PRACE NAUKOWE AKADEMII EKONOMICZNEJ WE WROCŁAWIU
Nr 1118 — 2006
Agrobiznes 2006
Konkurencja w agrobiznesie – jej uwarunkowania i następstwa

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EQUITY VERSUS PROFITABILITY AND LIQUIDITY OF AGRICULTURAL ENTERPRISES

1. Introduction

Equity is a stable financing source; however, there is necessity of support financing the activity by loan capital in agribusiness enterprises. It makes relations between equity and loan capital different, both between enterprises and in a dynamic perspective [Dubicka, Gajewska, Orłowska 2005, p. 131-133; Wasilewski 2006, p. 283-284]. An issue of capital's structure has been often connected to an investment process in an enterprise. Therefore, two situations are examined. In the first one, value of capital costs remains constant, whereas in the second one – it changes. Cost of capital in an enterprise depends on a way and profitability of its use by the enterprise, not on sources of its origin [Duliniec 2001, p. 71-73]. Demand for capital and its structure are functions of the enterprise action's strategy, its market position, stage of development, an attitude towards market threats, and an acceptation of different levels of risk [Łukasik 2004, p. 192]. Debts in an enterprise do not need to have negative character only, but it should not exceed some safe borders. However, some statistic irregularities in capital structure and results of enterprises often occur [Łuniewska, Tarczyński 2005, p. 350].

Agriculture has a low ability to create equity [Kulawik 1995, s. 40]. The ability ought to be high, especially when an inflation rate, percentage of loan capital and rate of amortization of the fixed assets are high. Agricultural enterprises are varied regarding a legal form as well as an area of agricultural land (AL). Previous research showed that there were significant differences in return on equity concerning area groups of agricultural enterprises, but there were not found any in a dynamic perspective [Grontkowska 2004, p. 33-34]. At the same time, a higher level of return on equity was found in these agricultural enterprises which averagely gained higher profitability of equity [Kulawik, Osuch, Tkaczyk 1994, p. 9]. The highest rates of return on equity were gained by leaseholders, and the lowest ones – by administrators [Franc-Dąbrowska 2005b, p. 35]. Similar relations were found regarding liquidity [Franc-Dąbrowska 2005a, p. 137-138]. Moreover, there are attempts being made to draw up a strategy of liquidity harmonization in agricultural enterprises, helpful in process of management [Wasilewski 2005, p. 273-276]. Furthermore, it seems to be interesting to find mutual relations between equity and a level of profitability and liquidity of agricultural enterprises.

The aim of the paper is to define relations between equity's share in agricultural enterprises' assets' financing and their profitability and liquidity. The analysis concerns return on land, assets and return on equity as well as current liquidity.

2. Method of the research

The research was carried out in the Agricultural Property Agency (APA) companies, enterprises with land leasing and enterprises, where land was purchased from APA. There was an intentional selection of the enterprises, and in the research were included these, which managers had agreed to provide information. The research was carried within enterprises cooperating with the Institute of Agricultural Economics and Food Economy in Warsaw, in the years of 2000-2004. There was following number of the enterprises: APA companies – 23, 20, 18, 18, 17; leaseholders' enterprises – 67, 70, 69, 66, 60; enterprises with purchased land (owners) – 28, 31, 35, 38, 40. Total number of the enterprises fluctuated between 117 and 122. Within the enterprises' population, minor changes in legal classification land management took place. It was assumed that the analysis covered the population including variability of enterprises' classification to particular groups. Impact of the number of enterprises of different legal forms on the analysis results was minimal, and the aim of the author was to study as large number of them as it was possible. The research period covers years of 2000-2004. The analysed enterprises embrace all voivodships. Although it is not a random sample, it may be supposed that assumed relations illustrate tendencies in the whole population of large agricultural enterprises in Poland.

