Business evaluating: problems of risks accounting

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Abstract – In this research estimation versus have been considered and the basic estimation models have been investigated. Local currency Government Bond rates, Default spread from government bonds, CDS spreads and Typical Default Spreads have been analyzed. Also risk free rate in a currency for Poland via tree approaches has been defined.

Key words – evaluating, risks, cost of equity, free rate, relative risk, equity risk, estimation models, government bond, default spread, CDS spreads.

I. Introduction

Investors have a mixed relationship with risk, forgetting that it exists in the good times and obsessing about in bad times, and nowhere is this dysfunction more visible than in emerging markets. After a few years where investors seemed convinced that emerging markets were no riskier than developed markets, they seem to have woken up to the existence of risk in emerging markets, with a vengeance, in the last few months.

II. Page Setup

While discount rates are a critical ingredient in discounted cashflow valuation, we spend far too much time on discount rates and far too little on cashflows. The most significant errors in valuation are often the result of failures to estimate cash flows correctly. While discount rates obviously matter in DCF valuation, they don't matter as much as most analysts think they do. At an intuitive level, the discount rate used should be consistent with both the riskiness and the type of cashflow being discounted.

Equity versus Firm	Currency	Nominal versus Real
If the cash flows being discounted are cash flows to equity, the appropriate discount rate is a cost of equity. If the cash flows are cash flows to the firm, the appropriate discount rate is the cost of capital.	The currency in which the cash flows are estimated should also be the currency in which the discount rate is estimated	If the cash flows being discounted are nominal cash flows (i.e., reflect expected inflation), the discount rate should be nominal

Fig. 1. Estimation versus
Source: Developed by the author according to the data[2]

Expectattion of cash flows across all scenarios, good and bad. Incorporates all risks that affect the asset/business. Discount rate should reflect the risk perceived by the marginal investor in the company.

$$R_e = R_f + R_c \times ER,$$

R_e – risk adjusted cost of equity; R_f – risk free rate in the currency of analysis; R_c – relative risk of company/equity in question; ER – equity risk premium required for average risk equity.

The risk in an investment can come from many places and we should categorize risks not only to get a sense of which risks are critical and which ones are minor but as a precursor to dealing with that risk.

Estimation versus Economic uncertainty	Micro uncertainty versus Macro uncertainty	Discrete versus continuous uncertainty
Estimation uncertainty reflects the possibility that you could have the "wrong model" or estimated inputs incorrectly within this model.	Micro uncertainty refers to uncertainty about the potential market for a firm's products, the competition it will face and the quality of its management team.	Discrete risk: Risks that lie dormant for periods but show up at points in time.
Economic uncertainty comes the fact that markets and economies can change over time and that even the best models will fail to capture these unexpected changes.	Macro uncertainty reflects the reality that your firm's fortunes can be affected by changes in the macro economic environment.	Continuous risk: Risks changes in interest rates or economic growth occur continuously and affect value as they happen.

Fig.2. Not equal estimation versus
Source: Developed by the author according to the data[2]

Lays out the four basic models and how non-diversifiable risk is measured in each model:

- The capital asset pricing model makes the most restrictive assumptions and arrives at the simplest model to estimate and use.
- The arbitrage pricing model and multi-factor model make less restrictive assumptions but yield more complicated models.
- The proxy model is dependent upon history and the view that firms that have earned higher returns over long periods must be riskier than firms that have lower returns. The characteristics of the firms that earn high returns - small market cap and low price to book value.

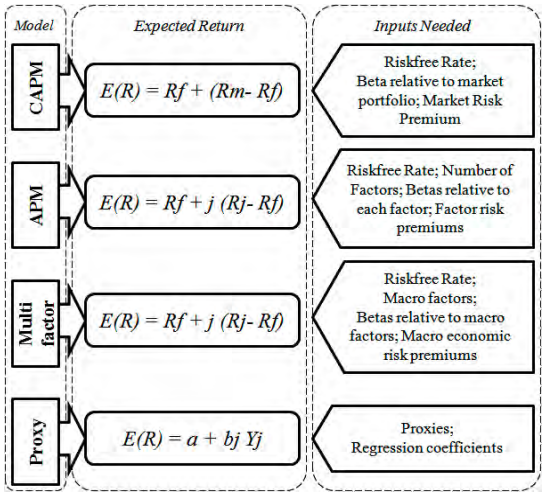

Fig. 3. Basic estimation models
Source: Developed by the author according to the data [2]

While this equation is set up in terms of the capital asset pricing model, the issues raised with the CAPM apply to the more complex models as well - the APM and the multi-factor model. Consider the standard approach to estimating cost of equity:

$$Cost\ of\ Equity = Riskfree\ Rate + Equity\ Beta \times Equity\ Risk\ Premium$$

In practice, government security rates are used as risk free rates; historical risk premiums are used for the risk premium; betas are estimated by regressing stock returns against market returns.

Country	Current	Trend	Recommen-dation	Country	Current	Trend	Recommen-dation	Country	Current	Trend	Recommen-dation
Austria	2.25		Buy+	Greece	8.87		Sell	Portugal	6.31		Sell+
Belgium	2.62		Buy	Hungary	5.70		Sell+	Romania	5.26		Sell
Bulgaria	3.85		Buy+	Iceland	6.33		Sell	Russia	7.30		Hold
Croatia	5.26		Sell+	Ireland	3.74		Sell+	Slovakia	2.55		Hold
Czech Republic	2.32		Buy+	Italy	4.29		Sell	Slovenia	6.62		Sell+
Denmark	1.99		Buy+	Latvia	3.89		Buy	Spain	4.31		Hold
Euro Area	1.49		Buy+	Lithuania	4.20		Buy+	Sweden	2.48		Sell+
Finland	2.10		Buy+	Netherlands	2.24		Buy+	Switzerland	1.04		Sell
France	2.39		Sell	Norway	2.94		Sell	Turkey	8.72		Sell
Germany	1.87		Buy	Poland	4.45		Buy	United Kingdom	2.74		Buy

Fig. 4. Local currency Government Bond rates at October 2013

Source: Financial Times [1]

For an investment to be riskfree, then, it has to have: no default risk; no reinvestment risk.

