The total real capital structure analysis in the profits mass relevant for turnover

Caruntu, Constantin and Lapadusi, Mihaela Loredana

Constantin Brancusi University of Romania

2009

THE TOTAL REAL CAPITAL STRUCTURE ANALYSIS IN THE PROFITS MASS RELEVANT FOR TURNOVER

CONSTANTIN CĂRUNTU[∗]
LOREDANA MIHAELA LĂPĂDUŞI[∗∗]

ABSTRACT

The mechanism operator of total actual capital on profit afferent turnover in the synthesizer manner is an important tool in assessing the economic and financial performance of the company both internally and in the diagnostic tests performed outside.

Addressed the overall level of business, real capital - fixed and circulating - appears as part of operating capital; with all other forms of total capital operated in the frame of business activity, actual capital is involved in a specific circuit, arising from the operation of producer agents in a market economic environment. The transformation of the company liquid capital in productive real capital takes place in conditions in which the firm is presented on the capital goods market as a buyer and actually proceed to the purchase of goods-capital needed for production. Simultaneously, the company is presented as a buyer and the labor market, drawing work resources required.

KEY WORDS: *total capital, fixed capital, circulanting capital, profit, turnover, rentability,*

In order to illustrate the total real capital structure through the technical structure of profit related to turnover, named thus $\dfrac{Kf}{Kt}$ could use the following analysis methods:

$$P = Kt \cdot \frac{Kf}{Kt} \cdot \frac{Kfa}{Kf} \cdot \frac{CA}{Kfa} \cdot \frac{P}{CA} \quad or \quad P = Kt \cdot \frac{Kf}{Kt} \cdot \frac{Kfa}{Kf} \cdot \frac{\sum qv \cdot \overline{p}}{Kfa} \cdot \frac{P}{\sum qv \cdot \overline{p}} \qquad (1)$$

$$P = \frac{1}{100} \cdot \left(Kt \cdot \frac{Kf}{Kt} \cdot \frac{Kfa}{Kf} \cdot \frac{CA}{Kfa} \right) \cdot \overline{Rc} \quad or \quad P = \frac{1}{100} \cdot \left(Kt \cdot \frac{Kf}{Kt} \cdot \frac{Kfa}{Kf} \cdot \frac{\sum qv \cdot \overline{p}}{Kfa} \right) \cdot \overline{Rc} \qquad (2)$$

consisting of **:**

P- the profit afferent to turnover;
Kt- the total real capital;

[∗] *Professor university doctor, University „Constantin Brâncuşi", Faculty of Economic Sciences and Administration of Affairs , e-mail: caruntu_ctin@yahoo.com ;*
[∗∗] *Lecurer university doctor, University „Constantin Brâncuşi", Faculty of Economic Sciences and Administration of Affairs, e-mail: loredana@utgjiu.ro. .*

Kf- the fixed capital;

$\dfrac{Kf}{Kt}$ -the share of fixed capital in total real capital;

Kfa- the fixed operating capital;

$\dfrac{Kfa}{Kf}$ -the share of fixed operating capital in fixed total capital;

CA-the turnover;

$\dfrac{CA}{Kfa}$ -the turnover to 1 ron afferent to fixed operating capital;

$\dfrac{P}{CA}$ -the profit afferent to turnover;

qv-the production sold;

$\overline{p}$ - themedium price of sale;

$qv \cdot \overline{p}$ -the turnover expressed in sale prices;

$\overline{Rc}$ -the medium ratio of commercial rentability.

In order to illustrate this, we consider the data from next tabel:

Tabel no.1

No. crt.	Indicators	P_0	P_1
1.	Total Capital	8.490.586	8.798.337
2.	Fixed capital	5.878.100	6.000.000
3.	Fixed operating capital	2.939.050	3.120.000
4.	Turnover	23.512.376	29.382.540
5.	Profit afferent to turnover	2.685.126	4.750.000
6.	Rate of commercial profitability (%)	11,42	16,17

Accordingly to the mentioned pattern, it is operating with multiple variables on total real capital and it is understood that through average profit on 1 ron turnover is surprises synthesized aspects of using both fixed, circulating capital and labor (reflected in costs and prices sale).