Nomenclature and calculation method of return and current ratio was based on available literature of enterprises' finances [Lee, Boehlje, Nelson, Murray 1988, p. 160-176, Wyszkowska 1996, p. 40-71]. As a criterion of enterprises' classification, a level of equity was used[1]. To the first group were selected enterprises with a

[1] There was following share of equity in the financing resources in particular groups of enterprises: group I – negative values in all years; group II – 1.3-30.8%; 0.3-29.9%; 1.8-36.2%; 6.6-43.3%; 1-48.6%; group III – 31.3-80.5%; 30-80.9%; 36.9-80.5%; 46.1-81.7%; 49.1-84.7%; group IV – 80.6-100%; 82.3-100%; 80.7-100%; 82.4-100%; 84.9-100%.

negative value of equity. The ranking method was used to group other enterprises, which had positive value of equity – it consists in organizing objects in according to selected features and summing positions of particular orders. On the base of the ranking list of the not-classified enterprises, some groups were isolated according to the quartile method. The second group the enterprises included 25% of their population (lower quartile) of the lowest level of equity, the third group – medium (50% of the population) and the fourth one – the highest (25% of the population). Therefore, division of the enterprises into first group (I), second group (II), third group (III) and fourth group (IV) was used in the analysis of economic-financial issues[2].

3. Results of the research

Graph no. 1 presents fluctuations of a return on land ratio, calculated as a relation between net profit and agricultural land area. Apart from 2001, in the other years the fourth group of enterprises dominated (they had the highest equity share in financing resources). In the group the highest level of return on land in the analysed period occurred – 2.01 thousand PLN per ha of AL in 2004. A negative value of return on land occurred in the first group of enterprises in 2000, 2002 and 2003. Moreover, in the second group negative profitability was observed in 2000 and 2002. The greatest loss regarding agricultural land invested in production process concerned the firs group of enterprises in 2002 and amounted to –0.91 thousand PLN per ha of AL. In the years of 2001-2004, there was a growing tendency of a return on land level in the third group and fourth group of enterprises. The largest increase occurred in the enterprises of the highest equity share (the fourth group) – by 1.7 thousand PLN per ha of AL. In the others, there were no explicit relationships in the dynamic perspective. It should be emphasised, that there was growth of the return on land level in the second group of enterprises (of the lowest, but positive value of equity share) in the years of 2002-2004 (by 0.54 thousand PLN). Apart from 2001, in the other years return on land was growing along with a growth of equity share in enterprises assets' financing. The greatest advantage of the last group over the first one happened in 2002 and amounted to 1.56 thousand PLN per ha of AL. Within the groups of enterprises of positive equity share, differences were much smaller, however, in 2004, domination of the enterprises of the fourth group over the second group ones amounted to 1.6 thousand PLN. To sum up, dominating (the highest) equity share in the financing resources of assets contributed to gaining usually the highest return on land.

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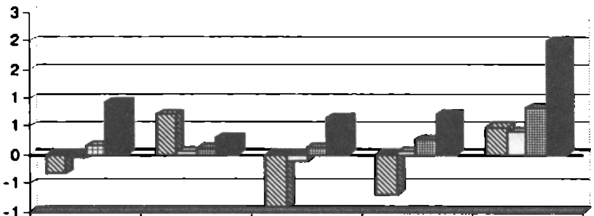
[2] The number of the enterprises classified to the separated groups from 2000 to 2004 amounted as following: group I – 9, 8, 10, 8, 3; group II – 27, 28, 28, 28, 28; group III – 55, 57, 55, 58, 58; group IV – 27, 28, 28, 28, 28. The greatest variability of the enterprises' number, in comparison to previous years, concerned the first group in 2004. In the others, the variability was minimal and did not impact on the analysis results.