Time horizon matters: Thus, the riskfree rates in valuation will depend upon when the cash flow is expected to occur and will vary across time.

Not all government securities are riskfree: Some governments face default risk and the rates on bonds issued by them will not be riskfree.

In valuation, we estimate cash flows forever. The right risk free rate to use in valuing a company in US dollars would be:

- A three-month Treasury bill rate – 0,1%.
- A ten-year Treasury bond rate - 2%.
- A thirty-year Treasury bond rate - 3%.
- A TIPs rate - 1%.
- None of the above.

Default spread from government bonds we can see every day in Financial Times (Fig. 5).

Oct 11	Red date	Coupon	Ratings S*	M*	F*	Bid price	Bid yield	Day's chge yield	Mth's chge yield	Spread vs US
High Yield US$										
Kazkommerts Int	04/14	7.88	B	Caa1	B	100.00	7.86	0.00	-0.92	7.6
Bertin	10/16	10.25	BB	Ba3	-	108.28	7.11	0.18	-0.34	6.9
High Yield Euro										
Royal Carib Crs	01/14	5.63	BB	Ba1	-	100.44	3.87	0.38	0.92	3.8
Kazkommerts Int	02/17	6.88	B	Caa1	B	95.00	8.64	0.00	0.04	8.3
Emerging US$										
Bulgaria	01/15	8.25	BBB	Baa2	BBB	108.63	1.24	0.07	-0.20	1.1
Peru	02/15	9.88	BBB+	Baa2	BBB	110.81	1.46	-0.13	-0.52	1.3
Brazil	03/15	7.88	BBB	Baa2	BBB	108.74	1.49	0.06	-0.07	1.3
Mexico	09/16	11.38	BBB	Baa1	BBB+	129.18	1.15	0.02	-0.42	0.4
Philippines	01/19	9.88	BBB-	Baa3	BBB-	132.78	3.06	0.07	-0.53	1.6
Brazil	01/20	12.75	BBB	Baa2	BBB	152.93	3.30	-0.15	0.15	1.2
Colombia	02/20	11.75	BBB	Baa3	BBB-	145.52	3.66	-0.01	-0.59	1.6
Russia	03/30	7.50	BBB	Baa1	BBB	118.50	3.93	0.00	-0.61	2.5
Mexico	08/31	8.30	BBB	Baa1	BBB+	137.01	5.11	-0.04	-0.25	2.4
Indonesia	02/37	6.63	BB+	Baa3	BBB-	103.38	6.34	-0.04	-0.95	2.6
Emerging Euro										
Brazil	02/15	7.38	BBB	Baa2	BBB	107.68	1.37	-0.16	-0.03	1.2
Poland	02/16	3.63	A-	A2	A-	106.04	0.95	-0.03	-0.09	0.7
Turkey	03/16	5.00	NR	Baa3	BBB-	106.15	2.30	-0.01	-0.35	2.1
Mexico	02/20	5.50	BBB	Baa1	BBB+	115.48	2.80	0.03	-0.02	1.7

US $ denominated bonds NY close; all other London close. *S - Standard & Poor's, M - Moody's, F - Fitch. Source: ThomsonReuters

Fig.5. Bonds – high yield & emerging market in October 2013

Source: Financial Times [1]

Sovereign CDS spreads are available for 63 countries and for our example we consider CDS spreads for Poland (Fig. 5).

Figure 6 was developed using both sovereign bonds and CDS spreads. Getting to a risk free rate in a currency for Poland (for example): government bond rate in nominal reais in October 2013 was 4,45%. To get to a riskfree rate in nominal reais, we can use one of three approaches (Fig. 7).

Conclusion

While discount rates are a critical ingredient in discounted cashflow valuation, we spend far too much time on discount rates and far too little on cashflows. The most significant errors in valuation are often the result of failures to estimate cash flows correctly. As companies increasingly become global, and multiple listings abound, the consistency principle becomes very important. The currency used in estimating cash flows should also be the currency in which you estimate discount rates - Euro discount rates for Euro cashflows and peso discount rates for peso cash flows.

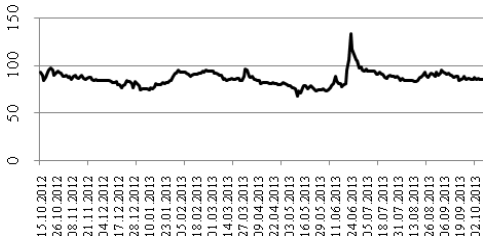

Fig.6. Poland CDS spreads in October 2012-October 2013

Source: Bloomberg

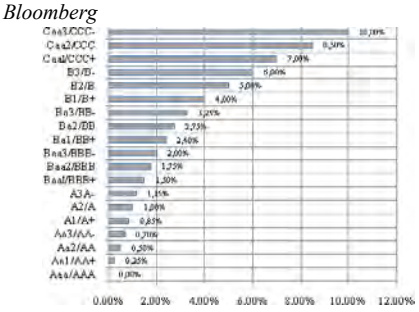

Fig.7. Typical Default Spreads in 2013

Source: Developed by the author according to the data [2]

Fig.8. Risk free rate in a currency for Poland in October 2013

Source: Author estimates

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