In these conditions means that in the mass of profit, appropriate to modification, are found these influences:

1.The influence of total capital (fixed and circulating):

$$(Kt_1 - Kt_0) \cdot \frac{Kf_0}{Kt_0} \cdot \frac{Kfa_0}{Kf_0} \cdot \frac{CA_0}{Kfa_0} \cdot \frac{P_0}{CA_0} =$$

$$= (8.798.337 - 8.490.586) \cdot \frac{5.878.100}{8.490.586} \cdot \frac{2.939.050}{5.878.100} \cdot \frac{23.512.376}{2.939.050} \cdot \frac{2.685.126}{23.512.376} = \qquad (3)$$

$$= 307.751 \cdot 0,6923 \cdot 0,5 \cdot 8 \cdot 0,1142 = +97.323,989 \ ron$$

2.The influence of fixed capital share in total real fixed capital (technical structure of capital):

$$Kt_1 \cdot \left(\frac{Kf_1}{Kt_1} - \frac{Kf_0}{Kt_0} \right) \cdot \frac{Kfa_0}{Kf_0} \cdot \frac{CA_0}{Kfa_0} \cdot \frac{P_0}{CA_0} =$$

$$= 8.798.337 \cdot \left(\frac{6.000.000}{8.798.337} - \frac{5.878.100}{8.490.586} \right) \cdot \frac{2.939.050}{5.878.100} \cdot \frac{23.512.376}{2.939.050} \cdot \frac{2.685.126}{23.512.376} =$$

$$= 8.798.337 \cdot (0,6819 - 0,6923) \cdot 0,5 \cdot 8 \cdot 0,1142 =$$

$$= 8.798.337 \cdot (-0,0104) \cdot 0,5 \cdot 8 \cdot 0,1142 = -41.798,436 \; ron$$

(4)

3. The influence of share operating fixed capital in total fixed capital (technological structure of fixed capital):

$$Kt_1 \cdot \frac{Kf_1}{Kt_1} \cdot \left(\frac{Kfa_1}{Kf_1} - \frac{Kfa_0}{Kf_0} \right) \cdot \frac{CA_0}{Kfa_0} \cdot \frac{P_0}{CA_0} =$$

$$= 8.798.337 \cdot 0,6819 \cdot \left(\frac{3.120.000}{6.000.000} - \frac{2.939.050}{5.878.100} \right) \cdot \frac{23.512.376}{2.939.050} \cdot \frac{2.685.126}{23.512.376} =$$

$$= 8.798.337 \cdot 0,6819 \cdot (0,52 - 0,5) \cdot 8 \cdot 0,1142 =$$

$$= 8.798.337 \cdot 0,6819 \cdot 0,02 \cdot 8 \cdot 0,1142 = +109.624,435 \; ron$$

(5)

4. The influence of turnover to 1 ron operating fixed capital (efficiency of fixed capital):

$$Kt_1 \cdot \frac{Kf_1}{Kt_1} \cdot \frac{Kfa_1}{Kf_1} \cdot \left(\frac{CA_1}{Kfa_1} - \frac{CA_0}{Kfa_0} \right) \cdot \frac{P_0}{CA_0} =$$

$$= 8.798.337 \cdot 0,6819 \cdot \frac{3.120.000}{6.000.000} \cdot \left(\frac{29.382.540}{3.120.000} - \frac{23.512.376}{2.939.050} \right) \cdot \frac{2.685.126}{23.512.376} =$$

$$= 8.798.337 \cdot 0,6819 \cdot 0,52 \cdot (9,4175 - 8) \cdot 0,1142 =$$

$$= 8.798.337 \cdot 0,6819 \cdot 0,52 \cdot 1,4175 \cdot 0,1142 = +505.026,071 \; ron$$

