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## **CAPITAL STRUCTURE OF THE FOREST DISTRICTS OF THE REGIONAL DIRECTORATE OF STATE FORESTS IN POZNAŃ**

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**ABSTRACT.** The study deals with the determination of the capital structure of the forest districts of the Regional Directorate of State Forests (RDSF) in Poznań in years 1998-2001. In the performed investigations the author utilized indices of the capital structure and indebtedness indices of the owners' equity. In addition, the author determined the internal structure of outside capitals and the structure of current liabilities in the examined forest districts.

**Key words:** initial balance analysis, assessment of the financial situation, capital structure, capital structure indices, indebtedness indices

### **Introduction**

It is difficult to find agreement in the financial literature as to the character of the capital in enterprises. Basically, three groups of definitions can be distinguished (**Duliniec** 1998). According to Helfer as well as Downs and Goodman, the structure of the capital is identified only with constant capital, hence its division into ownership capital and outside capital. Modigliani and Miller maintain that the structure of the capital, apart from the owners' capital, is made up of short-term and long-term liabilities on which interest is paid. For many authors, the structure of capitals is equated with the structure of liabilities in the balance, hence with the source structure of financing of the property. It is the last of the meanings that the author chose to adopt to refer to the structure of capital.

The structure of liabilities in the balance sheet constitutes the point of departure for the analysis of the financial situation of an enterprise. An initial analysis of the structure and changes occurring within liabilities makes it possible to estimate and give opinion about the relations occurring between the company's own and outside sources of financing of the company property. For a given enterprise, an appropriate proportion should

occur between its own and outside capitals. The structure of capitals financing the property of the enterprise can be determined using many different indicators. However, in the theory on the subject, there are many ideas and opinions as to the importance and usefulness of individual indicators for the initial assessment of the financial situation of the enterprise. According to **Sierpińska** and **Jachna** (1997), the vertical structure of capitals financing the company's property can be determined with the assistance of indicators which estimate how the enterprise is equipped in its own capital and those which evaluate its burdening with long- and short-term payables. The remaining indicators, as well as the internal structure of major liability items are of supplementary nature. On the other hand, **Waśniewski** and **Skoczylas** (2002) pay more attention to the examination of the internal structure of the company's own capitals as a significant element of the initial evaluation of liabilities. Also **Bednarski** (2001) believes that when analysing the structure of liabilities, it is very important to pay attention to the mutual structure of ownership and outside capitals and to their internal proportions. Simultaneously, it is also important to emphasize the economic content of individual components with the division into long- and short-term payables.

The objective of this research project was to determine the capital structure of forest districts belonging to the Regional Directorate of State Forests (RDSF) in Poznań. The most important goal of the performed studies of the capital structure was to estimate the degree of indebtedness and self-financing of individual forest districts.

### **Specificity of capitals in State Forests**

Among various capitals occurring in individual economical forest units, the Capital of State Forests Resources constitutes a unique and characteristic capital for the State Forests. Other matters which deserve attention include the specificity of internal branch liabilities as well as a significant proportion of special funds in liabilities.

The owners' capital of the State Forests is the equivalent of the Treasury property entrusted to individual organisational units for administration and, as such, is usually referred to as the Capital of State Forests Resources. The ownership capital in forest districts is increased by, among others: part of profit, by target subsidies obtained from the state budget for the purchase of forest and land, by property components obtained free of charge from units of the State Forests, by current redemption of the property components transferred to units of the State Forests free of charge, by the amortisation of the components of property, by positive differences from the updating of the valuation of disbursed fixed resources, by the value of the forest determined on the basis of the inventory made in the course of the preparation of the forest management plan and by subsidies obtained from the forest fund for fixed assets and other objectives. The ownership capital is deduced by, among others: reimbursement of the balance loss, by the property components transferred to units of the State Forests free of charge, by the amortisation of the components of property, intangible assets and long-term investments, by the redemption of the property components obtained from units of the State Forests free of charge, by negative differences from the updating of the valuation of disbursed fixed resources, by the value of the sold land and forest and by the writing off of the forest value determined on the basis of the former forest management plan

(Branch Plan of Accounts with commentaries for the organisational units of the State Forestry Management Unit of the State Forests. Enclosure to the Directive No. 79 of the General Director of the State Forests, 6<sup>th</sup> September 2001 – **Branżowy Plan Kont...** 2001).

