including 8 cargo-handling/storage ones (and 9 building/repair companies) and 28 in Gdansk, 8 of which were in the cargo-handling and storage activities.[1]

The main characteristics in the functioning of the operating companies are as follows:

- Financial structure of the (small) basic capital: 45% to the joint stock company, 55% to the port employees.
- The operating companies lease the infrastructure (wharf, storage areas, warehouses, etc.) and the suprastructure (cargo-handling facilities and equipment) from the joint stock company. The operating companies maintain and repair the leased elements at their own stocks, while the joint stock companies calculate the depreciation. Of course this is being reflected in

[1] The further elements in the case only refer to the 16 cargo-handling/storage companies. In Gdynia Port, the transformation is still in the initial stage.

the income structure of the joint stock companies. In the pre-transformation period, 95% of their income has an operational character, now about 60% of their income is generated by leasing fees.

- The operating companies had to provide certainty of employment for all former state-owned enterprise operational workers who are simultaneously the main owners and the employees of the firms.

3. Performance of joint stock operating companies

The performance can be measured:

1) in relation to the revenues (see 3.1), where

$$\text{Gross Margin} = \frac{\text{EBDIT}}{\text{SALES}}$$ [2]

$$\text{Net Margin} = \frac{\text{EADBIT}}{\text{SALES}}$$ [3]

The margins express what is left from every 100 zloty of revenues, the difference between gross and net margin of course being due to depreciation.

2) in relation to total assets (see 3.2), where

$$\text{Return on total assets} = \frac{\text{EADBIT}}{\text{TOTAL ASSETS}}$$

This ratio is a measure of how efficient the available resources are being used.

3) in relation to equity (see 3.3), where

$$\text{Return on equity} = \frac{\text{EADIBT}}{\text{EQUITY}}$$ [4]

This ratio is a measure of the return generated for the owners of the company after the creditors (by means of interest) and the government (by means of taxes) have been rewarded, and after depreciation has been into consideration.

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[2] EBDIT = Earnings before depreciation, interest and tax.

[3] EADBIT = Earnings after depreciation, before interest and tax.

[4] EADIBT = Earnings after depreciation, interest and before tax.

3.1. Gross and net margin

As can be observed from table 1, we notice that as far as profitability measured by the gross and net margin is concerned, the performance of the operating companies is relatively low, certainly in comparison with the joint stock companies. Needless to say that a comparison of the two kinds of companies is not sensible in view of the totally different activities. The small difference between gross and net margin for the operating companies is due to the fact that they lease their main fixed assets while the depreciation is being reflected in the accounts of the lessors (the joint stock companies) where of course the difference gross and net margin is much more important.

Table 1

Gross and net margins (in %)

	1991		1992	
	Gross Margin	Net Margin	Gross Margin	Net Margin
Joint stock company Gdansk	45,5	25,9	46,2	26,3
Operating companies Gdansk			7,3	6,9
Joint stock company Szczecin/ Swinoujscie	53,5	37,3	68,7	43,3
Operating companies Szczecin/ Swinoujscie			8,6	7,9

Source: Own accounts based on port statistics.

3.2. Return on total assets

As can be observed from table 2, the results here suggest a more favourable situation of the operating companies. This is, of course, due to the fact that total assets, expressed in the balance sheet of the operating companies, are artificially low because of the enormous use of leasing.

Table 2

Return on total assets (in %)

	1991	1992
Joint stock company Gdansk	8,4	8,3
Operating companies Gdansk	-	24,2
Joint stock company Szczecin/ Swinoujfcie	17,8	12,6
Operating companies Szczecin/ Swinoujfcie	-	34,2

Source: Own accounts based on port statistics.

(Net) margins (as studied in 3.1) and return on total assets (as studied in 3.2) can be linked together by using the rotation (=sales/total assets) which suggests how many times every zloty invested in the resources is being converted into revenues in the «production» process.

$$\text{Return on Total Assets} = \frac{\text{EADBIT}}{\text{TotalAssets}} = \frac{\text{EADBIT}}{\text{Sales}} \times \frac{\text{Sales}}{\text{TotalAssets}} =$$

= (net) margin x rotation

As can be observed from table 3, the rotation of total assets is of course much larger in the operating companies.