(6)

5. The influence of medium profit to 1 ron turnover:

$$Kt_1 \cdot \frac{Kf_1}{Kt_1} \cdot \frac{Kfa_1}{Kf_1} \cdot \frac{CA_1}{Kfa_1} \cdot \left(\frac{P_1}{CA_1} - \frac{P_0}{CA_0} \right) =$$

$$= 8.798.337 \cdot 0,6819 \cdot \frac{3.120.000}{6.000.000} \cdot \frac{29.382.540}{3.120.000} \cdot \left(\frac{4.750.000}{29.382.540} - \frac{2.685.126}{23.512.376} \right) =$$

$$= 8.798.337 \cdot 0,6819 \cdot 0,52 \cdot 9,4175 \cdot (0,1617 - 0,1142) =$$

$$= 8.798.337 \cdot 0,6819 \cdot 0,52 \cdot 9,4175 \cdot 0,0475 = +1.395.577,199 \; ron$$

(7)

Diagnosis based on the pattern used illustrates the following issues of phenomena:

▪ increase total capital in the previous period showed a positive influence on profits afferent to the turnover;

▪ technical composition of capital adversely affect profits for the turnover;

▪ increasing technological composition of fixed capital (the share of fixed capital in total fixed capital asset) is a positive contribution on profits for the turnover;

▪ turnover to 1 ron fixed capital asset reflects its efficiency as one and can be an important determinant of income growth for the turnover;

▪ increase profits at 1 ron turnover contribute to increased company profits.

The second model highlights the commercial rate of return. Factorial explanation is similar to the above one and is based on the following influences:

1. Influence of total capital (fixed and circulating):

$$\frac{1}{100}\cdot\left[\left(Kt_1-Kt_0\right)\cdot\frac{Kf_0}{Kt_0}\cdot\frac{Kfa_0}{Kf_0}\cdot\frac{CA_0}{Kfa_0}\right]\cdot\overline{Rc}_0=$$

$$=\frac{1}{100}\cdot\left[\left(8.798.337-8.490.586\right)\cdot\frac{5.878.100}{8.490.586}\cdot\frac{2.939.050}{5.878.100}\cdot\frac{23.512.376}{2.939.050}\right]\cdot11,42= \qquad (8)$$

$$=\frac{1}{100}\cdot\left(307.751\cdot0,6923\cdot0,5\cdot8\right)\cdot11,42=+97.323,989\ ron$$

2.Influence of fixed capital share in total real capital (technical structure of capital):

$$\frac{1}{100}\cdot\left[Kt_1\cdot\left(\frac{Kf_1}{Kt_1}-\frac{Kf_0}{Kt_0}\right)\cdot\frac{Kfa_0}{Kf_0}\cdot\frac{CA_0}{Kfa_0}\right]\cdot\overline{Rc}_0=$$

$$=\frac{1}{100}\cdot\left[8.798.337\cdot\left(\frac{6.000.000}{8.798.337}-\frac{5.878.100}{8.490.586}\right)\cdot\frac{2.939.050}{5.878.100}\cdot\frac{23.512.376}{2.939.050}\right]\cdot11,42= \qquad (9)$$

$$=\frac{1}{100}\cdot\left(8.798.337\cdot\left(0,6819-0,6923\right)\cdot0,5\cdot8\right)\cdot11,42=$$

$$=\frac{1}{100}\cdot\left(8.798.337\cdot\left(-0,0104\right)\cdot0,5\cdot8\right)\cdot11,42=-41.798,436\ ron$$

