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ANALYSIS OF INTERACTION OF EQUITY OWNERSHIP AND CONTROL OVER EQUITY

The author develops the figures of interaction of equity ownership and control over equity. Using the figures the author analyzes a structure of equity ownership and control over equity of a banking group member. The factor analysis of the figure of an amount of controlled equity that is not possessed by a parent bank is made.

Key words: *an ownership share, a control share, the figures of interaction of equity ownership and control over equity.*

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АНАЛІЗ ВЗАЄМОДІЇ ВЛАСНОСТІ НА КАПІТАЛ ТА КОНТРОЛЮ ЗА КАПІТАЛОМ УЧАСНИКА БАНКІВСЬКОЇ ГРУПИ

Автором розроблені показники взаємодії власності на капітал та контролю за капіталом. З їх допомогою проаналізовано структуру власності на капітал та контролю за капіталом учасника банківської групи. Здійснено факторний аналіз показника обсягу контрольованого капіталу, що не перебуває у власності.

Ключові слова: *частка власності, частка контролю, показники взаємодії власності на капітал та контролю за капіталом.*

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АНАЛИЗ ВЗАИМОДЕЙСТВИЯ СОБСТВЕННОСТИ НА КАПИТАЛ И КОНТРОЛЯ ЗА КАПИТАЛОМ УЧАСТНИКА БАНКОВСКОЙ ГРУППЫ

Автором разработаны показатели взаимодействия собственности на капитал и контроля за капиталом. С их помощью проанализирована структура собственности на капитал и контроля над капиталом участника банковской группы. Произведен факторный анализ показателя объема контролируемого капитала, который не находится в собственности.

Ключевые слова: *доля собственности, доля контроля, показатели взаимодействия собственности на капитал и контроля над капиталом.*

Formulation of a problem. Management system of a group of companies is formed in result of interaction of two types of economic relations: relations of equity ownership of group members; relations of control over equity, which realize due to a voting right. In order to present these relations a consolidated financial report (CFR) of a group of companies consists of a description of a consolidation scope, which discloses information about a share of equity ownership and a share of control of a parent company over equity of a group member. Shares of equity and shares of control referred to the same company do not coincide in most of CFR of international banking groups (BG). This is caused by an opportunity determined in the International financial report standards. Therefore, there is a need to estimate interaction of equity ownership and control over equity of a BG member.

An analysis of last researches and publications. The problem of separation of ownership from control in groups of companies has been researched by a considerable amount of scientists, among which are W. Ben-Amar, P. André, F.R. Chaddad, M.L. Cook, R. Adams, D. Ferreira [1-3] etc. The mentioned authors reveal advantages and disadvantages of both cases – an excess of an amount of control over an amount of ownership and an opposite case. Contravention of rights of outside buyers of shares is considered as a disadvantage of

excess of an amount of parent company's control over an amount of parent company's ownership, since buyers do not assume an appropriate amount of control over purchased shares [1, 2]. Inability of a parent company to press owners of small shares of equity in a process of managerial decisions making is considered as an advantage of excess of an amount of parent company's ownership over an amount of parent company's control [3]. Despite the problem of discrepancy of an amount of ownership and an amount of control is thoroughly researched by scientists, there is not any analytic instruments for estimation these discrepancies in scientific literature.

Aims of the article. Aims of the article consist of: development of the figures of interaction of equity ownership and control over equity; calculation of the mentioned figures for an arbitrarily chosen BG member; making the factor analysis of one of the developed figures.

Main material presentation. Most of consolidated financial reports of banking groups disclose a figure of amount of a BG member equity that is possessed by a parent bank (PB) – *the amount of possessed equity*:

$$Eq_{own} = Eq \times i, (1)$$

Eq – an amount of equity of a BG member;

i – an amount of an ownership share.

Since there is a lack of information about a structure of equity ownership and control over equity that may be received on a basis of the figure of amount of possessed equity, the author developed *the figures of interaction of equity ownership and control over equity*: the amount of controlled equity; the amount of controlled equity that is not possessed; the amount of uncontrolled equity that is possessed; the amount of equity that is not possessed and not under control; the profitability of controlled equity; the significance of control; the significance of ownership.

The amount of controlled equity:

$$Eq_{contr} = Eq \times v, (2)$$

v – an amount of a control share.

The figure determines what amount of a BG member equity is under control of a PB.