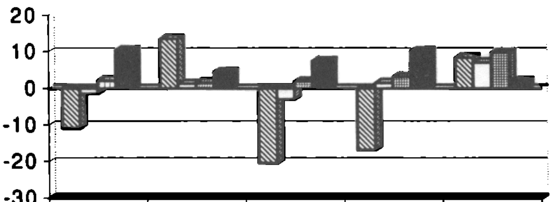


	2000	2001	2002	2003	2004
Group I	-0,32	0,72	-0,91	-0,69	0,49
Group II	-0,05	0,06	-0,13	0,06	0,41
Group III	0,15	0,11	0,13	0,26	0,83
Group IV	0,92	0,31	0,65	0,72	2,01

Fig. 1. Return on land ratio (thousands PLN/AL ha)

Source: own elaboration.

The return on assets ratio was as a relation of net profit (loss) to value of assets. It informs, how much percentage of the profit (loss) was brought by one PLN unit invested in an enterprise's assets. The most unstable group of enterprises regarding the return on assets were these with negative equity, where, in 2002, the least advantageous (negative) ratio occurred, in comparison to the whole analysed period, and amounted to –20.5% (Fig. no. 2). However, in 2001, profitability of the group occurred at the highest level of 13.5%, what illustrates instability concerning profitability of the group of enterprises of negative equity share. In the second group of enterprises, loss of invested assets in the activity occurred in 2000 and 2002, but at the much lower level (until –3%). In other years, assets in the group of enterprises were used effectively, though at a comparatively low level (the highest level of 7.1% in 2004). In the group of enterprises of positive value of equity, effectiveness of assets use was increasing along with a growth of the capital share in financing resources. Apart from 2001 and 2004, among the others, the highest profitability of assets occurred in the fourth group of enterprises. It indicates that using mainly the equity in the analysed period (at a level of more than 80% of share in financing resources) resulted in the most beneficial financial effects regarding profitability of assets, the highest in 2000, at the level of 10.4%. In 2004, enterprises of the second group dominated there (of average, positive share of equity), where profitability of assets amounted to 9.7%, whereas in other years it did not exceed 3.1%. In 2004, enterprises of the fourth group had the lowest level of profitability assets (2%) in comparison to other groups of enterprises, what proves diversified relationships between a level (share) of the equity investment and profitability of the assets use. The greatest advantage for the fourth group in relation to the first one regarding profitability of assets occurred in 2002 and 2003 (by about 27-28 percentage points), what could be appraised as a significant level. At the same time, however, domination of the first group over the fourth one in 2001 and 2004 amounted to appropriately 9 percentage points and 6.4 percentage points. It indicates instability of the assets' investment with regard to the equity share. There were also other factors that had an impact on a level of profit, which were not included into the analysis, which had the greatest significance in the first group of enterprises (of negative equity share). In the dynamic perspective, regarding profitability of assets, no significant tendencies occurred in the groups of enterprises. In the third group only (of average, positive share of equity) a growing tendency of the ratio's value occurred from 2001 to 2004 (by 8.1 percentage points). To sum up, it might be stated that, in general, increase of the level of financing the activity by equity resulted in increase of effectiveness of the assets invested in the production process.

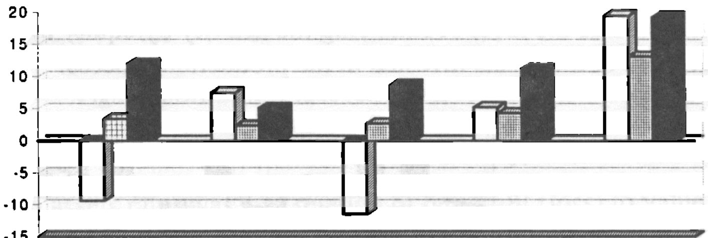


	2000	2001	2002	2003	2004
Group I	-10,8	13,5	-20,5	-16,9	8,4
Group II	-1,5	1,3	-3,0	1,5	7,1
Group III	2,2	1,6	1,9	3,1	9,7
Group IV	10,4	4,5	7,5	10,2	2,0

Fig. 2. Return on assets ratio (percentage)

Source: own elaboration.

