2

Finance in a Nutshell

Companies create value when they earn a return on invested capital (ROIC) greater than their opportunity cost of capital.[1] If the ROIC is at or below the cost of capital, growth may not create value. Companies should aim to find the combination of growth and ROIC that drives the highest discounted value of their cash flows. In so doing, they should consider that performance in the stock market may differ from intrinsic value creation, generally as a result of changes in investors' expectations.

To illustrate how value creation works, this chapter uses a simple story. Our heroes are Lily and Nate, who start out as the owners of a small chain of trendy clothing stores. Success follows. Over time, their business goes through a remarkable transformation. They develop the idea of Lily's Emporium and convert their stores to the new concept. To expand, they take their company public to raise additional capital. Encouraged by the resulting gains, they develop more retail concepts, including Lily's Furniture and Lily's Garden Supplies. In the end, Lily and Nate are faced with the complexity of managing a multibusiness retail enterprise.

THE EARLY YEARS

When we first met Lily and Nate, their business had grown from a tiny boutique into a small chain of trendy, midpriced clothing stores called Lily's Dresses. They met with us to find out how they could know if they were achieving attractive financial results. We told them they should measure their business's return on invested capital: after-tax operating profits divided by the capital invested in working capital and property, plant, and equipment.

[1] A simple definition of return on invested capital is after-tax operating profit divided by invested capital (working capital plus fixed assets). ROIC's calculation from a company's financial statements is explained in detail in Chapters 10 and 11.

Then they could compare the ROIC with what they could earn if they invested their capital elsewhere—for example, in the stock market.

Lily and Nate had invested $10 million in their business, and in 2020 they earned about $1.8 million after taxes, with no debt. So they calculated their return on invested capital as 18 percent. They asked what a reasonable guess would be for the rate they could earn in the stock market, and we suggested they use 10 percent. They easily saw that their money was earning 8 percent more than what we were assuming they could earn by investing elsewhere, so they were pleased with their business's performance.

We commented that growth is also important to consider in measuring financial performance. Lily told us that the business was growing at about 5 percent per year. Nate added that they discovered growth can be expensive; to achieve that growth, they had to invest in new stores, fixtures, and inventory. To grow at 5 percent and earn 18 percent ROIC on their growth, they reinvested about 28 percent of their profits back into the business each year. The remaining 72 percent of profits was available to withdraw from the business. In 2020, then, they generated cash flow of about $1.30 million.

Lily and Nate were satisfied with 5 percent growth and 18 percent ROIC until Lily's cousin Logan told them about his aggressive expansion plans for his own retail business, Logan's Stores. Based on what Logan had said, Lily and Nate compared the expected faster growth in operating profit for Logan's Stores with their own company's 5 percent growth, as graphed in Exhibit 2.1. Lily and Nate were concerned that Logan's faster-growing profits signaled a defect in their own vision or management.

"Wait a minute," we said. "How is Logan getting all that growth? What about his ROIC?" Lily and Nate checked and returned with the data shown in Exhibit 2.2. As we had suspected, Logan was achieving his growth by

EXHIBIT 2.1 **Expected Profit Growth at Logan's Stores Outpacing Lily's Dresses**

