Dear Students,

Here are the replies to your questions. As for the answer to my question (give me one reason why a company might wish to source capital internationally?) the answer is that a company would source capital internationally in order to lower its cost of capital, and to gain international recognition (i.e. the equity or bond issue serves as an experience goods, just like the product itself, take a look at: http://www.adr.com/ for examples of that). As for the second question (Do you think that MNE cost of capital is lower than a pure domestic play firm? Why or why not?), the answer is ambiguous, on the one side the cost of capital for MNE is generally higher due to the higher agency costs, and the higher political & forex risks, however, for very large size projects it is lower, since the MNE can then benefit from the international diversification by more as compared to pure domestic play firms.

Here are the answers to your questions.

What is cost of equity? How do you measure it?

The cost of equity is the expected return to equity holders. It is <u>a cost for the company's management</u>, since it represents a liability to the equity holders.

Can you go over the earnings management strategy of loss avoidance (graph a on slide 11) again?

The loss avoidance is shown in the two <u>distribution graphs</u>[1] below. In the first one,
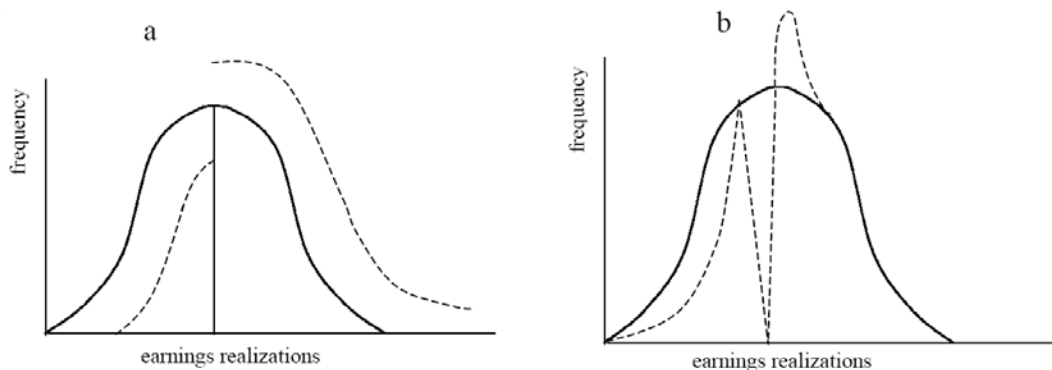
The dotted line indicates that the managers tend to pretend to earn above average cash flows than they really are (the reasons: non-linear, or option based compensation structure of top managers, and the attempt to meet the expectations set up by the analysts

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[1] The way to read a distribution curve, as the above two, is the following: the horizontal axis describes the values of the net cash flow, while the height of the curve represents the percentage of companies in a country that has this particular net cash flow. The solid line represents the true (or unmanaged) earnings, while the dotted line is the managed cash flows.

in top investment banks). In a sense, the managers are really trying to avoid showing relative losses (relative to their peers). In the second graph, it is shown that managers w/ net cash flows a little bit below the average, try to "push" their earnings so that they make it (on book) on the above-average side. However, if there are several companies in an industry that experience the same below-average cash flows, then they would truly recognize it, in what is called "earnings bath". They do so, because this bad news are more likely to be interpreted as market bad news, not company-specific bad news.

Interested in the earnings opacity across countries? You can take a look at the whole working paper (but skip the math, it is not informative for us, just helps see things in greater detail)
http://papers.ssrn.com/sol3/delivery.cfm/SSRN_ID282117_code010905100.pdf?abstracti d=282117

Was there ever a case where a company went bankrupt b/c it didn't have enough liquid assets to cover losses b/c all its equity was not liquid enough? Isn't equity always very liquid?

Yes, most recent example was Enron. Many telco companies post-bubble had almost no equity (since market valuation was so low). Another example, Telsim of Turkey, as we have discussed in class.

Why are retained earnings for temporal method different than current rate method?

First, let's repeat that under the current rate method of re-measurement, the gains/losses from forex rate changes are kept into the reserve CTA account, while under the termoral method, the gains/losses stemming from the forex rate fluctuations are included into the retained earnings. Why? I don't know. Any suggestions? Clearly, this practice will distort the retained earnings on the balance sheet of a US corporation parent.

So is the only diff b/n world CAPM and "domestic CAPM: a "world" portfolio (& therefore different correlation, $\rho_{j,m}$, and σ_m)?

Yes. This, though, has its limitations, as we will see later in class, going through the different models for computing the cost of equity.

I am very confused by the analysis of Lucent Europe's balance sheet. Could you please review it?

I apologize for not explaining well in class. Let's do it step by step in the memo. Here is the balance sheet of Lucent Europe that I used in class to illustrate translation exposure. Before we start, remember, the only thing to retain from it is: there are two main differences b/n current rate method and temporal method of translation. First, under the current rate method, the gains/ losses from forex rate fluctuations are kept in the CTA

account, while under the temporal method they are added to the retained earnings, <u>next period</u>.

