Quiz 1: Valuation

Answer all questions and show necessary work. Please be brief. This is an open books, open notes exam.

1. VeriSoft Inc. is an Israeli software firm that derives 90% of its revenues in the United States and only 10% in Israel. The company is all-equity funded and has a market capitalization of $1 billion. The expected cash flow to the firm next year is $100 million and the expected growth rate (in US dollar terms) is 2% in perpetuity; the unlevered beta for the sector is 1.00. You believe that the market shares your views on the expected cash flow, growth rate and beta but is mistakenly valuing the firm as an all-Israeli firm. The sovereign rating for Israel is A1, the default spread for an A1 rating is 1% and the Israeli equity market is twice as volatile as the Israeli government bond. If the average Israeli company gets 50% of its revenues in Israel, estimate the correct value of equity for VeriSoft. (3 points)
2. You have been asked to assess the cost of capital for Beiber Software, a small technology firm, and have collected the following information on the firm:

- There are 10 million shares outstanding, trading at $15/share.
- The firm has only one debt issue outstanding: a 10-year, 4% (coupon rate) convertible bond, with a face value of $150 million and an estimated market value of $180 million. (You can assume annual coupons)
- The unlevered beta for technology firms is 1.00.
- The firm has a BBB rating and the default spread for BBB rated bonds is 2%.
- The riskfree rate is 4%, the equity risk premium is 5% and the marginal tax rate is 40%.

a. Estimate the debt to capital \((D/(D+E))\) ratio for Beiber Software.   (2 points)

b. Estimate the cost of capital for Beiber Software.   (2 points)
3. You are reviewing the estimates of return on capital and reinvestment rate for a consumer product company with a well-known brand name. In the most recent year, the firm reported $30 million in after-tax operating income, an after-tax return on invested capital of 15% and a reinvestment rate of 50%. However, the firm had $100 million in advertising expenditures in the most recent year and you believe that half of this expenditure is related to building up brand name (rather than increasing current revenues). You can assume that advertising has a three-year life and that advertising expenses were $40 million three years ago, $60 million two years ago and $80 million a year ago; Half of each of these expenses can be assumed to be brand name related. The marginal tax rate (if you need it) is 40%.

a. If you decide to treat brand name as an asset, estimate the corrected return on capital.
(2 points)
b. If you decide to treat brand name as an asset, estimate the corrected reinvestment rate. (2 points)