

---

*Case Study***Wrightlines Air Service (A)<sup>1</sup>**

Orville and Wilbur each own a 50 percent interest in a small commercial air transportation service called Wrightlines Air Service. The business, which is organized as a corporation, has been successful for several years. However, the brothers no longer agree about the future of the business. Orville would like to pursue an expansion plan that he believes can double the size of the airline over the next three years. After three years, he would plan to either sell a substantial fraction of the equity or continue to own and operate the business at the new level for the indefinite future. Wilbur has other ideas, but is unwilling to discuss them with Orville. All Orville knows for sure is that Wilbur will not agree to Orville's expansion plan.

The two shareholders have an agreement that includes a reciprocal buyout provision, where either can offer to buy the other out. The other shareholder can decide to accept the offer or to reject it and buy out the shareholder who triggered the provision at the same offer price. Orville is trying to determine how much he should be willing to pay for Wilbur's share of the business.

Virtually all of Orville's financial capital is invested in Wrightlines. To buy Wilbur's share of the equity, Orville would need to bring in another investor. He is considering three alternatives. First, he could take on another partner to replace Wilbur. Second, he could try to sell enough of the equity in a private placement to a small number of institutional investors so that he could purchase Wilbur's interest in the business. Third, he could try to use the assets of the business to borrow enough to buy Wilbur's shares in a leveraged buyout.

Orville would like to pursue whichever alternative is likely to maximize the value of his interest in the venture. To help evaluate the alternatives, Orville has prepared a set of financial projections for the business. Recognizing that outside investors are likely to be less optimistic about the future than he is, he has prepared three different scenarios. The optimistic, or success, scenario reflects his own beliefs about what is likely to be realized if his plan to grow the business is implemented. A second scenario, reflecting slower growth, is the one he thinks outside investors will regard as realistic. Finally, his third scenario is one that he regards as extremely conservative. Orville thinks outside investors are likely to view each scenario as being equally likely to occur. Although, he thinks this estimate of expected return is conservative, he believes the degree of uncertainty reflected in the scenarios is reasonable.

Exhibit 1 contains the income statements for the three scenarios. In each case, all cash flows from the business during the growth phase are plowed back into investment to

---

<sup>1</sup> Names, industry, and financial data are disguised to preserve confidentiality.

support growth of the business. The main difference is that the slower growth scenarios are based on lower levels of cash flow available for investment.

In addition to the pro forma statements, Orville has collected other information that he thinks may be useful for assessing his choices. This information is summarized in Exhibit 2. He believes his equity investments and those of any other equity investor could be harvested at the end of the three-year growth phase.

Currently, Wrightlines operates with \$5.0 million of debt, at an interest rate of 9.5 percent. The debt will mature in 5 years. Wrightlines normally would replace it with newly issued debt at that point. Both Orville and Wilbur work for Wrightlines and draw salaries that are consistent with the values of the services they provide. Either could leave the company and substantially duplicate his salary by working for another airline company. Thus, there is little company-specific risk associated with their human capital commitments to the business.

Orville is interested in comparing the value of his ownership interest under each of the alternatives. He would also like to understand the reasons that the alternatives yield different values. As he thinks bringing in an individual partner might raise the probability of successful implementation of the growth plan, he would like to know how much that probability would have to increase (if at all) to make it the most attractive financing alternative.

Separate from the value of the airline to Orville, there is also a question of how much to bid. If Orville offers to buy based on his own valuation, he would, in effect, be offering the entire gain associated with his strategy to Wilbur. If Wilbur's plan is to maintain the status quo of the airline, and not to pursue growth, then Orville believes Wilbur should be willing to sell for a price that is consistent with maintaining the size of the airline and its current level of debt financing. On the other hand, if Wilbur has a higher valued alternative in mind, then he is likely to reject Orville's offer and buy Orville out instead. In that case, Orville would like to make his offer high enough to capture some of the value of Wilbur's strategy for increasing value.

Exhibit 1

<b>Success Scenario</b>				
	<b>Actual</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Revenue	\$20,000	\$25,000	\$32,000	\$40,000
Cost of sales	\$16,000	\$20,000	\$25,000	\$30,000
Operating income	\$4,000	\$5,000	\$7,000	\$10,000
Interest expense	\$475	\$475	\$475	\$475
Net taxable income	\$3,525	\$4,525	\$6,525	\$9,525
Tax	\$1,410	\$1,810	\$2,610	\$3,810
Net income	\$2,115	\$2,715	\$3,915	\$5,715

<b>Moderate Scenario</b>				
	<b>Actual</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Revenue	\$20,000	\$22,000	\$25,000	\$30,000
Cost of sales	\$16,000	\$20,000	\$22,000	\$24,000
Operating income	\$4,000	\$2,000	\$3,000	\$6,000
Interest expense	\$475	\$475	\$475	\$475
Net taxable income	\$3,525	\$1,525	\$2,525	\$5,525
Tax	\$1,410	\$610	\$1,010	\$2,210
Net income	\$2,115	\$915	\$1,515	\$3,315

<b>Pessimistic Scenario</b>				
	<b>Actual</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Revenue	\$20,000	\$21,000	\$23,000	\$25,000
Cost of sales	\$16,000	\$20,000	\$21,000	\$22,000
Operating income	\$4,000	\$1,000	\$2,000	\$3,000
Interest expense	\$475	\$475	\$475	\$475
Net taxable income	\$3,525	\$525	\$1,525	\$2,525
Tax	\$1,410	\$210	\$610	\$1,010
Net income	\$2,115	\$315	\$915	\$1,515

Note: All figures are in thousands of dollars. Non-cash expenses are assumed to be approximately equal to cash expenditures on new capital plus working capital increases.

Exhibit 2

<b>Comparable Data for Small Public Airlines</b>					
	<b>Market Value of Equity</b>	<b>Book Value of Debt</b>	<b>Price/Earnings<sup>2</sup></b>	<b>Equity Beta</b>	<b>Correlation with Market</b>
Company 1	10.0 million	20.0 million	15	1.5	0.30
Company 2	18.0 million	10.0 million	10	1.2	0.25
Company 3	7.0 million	30.0 million	18	2.1	0.35

<b>Current Yield and Market Information</b>	
Short-term Treasury Notes	6.00%
Long-term Treasury Notes	7.20%
Investment Grade Corporate Bonds	8.50%
Expected Annual Inflation	4.00%

<b>Historical Yield and Market Information</b>	
Short-term Treasury Notes	4.00%
Long-term Treasury Notes	4.50%
Investment Grade Corporate Bonds	6.00%
Average Annual Return on S&P 500	12.00%
Annual Standard Deviation of S&P 500	20.00%

<b>Biographical Information</b>		
	<b>Age</b>	<b>Salary</b>
Orville	32	\$110,000
Wilbur	32	\$110,000

<sup>2</sup> Price/trailing-twelve-months of earnings.