Internal branch liabilities refer to settlements between forest districts, regional directorates and the General Direction of the State Forests. In the case of forest districts they arise, among others, as a result of: maintenance of superior units, forest fund, expenses connected with forest management, ordered tasks and WB credit repayments. The write off for the maintenance of superior units is determined on the basis of principles specified in art. 53 of the forest act of 28.09.1991 (**Ustawa...** 2000 a). The basic deduction for the forest fund is determined using a percentage index for a given year in relation to the planned income from timber sales in accordance with art. 21 of the Regulation of the Council of Ministers concerning detailed principles of financial management in the State Forests of 6.12.1994 (**Rozporządzenie...** 1994).

Within the framework of special funds, we can distinguish: the Social Fund which, in the State Forests, is obligatory and the Reward Fund which is obtained from the division of the financial results.

## Research method

The performed investigations comprised 26 forest districts belonging to the Regional Directorate of State Forests (RDSF) in Poznań. All calculations were based on the source data derived from the Balance Sheet of the State Forest Management Unit of the State Forests, collective report for years 1998-2001 according to enterprises from the RDSF in Poznań. The limitation of the research time framework to the year 2001 was imposed by changes in the accounting act of 9.11.2000 concerning the amendment of the accounting (**Ustawa...** 2000 b).

In order to determine the capital structure of examined forest districts, the following division of liabilities was adopted:

- 1) owners' capital,
- 2) reserves,
- 3) outside capital:
  - a) long-term outside capital,
  - b) short-term outside capital:
    - current liabilities<sup>1</sup>:
      - liabilities for supplies and services (including advance payments for supplies),
      - internal branch liabilities,
      - payments to the social insurance fund,
      - taxes payable,
      - payroll payable,
      - other current liabilities (including short-term bank loans and credits),
    - special funds,

<sup>1</sup>In this article, the term “current liabilities” has a narrower meaning than it is commonly used. Usually, current liabilities comprise special funds as well as deferred charges and pre-paid costs.

– deferred charges and deferred income.

In the course of investigations on the structure of the capital, the following indices were employed:

1) index of the proportion of the owners' equity in the total capital:

$$\frac{\text{owners' equity}}{\text{total capital}} \cdot 100\%$$

2) index of the proportion of outside capital in the total capital:

$$\frac{\text{outside capital}^2}{\text{total capital}} \cdot 100\%$$

3) index of the proportion of short-term outside capital in the total capital:

$$\frac{\text{short-term outside capital}}{\text{total capital}} \cdot 100\%$$

4) main index of the capital structure:

$$\frac{\text{owners' equity}}{\text{outside capital}} \cdot 100\%$$

5) index of the total owners' equity indebtedness:

$$\frac{\text{outside capital}}{\text{owners' equity}} \cdot 100\%$$

6) index of the long-term owners' equity indebtedness:

$$\frac{\text{long-term owners' equity}}{\text{owners' equity}} \cdot 100\%$$

7) index of the short-term owners' equity indebtedness:

$$\frac{\text{short-term owners' equity}}{\text{owners' equity}} \cdot 100\%$$

## Results

In the course of investigations, indices of the structure of capital (Table 1) as well as indices of the owners' equity indebtedness (Table 2) in individual years of the experimental period were calculated and their mean values were determined. Moreover, the author determined the internal structure of outside capitals (Fig. 1) as well as the internal structure of current liabilities during the investigated period for individual forest districts (Fig. 2). Due to problems with data availability, the author failed to investigate the internal structure of the owners' equity.

<sup>2</sup>Outside capitals also included reserves which constitute a separate group in the division of liabilities.



**Table 2**  
**Value of the owners' own indebtedness indices in forest districts of the RDSF in Poznań in years 1998-2001 (%) (on the basis of Bilans... 1999, 2000, 2001, 2002 – the balance sheet of the State Enterprise State Forests, overall reports from individual units of the RDSF in Poznań in years 1998-2001)**  
**Wartość wskaźników zadłużenia kapitału własnego w nadleśnictwach RDLP w Poznaniu w latach 1998-2001 (%) (na podstawie Bilansu... 1999, 2000, 2001, 2002)**