Table 3

Rotation as the link between net margin and return on assets

	J.S.C.G. (1)		O.C.G. (2)	J.S.C.S./S. (3)		O.C.S./S. (4)
	1991	1992	1992	1991	1992	1992
Net margin	25,9	26,3	6,9	37,3	43,4	7,9
Rotation	x*0,32*	x*0,32*	x*3,5*	x*0,48*	x*0,29*	x*4,3*
Return on assets	8,4	8,3	24,2	7,8	12,6	34,2

(1) Joint stock company Gdansk

(2) Operating companies Gdansk

(3) Joint stock company Szczecin/Swinoujscie

(4) Operating companies Szczecin/Swinoujscie

3.3. *Return on equity*

Here, as was the case with return on assets, the figures seem in favour of the operating companies, but this time the differences are gigantic. This, of course, is due to the fact that besides a relatively low amount of total assets, only a small fraction is being financed by owner's equity, while no interest has to be paid on the debt.

Again we want to stress the fact that making comparisons between the operating and the joint stock companies is not very sensible.

Table 4

Return on equity (in %)

	1991	1992
Joint stock company Gdansk	9,5	8,6
Operating companies Gdansk	-	220
Joint stock company Szczecin/ Swinoujfcie	19,9	14,3
Operating companies Szczecin/ Swinoujfcie	-	273,6

Source: Own accounts.

It is clear that the well-known leverage effect is at work here. In view of the circumstances we will call it «leasing-leverage» in this context and elaborate more on this effect in the following paragraph.

4. Leasing-leverage

Leasing-leverage has aspects of two other, better-known concepts in financial analysis, i.e. financial and operational leverage.

Operational leverage results from using assets partly resulting in fixed operational costs although the revenue generated is variable.

Financial leverage results from using financial resources which generate profits beyond the fixed rate you have to pay for them. The financial leverage effect can be measured by (return on equity/return on assets).

The magnitude of the financial leverage effect is the result of a combination of three elements: return on total assets, interest and the debt/equity ratio, as can be seen from the following formula:

Return on Equity = Return on Assets + (Return on Assets - Interest %) ×

× Debt/Equity

or from the graphical presentation of our hypothetical example. In this example we start from a 50% Debt/50% Equity situation, the return on assets equals 15% and the interest rate is 10%.

Graph 1

a) In this example, return on total assets equals 15%. It is clear that return on equity reaches 20% because the 5% extra on top of the interest which has to be paid because of the debt returns to the owners on top of what equity already earned for them. Of course this is only true because in this case equity equals debt.

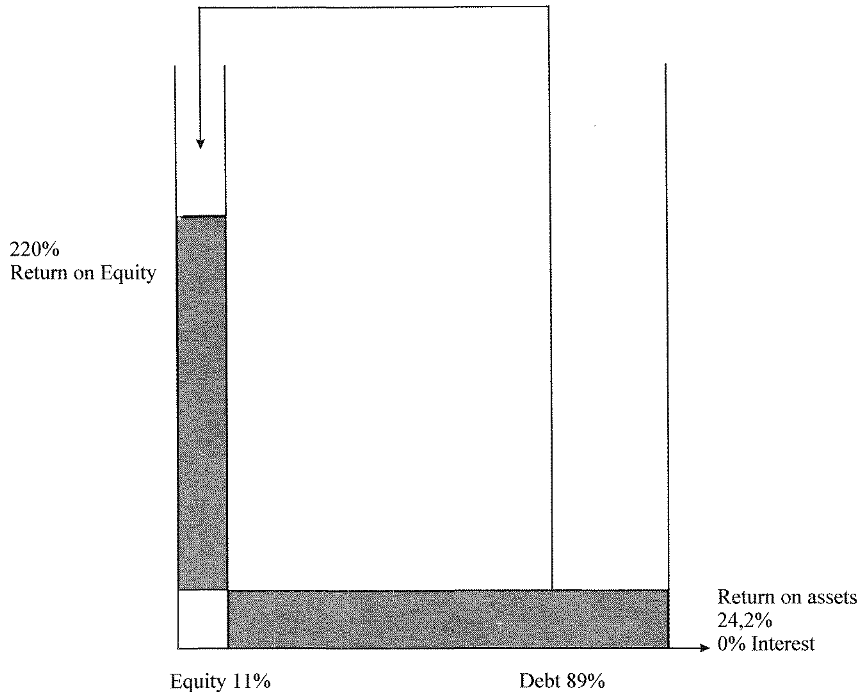
b) If, everything else remaining the same, the interest goes down to 5%, return on equity will again increase to 25%.