Profitability equity was calculated as a relation of a net profit (a net loss) to its value. The ratio illustrates effectiveness of own financial resources' investment and the bigger it is, the more beneficial situation of the enterprises is. In 2000 and 2002-2003, the enterprises of the first group made net loss net, what – in comparison to a negative value of equity would result in a positive value of the ratio of return on equity (Fig. no. 3). Therefore, the ratio was not calculated in the years mentioned above. On the other hand, in 2001 and 2004 in that group of enterprises net profit occurred, but equity remained negative, what made the return on equity ratio be negative. It made interpretation difficult, because – in the literal sense – it might be stated that "net profit was gained while not having equity". It would lead also to a contradictory conclusion that while having had gained net profit, a negative value of return on equity ratio was gained, what informs of its ineffective investment, what was untrue. However, a result of the enterprises is influenced by a loan capital too, and the assets invested in the production process. The enterprises that made gross losses on the activity, regarding to the accountancy, covered them by equity, which, finally, was not enough to cover them. In order to have assets and its financing resources (gaining balance) balanced, in case of further losses, it was necessary to cover them by equity, which then became negative. According to that situation, value of equity should be characterised at the stage of an initial analysis and, separately, value of a profit, not defining their relations in a relative measure (percentage).



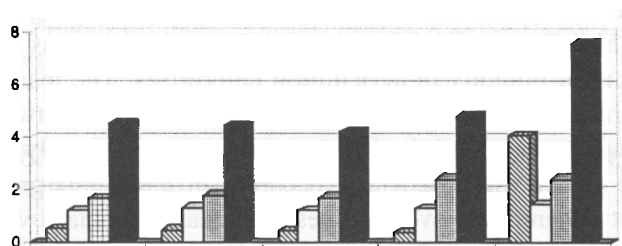
	2000	2001	2002	2003	2004
Group I	-	-	-	-	-
Group II	-9,4	7,5	-11,5	5,2	19,5
Group III	3,4	2,4	2,7	4,3	13,1
Group IV	12,0	5,1	8,7	11,2	19,3

Fig. 3. Return on equity ratio (percentage)

Source: own elaboration.

The group of enterprises which had the lowest, but positive share of equity in 2000 and 2002 did not make profits from the equity investment; however, in 2001 and 2004, in that group, the highest level of the return on capital occurred in comparison to the other groups of enterprises (Fig. no. 3). However, in comparison to the return on assets ratio, the advantage of that group over the group of enterprises of the highest share of equity was much smaller (by 0.2-2.4 percentage points). In other years, the fourth group of enterprises dominates, with a growing tendency of a profitability level – from 5.1% in 2001 to 19.3% in 2004 (by 14.2 percentage points). Such a tendency concerned also the third group of enterprises (by 10.7 percentage points), whereas the greatest increase of return on equity concerned the second group of enterprises in the years of 2002-2004, from –11.5% to the highest value in the analysed period at the level of 19.5%. The greatest domination of the fourth group of enterprises over the second one occurred in 2000 and amounted to 21.4 percentage points. To sum up, it might be stated that return on equity of the analysed groups of enterprises remained at a considerably low level, which in 2004 only might be evaluated as a satisfactory. At the same time, a growing share of equity in financing activity usually caused its higher profitability.

The fourth graph presents changes of a current ratio, calculated as a relation of working assets to current debts. It was stated that apart form 2004, along with growth of equity share, current liquidity increased too. Assuming that lower level of the ratio's optimum amounts to1.2, all the groups of enterprises of positive equity kept current liquidity. However, increasing the optimum to 1.5, the condition was fulfilled in the third and fourth groups of enterprises (of an average and the highest equity share). The highest level of current liquidity occurred in 2004, in the fourth group of enterprises (of the highest equity share) and amounted to 7.6. That value can be appraised as financial overliquidity, what might be caused by to high level of reserves. In the third group of enterprises only (of an average equity share) an explicit growing tendency of the current ratio in the analysed years took place, to a level of 2.43 (by 0.77). Nevertheless, the greatest growth of value of the ratio occurred in the fourth group of enterprises in the years of 2002-2004 (by 3.35). Apart from 2004, in the other years increase of the current liquidity level took place, along with a growth of equity share in financing activity. The greatest advantage of the enterprises from the fourth group over the first group's ones occurred in 2003 and amounted to 4.43, whereas in relation to the second group, the grates domination happened in 2004 – at a level of 6.14. To sum up, it might be stated that equity share in financing resources of assets considerably determined the level of current liquidity in the enterprises. The enterprises of the highest equity share had a high and stable level of current liquidity, what resulted in possibility of further development.



