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Currency Machines Incorporated:
A Firm Valuation for a Succession Plan

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Introduction

As they stood in their newly-rented apartment, John Stuve and his wife, Amber, were excited about their move to Charlotte, North Carolina. John had recently accepted a job as an Assistant Professor of Finance at a local university and Amber had just started working as a nurse in a doctor's office. John hugged Amber and said, "I really like it here and want to stay. Let's work on making some friends." Amber agreed and they decided to find a local church which they could join and get involved in the congregation's social activities.

Several weeks later, when John and Amber were at a Wednesday night church dinner, they met Steve and Stephanie Finley. The couples immediately hit it off and had a great conversation over dinner. During the meal, Steve asked John what he did for a living. When John explained he was a professor of finance, Steve exclaimed, "Hey, I could really use a finance professor's help. Would you be interested in working with me and my Dad on a valuation of our family company?"

Steve explained that he had solicited a couple of large firms for a firm valuation, as his father who started the company was thinking about retiring in the next few years. Steve planned to buy the company from his father, James, who would then use the money to retire and they wanted to know what the firm was worth. However, the two had agreed that Steve had already transitioned into somewhat of an ownership role and, thus, was entitled to half of the value he had added since he started working for the company in 2002.

John Stuve sat back and thought, "A firm valuation is pretty standard financial analysis and would make a good consulting job for me. But figuring out Steve's contribution is an added twist on the problem. Hmmm…I like the idea of taking on the challenge and can use the money after the move, so I am going to accept Steve's offer."

Company Background

Currency Machines Incorporated (CMI) was in the business of selling cash and currency counting machines. The company competed in a specialized niche of the financial services industry, which focused on the automation and handling of coins, cash and checks. CMI distributed various brands of cash and currency counting machines and provided service contracts and supplies for such machines.

James Finley started Currency Machines Incorporated in 1983. Prior to that time, James had worked into a management position at Brandt, the largest cash and currency machine distributor in the world. In his role as a district manager for Brandt, James was asked to be part of the company's product review board. James travelled world-wide in search of new products that the company could market to its customers. Although the product review board recommended many cutting-edge products to Brandt, the company opted not to take the recommendations of the group. Many of these products were from the newly growing Japanese market, and Brandt was a traditional German company that preferred to stick with German manufacturers.

According to James, "it was at that time that I realized that there were lots of great products out there that needed distribution in the U. S. So I quit my job at Brandt, and before I returned home that day, I had two suppliers signed up." In the early days of CMI, James also had two business partners. One partner was bought out a few years into the venture as he became more interested in a separate entrepreneurial endeavor. The second business partner opened a sales office in Virginia while James opened an office in North Carolina. In 1998, the two partners decided to go separate ways and split the company along geographical lines. At that time, James became the sole owner of CMI, located in Charlotte, North Carolina.

Charlotte was a great strategic location, as the city was the second largest financial center in the United States. In addition to housing the operations for two major banks, Bank of America and Wells Fargo, Charlotte was home to many regional and local financial institutions that needed cash and currency counting machines. In addition, there were no major cash and currency machine distributors located in Charlotte. CMI's major competitor, Whittenbach, was located in Sparks, Maryland.

Whittenbach was approximately ten times larger than CMI and had a much wider range of distribution. Furthermore, Whittenbach had the exclusive rights to sell the most popular brand of teller cash and counting machines, Delarue. CMI did not sell Delarue products but carried a wide-range of competitive brands. However, even though CMI did not sell Delarue products, the service technicians did have the ability to service these machines and CMI had sold several service contracts on Delarue machines over the years.

By 2010, James Finley had built CMI into a large, regional distributor of cash and currency counting machines. The company represented more than thirty manufacturers and sold machines and service contracts to more than 2,500 clients throughout the Southeastern United States. Most of CMI's clients were small to mid-sized banks and credit unions, such as Pinnacle Bank, First Citizens Bank, Telco Credit Union, and the McEntire Federal Credit Union. CMI consisted of twenty-three employees. James and his son, Steve, were the primary sales representatives for the company, while the other twenty-one employees consisted of a director of operations, an accountant, a cash automation specialist, a customer service representative, a supplies salesperson, and numerous service technicians.