District Nadleśnictwo	Index of the total owners' equity indebtedness Wskaźnik zadłużenia ogółem kapitału własnego					Index of the long-term owners' equity indebtedness Wskaźnik zadłużenia długoterminowego kapitału własnego					Index of the short-term owners' equity indebtedness Wskaźnik zadłużenia krótkoterminowego kapitału własnego				
	1998	1999	2000	2001	mean średnio	1998	1999	2000	2001	mean średnio	1998	1999	2000	2001	mean średnio
Antonin	16.16	11.62	11.51	18.28	14.39	-	-	-	-	-	16.16	11.62	11.51	14.50	13.45
Babki	28.83	34.84	20.77	24.91	27.34	5.58	7.31	2.74	1.01	4.16	23.24	27.53	18.03	20.61	22.35
Gniezno	12.84	11.35	19.01	19.70	15.72	0.05	-	-	-	x	12.79	11.35	19.01	19.70	15.71
Góra Śląska	28.96	18.88	17.90	17.51	20.81	7.32	3.25	-	-	x	21.64	15.63	17.90	17.51	18.17
Grodzisz	17.63	20.34	20.34	29.25	21.89	0.87	-	-	-	x	16.76	20.34	20.34	29.25	21.67
Grodzisk	23.19	16.52	18.01	25.82	20.88	4.36	3.04	1.03	-	x	18.83	13.48	16.98	25.82	18.78
Jarocin	4.70	8.55	8.73	16.29	9.57	-	-	-	-	-	4.70	8.55	8.73	7.87	7.46
Karczma Borowa	5.65	8.75	8.46	7.32	7.54	-	-	-	-	-	5.65	8.75	8.46	7.32	7.54
Koło	28.05	26.13	24.99	21.31	25.12	6.02	5.15	2.84	1.30	3.83	22.02	20.98	22.14	20.01	21.29
Konin	13.68	20.10	18.51	16.35	17.16	1.38	0.52	-	-	x	12.30	19.58	18.51	16.35	16.68
Konstantynowo	9.27	9.85	12.24	27.83	14.79	-	-	-	-	x	9.27	9.85	12.24	15.46	11.70
Kościąn	12.82	17.98	16.26	22.48	17.39	2.58	1.29	-	-	x	10.24	16.69	16.26	22.26	16.36
Krotoszyn	13.36	19.12	23.12	31.77	21.84	5.21	4.45	0.46	0.51	2.66	8.15	14.67	22.65	31.26	19.18
Lopuchówko	13.52	16.52	15.20	10.25	13.87	0.46	0.31	0.09	-	x	13.06	16.20	15.11	10.08	13.61
Oborniki	10.97	14.90	11.45	19.56	14.22	2.37	1.42	-	-	x	8.60	13.48	11.45	9.48	10.75
Piaski	20.75	24.22	21.85	29.38	24.05	5.04	5.60	1.47	-	x	15.71	18.62	20.38	29.38	21.02
Pniewy	19.07	24.41	16.81	34.37	23.66	0.14	-	-	-	x	18.93	24.41	16.81	34.37	23.63
Przedborów	19.28	20.45	25.07	21.29	21.52	-	-	-	-	-	19.28	20.45	25.07	21.29	21.52
Syców	27.76	23.78	22.69	21.56	23.95	3.52	-	-	-	x	24.24	23.78	22.69	21.56	23.07
Taczanów	21.20	23.54	26.88	27.04	24.67	0.05	2.23	1.46	-	x	21.16	23.54	26.88	27.04	24.65
Turek	15.00	18.68	17.51	16.37	16.89	3.97	-	-	-	x	11.03	16.45	16.06	15.05	14.65
Czarniejewo	11.52	10.92	13.30	16.65	13.10	0.12	-	-	-	x	11.40	10.92	13.30	16.65	13.07
Kalisz	17.18	17.30	15.64	14.12	16.06	5.22	1.94	-	-	x	11.96	15.36	15.64	14.12	14.27
Włoszakowice	39.42	43.06	26.48	28.24	34.30	6.80	5.36	2.93	0.98	4.02	32.61	37.70	23.55	27.26	30.28
Sieraków	36.53	40.98	28.19	29.16	33.71	1.56	-	-	-	x	34.96	40.98	28.19	29.16	33.32
Czerwonak	14.59	15.32	12.73	21.26	15.97	8.74	2.81	-	-	x	5.84	12.50	12.73	14.21	11.32
Mean Średnio	16.23	17.77	16.81	20.80	17.90	2.53	1.51	0.42	0.17	1.16	13.69	16.27	16.39	18.20	16.14

„-“ – value does not occur; „x” – value not calculated.

„-“ – wartość nie występuje; „x” – wartość nie obliczana.

