

CHAPTER 30:

CORPORATE FINANCE FOR PRIVATELY HELD FIRMS

30-1

The E/A ratio = $\$1,000,000 / (\$1,000,000 + \$500,000) = .66$

30-2

She should participate in the plan up to \$5,000 of her own money per year. The advantage of participating is the matching from the company, which reduces the purchase price of the stock by a half. The disadvantage is both the personal investment and the human capital tied with the company. If the company goes down, she would lose both her job and her investment in the company.

30-3

There are conceivably projects where depreciating the required equipment would result in a “rejected” decision while expensing it would yield an “accept” decision. Let’s call them “marginal” projects. A large company will undoubtedly take advantage of the exclusion just as a small company will, but it will most likely use this on the capital investment required for one of its “big” projects, not a marginal project. Even if it does invest in marginal projects, it will only find it wealth-enhancing to invest in a limited number of them (i.e., the number it can invest in before the exclusion runs out). Effectively, this exclusion serves to “reserve” the marginal projects for small firms, so that they have a group of projects that they can invest in which are “protected” from competition from large firms.

30-4

Small firms usually pay less taxes if lease method is used than if the buy method is used.

30-5

a. In a public bond issue, information has to be made available to the financial market. In a bank loan, such information is made available only to the banker. A private firm, which wants to keep the information confidential, may therefore be more inclined to issue bank debt. A publicly traded firm, which already has had to disclose much of this information may not care as much, and will therefore be more inclined to use bonds.

30-6

Initial Investment -100,000

Operating Cash Flows:

Revenues		200,000	200,000	200,000	200,000	200,000
- Labor Costs		90,000	90,000	90,000	90,000	90,000
- Rent		15,000	15,000	15,000	15,000	15,000
- Operating Expenses		20,000	20,000	20,000	20,000	20,000
- Depreciation		15,000	15,000	15,000	15,000	15,000
Taxable Income		60,000	60,000	60,000	60,000	60,000
- Tax		24,000	24,000	24,000	24,000	24,000
Net Income		36,000	36,000	36,000	36,000	36,000
+ Depreciation		15,000	15,000	15,000	15,000	15,000
ATCF		51,000	51,000	51,000	51,000	51,000
Salvage Value						25,000
Total CF	-100,000	51,000	51,000	51,000	51,000	76,000
PV of CF	-100,000	41,996.91	34,583.15	28,478.15	23,450.87	28,777.26

Total Beta = $1.05 / .4 = 2.625$

Cost of Equity = $7\% \times 2.625 = 18.375\%$

a. Cash Flows : See above

b. Discount Rate = 21.44%

c. NPV = \$57,286 ! Yes, Accept the project.

30-7

a. The publicly traded firm will assign a higher value to the project if it treats a substantial portion of the risk in the project as diversifiable (to its investors) and thus ignores it in analysis. Note that the private firm may have to factor these risks into the analysis because its owner may not be diversified. (This will show up as a difference in discount rates.)

b. The private firm will assign a higher value to the project if the bulk of the risk on the project is market risk (and affect both the private and public firms) and the private firm is more efficient, leading to lower costs and higher operating profits.

30-8

Conglom can succeed if the value of the businesses it acquires is greater to Conglom than to the private owners of these businesses. While some of this gain can come from economies of scale or other synergy, much of it will just come from the fact that Conglom has the benefits of diversification, reducing its exposure to risk that may still affect individual private businesses. For this strategy to succeed, Conglom has to get a reasonable share of this increase in value. It also has to make sure that it does not allow inefficiencies to overwhelm these gains.

30-9

a. No. All debt is not dangerous, since if the firm has enough cash flows to make debt payments comfortably even in the event of a downturn, the firm may gain from borrowing money and using these funds for projects.

b. I would not however recommend moving all the way to the optimal. Private firms are more exposed to bankruptcy risk, agency costs (which will show up as stricter covenants) and they do need flexibility more than large publicly traded firms since they cannot access financial markets. For all these reasons, they might want to borrow less than the optimal.

30-10

	1	2	3	4	5	Terminal Year
EBIT(1-t)	\$7.90	\$10.28	\$13.36	\$17.37	\$22.57	\$23.93
- Net Cap Ex	\$4.55	\$5.92	\$7.69	\$10.00	\$13.00	\$13.77
- Working Capital	\$0.90	\$1.17	\$1.52	\$1.98	\$2.57	\$2.72
FCFF	\$2.45	\$3.19	\$4.15	\$5.39	\$7.01	\$7.43
Terminal Value						\$100.20
Present Value (at 13.41%)	\$2.45	\$3.19	\$4.15	\$5.39	\$107.21	

Average Beta of comparable firms = $(1.74 + 1.21 + 1.12)/3 = 1.36$

Average D/E Ratio of comparable firms = $(9.53\% + 31.43\% + 0)/3 = 13.65\%$

Average Unlevered Beta = 1.25

Barrista's levered beta based upon debt ratio of 12%; D/E ratio is 12/88 :1.36

Cost of Equity = $7\% + 1.36(5.5\%) = 0.1448$

Cost of Capital = $14.48\%(.88) + 8.75\%(0.64)(.12) = 13.41\%$

a. Value of Barrista Espresso as a firm = \$122.39

b. Value of Debt in the firm: 12% of \$67.88 million = \$14.69

Value of Equity in the firm = \$107.71

c. This would be my valuation of the firm as a publicly traded firm. I would discount it if it were a private firm.

30-11

a. True

b. True

c. False.

d. True

30-12

a. $\ln(\text{Relative Price})$ using Silber regression

$$= 4.33 + 0.036 \ln(\text{REV}) - 0.142 \ln(\text{RBRT}) + 0.174 \text{DERN} + 0.332 \text{DCUST} = 4.041$$

Discount = $100 - \exp(4.04) = 43.13\%$

b. Corrected Discount based upon average of 25% = $25\% - 7\% = 18\%$

The reduction in discount for \$200 million in revenues is about 7%; See graph in notes.

30-13

a.

Pre-tax Operating Income = \$100,000

Pre-tax Operating Income w/o Chef = \$60,000

After-tax Operating Income = $\$60,000(.6) = \$36,000$

Net Capital Expenditure = 10,000

Free Cash Flow to Firm = 26,000

Cost of Equity = $7\% + 1.1(5.5\%) = 13.05\%$

After-tax Cost of Debt = $8\%(1-.4) = 4.80\%$

Cost of Capital = $13.05\%(.5) + 4.8\%(.5) = 8.93\%$

Present Value of \$26000 growing at 5% a year for next 10 years = \$203,437

Present Value of \$1.5 million in 10 years = \$637,700

Value of Business = \$841,137

If the chef stay on, the after-tax operating income will be \$24,000 higher after taxes.

Present Value of \$24,000 growing at 5% a year for next 3 years = \$63,741

Value of Business without owner = \$841,137

b.

Value of Business if chef offers to stay on for three more years = \$904,878