Lines of Business

CMI had two major lines of business that generated the majority of revenue for the company, machinery and service contracts. With respect to machinery, CMI sold a variety of brands of cash and currency counting machines, ranging from ATMs to currency scales to digital kiosks. CMI's specific product lines for machinery were as follows:

1. **ATMS**: CMI sold two brands of ATMs, GRG International® and Nautilus Hyosung®, each with a diverse selection of products available to clients.
2. **Check**: CMI stocked various brands of check encoders, check scanners, check endorsers, check repair systems, check protectors, check joggers, and check software.
3. **Coin**: CMI distributed several brands of coin counters/packagers, coin sorters, high-speed coin sorters, and coin automatic packagers.
4. **Currency**: CMI sold various brands of currency counters, counterfeit detection devices, currency scales, currency discriminators, and dollar bill changers.
5. **Cash Automation**: CMI stocked the Arca® brand cash dispensers and cash recyclers.
6. **Kiosks**: CMI also marketed electronic kiosks and digital signage systems.
7. **Self-Service Coin**: CMI also sold Scan Coin® and CoinMagic® coin counting systems for usage by end users (like consumers in grocery stores, as opposed to tellers in banks).

CMI offered three different types of service contracts to prospective customers: maintenance service agreements, on-site service, and depot service. The details of each service contract are listed below:

1. **Maintenance service agreements** were specifically designed to address client needs for the particular product technology that they were using. These were typically annual agreements that renewed automatically.
2. **On-Site service** existed in lieu of maintenance service agreements. For on-site service, CMI responded to service calls and billed on a time and materials basis. A typical invoice involved service time, travel charges and parts charges. For on-site service, there was a minimum charge of one hour per machine.
3. **Depot service** also existed for clients in which a product was shipped by the customer to CMI's office or brought to the office for repair. The time of repair was billed on an hourly basis plus parts and return shipping.

CMI employed a large number of technicians who were strategically located throughout the Southeastern United States so that the company could provide a high-quality, timely response to customers under the maintenance service agreements. Technicians who repaired the machines also carried an inventory of supplies for the convenience of customers. Supplies could also be shipped to customers from the Charlotte office. Supplies kept in stock included: check encoder ribbons, coin bags, check endorser ribbons, check stripping paper, correction labels, journal printer ribbons, journal printer paper, ATM receipt paper, coin wrappers (tubular), and canned air.

CMI offered service contracts to any company that purchased its coin, currency, and check machines throughout the Southeastern United States. However, the company was not limited to servicing only those products and brands that it sold. CMI also had the ability to service products and brands that were sold exclusively by its competitors.

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Steve's Entry into the Business

In 2001, James Finley's son, Steve, graduated with a degree in psychology from the University of North Carolina - Chapel Hill. Because he had been a successful college baseball player, upon graduation Steve played rookie ball for the Oakland A's farm team in Vancouver, British Columbia. However, early into this adventure, Steve was injured during play and decided to find another career path. It was at that point that Steve moved to Charlotte and went to work for CMI.

In 2002, Steve started out as a sales representative for the company, working under straight commission. At the time, James was the main salesperson. James had been quite successful securing clients in North Carolina and, thus, tasked Steve with working the state of South Carolina. (Note: The Charlotte city limits came within one mile of the South Carolina border.) Steve worked hard at generating new clients and was quite successful in this role, growing the sales for the state of South Carolina to exceed North Carolina within a few years time. Having started the company many years ago, James was primarily responsible for all of the customers that had long-lasting relationships with the company. These customers were mostly clustered in North Carolina. Steve worked hard to establish a foothold across the border, and slowly became the lead in building customer relationships in South Carolina. As a result, the company was able to maintain its loyal customers from the beginning, while also gaining a high quality customer base in a market other than North Carolina.

Steve was also critical to changing the focus of the company from, "selling individual machines to overall systems." Early on Steve noticed that he could, "sell a client one machine for $500 or sell a client a system of machines with software for a total package that ranged from $15,000 to $30,000 dollars." According to Steve, "it was a much longer sales cycle but provided much more revenue to the firm and presented the opportunity for selling service contracts as well." A service contract was ten times the cost of a machine for the client and also brought in a significant amount of revenue for CMI. By 2010, sales of service contracts outpaced the sales of machines for the first time in the history of CMI.

As James watched Steve start to have a significant impact on the company, he wanted to both reward and motivate his son to continue to succeed. Steve started taking on more of an ownership role in the company. James decided to create a succession plan where he would give half of the incremental value of the company, starting from 2002 when Steve was hired, to his son when he retired. In James' mind, Steve was entitled to the value he added to the firm since he started working at CMI. James planned to give that amount to Steve when he retired, while Steve planned to buy his father out of the company and assume full ownership at that time.

James did not have an exact retirement date in mind, but he hoped it would be in the near future. He was in great health and wanted to have time to enjoy his golden years. In addition, James and his wife lead a fairly luxurious lifestyle. They lived in a large house in one of the ritzier suburbs of Charlotte, were used to purchasing a new car every few years, and had an active social life. The couple also liked to travel as often as possible. They had planned to continue traveling and living this type of lifestyle during their retirement. However, James and his wife had done little financial planning, outside of his ownership in the company. They had little saved for retirement and were banking on the company to provide them with what they needed down the road.