The amount of controlled equity that is not possessed:

$$Eq_{+contr/-own} = Eq \times (v - i), \quad v > i (3)$$

The figure determines what amount of a BG member equity is under control of a PB and simultaneously is not possessed by a PB.

The amount of uncontrolled equity that is possessed:

$$Eq_{-contr/+own} = Eq \times (i - v), \quad i > v (4)$$

The figure determines what amount of a BG member equity is not under control of a PB and simultaneously is possessed by a PB.

In a process of calculation of the developed group of figures, analysts should determine, which of shares is greater – a share of ownership or a share of control. On a basis of this estimation they determine, which formula is to be chosen – 3 or 4.

The amount of equity that is not possessed and not under control:

$$\begin{cases} Eq_{others} = Eq - Eq_{contr}, & v > i; (5) \\ Eq_{others} = Eq - Eq_{own}, & i > v. \end{cases}$$

The figure determines what amount of a BG member equity is not under control of a PB and not possessed by a PB.

The profitability of controlled equity:

$$ROE_{contr} = \frac{Inc \times i_n \times 100\%}{(Eq_{n-1} \times v_{n-1} + Eq_n \times v_n) / 2}, (6)$$

Inc – an amount of financial result of a BG member in a current period;

i_n – an amount of an ownership share in a current year;

v_{n-1} – an amount of a control share in a previous period;

v_n – an amount of a control share in a current period;

Eq_{n-1} – an amount of equity of a BG member in a previous period;

Eq_n – an amount of equity of a BG member in a current period.

The figure determines what amount of a BG member financial result refers to 1% of controlled equity of a BG member.

The significance of control:

$$Sign_{contr} = \frac{i}{v}, v > 0, i > 0 \quad (7)$$

The figure determines how many percents of an ownership share refer to a one percent of a control share. The lower is the figure, the more significant influence of a PB on an activity of a BG member is.

The significance of ownership:

$$Sign_{manag} = \frac{v}{i}, v > 0, i > 0 \quad (8)$$

The figure determines how many percents of a control share refer to a one percent of an ownership share. The higher is the figure, the more significant influence of a PB on an activity of a BG member is.

To realize the proposed group of figures in practice, the author calculated the figures for an arbitrary member of a BG. Data on an amount of equity, an amount of financial result, a share of ownership and a share of control of Cartera Mobiliaria, S.A., SICAV, a member of the BG Santander, during 2005-2012 [4-11] are a basis of calculations (Table 1).

Table 1
Data required for calculation of the figures of interaction of equity ownership and control over equity

Year	Eq, million euros	Inc, million euros	v, %	i, %	v - i, %	Eq _{own} , million euros
1	2	3	4	5	6	7
2005	569	44	87.08	70.10	16.98	398.87
2006	575	23	88.51	72.49	16.02	416.82
2007	598	15	89.63	74.49	15.14	445.45
2008	613	-11	92.09	79.29	12.80	486.05
2009	617	26	92.46	80.05	12.41	493.91
2010	643	-3	92.75	80.69	12.06	518.84
2011	640	-5	92.90	81.01	11.89	518.46
2012	635	12	93.08	81.40	11.68	516.89

Having analyzed amounts of ownership shares and control shares of Cartera Mobiliaria, S.A., SICAV, the author determines that the amount of possessed equity is lower than the amount of controlled equity. Therefore, there is an ability to calculate the amount of controlled equity that is not possessed. The amount of controlled equity is lower than the amount of equity of the company. Therefore, there is an ability to calculate the amount of equity that is not possessed and not under control.

As can be seen in Table 2, the greatest amount of controlled equity was in 2010 and equaled 596.383 million euros. The highest amount of controlled equity that is not possessed was in 2005 and equaled 96.616 million euros. The highest amount of controlled equity that is not possessed and not under control was in 2005 and equaled 73.515 million euros. The highest profitability of controlled equity was in 2009 and equaled 4.248%. The profitability of controlled equity was calculated for a period 2006-2012. The highest significance of control was in 2005 – 0.805% of an ownership share referred to 1% of a control share. The highest significance of ownership was in 2008 – 1.143% of a control share referred to 1% of an ownership share.