3.Influence of operating fixed capital in total fixed capital (technological structure of fixed capital):

$$\frac{1}{100}\cdot\left[Kt_1\cdot\frac{Kf_1}{Kt_1}\cdot\left(\frac{Kfa_1}{Kf_1}-\frac{Kfa_0}{Kf_0}\right)\cdot\frac{CA_0}{Kfa_0}\right]\cdot\overline{Rc}_0=$$

$$=\frac{1}{100}\cdot\left[8.798.337\cdot0,6819\cdot\left(\frac{3.120.000}{6.000.000}-\frac{2.939.050}{5.878.100}\right)\cdot\frac{23.512.376}{2.939.050}\right]\cdot11,42= \qquad (10)$$

$$=\frac{1}{100}\cdot\left[8.798.337\cdot0,6819\cdot\left(0,52-0,5\right)\cdot8\right]\cdot11,42=$$

$$=\frac{1}{100}\cdot\left(8.798.337\cdot0,6819\cdot0,02\cdot8\right)\cdot11,42=+109.624,435\ ron$$
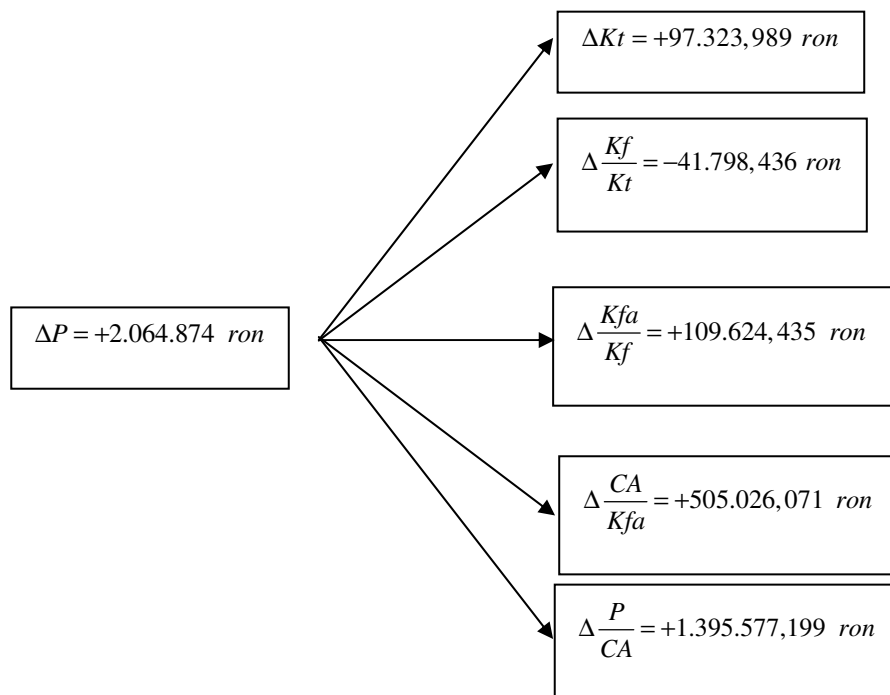
4.Influence of turnover to 1 ron operating fixed (efficiency of fixed capital):

$$\frac{1}{100}\cdot\left[Kt_1\cdot\frac{Kf_1}{Kt_1}\cdot\frac{Kfa_1}{Kf_1}\cdot\left(\frac{CA_1}{Kfa_1}-\frac{CA_0}{Kfa_0}\right)\right]\cdot\overline{Rc}_0=$$

$$=\frac{1}{100}\cdot\left[8.798.337\cdot0,6819\cdot\frac{3.120.000}{6.000.000}\cdot\left(\frac{29.382.540}{3.120.000}-\frac{23.512.376}{2.939.050}\right)\right]\cdot11,42= \qquad (11)$$

$$=\frac{1}{100}\cdot\left[8.798.337\cdot0,6819\cdot0,52\cdot\left(9,4175-8\right)\right]\cdot11,42=$$

$$=\frac{1}{100}\cdot\left(8.798.337\cdot0,6819\cdot0,52\cdot1,4175\right)\cdot11,42=+505.026,071\ ron$$