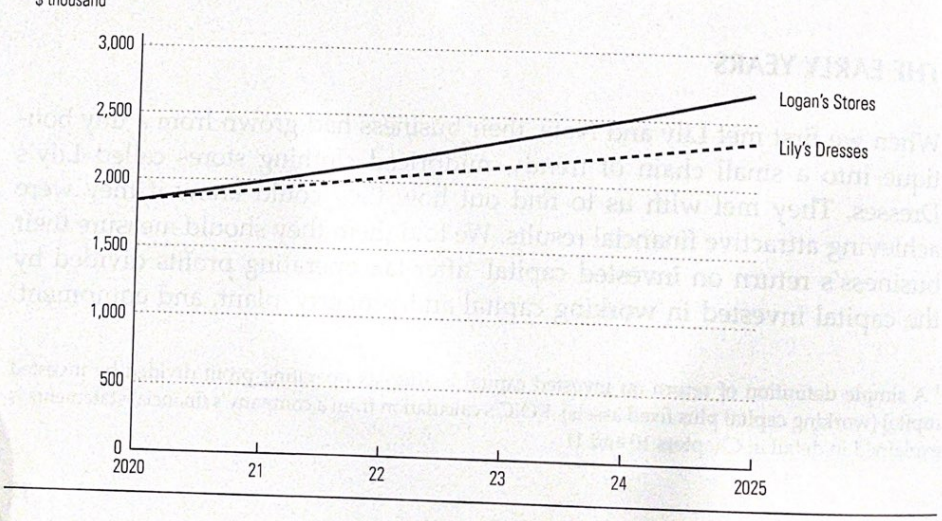
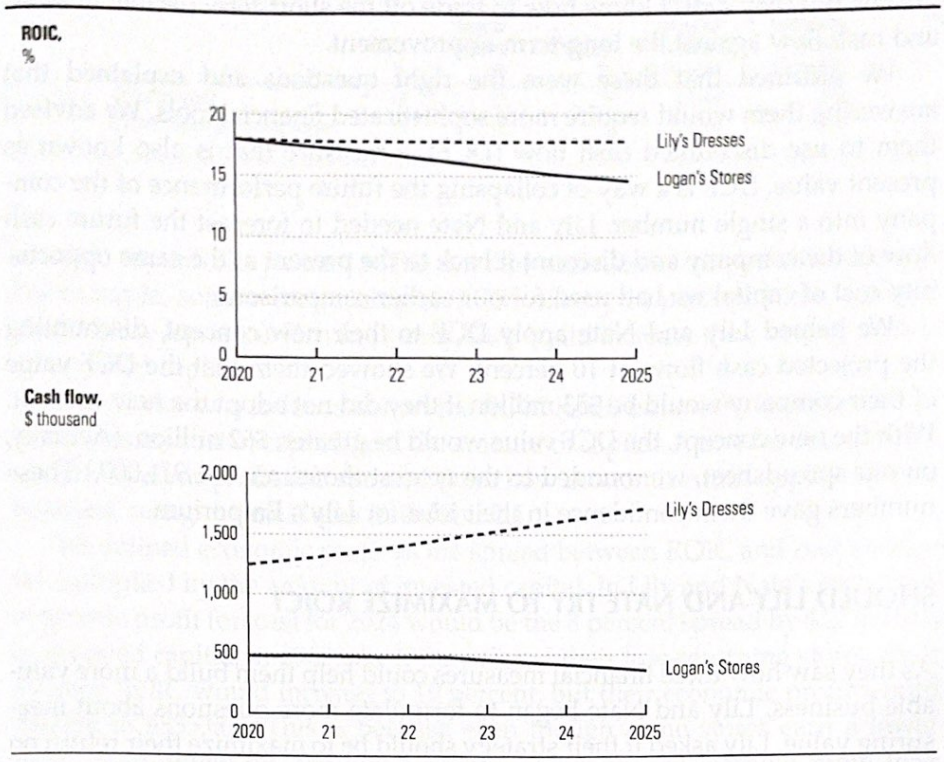


EXHIBIT 2.2 **Lily's Dresses Outperforming in Return on Invested Capital (ROIC) and Cash Flow**



investing heavily. Despite all the growth in operating profit, his company's ROIC was declining significantly, so cash flow was slipping downward.

We asked the two why they thought their stores earned higher returns on capital than Logan's. Nate said one reason was that their products were unique and cutting-edge fashion, so their customers were willing to pay higher prices for their dresses than for the products at many other dress shops. Lily added that each of their stores attracted more customers, so their sales per square foot (a proxy for fixed costs) were greater than Logan's. As they saw it, Logan's products were not much different from those of his competitors, so he had to match his prices to theirs and had less customer traffic in his stores. This discussion helped Nate and Lily appreciate that it was beneficial to consider ROIC along with growth.

A NEW CONCEPT

Several years later, Lily and Nate called us with a great idea. They wanted to develop a new concept, which they called Lily's Emporium. Lily's Emporium would operate larger stores carrying a wider assortment of clothes and accessories that their talented designers were working on. But when they looked at the projected results (they now had a financial-analysis department), they found that all the new capital investment to convert their stores would reduce ROIC and cash flow for four years, even though revenue and profits would be

growing faster, as shown in Exhibit 2.3. After four years, cash flow would be greater, but they didn't know how to trade off the short-term decline in ROIC and cash flow against the long-term improvement.

We affirmed that these were the right questions and explained that answering them would require more sophisticated financial tools. We advised them to use discounted cash flow (DCF), a measure that is also known as present value. DCF is a way of collapsing the future performance of the company into a single number. Lily and Nate needed to forecast the future cash flow of the company and discount it back to the present at the same opportunity cost of capital we had used for our earlier comparisons.

