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Is Accounting Blocking R&D Investments?

Companies should resist the urge to cut research expenses to meet an earnings per share target.

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In many casual conversations with CFOs across a wide variety of companies and industries, we have heard them say their companies have desirable opportunities to increase their research and development (R&D) expenditures. But they're hesitant to do so because of the negative short-term earnings per share (EPS) impact it would have.

Intuitively it seems to us that limiting, slowing, or, worse, forgoing apparently productive R&D investments that can enhance medium and long-term growth in order to increase current EPS is not in the best interest of shareholders.

Consider a small biotechnology company with an entrepreneurial management team that recently went public. Although the company has no current commercial products, it has several promising late-stage compounds in its pipeline. All of the company's newly raised cash will be devoted to R&D, resulting in negative EPS. But clearly the best strategy for management is to devote as much as they can to productive R&D to try to bring products to market so future revenue and earnings become a possibility.

Alternatively, consider a large, private, industrial products company with a concentrated group of owners. The company currently has a strong product portfolio with a dominant market share and a steady stream of earnings. But new entrants are steadily chipping away at the company's competitive position. It, therefore, must significantly increase its R&D investments to sustain its market share and future earnings stream. But to do so will constrain the near-term rate of EPS expansion.

In both examples, management considers many factors when evaluating the merits of R&D investments. However, in neither case does the effect on current EPS influence the outcome of their decisions.

And certainly in neither case should management consider slowing down its R&D investment to soften the blow on the current EPS. Doing so would only hurt them more. For the biotech company this would only delay the launch of its potentially profitable products and potentially

shorten its patent- protection window. For the industrial company, forgoing product-differentiation enhancements would likely lead to greater erosion in its market position.

So, how is it that many CFOs of large, publicly traded companies can have such a different view of R&D investments?

The answer is a combination of two factors: the accounting treatment of R&D as a period expense and the overemphasis many public-company executives place on EPS. Many executives pay lip service to the long term benefits of R&D. But in reality they base the size of their companies' R&D budgets primarily on a single period's EPS dilution. Thus, they are only looking at a tiny fraction of the value equation.

To determine how executives should think about R&D investment, we didn't rely on instinct or theory. We studied the equity capital market to determine if management teams who focus on mitigating the EPS dilution of R&D expense are doing right by investors over time.

As it turns out, investors are more in tune with the start-up and the private-company management described above than many public company executives may think.

Our capital-market research examined the 250 largest U.S. non-financial companies that disclosed R&D expense and were public over seven rolling five-year periods ending in September 2012. We calculated each company's change in its "R&D investment rate," defined as the percentage of earnings before interest, taxes, depreciation, and amortization (EBITDA) invested in R&D for each of the five years. We grouped the companies into high, medium, and low "buckets" based on their changes in the R&D investment rate during the period.

Next, we calculated their changes in price-to-earnings (P/E) multiple over the same five-year period. Note that during the overall period of this study, P/E multiples generally declined. But they declined more for the companies that reduced their R&D investment rate the most.

The high, medium, and low groups experienced median changes in P/E multiple of -8%, -21% and -30%, respectively. Thus, while reducing R&D expense helps the current EPS, it hurts the future value of the company (through the foregone investment). Investors thus correctly reduce the P/E multiple they assign to the now higher current EPS.

It turns out that in this instance, investors are more rational than management teams may believe. What can explain why the investors seem so rational?

First, the companies in our study are relatively large and well established. In the aggregate, they have shown the ability to manage R&D projects and to grow their businesses through innovation and investment at some point. In this way our study has a "survivorship bias." All of the companies that failed to translate R&D investments into scalable commercial products to such a degree that they no longer exist are excluded from our analysis.

Thus, investors appear wise to bid up the surviving companies multiple to offset the dilution of their increased R&D investment. In absence of any additional information, they're essentially betting that those companies who have succeed in the past are likely to succeed in the future.

Second, investors likely understand the current vs. future EPS trade-off. The P/E valuation multiple depends on the degree to which investors assume that a company can sustain or even grow its current earnings over the long term.

Infinite Earnings?

Investors understand that products and services cannot produce an infinite stream of earnings. There will be competitive threats, technological innovations, and the like. So investors need management to invest in growth to deliver earnings from future products that replace and build upon the eventual loss of earnings from current products.

For a different perspective we reshaped the research to forgo the emphasis on EPS and P/E so we could directly examine the relationship with total shareholder returns (TSR), which includes dividends and share-price appreciation. We sorted the companies into three new groups based on compound annual growth rate (CAGR) in their R&D expense over the five-year period. We found that the companies with the biggest R&D growth produced a 10% annual TSR while those with the slowest R&D growth produced only a 3% TSR, and the middle group produced a 5% TSR.

Simply increasing the R&D expenditure of a company, of course, won't automatically lead to increased long-term value. The investments need to be productive. In this way R&D is no

different from capital expenditures or acquisitions: they all must deliver an adequate future return to be valuable to shareholders.

But many companies under-invest in R&D simply because it's a profit and loss (P&L) investment that gets expensed immediately rather than capitalized. Yet, our research demonstrates that investors are typically willing to live with the short-term dilution.

When it comes to R&D investments, the best model is the one used by the top venture capital firms. Given the nature of their investments, VC's must be inherently comfortable managing a portfolio of "R&D projects."

So here are a few ways that management teams can be more like VCs and ensure that they remove any internal obstacles that bias them against R&D investments:

- **Be agnostic to the type of investment**. Whether the investment is made on the income statement or the balance sheet, the definition of success should be the same.
- **Use the right measures and tools when making decisions**. The focus should be on the returns and growth the investment will produce over the proper time horizon. For R&D investments this often spans multiple years.
- **Resist the urge to cut R&D expense to meet an EPS target**. There are many reasons that you might stop investing in a particular R&D project. Meeting an EPS goal should not be one of them.
- **Know when to stop**. Any individual R&D project should have clear milestones, and management should be able to stop funding a project once the business case no longer makes sense. Without the ability to unfund a particular project, management cannot control the R&D efficiency and deliver the desired results.
- **Strengthen the incentive program and targets**. The incentive system should be designed in such a way to motivate growth and innovation investments but hold management accountable for delivering positive outcomes over time.

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