c) If, everything else remaining the same, the debt/equity ratio climbs to 1.5 (equity being 40%, debt 60%), it is easy to see that return on equity increases to 22.5%.

d) If we assume that the three changes described in a, b and c occur simultaneously, return on equity boosts to 42.5%.

The graphical presentation for the operating companies in Gdansk results in (see graph 2):

Graph 2

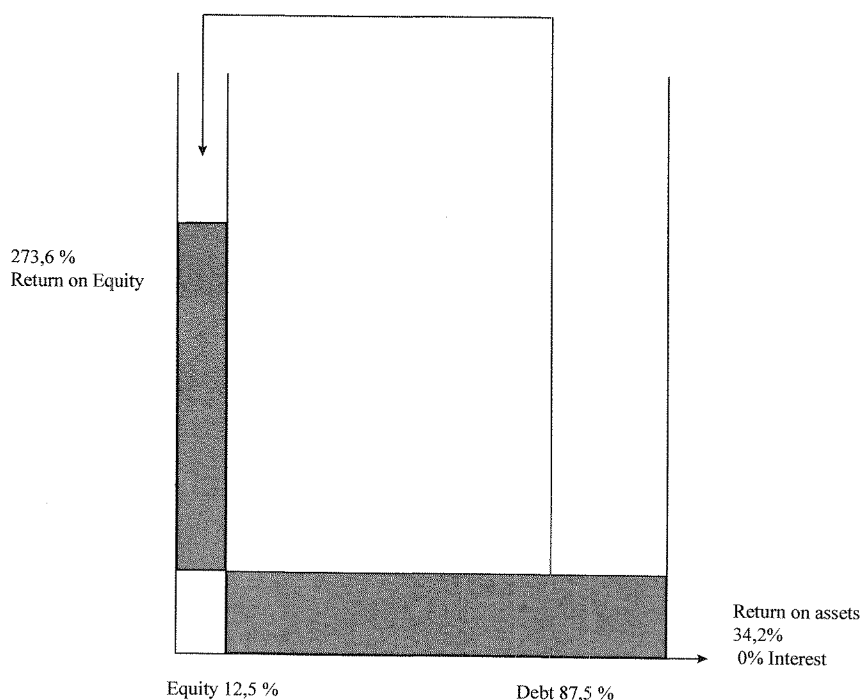


$$\text{Return on Equity} = \text{Return on Assets} + (\text{Return on Assets} - \text{Interest }\%) \times \times \text{Debt/Equity}$$

$$220\% = 24.2\% + (24.2\% - 0) \times 89/11$$

For the operating companies in Szczecin/Swinoujscie we get graph 3.

Graph 3



Return on Equity = Return on Assets + (Return on Assets - Interest %) ×
× Debt/Equity

273.6% = 34.2% + (34.2% - 0) × 87.5/12

The return figures we get here are very impressive. The three elements we mentioned earlier to get a high return on equity are working together. First, an *interest rate* which equals 0. In fact the companies are paying interest, but this is being reflected in the leasing fees they are paying to the lessons, the joint stock companies, which in turn explains the very moderate profit margins.[5] However,

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[5] In Belgium, e.g., where the accounting regulations stipulate that the lessee puts the leased assets on his balance sheet, you would get completely different results...unless the conditions described in the law to fall under this arrangement are not met.

because of the very high rotation, due to the fact that the main fixed assets do not appear in their balance sheets, they get seemingly high *return on assets* levels. The same explanation goes for the *debt/equity ratio*.