According to Table 3, the highest increase of the amount of controlled equity that is not possessed in result of an influence of the factor I was from 2006 to 2007, the highest decrease – from 2011 to 2012. A cumulative influence of factor in a particular period is a sum of an influence of a factor in a researched period and influences of a factor in previous periods. In period from 2005 to 2012 the amount of controlled equity that is not possessed has been growing for 9.757 million euros in result of an influence of the factor I (the line 7 of the graph 3 of Table 3). The lowest decrease of the amount of controlled equity that is not possessed in result of an influence of the factor II was from 2010 to 2011, the highest decrease – from 2007 to 2008. In period from 2005 to 2012 the amount of controlled equity that is not possessed has been declining for 32.205 million euros in result of an influence of the factor II (the line 7 of the graph 5 of Table 3). Thus, the factor «Difference between a share of control and a share of ownership» makes a more significant influence on the amount of controlled equity that is not possessed than the factor «Equity of a BG member». The highest increase of the amount of controlled equity that is not possessed in result of a total influence of the factors was from 2009 to 2010, the highest decrease – from 2007 to 2008. In period from 2005 to 2012 the figure has been declining for 22.448 million euros in result of an influence of the factors (the line 7 of the graph 7 of Table 3).

Table 2

The figures of interaction of equity ownership and control over equity Cartera Mobiliaria, S.A., SICAV during 2005-2012

Year	Eq_{contr} , million euros	$Eq_{+contr/-own}$, million euros	Eq_{others} , million euros	ROE_{contr} , %	$Sign_{contr}$	$Sign_{own}$
1	2	3	4	5	6	7
2005	495.485	96.616	73.515	–	0.805	1.242
2006	508.933	92.115	66.068	4.088	0.819	1.221
2007	535.987	90.537	62.013	2.592	0.831	1.203
2008	564.512	78.464	48.488	-1.873	0.861	1.161
2009	570.478	76.570	46.522	4.248	0.866	1.155
2010	596.383	77.546	46.617	-0.478	0.870	1.149
2011	594.560	76.096	45.440	-0.781	0.872	1.147
2012	591.058	74.168	43.942	1.887	0.875	1.143

To determine an influence of the factor «Equity of a BG member» (factor I) and the factor «Difference between a share of control and a share of ownership» (factor II) (Table 3) on the amount of controlled equity that is not possessed, the author made the factor analysis of the mentioned figure on a basis of data presented in Table 1 (the graphs 2 and 6) and Table 2 (the graph 3).

Table 3

The influence of the factor I and the factor II on the amount of controlled equity that is not possessed during 2005-2012, million euros

Period	Factor I	Cumulative influence of factor I	Factor II	Cumulative influence of factor II	Total influence of factors	Cumulative influence of factors
1	2	3	4	5	6	7
05/06	+1.019	+1.019	-5.520	-5.520	-4.501	-4.501
06/07	+3.685	+4.703	-5.262	-10.782	-1.578	-6.079
07/08	+2.271	+6.974	-14.344	-25.127	-12.073	-18.152
08/09	+0.512	+7.486	-2.406	-27.533	-1.894	-20.047
09/10	+3.227	+10.713	-2.250	-29.783	+0.976	-19.070
10/11	-0.362	+10.351	-1.088	-30.871	-1.450	-20.520
11/12	-0.594	+9.757	-1.334	-32.205	-1.928	-22.448

Table 4

Cumulative influence of the factors in average per year, million euros

Period	Accumulated amount of years	Cumulative influence of the factors in average per year		
		Factor I	Factor II	Total influence
1	2	3	4	5
05/06	1	+1.019	-5.520	-4.501
06/07	2	+2.352	-5.391	-3.040
07/08	3	+2.325	-8.376	-6.051
08/09	4	+1.872	-6.883	-5.012
09/10	5	+2.143	-5.957	-3.814
10/11	6	+1.725	-5.145	-3.420
11/12	7	+1.394	-4.601	-3.207

A cumulative influence of a factor in average per year (Table 4) is a division of a cumulative influence of a factor and a number of periods for which a cumulated influence of a factor was calculated. The lowest decrease of the amount of controlled equity that is not possessed in result of an influence of the factors in average per

year equaled -3.040 million euros and was from 2006 to 2007, the highest decrease – -6.051 million euros from 2007 to 2008.

Conclusions. In result of consideration of consolidated financial reports of international banking groups, a necessity of development of analytic instruments for estimation of interaction of equity ownership and control over equity of a BG member was determined. The article presents the seven figures of interaction of equity ownership and control over equity and examines their practical application. As a result of the factor analysis of one of the developed figures – the amount of controlled equity that is not possessed – the author determined that the factor «Difference between a share of control and a share of ownership» makes a more significant influence on the amount of controlled equity that is not possessed than the factor «Equity of a BG member».

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