We helped Lily and Nate apply DCF to their new concept, discounting the projected cash flows at 10 percent. We showed them that the DCF value of their company would be $53 million if they did not adopt the new concept. With the new concept, the DCF value would be greater: $62 million. (Actually, on our spreadsheet, we rounded to the nearest thousand: $61,911,000.) These numbers gave them confidence in their idea for Lily's Emporium.

SHOULD LILY AND NATE TRY TO MAXIMIZE ROIC?

As they saw how these financial measures could help them build a more valuable business, Lily and Nate began to formulate more questions about measuring value. Lily asked if their strategy should be to maximize their return on

EXHIBIT 2.3 **Expansion's Impact on ROIC and Cash Flow**

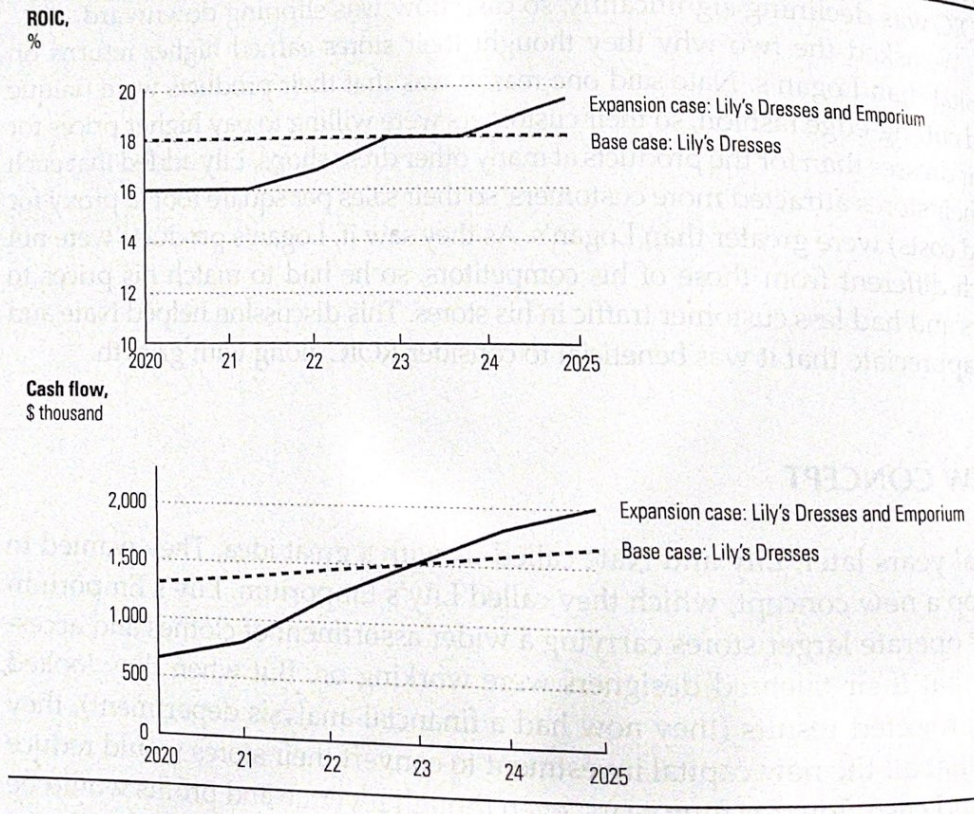


EXHIBIT 2.4 **Economic Profit Is Higher with Lower-Performing Stores in the Mix**

	ROIC, %	Cost of capital, %	Spread, %	Invested capital, $ thousand	Economic profit, $ thousand
Entire company	18	10	8	12,000	960
Without lower-performing stores	19	10	9	9,500	855

invested capital. She pointed to the fact that some stores outperformed others. For example, some were earning an ROIC of only 14 percent. If the business closed those lower-performing stores, they could increase their average return on invested capital.

Our advice was to focus not on the ROIC itself, but on the combination of ROIC (versus cost of capital) and the amount of capital. A tool for doing that is called economic profit. We showed them how economic profit applies to their business, using the measures in Exhibit 2.4.