The magnitude of this leverage effect is once more very clear when we look at the figures of table 5, where we learn that 98% of the assets at the disposal of the operating companies is being leased.

Table 5

Assets at disposal (own + leased) of operating companies (1992)

Assets	Port of Szczecin/Swinoujscie 000 min zloty %		Port of Gdansk 000 min zloty %	
TOTAL of which	1,05.7	100	944,4	100
Leased assets	1,035.0	98,0	921,6	97,6
Own assets of operating companies	22,1	2,0	22,8	2,4

Source: D. BERNACKI en J. GORA, *Privatisation in Polish Seaports,* Paper presented at Workshop-UFSIA, 1993.

5. Conclusions

Although the accounting figures seem to suggest that things are working out all right, we ought to mention some warnings.

- The problem we encounter here is a very complex one: there is a big contrast between the week economical basis of activity and financial position of the operating companies on one hand, and the high profitability of the capital put at the disposal of companies by their partners: the joint stock companies together with the companies' employees.
- The large disproportions between the engaged capital and the assets in use allow shareholders to:
  - maximise profits from own shares by operation of leased assets;
  - limit the responsibility to a maximum.
- At first glance everybody feels happy and this leads to consolidate the behaviour aimed towards maximised profits (from shares and remuneration). This conduct, however, might be destructive to the operating companies' development and competitiveness and to the whole port as such.

- The high return on equity from the operating companies is being caused by leasing fees which are in fact too low.
- Even the joint stock companies can make a big margin due to the fact that depreciation is not enough to cover the real cost of using the fixed assets.[6]
- The well-being of the operating companies is very dependent on the lease agreements and any change could lead to a completely different outlook. The way in which the construction is being built does not solve the asset-ownership problem, could lead to very short-term based decisions and does not guarantee sound economic behavior by the parties involved.
- Consolidated information would only offer a partial solution because, in view of the fact that the joint stock company only holds 45% of the shares of the operating companies, only the equity method-or «one-line consolidation»-which can hardly be considered a superior method, enters into the picture.
- Of course these conclusions are only preliminary since, due to the only very recent changes, no intertemporal comparisons can be made. In the meantime we can only hope that the resources required to replace the fixed assets in the long run will not be distributed...

Samenvatting

Gebruik van leasingtechnieken doorPoolse zeehavens

In de loop van 1991 kwam de operationele activiteit van de Poolse zeehavens, voorheen gemonopoliseerd door staatsondernemingen, in handen van een groot aantal kleine ondernemingen met de werknemers als voornaamste aandeelhouders. Gezien de problemen verbonden aan de financiering van de infrastructuruur, werd gebruik gemaakt van leasingtechnieken. Deze infrastructuur verschijnt niet op de activazijde van de geprivatiseerde ondetnemingen. Zulks heeft tot gevolg dat, ondanks relatief bescheiden marges, de rendabiliteit van het totale actief vrij aanzienlijk is. Tengevolge van wat wij in het artikel de leasighefdoom noemen, bereikt de rendabiliteit van het eigen vermogen dan ook astronomische hoogten.

In het besluit wordt gewezen op de potentïële gevaren die daaraan verbonden zijn: de opgezette financïële constuctie lost het eigendomprosbeem van de activa niet op, kan leiden tot op slechts zeer korte termijn gebaseerde beslissingen en garandeert geen continuoteit op het vervangingsmoment.

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6 It is worth mentioning that depreciation policy in the past has always been treated as an arm to combat inflation rather than as an instrument to calculate the value of the usage of the fixed asset to determine the real cost of the production process.