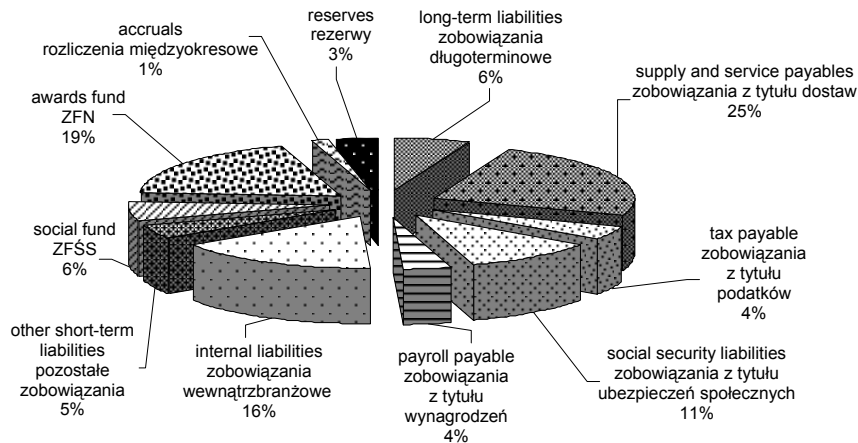


Fig. 1. Internal structure of outside capitals in forest districts of the RDSF in Poznań in years 1998-2001

Ryc. 1. Struktura wewnętrzna kapitałów obcych w nadleśnictwach RDLP w Poznaniu w latach 1998-2001

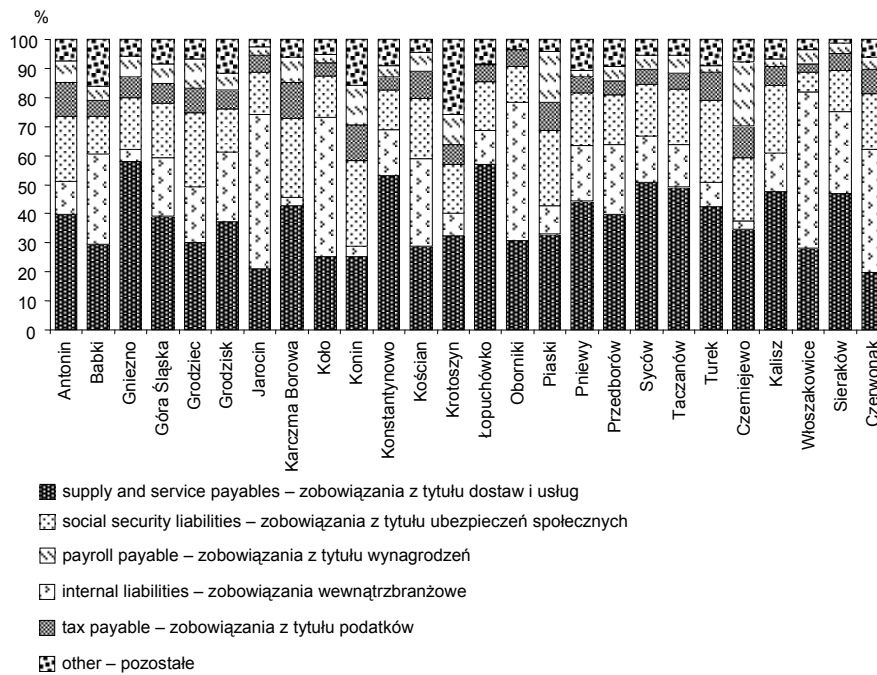


Fig. 2. Internal structure of current liabilities in forest districts of the RDSF in Poznań in years 1998-2001

Ryc. 2. Struktura wewnętrzna zobowiązań bieżących w nadleśnictwach RDLP w Poznaniu w latach 1998-2001

On the basis of the performed analyses of data derived from individual forest districts administered by the RDSF in Poznań, the following conclusions were drawn:

1. Relatively low variability in the overall structure of liabilities of forest districts.

The owners' equity was found to play the decisive role in the financing of the property of individual forest districts. In the case of all the examined Poznań RDSF forest districts, the ratio of the owners' equity to outside capital averaged 85:15. The owners' equity of 23 forest districts made up over 80% of liabilities and in the remaining three districts – over 75%.

2. High level of the capital structure index in the examined forest districts.

On average, the owners' equity was over five times higher than the outside capital. Such a high relation of the owners' equity to the outside capital indicates a strong financial position and, therefore, considerable financial independence of the examined forest districts, although it does not necessarily have to give a positive sign about their profitability. That is why, in order to obtain an unambiguous assessment of the relationships that occur between the owners' equity and outside capitals, it seems necessary to perform the analysis of the level of the basic capital structure index in combination with the analysis of the effect of the financial leverage.