We defined economic profit as the spread between ROIC and cost of capital multiplied by the amount of invested capital. In Lily and Nate's case, their economic profit forecast for 2024 would be the 8 percent spread by $12 million in invested capital, or $960,000. If they closed their low-returning stores, their average ROIC would increase to 19 percent, but their economic profit would decline to $855,000. This is because even though some stores earn a lower ROIC than others do, the lower-earning stores are still earning more than the cost of capital. Using this example, we made the case that Lily and Nate should seek to maximize economic profit, not ROIC, over the long term.

For Nate, though, this analysis raised a practical concern. With different methods available, it wasn't obvious which one to use. He asked, "When do we use economic profit, and when do we use DCF?"

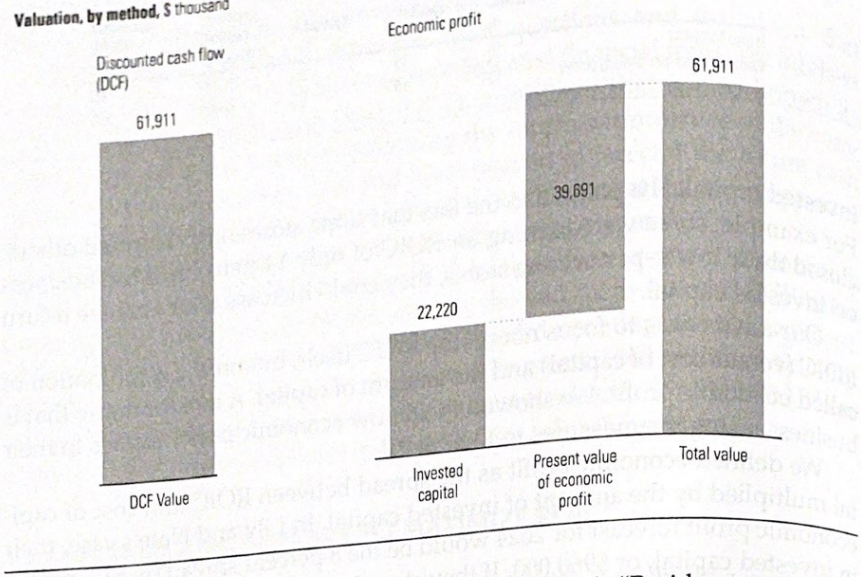
"Good question," we said. "In fact, they're the same." We prepared Exhibit 2.5 to show Nate and Lily a comparison, using the DCF we had previously estimated for their business: $61,911,000. To apply the economic-profit method, we discounted the future economic profit at the same cost of capital we had used with the DCF. Then we added the discounted economic profit to the amount of capital invested today. The results for the two approaches are the same—exactly, to the penny.[2]

GOING PUBLIC

Now Lily and Nate had a way to make important strategic decisions over multiple time periods. Lily's Emporium was successful, and the next time they called us, they talked excitedly about new ambitions. "We need more

[2] See Chapter 10 for a detailed discussion of these two valuation approaches.

EXHIBIT 2.5 **Identical Results from DCF and Economic-Profit Valuation**



capital to build more stores more quickly," Nate said. "Besides, we want to provide an opportunity for some of our employees to become owners. So we've decided to go public." They asked us to help them understand how going public would affect their financial decision making.

"Well," we said, "now's the time to learn what the distinction is between financial markets and real markets and how they are related to each other. You'll want to understand that good performance in one market does not necessarily mean good performance in another."

Up until now, we'd been talking with Lily and Nate about the real market. How much profit and cash flow were they earning relative to the investments they were making? Were they maximizing their economic profit and cash flow over time? In the real market, the decision rule is simple: choose strategies or make operational decisions that maximize the present value of future cash flow or future economic profit.

When a company enters the capital market, the decision rules for the real market remain essentially unchanged. But life gets more complicated, because management must simultaneously deal with the financial market.

When a company goes public and sells shares to a wide range of investors who can trade those shares in an organized market, the interaction (or trading activity) between investors and even market speculators sets a price for those shares. The price of the shares is based on what investors think those shares are worth. Each investor decides what he or she thinks the value of the shares should be and makes trades based on whether the current price is above or below that estimate of the intrinsic value.

This intrinsic value is based on the future cash flows or earnings power of the company. This means, essentially, that investors are paying for the performance they expect the company to achieve in the future, not what the company has done in the past (and certainly not the cost of the company's assets).

Lily asked us how much their company's shares would be worth. "Let's assume," we said, "that the market's overall assessment of your company's future performance is similar to what you think your company will do. The first step is to forecast your company's performance and discount the future expected cash flows. Based on this analysis, the intrinsic value of your shares is $20 per share."