	2000	2001	2002	2003	2004
Group I	0,52	0,48	0,45	0,39	4,08
Group II	1,24	1,34	1,20	1,31	1,46
Group III	1,66	1,81	1,72	2,42	2,43
Group IV	4,55	4,45	4,25	4,82	7,60

Fig. 4. Current ratio

Source: own elaboration.

4. Conclusions

The paper presents the analysis of relationships between equity level in assets' financing of agricultural enterprises and their liquidity and profitability. On the base of the research, following conclusions were formulated.

1. The enterprises of the highest equity share in activity financing were usually characterized by the highest return on land. The lowest effectiveness of land's investment gained by the enterprises of negative and the lowest equity, but its positive share in financing resources may mean too high debts of these enterprises. Costs of the debts' servicing may result in decrease of land resources' investment effectiveness. Similar relationships occurred in case of whole assets' profitability evaluation. It may mean that in the analysed years, such stable financing resource, as equity brought the greatest effects; however, in 2004 change of the relation was noticeable. It was even more evident concerning changes of return on equity. The highest share of the capital in activity financing did not always allow to gain the highest effectiveness of its investment. Support of financing by loan capital was connected with the financial leverage effect, what improved also the equity investment effectiveness. However, the major condition of gaining such relationship was appropriate and with an economic effect of loan capital investment. Profitability of the analysed enterprises should be evaluated as low, especially with reference to long period of capital rotation in agriculture, though its growing relation ought to be appraised as advantageous.

2. The enterprises of positive equity share managed to have current liquidity, though in these of the lowest equity share the liquidity remained at an edge of a minimal threshold. On the other hand, the enterprises of negative equity value in the years of 2000-2003 had serious problems with keeping current liquidity. It means that there is connection between equity share in means financing assets and a level of current liquidity in agricultural enterprises. The managers ought to take into consideration that too strong deformation of relations between equity and loan financing sources may result in the loss of liquidity. Definitely, the highest level of current ratio (much more than 2.0) occurred in these enterprises, which had the highest equity share. However, it does not mean financial overliquidity, because one of main reasons for so high value of the ratio is to maintain finished products' reserves to animal production as well as a rotary livestock, which number (value) should not be minimized. According to that, in the agricultural enterprises in good financial situation that ratio remained at a high level as well.

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KAPITAŁ WŁASNY A RENTOWNOŚĆ I PŁYNNOŚĆ FINANSOWA PRZEDSIĘBIORSTW ROLNICZYCH

Streszczenie

W opracowaniu przedstawiono analizę zależności między udziałem kapitału własnego w finansowaniu majątku przedsiębiorstw rolniczych a ich rentownością i płynnością finansową. Przedsiębiorstwa o najwyższym udziale kapitału własnego charakteryzowały się na ogół najwyższą zyskownością ziemi i majątku, podczas gdy te z kapitałem ujemnym ponosiły głównie straty. W niektórych latach jednak najwyższy udział kapitału własnego w finansowaniu działalności nie zawsze pozwalał na najwyższą efektywność wykorzystania ziemi i kapitału, co jest związane z niewykorzystywaniem efektu dźwigni finansowej. Rentowność badanych przedsiębiorstw była niska, chociaż korzystnie należy ocenić jej tendencję wzrostową. Przedsiębiorstwa o dodatnim kapitale własnym charakteryzowała płynność finansowa, co nie dotyczyło przedsiębiorstw o kapitale ujemnym.