5.Influence of economic rate of return :

$$
\frac{1}{100} \cdot \left[Kt_1 \cdot \frac{Kf_1}{Kt_1} \cdot \frac{Kfa_1}{Kf_1} \cdot \frac{CA_1}{Kfa_1} \cdot \left(\overline{Rc}_1 - \overline{Rc}_0 \right) \right] =
$$

$$
= \frac{1}{100} \cdot \left[8.798.337 \cdot 0,6819 \cdot \frac{3.120.000}{6.000.000} \cdot \frac{29.382.540}{3.120.000} \cdot (16,17 - 11,42) \right] =
$$

$$
= \frac{1}{100} \cdot [8.798.337 \cdot 0,6819 \cdot 0,52 \cdot 9,4175 \cdot 4,75] = +1.395.577,199 \, ron
$$

(12)

In order to facilitate the image through the synthesis of factors above mentioned on the profit mass afferent to turnover, we present the following schedule:

$$\Delta Kt = +97.323,989 \ ron$$

$$\Delta \frac{Kf}{Kt} = -41.798,436 \ ron$$

$$\Delta P = +2.064.874 \ ron$$

$$\Delta \frac{Kfa}{Kf} = +109.624,435 \ ron$$

$$\Delta \frac{CA}{Kfa} = +505.026,071 \ ron$$

$$\Delta \frac{P}{CA} = +1.395.577,199 \ ron$$

Schedule no.1
Synthesizing the influence of factors on profits afferent to turnover

Influence of total capital with plus sign does not mean unconditional a positive status in the sense that its volume has increased the amount of profit by about one hundred thousand ron. Here we have to take into account some internal issues:
The first is the total capital structure of two components: fixed and circulating capital.

Logical, the second factor $\Delta \dfrac{Kf}{Kt}$ illustrates actually the de fapt şi inequalities

$\dfrac{Kf_1}{Kt_1} \langle \dfrac{Kf_0}{Kt_0}$, respectively $\dfrac{Kc_1}{Kt_1} \langle \dfrac{Kc_0}{Kt_0}$.

Or to increase working capital (real circulating assets) can not be assigned the same conditioning relationship as the fixed profit. Conversely, increasing the share of working capital can mean a slow rotation speed of the circulating assets and thus a negative influence on the mass of profit (in comparable conditions of the two types of capital in value terms).

Obviously, that does not automatically mean a negative state as long as turnover dynamics ahead on the components of working capital assets, respectively $I_{CA} \rangle I_{Kc}$ (index of turnover is higher then the circulating asset capital) .

Related to the structure itself of fixed capital illustrated by the share of procesing capital $\frac{Kfa}{Kf}$ respectively the technological structure of the first, it reflects a positive share, thus $\frac{Kfa_1}{Kf_1} \rangle \frac{Kfa_0}{Kf_0}$ fact illustrated also in increasing the profit mass.

In the management company can be observed the favorable trend of investment policy (putting into service of new fixed operating assets). The same effect can be observed the influence of turnover growth to 1 ron fixed capital asset, increase its efficiency characterized on the basis of turnover. In fact between the technological composition of capital and total fixed capital efficiency is a parabolic correlation type such as

$$y = a + b \cdot x + c \cdot x^2 .$$

consisting of:

y – efficiency of fixed capital characterized on the basis of turnover;

x – the share of fixed operating capital in total fixed capital.

References

[1].**Anghel Ion, Eduard Dinu,** *, Strategy and economic – financial analysis of the company*, ASE Publishing House, Bucharest, 2007;

[2].**Balu Mariana Elena,** Economic – Financial Analysis. Theory and practical applications, Foundation „Romania of tomorrow" Publishing House, Bucharest, 2007;

[3].**Căruntu Constantin,** *Economic and financial analysis of company. Concepts.Methods.Applications*, Universitaria Publishing House, Craiova, 2009;

[4].**Ciobanu Anamaria,** *Analysis of economy performances,* ASE Publishing House, Bucharest, 2006;

[5].**Gheorghe I. Ana,** *The profit,* Economic Publishing House, Bucharest, 1998.