"That's interesting," said Nate, "because the amount of capital we've invested is only $7 per share." We told them that this difference meant the market should be willing to pay their company a premium of $13 over the invested capital for the future economic profit the company would earn.

"But," Lily asked, "if they pay us this premium up front, how will the investors make any money?"

"They may not," we said. "Let's see what will happen if your company performs exactly as you and the market expect. Let's value your company five years into the future. If you perform exactly as expected over the next five years and if expectations beyond five years don't change, your company's value will be $32 per share. Let's assume that you have not paid any dividends. An investor who bought a share for $20 per share today could sell the share for $32 in five years. The annualized return on the investment would be 10 percent, the same as the discount rate we used to discount your future performance. The interesting thing is that as long as you perform as expected, the return for your shareholders will be just their opportunity cost. But if you do better than expected, your shareholders will earn more than 10 percent. And if you do worse than expected, your shareholders will earn less than 10 percent."

"So," said Lily, "the return that investors earn is driven not by the performance of our company, but by its performance relative to expectations."

"Exactly!" we said.

Lily paused and reflected on the discussion. "That means we must manage our company's performance in the real markets and the financial markets at the same time."

We agreed and explained that if they were to create a great deal of value in the real market—say, by earning more than their cost of capital and growing fast—but didn't do as well as investors expected, the investors would be disappointed. Managers have a dual task: to maximize the intrinsic value of the company and to properly manage the expectations of the financial market.

"Managing market expectations is tricky," we added. "You don't want investor expectations to be too high or too low. We've seen companies convince the market that they will deliver great performance and then not deliver on those promises. Not only does the share price drop when the market realizes

that the company won't be able to deliver, but regaining credibility may take years. Conversely, if the market's expectations are too low and you have a low share price relative to the opportunities the company faces, you may be subject to a hostile takeover."

After exploring these issues, Lily and Nate felt prepared to take their company public. They went forward with an initial public offering and raised the capital they needed.

EXPANSION INTO RELATED FORMATS

Lily and Nate's business was successful, growing quickly and regularly beating the expectations of the market, so their share price was a top performer. They were comfortable that their management team would be able to achieve high growth in their Emporium stores, so they decided next to try some new concepts they had been thinking about: Lily's Furniture and Lily's Garden Supplies. But they grew concerned about managing the business as it became more and more complex. They had always had a good feel for the business, but as it expanded and they had to delegate more decision making, they were less confident that things would be managed well.

They met with us again and told us that their financial people had put in place a planning and control system to closely monitor the revenue growth, ROIC, and economic profit of every store and each division overall. Their team set revenue and economic-profit targets annually for the next three years, monitored progress monthly, and tied managers' compensation to economic profit against these targets. Yet they told us they weren't sure the company was on track for the long-term performance that they and the market expected.

"You need a planning and control system that incorporates forward-looking measures besides looking backward at financial measures," we told them.

"Tell us more," Nate said.

"As you've pointed out," we said, "the problem with any financial measure is that it cannot tell you how your managers are doing at building the business for the future. For example, in the short term, managers could improve their financial results by cutting back on customer service, such as by reducing the number of employees available in the store to help customers, by cutting into employee training, or by deferring maintenance costs or brand-building expenditures. You need to make sure that you build in measures related to customer satisfaction or brand awareness—measures that let you know what the future will look like, not just what the current performance is."

Lily and Nate both nodded, satisfied. The lessons they so quickly absorbed and applied have placed their company on a solid foundation. The two of them still come to see us from time to time, but only for social visits. Sometimes they bring flowers from their garden supplies center.

SOME LESSONS

While we have simplified the story of Lily and Nate's business, it highlights the core ideas around value creation and its measurement:

1. In the real market, you create value by earning a return on your invested capital greater than the opportunity cost of capital.
2. The more you can invest at returns above the cost of capital, the more value you create. That is, growth creates more value as long as the return on invested capital exceeds the cost of capital.
3. You should select strategies that maximize the present value of future expected cash flows or economic profit. The answer is the same regardless of which approach you choose.
4. The value of a company's shares in the stock market equals the intrinsic value based on the market's expectations of future performance, but the market's expectations of future performance may not be same as the company's.
5. The returns that shareholders earn depend on changes in expectations as much as on the actual performance of the company.

In the next chapter, we develop a more formal framework for understanding and measuring value creation.