BARBARA'S OPTIONS

Introduction

Barbara Arneson strolled through the campus of the University of Maryland at College Park on a Spring evening in 2014. She often came to the quad at the end of a day for some quiet reflective time. Tonight she was mulling over her career options and the path her life would take in the next few years. Graduation was only five days away, and tomorrow Barbara would pick up her parents at the airport for a short visit and the ceremony. She hoped to be able to share her career decision with them and then relax over the next few days.

Having completed an undergraduate degree in biology a year prior, Barbara would soon be receiving her masters degree in computer science from Maryland before beginning a career in high technology. Barbara felt lucky that she had been offered a number of career options, thanks to the strong high-tech economy and growth of investment in the new field of bioinformatics, which applied software and Internet technology to the process of identifying and using genetic information for the life sciences industries. Barbara's personal objective was to work in product development and eventually move into management and maybe someday start her own company. As an interim step, she thought she might return to graduate school for an MBA in a few years.

On this beautiful evening, however, Barbara had to make a decision between two attractive job offers.

Barbara's Dilemma

Barbara had interviewed extensively with high-technology companies, and had decided BioGene Systems, Inc., and InterWeb Genetics Corp. were her top choices. She had hoped to receive an offer from at least one of them, but had received offers from both. Now she had a tough decision.

BioGene was a 7-year-old company that was successful and had grown rapidly. Its product-development group was highly regarded technically, and Rasha Motwani, to whom Barbara would report, had more than 10 years of development experience in several product areas in which Barbara was interested. She liked Rasha and felt she would learn a lot from her.

InterWeb was a start-up that had been funded about a year ago by two venture capital investors, both of whom had successfully funded technology companies. The InterWeb team was hard at work on its first product, which would

This case was created and revised by various instructors and teaching assistants at Stanford University. This case is prepared as basis for class discussion rather than to illustrate effective or ineffective handling of a situation. This case is based on a combination of experiences rather than on a particular person.

launch in about a year. Barbara would be joining a team of about 10 engineers, most of whom had extensive experience in the areas relating to the product they were developing. The technical team leader was Robert Jackson, one of the company founders, who was only a few years older than Barbara and had a reputation as a technical "visionary."

Barbara had been trying to decide for several days. As she strolled toward her dorm, she reflected on her thoughts. "Okay, I've been trying to make a decision on the basis of my key priorities, namely the types of projects I would be working on, the quality of the people I would be working with, and the opportunities for personal growth. Although BioGene and InterWeb are not directly comparable—each has potential strengths and weaknesses—the fact is that I think I would be equally happy with either one. For me, the decision is a toss-up. I guess the only way to determine which is better is to evaluate the financial offers. Because both proposed similar salaries and benefits, that means analyzing the stock option offers."

The Stock Option Packages

Not all companies offer stock options to new college graduates. Because of Barbara's success at school and a hot job market in bioinformatics, both BioGene and InterWeb had included a stock option package in their offers.

A stock option gives an individual the right to purchase, during a fixed time period called the "term," a certain number of shares of stock from the company at a fixed price, called the "exercise price." The option expires at the end of the term, but it can be "exercised" (or bought) all or partially during the term, usually subject to certain conditions such as "vesting." Options have no financial risk to the employee—if the value of the stock remains below the exercise price, he or she need not ever exercise the option.

BioGene had offered Barbara options for 6,000 shares at an exercise price of \$16.00 per share. BioGene had gone public in June ~~2008~~ at \$10 per share, and 2013 the stock was currently selling for roughly \$16. In extending the offer to Barbara, Karen Hershfield, manager of recruiting for BioGene, had said, "We have a proven record of rapid, profitable growth, and we expect that kind of growth to continue. You should receive a handsome return on this option package."

InterWeb had offered 60,000 shares at an exercise price of \$0.10 per share. Because the company was private, this price reflected a favorable pricing decision at the time of the venture capital investment received by the company. Robert Jackson, in discussing the offer with Barbara, had commented, "The great thing about going with a start-up is that if it is successful, everybody gets rich. Our business plan shows that we should be in a position to do our IPO (initial public offering) in 3 or 4 years, and because companies usually go public at \$10 to \$15 per share, you can see that this option could be worth almost a million dollars!"

