Prices under Crises

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Abstract: ThePVGO of the share prices shows the investors future hope. If the global trens are changed, then nedd to valuated the theoretical thesis by the practice. Let's look the BSE blue chips behavior in the last year, under crises.

Keywords: crises, share, stock market, PVGO, Budapest Stock Exchange

1   Theoretical Background

All kind of financial intrumet prices weel be calculeted by the same form: the price is equal by the present value of the generated cash flow (Figure 1)

$$P_0 = \sum_{i=1}^{m} \frac{CF_i}{(1+r_i)^i} \tag{1}$$

When

P_0 = the efficient market price (strike price, prompt or spot price)

CF_i = the instrument generated cash flow, in the period

r_i = the yield curve value at the *i* period

m = the maturity of the instrument (can be ∞)

In the stock exchange the most popular product is the share. The shareholder can do two things: enjoy the dividend or sell the share. Therefore the price of the hare show the next form: (Figure 2)

$$P_0 = \sum_{i=1}^{m} \frac{DIV_i}{(1+r_i)^i} + \frac{P_m}{(1+r_m)^m} \tag{2}$$

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When

P_0 = the market price (strike price, prompt or spot price)

P_m = the sellers price

DIV_i = the dividende of the share

r_i = the yield curve value at the i period

m = the maturity of the instrument

if the yield curve is constant (2a), then the form is simplified by (2b)

$$r_i = r_j ; \quad \forall i, j ; \; i \neq j ; \; i, j \varepsilon Z \tag{2a}$$

$$P_0 = \sum_{i=1}^{m} \frac{DIV_i}{(1+r)^i} + \frac{P_m}{(1+r)^m} \tag{2b}$$

The source of the dividende is the earning of the shere's company. From the earning the not for dividend paid amout belomng to the profit reserves, and this retained earning is the source of the company' growing. If all kind of shares are the same type, then the earning divided by the number of the shares is the EPS.

$$dr + rr = 1 ; \tag{2c}$$

$$DIV = EPS * dr ; \tag{2d}$$

$$ROE * rr = g ; \tag{2e}$$

If all years the dividende are the same, or has a same growing rate (g) then – used the perpetuity form – the price of the share can described by the form (3)

$$P_0 = \frac{DIV}{r - g} \tag{3}$$

The shar's price can be described by one non – growing part and the PVGO (Present Value of the Growing Opportunity)

$$P_0 = \frac{EPS}{r} + PVGO \tag{3}$$

2 Practical Part: Selected Blue Chips of the BSE

In this part let's try to look during four shares, what was happened in the Budapest Stock Exchange from 01. january 2007. The selected shares are: OTP (major Bank in Hungary), MOL (Oil Company), MTELECOM (Telecommunication Company) and RICHTER (Pharmaneutical Company).

2.1 Fundamental Background of the BSE's Selected Blue Chips

The major indicator included the following sheet:

Name	MOL			MTELEKOM		
Year	2006	2007	2008	2006	2007	2008
EPS (HUF)	3424	3057	1604	72,53	57,78	**83,51**
DIV (HUF)	507,96	883,36	0	70	74	74
ROE	25,92%	28,03%	11,48%	16,63%	14,19%	19,65%
dr	14,84%	28,90%	0,00%	96,51%	128,07%	88,61%
rr	85,16%	71,10%	100,00%	3,49%	-28,07%	11,39%
g	22,07%	19,93%	11,48%	0,58%	-3,98%	2,24%
P (DIV/(r-g))	13 210	10 905		436,22	407,31	424,92
P (EPS/ROE)	13 210	10 905	13 967	436,22	407,31	424,90

Name	OTP			RICHTER		
Year	2006	2007	2008	2006	2007	2008
EPS (HUF)	722	796	*938*	2753	1789	2222
DIV (HUF)	145,09	0	*0*	690	450	555,5
ROE	23,74%	23,29%	*22,98%*	17,84%	11,09%	12,36%
dr	20,10%	0,00%	*0,00%*	25,06%	25,15%	25,00%
rr	79,90%	100,00%	*100,00%*	74,94%	74,85%	75,00%
g	18,97%	23,29%	*22,98%*	13,37%	8,30%	9,27%
P (DIV/(r-g))	3 042			15 430,93	16 124,38	17 984
P (EPS/ROE)	3 042	3 418	*4 082*	15 430,93	16 124,38	17 984

Sheet 1

The major indicator of the blue chips

The Sheet 1 show, that the run of the MOL share is in the year 2006 and 2007 regular, but in the year 2008 don't pay dividende. The run of the MTeleKom Share in the year 2006 and 2008 is regular, but in the year 2007 payed more dividende, as the EPS, that does it mean, that the g is negativ. The run of the OTP

share is in the year 2006 regular, but in the year 2007 and 2008 don't pay dividende. Only the run of the Richter share is regular during the analised period. The consequences of the subrime crises was the sinkig of the stock market prices. The companies aswer: the most pay never dividende.

## 2.2 Historical Analisys of the PVGO of the BSE's Selected Blue Chips

Based by the Historical analisys, we can describe the following different type of cases:

- regular (normal)
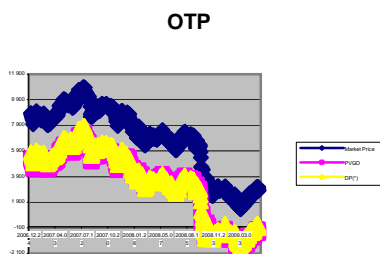
- zero dividende

- more dividende, as the EPS

In the regular cases, the PVGO is more as 0. If the dividende is zero, then the PVGO goes to the negative territory. If the dividende is more that the EPS, then the growing rate (g) is less than zero. That's shows the following graphs:
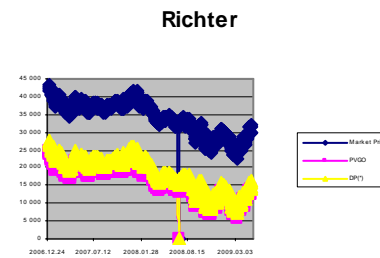
MOL
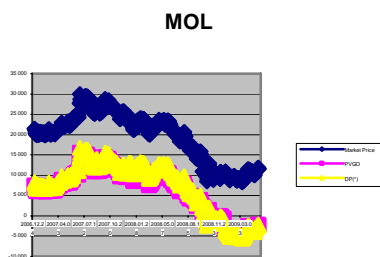
Graph 1

MOL Market Price, PVGO, and Δ
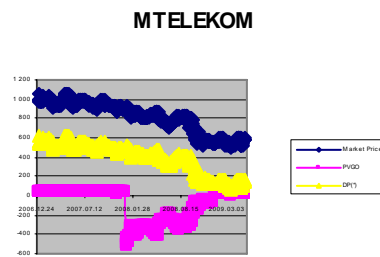
MTELEKOM

Graph 2

MTELEKOM Market Price, PVGO, and Δ

OTP

Graph 3

OTP Market Price, PVGO, and Δ

Richter

Graph 3

RICHTER Market Price, PVGO, and Δ

Conclusion

Is not so easy to competition the fundamental prices, what changed only yearly, with the spot prices, what have daily flexibility.

The MTeleCom followed the Lintner theory, not reduced the dividende, but this action destroyed the standard PVGO theory, and give the sinking of the company market value.

The MOL, and the OTP reduced to zero the dividende.

Only the Richter can save the positive PVGO

References

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[2]   BSE website (www.bse.hu)

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