

**FIN 440: International Finance**

**Case: Cross-Border Valuation Application**

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Using the principals developed in the HBS Case [Cross-Border Valuation](https://cb.hbsp.harvard.edu/cbmp/product/295100-PDF-ENG?supp=true) (9-295-100) calculate the APV from the perspective of the Germany subsidiary. NOTE: there are some key differences between this case and the HBS Case, so please be sure to adapt your solutions to any changes.

An American firm is planning an expansion in Germany that will involve a capital expense of €10,000,000, and an investment in working capital of €1,000,000. The US marginal tax rate is 35% and that in Germany 30%; calculate taxes using the tax exemption approach, and assume all cash flows are remitted to the US parent. Model the first 5 years of the project, but assume that it will continue indefinitely after that time with an annual capital expenditure of €1,200,000 and annual depreciation of €1,000,000. Over the first 5 years there is straight-line depreciation. The firm borrows 30% of the invested capital locally and maintains that level indefinitely. The cost of debt is 8% in the US ands 10% in Germany, while the risk-free rates are 4% and 7%, respectively. The beta of the firm’s equity and the asset beta of the project 0.90. Inflation is 3% in the US and 6% in Germany. The US market is expected to return 12%. The EBIT for the project will be €10,000,000 in the first year increasing annually at 5% through year 5. The spot rate is now 1.50 ($/€).

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| **DATA** |  |
| Investment | 10.00 |
| Working Capital | 1.00 |
| Tax$ | 35.00% |
| Tax€ | 30.00% |
| Time | 5.00 |
| LT CAPEX | 1.20 |
| LT Depreciation | 1.00 |
| Cost of Debt$ | 8.00% |
| Cost of Debt€ | 10.00% |
| Weight of Debt | 30.00% |
| Risk-Free Rate$ | 4.00% |
| Risk-Free Rate€ | 7.00% |
| Inflation$ | 3.00% |
| Inflation€ | 6.00% |
| Beta | 1.10 |
| Asset Beta | 0.90 |
| Return on the Market | 12.00% |
| S0($/€) | 1.50 |
| Depreciation | 10.00% |
| EBIT1 | 10 |
| EBIT Growth Years 2-5 | 5.00% |