Both options had identical restrictions. Vesting was 25% per year with a term of 4 years. This meant that at the end of one year of employment, Barbara had the right to exercise 25% of the shares at her discretion any time. At the end of two years of employment, she would vest for another 25%, and so on. If at any time she left the company, she could, within 90 days, exercise any options for which she was vested, but any unvested options would terminate. Any unexercised portion of the option would expire at the end of 10 years from the start of employment.

Having decided that she would be equally satisfied with joining either company, Barbara was understandably excited by the prospect of big financial gains on stock options. She had even begun day-dreaming about what she could do with a financial windfall—travel abroad for a year, buy a new car for her parents, and pay for an MBA without worrying about 2 years of no salary and huge loan payments. Because she had learned a lot about financial analysis in her entrepreneurship courses, she had obtained and analyzed financial data from both companies, as shown in Exhibits 1 and 2. She also had analyzed the opportunity and strategies of both companies, and felt each had excellent prospects of achieving its objectives. She had examined stock market data for public high-tech companies and knew that the price/earnings (PE) ratios of bioinformatics companies averaged 25. InterWeb had offered a lot more shares than BioGene, but there was a higher element of risk. She knew that many start-ups failed to be successful.

She recalled that autumn day 5 years ago when her parents had dropped her off at school for the start of her freshman year. When she picked them up at the airport tomorrow, she wanted to share her career decision with them and make them proud of her.

Questions

1. What is the number of shares outstanding at BioGene as of May 31, 2014? What is its current PE ratio? Why do you think it is higher than the current average of other bioinformatics companies (Hint: consider the recent annual growth rates of revenues and profits)?
2. What is Barbara's potential percentage ownership in each firm?
3. Compare the firms in 4 years (i.e., 2018) when the stock options will be fully vested. Assuming Barbara remains employed until that time, which stock option offer is better? Make sure to include the cost of the stock options and state all critical assumptions.
4. In addition to compensation matters, what other factors would you suggest Barbara consider in making her decision?

EXHIBIT 1 BioGene Systems profit and loss history.

	FY10	FY11	FY12	FY13	FY14
Revenue:	10.1	17.1	25.6	42.4	74.6
Cost of revenue	4.0	6.8	10.2	17.0	29.8
Gross margin	6.1	10.3	15.4	25.4	44.8
Expenses:					
Engineering	1.2	2.1	3.1	5.1	9.0
Marketing	2.5	4.3	6.4	10.6	18.7
G&A	0.6	1.0	1.5	2.5	4.5
Total expenses	4.3	7.4	11.0	18.2	32.2
Pretax profit	1.7	2.9	4.4	7.2	12.7
Taxes	0.7	1.2	1.7	2.9	5.1
After-tax profit	1.0	1.7	2.6	4.3	7.6
EPS (earnings per share)	\$0.06	\$0.08	\$0.12	\$0.19	\$0.33

Note: (1) All numbers in millions except EPS. (2) Stock is traded on NASDAQ. Closing price on 5/31/14 was \$16.25. (3) End of fiscal year for 2014 is June 30. FY14 numbers are estimates by stock market analysts and consistent with guidance by management.

EXHIBIT 2 InterWeb proforma profit and loss projections from business plan.

	FY13	FY14	FY15	FY16	FY17	FY18
Sales	0.0	0.0	5.0	20.0	41.0	62.0
Cost of sales	0.0	0.0	2.0	8.0	16.4	24.8
Engineering	0.7	1.0	1.5	2.4	4.9	7.4
Marketing	0.3	0.5	1.3	5.0	10.3	15.5
G&A	0.1	0.2	0.3	1.2	2.5	3.7
Total expenses	1.1	1.7	3.1	8.6	17.7	26.6
Pretax profit	−1.1	−1.7	0.0	3.4	7.0	10.5
Taxes	0.0	0.0	0.0	0.2	2.8	4.2
After-tax profit	−1.1	−1.7	0.0	3.2	4.2	6.3

Note: (1) 118.6 million shares outstanding as of 5/31/14. Management's business plan requires no additional venture capital or other funding. (2) End of fiscal year for 2014 is June 30.