Growth

Once John accepted Steve's offer to do a firm valuation for CMI, he met with Steve and his father, James, to dig into the financial information of the company. The two men provided John with the financial statements from the fiscal years (FY) 1999 through 2009. Table 1 presents the sales, assets and debt of CMI over time.

Table 1: Summary Financial Information for CMI

	FY '99	FY '00	FY '01	FY '02	FY '03	FY '04
Sales	1,264,799	1,410,099	1,248,879	1,499,303	1,558,673	1,853,757
Assets	794,865	805,008	818,917	824,800	824,800	839,815
Debt	477,123	482,002	503,338	559,178	559,178	570,010
	FY '05	**FY '06**	**FY '07**	**FY '08**	**FY '09**	
Sales	2,063,088	2,340,145	3,088,347	2,227,240	2,430,908	
Assets	887,504	901,833	901,833	859,001	1,025,496	
Debt	584,157	602,397	602,397	602,397	995,838	
Avg Annual Sales	1,907,749					
Avg Annual Assets	862,170					
Avg Annual Debt	594,365					

Being a finance professor, John knew that there were several ways to approach a firm valuation. For example, a person could use the book value, a market-based approach, or a discounted cash flow analysis. The book value was a fairly simple approach based on assets minus liabilities. Market analysis was based on a comparison with other businesses that have similar characteristics (such as number of employees, sales over time, industry, and competition) that have sold recently. However, the most popular approach was a discounted cash flow analysis in which a firm was valued based on the present value of the amount of cash the company would generate in future years. Because book value did not account for things like good standing in the community, John decided not to do that type of analysis. He also decided to not do a market analysis, as there was virtually no competitor in the region that was similar to CMI that had sold recently. Thus, John decided to employ a discounted cash flow analysis.

To begin, John examined the eleven fiscal years of financial data provided by CMI. From that analysis, he determined the revenue growth of the firm had been relatively stable over time. CMI's average quarterly net income was approximately -$3,740, with an average quarterly cash flow of $12,073. Prior to Steve's arrival in 2002, the average quarterly cash flow was only $11,746.

John noted the discrepancy between net income and cash flow. He recalled that such a discrepancy was usually the result of a significant amount of non-cash transactions or a large interest expense. In the case of CMI, the company had fairly significant amounts of depreciation and inventory adjustments, where the company wrote-off some of its inventory. Furthermore, CMI was primarily financed through debt, so it paid a substantial interest expense each year.

John also determined that, when weighted by their impact on overall revenue, the five primary revenue categories (i.e., sales, maintenance agreements, labor, supply and other income) grew at an average annual rate of 11.80%. He also discovered that the overall expenses had grown at an average annual rate of 7%. Thus, John deduced that a reasonable expectation of CMI's future growth would be based on the difference between revenues and expenses, which computed to an average growth rate of 4.8%. This differed greatly from the growth rate of 1.58% that the firm was experiencing upon Steve's arrival in 2002.

The Forecast

Central to John's analysis was a forecast of the company's ability to produce cash flows into the future. He decided to use CMI's EBITDA (i.e., earnings before interest, taxes, depreciation, and amortization) as a proxy for the company's cash flows. John felt that this metric was a far superior selection when compared to using net income in determining the firm value as it more closely represented the true cash flow producing ability of the company's operations. As John noted earlier, the average quarterly EBITDA was $12,073, which lead to an annual average of $48,291.

CMI was almost entirely financed through debt, as the company carried virtually no equity on its books. Thus, an internal cost of equity was not relevant and John used the company's debt to derive its cost of capital. Given CMI's menu of interest bearing liabilities, its overall weighted average cost of capital was 6%. Interestingly enough, the firm had carried an identical cost of capital in 2002.

John also knew that he had to factor in the economy into his analysis. Given the interest rate reductions handed out by the Federal Reserve from 2008 to 2010, John believed that the economy would experience a period of significant inflation in the near future. Given that inflation had typically averaged 2.5% per year in the United States over the last 80 years (including when the firm was in existence in 2002), John estimated an annual inflation premium of 3% over the typical 2.5% for the next two years (which implies an expected inflation rate of 5.5%). After that time, inflation was anticipated to settle back down.

John now had a lot of data to evaluate, but it was at this point he recalled that James had created a succession plan where he wanted to give Steve an amount equal to half of the incremental growth of the firm that had taken place since Steve was hired in 2002. As John sharpened his pencil and thought about how he would compute the value of the company with respect to its cash flows, he realized that he had to do two things. First, he had to determine the value of the company when Steve was hired in 2002. Second, he had to determine the value of the company in today's 2010 terms. While he was confident he could derive these numbers, John still had some nagging questions. What assumptions were underlying his analysis? Did the difference between these two numbers accurately represent Steve's contribution to the firm? And, was this really a good succession plan?