Arca: Cost of Capital Note

Risk free rate: The risk free rate that you use in the valuation is a function of the currency you choose to do the valuation in and not the country in which the company is incorporated. In this case, since I chose to value Arca in its local currency, I need a risk free rate in Mexican pesos. To get that number, here is what I started with:

America		Actual	Previous	Change	Daily %	Weekly %	Monthly %	Yearly %	
Brazil	GEBU10Y	11.35	11.18	0.17	1.52 %	0.99 %	-6.43 %	-4.30 %	[+]
Canada	GCAN10YR	2.14	2.11	0.03	1.42 %	6.03 %	3.88 %	-21.90 %	[+]
Chile	CHILEGOVBON10Y	4.60	4.49	0.11	2.45 %	8.72 %	7.23 %	-12.88 %	[+]
Colombia	COGR10Y	6.47	6.48	-0.01	-0.15 %	-0.92 %	-4.01 %	-11.97 %	[+]
Mexico	GMXN10YR	5.81	5.76	0.05	0.87 %	0.70 %	0.69 %	-3.01 %	[+]
Peru	GRPE10Y	5.13	5.15	-0.02	-0.39 %	-0.39 %	-2.66 %	-15.21 %	[+]
United States	USGG10YR	2.46	2.45	0.01	0.41 %	4.70 %	2.07 %	-15.17 %	[+]

This table gives ten-year government bond rates in the local currency. The ten-year Mexican Government bond rate was 5.81%. However, to get a risk free rate, I need to make a judgment on whether there is a default spread embedded in this rate. To get the default spread, I started with the sovereign "local currency" bond rating for Mexico, which is Baa1. (See Moody's sovereign ratings). At the start of every year, I estimate default spreads for sovereign ratings and that table yielded a default spread of 1.60% for a Baa1 rated bond, thus giving me a risk free rate in pesos of 4.21%:

Risk free rate in pesos = 5.81% -1.60% = 4.21%

Beta: Rather than play games with regressions of Arca against the Mexican Bolsa or the ADR against the S&P 500, I used the average unlevered beta for beverage companies (0.71) and then applied the market debt to equity ratio of Arca (12.2%) and the marginal tax rate in Mexico (30%) to arrive at a levered beta of 0.77:

Beta for Arca = 0.71 (1+ (1-.30) (.122)) = 0.77

Equity Risk Premium: While Arca is a Mexican company it derives large portions of its revenues from Argentina and Ecuador, two of Latin America's riskiest markets. The ERP for Arca of 9.17% is a revenue-weighted average of the countries in which it operates:

Country	*Revenues*	*Weight*	*ERP*
Mexico	43507	72.08%	7.40%
Argentina	7843	12.99%	14.75%
Ecuador	6310	10.45%	16.25%
US	2699	4.47%	5.00%
Total	60359	100.00%	9.17%

Cost of equity: Bringing together these inputs, I get a cost of equity for Arca Continental of 11.27%:

Cost of equity in pesos = 4.21% + 0.77 (9.17%) = 11.27%

Cost of debt: To arrive at a cost of debt in pesos, I started with the risk free rate of 4.21% and added two default spreads. The first was the Mexican country default spread of 1.60% (which I had taken out) and the second was a default spread for Arca based on its default risk. To arrive at the latter, I estimated a synthetic rating of A1 for Arca, based on its interest coverage ratio of 8.93 and then used the default spread of 0.85% that I had estimated for A1 rated companies:

Pretax cost of debt = 4.21% + 1.60% +0.85% = 6.66%

After-tax cost of debt (using Mexican marginal tax rate) = 6.66%(1-.3) = 4.66%

Weights and Cost of capital: To arrive at the market value weights, I used the market value of equity (156,776 million pesos) and the book value of debt (16,663 million pesos). I assumed that the latter was a good estimate of the market value, since it was relatively short term and recent debt.

Market value equity to capital = 156776/(156776+16663) = 90.39%

Market value debt to capital = 16663/(156776+16663) = 9.61%

Cost of Capital = 11.27% (.9039) + 6.66% (1-.30) (.0961) = 10.64%