CURRENT RATE METHOD

		Dec-02		Jan-03	
Assets	**EUR**	**($/EUR)**	**$**	**($/EUR)**	**$**
Cash	€1,600,000	1.20	$ 1,920,000	1.00	$ 1,600,000
Accounts receivable	3,200,000	1.20	$ 3,840,000	1.00	$ 3,200,000
Inventory	2,400,000	1.20	$ 2,880,000	1.00	$ 2,400,000
Net plant & equipment	4,800,000	1.20	$ 5,760,000	1.00	$ 4,800,000
Total	**€12,000,000**		**$ 14,400,000**		**$ 12,000,000**
Liabilities & Net Worth					
Accounts payable	€800,000	1.20	$ 960,000	1.00	$ 800,000
Short-term bank loan	€1,600,000	1.20	$ 1,920,000	1.00	$ 1,600,000
Lont-term debt	€1,600,000	1.20	$ 1,920,000	1.00	$ 1,600,000
Common stock	€1,800,000	1.28	$ 2,296,800	1.28	$ 2,296,800
Retained earnings	€6,200,000	1.20	$ 7,440,000	1.20	$ 7,440,000
CTA account			(136,800)		$ (1,736,800)
Total	**€12,000,000**		**$ 14,400,000**		**$ 12,000,000**

TEMPORAL METHOD

		Dec-02		Jan-03	
Assets	**EUR**	**($/EUR)**	**$**	**($/EUR)**	**$**
Cash	€1,600,000	1.20	$ 1,920,000	1.00	$ 1,600,000
Accounts receivable	3,200,000	1.20	$ 3,840,000	1.00	$ 3,200,000
Inventory	2,400,000	1.22	$ 2,923,200	1.22	$ 2,923,200
Net plant & equipment	4,800,000	1.28	$ 6,124,800	1.28	$ 6,124,800
Total	**€12,000,000**		**$ 14,808,000**		**$ 13,848,000**
Liabilities & Net Worth					
Accounts payable	€800,000	1.20	$ 960,000	1.00	$ 800,000
Short-term bank loan	€1,600,000	1.20	$ 1,920,000	1.00	$ 1,600,000
Lont-term debt	€1,600,000	1.20	$ 1,920,000	1.00	$ 1,600,000
Common stock	€1,800,000	1.28	$ 2,296,800	1.28	$ 2,296,800
Retained earnings	€6,200,000		$ 7,711,200	1.20	$ 7,711,200
CTA account (loss)					$ (160,000)
Total	**€12,000,000**		**$ 14,808,000**		**$ 13,848,000**

Second, the non-monetary asset items, such as the inventory and net property, plant, & equipment, are translated at historical rates under the temporal method, while they are re-

measured at the current forex rate under the current rate method (of course). So, here is the general setup. The red figures in EUR on the left side are the ones that appear on the balance sheet of Lucent Technologies Europe. Then, they are translated at two different exchange rates ($1.2/EUR) and ($1/EUR) in the two adjacent columns to the right. The rows in yellow are the items that are translated at historical rates. Everything else is translated at current rates. Notice that the inventory and net PPE are re-measured at the current rate when we use the current rate method! Now, let's look at the CTA account in the table on the current rate method. Notice that this account has a balance of ($136,000 for Dec-02. This is a balance from previous periods, so that's that, no need to figure out how we came w/ this figure. Second, notice that the CTA decreases by $1.6 million further in Jan-03, due to the devaluation. Basically, this is the decrease in the value of the exposed assets (in this case the net PPE & Inventory). Now, the last two non-monetary items will not be exposed under the temporal method (in the second table). So the figure that appears in the CTA account row for the temporal method is much smaller – ($160,000). Why? Because the value of the inventories & net PPE will not be translated at the new, depreciated exchange rate. Since the EUR value of these non-monetary items is EUR2.4 million + EUR 4.8 million = EUR 7.2 million, the net exposed assets will be much less! Finally, notice that the CTA account balance under the temporal method will at the end of period find its way into retained earnings! That's why, no pre-depreciation CTA account balance appears under the temporal method – it has been carried into the retained earnings.

I couldn't understand what you said about the weights in the CC. How are they determined?

I assume that your question refers to the computation of WACC. The weights there are the percentage of debt from *total firm value* (which is the sum of the market value of equity, and the market value of debt), and the percentage of equity from total firm value. Notice that by construction, these two weights sum up to 1. How are they determined? Well, on the one side, it is the market valuation of the two claims – debt & equity that will play a role here. But, also, it is the management that has to decide on what is the best for that company financial mix of debt & equity.

Why is it that emerging markets have a high correlation between the markets and stocks?

Curiously, because there is not much private information trading into these markets! You see, in a market like NYSE, there is a gain to studying a company up to a point that you have exclusive and very valuable information for it. Then, you start trading w/ that information and making profits from uninformed traders, until it eventually transpires to these investors, what is your strategy, and ergo, your private information (this is called information diffusion through trading). However, the more certain you are that your information is more valuable, the more aggressively (or confidently, if you will) you will trade on it. So, that generates a lot of non-synchronous (or idiosyncratic) movement (or volatility) in the developed and liquid financial markets. This is not the case in under-developed (or emerging) financial markets. Down there, the incentives to collect private

information are not high. Why? Because outsider investors there have already priced the anyway-high informational asymmetry between then and the insiders. So, the stock will co-move with the entire market.

How do you compute LIBOR again for world risk-free rate?

This is just a quote from the website below: "LIBOR stands for the London Interbank Offered Rate and is the rate of interest at which banks borrow funds from other banks, in marketable size, in the London inter-bank market." More on LIBOR @ http://www.bba.org.uk/public/libor/

Now, why would American banks use LIBOR? Is LIBOR a rate on Pound or US$ deposits?

Which CAPM model is mostly used?

It varies from country to country. Goldman Sachs - integrated is quite popular on Wall Street.

A question from the last time: how to weigh the different criteria when deciding on a functional currency (FAS #52)?

I could not find Prof. Eli Bartov, who is the specialist in international accounting at Stern. So, I went directly to the source, http://www.fasb.org/pdf/fas52.pdf , page 20, or appendix A. However, as you would see yourself, there is no explicit rule on how to weigh the different components/ indicators for determining the functional currency. Can you find that out, perhaps you know someone who knows it? If you do, please let me know ☺, I will try again to reach Prof. Eli Bartov.

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