3. Relatively low degree of indebtedness of the examined forest districts during the investigated period.

The degree of the indebtedness for the examined forest districts averaged 15%. It was found that from the outside sources of financing of the property of forest districts, short-term capitals played the dominant role which, on average, financed 94% of the property. Long-term outside capitals were of marginal significance in the financing of the property of forest districts as they made barely 6% of outside capitals and, on average, financed only 1% of the property.

4. A slight growing trend of the index of the overall indebtedness and short-term indebtedness of the owners' capital in the examined period.

The index of the total indebtedness of the owners' capital fluctuated in the interval from 16 to 21%. The index of short-term indebtedness of the owners' capital of the forest districts exhibited a steady growing tendency and, during the analysed period, increased by 4 percentage points to the level of over 18%. During the experimental period, the examined forest districts utilised long-term loans and credits marginally to finance their property. The long-term indebtedness of the owners' capital showed a general steady declining tendency and, during the last two years, it did not exceed 1%.

5. Considerable proportion of current liabilities (65%) and special funds (25%) in the internal structure of outside capitals.

Long-term liabilities, reserves and deferred charges and costs constituted approximately 10% of outside capitals.

6. Diversification of the internal structure of current liabilities in the examined forest districts.

In the case of all the examined forest districts, supply and services liabilities constituted the greatest proportion of current liabilities which, during the entire experimental period, averaged 38% and in 19 forest districts they made up the largest group of current liabilities. Branch liabilities constituted, on average, 26% of current liabilities of the forest districts, of which, in six districts, they constituted the highest proportion. The consecutive groups in the internal structure of current liabilities were occupied by: payments to the social insurance fund (17%), payroll payables (6%) and remaining liabilities (7%).



## Recapitulation

The relationships that occur between capitals, apart from the enterprise character and economic situation, are influenced strongly by the financial policy of the company. Actions that a company may undertake in order to influence the capital structure require compromises between the market and profit. On the one hand, higher indebtedness increases the risk of obtaining by a given economic unit the expected flow of income; however, on the other hand, higher indebtedness index, in general, leads to a higher expected rate of profit. On the basis of the performed investigations, it can be concluded that the policies of the examined forest districts in the field of influencing the capital structure were conservative – domination of the owners' own capital. However, it should be emphasised here that the State Forests do not have unrestricted freedom in developing their capital structure, since art. 41 of the Forest Act imposes certain restrictions in this regard. According to the above-mentioned article, the General Director, director of the RDSF or the head forester can take bank credits or loans from the National Fund of Environmental Protection and Water Management or from voivodeship funds of environmental protection and water management provided the total level of these credits and loans taken out by the general director, regional directors and head foresters cannot exceed 30% of the sales value of the State Forests from the previous year.

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## STRUKTURA KAPITAŁU NADLEŚNICTW REGIONALNEJ DYREKCJI LASÓW PAŃSTWOWYCH W POZNANIU

### Streszczenie

Wstępna analiza struktury i zmian zachodzących w obrębie pasywów pozwala na ocenę i ustosunkowanie się do relacji, jakie zachodzą między własnymi i obcymi źródłami finansowania majątku przedsiębiorstwa. Badanie struktury kapitałów w nadleśnictwach ma przede wszystkim na celu określenie stopnia zadłużenia oraz samofinansowania jednostki. Celem niniejszej pracy było określenie struktury kapitału nadleśnictw. Badaniami objęto 26 nadleśnictw Regionalnej Dyrekcji Lasów Państwowych w Poznaniu w latach 1998-2001. W pracy obliczono wskaźniki struktury kapitału i wskaźniki zadłużenia kapitału własnego w poszczególnych latach okresu badawczego oraz ustalono ich wartość średnią. Ponadto określono strukturę wewnętrzną kapitałów obcych oraz wewnętrzną strukturę zobowiązań bieżących w badanym okresie dla poszczególnych nadleśnictw. Na podstawie badań stwierdzono relatywnie niewielkie zróżnicowanie ogólnej struktury kapitałów nadleśnictw. Dominujące znaczenie miały kapitały własne. Stopień zadłużenia nadleśnictw w badanym okresie był stosunkowo niski, przy czym było to przede wszystkim zadłużenie krótkoterminowe (94%). Badania potwierdziły zróżnicowanie struktury wewnętrznej zobowiązań bieżących w badanych nadleśnictwach. Na podstawie przeprowadzonych badań stwierdzono, że polityka nadleśnictw w zakresie kształtowania struktury kapitału ma charakter konserwatywny.