2018 Third Quarter
Corporate Insights

The roots of growth – strategies for optimal capital deployment

Introduction

Since the end of the financial crisis nearly a decade ago, our clients have worried about capital deployment and growth. Prior work we have done shows that the market placed a larger premium on profitability than on growth in the years immediately following the financial crisis. More recent analysis by us suggests that growth is once again becoming an important and perhaps differentiating feature of companies with the highest valuations.

But growth is not simply something that *happens* to companies. Growth requires strategic planning and capital allocation policies that take advantage of profitable opportunities. Therefore, we thought it worthwhile to return to one of the first topics of our **Credit Suisse Corporate Insights** series – capital deployment – and elaborate on how to maximize its impact on shareholder wealth.

At every point in a business cycle, managers spend time thinking about the most value-enhancing uses of excess cash. *At this particular* point in the cycle, with investors paying more attention to growth, we believe the top priority for our clients should be reinvesting in their businesses. Indeed, the macroeconomic backdrop and monetary policies in place, especially in the U.S., are highly supportive of investments today which should continue to accelerate future corporate growth. However, with assets priced at a premium as a decade-long market rally continues, delivering adequate return on growth investment might seem challenging. So, establishing a rigorous capital deployment framework is even more vital now.

This paper, the eleventh in our ongoing series of **Credit Suisse Corporate Insights**, presents a decision framework to help guide our clients on how their capital deployment choices can be optimized to drive profitable growth. In this paper, we explore the relationship between growth and value and then show how corporate decision-makers can leverage that relationship to beat the market's expectations and – along the way – justify higher share prices.

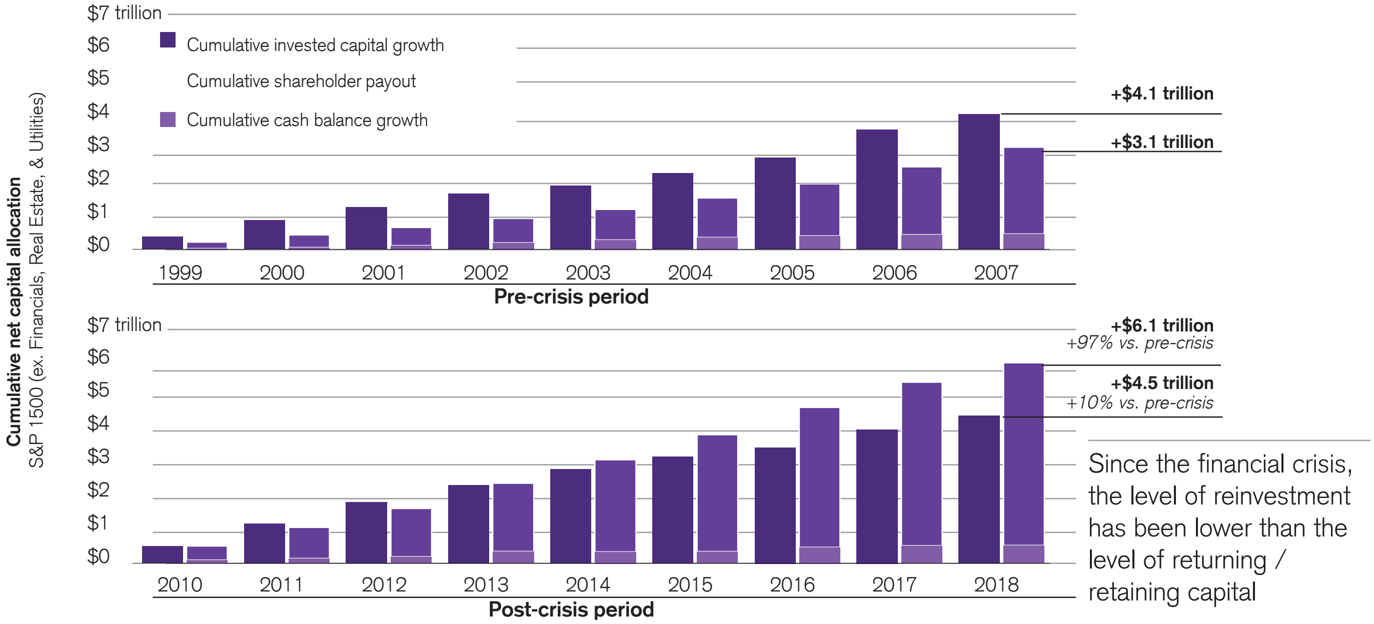
Growth is emerging as the key value driver

A company's growth is a fundamental driver of shareholder value. Valuation multiples such as PEG directly embed growth within them. Yet all too often in corporate planning, growth is regarded as an exogenous factor: something that just happens to companies. Indeed, many of us learned financial modeling by estimating future sales based on top line growth assumptions… and then items like capital expenditures and R&D expense become forecasted as a percentage of sales. This approach explicitly ignores the role that capital investment plays in driving that top line growth in the first place. CapEx and R&D are not consequences of sales growth but are, in fact, the fuel that sustains it.

Previously, we established the link between capital investment decisions and valuation objectives by suggesting that companies should focus on meeting or beating the market's expectation for growth in order to create value. In this issue, we explain what drives growth in the first place.

For years, robust corporate profitability has contributed to record levels of free cash generation, driving huge upticks in the amount of cash carried on corporate balance sheets and in shareholder distributions via buybacks and dividends. However, Figure 1 reveals that companies have remained skittish about funneling capital back into their businesses, in contrast with the period leading up to the financial crisis in 2008.

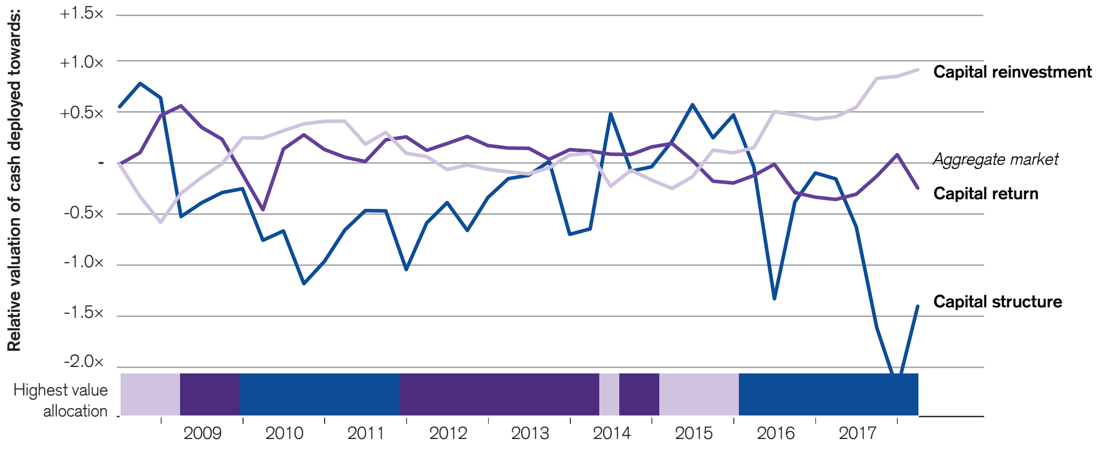
Figure 1: Aggregate growth in invested capital vs. cash balances + payout



Since the financial crisis, the level of reinvestment has been lower than the level of returning / retaining capital

Aggregate market[2] cash balances plus cumulative shareholder distributions have grown 122% since the end of 2009, eclipsing the 47% growth in invested capital bases over the same period[3]. This under-investment may have actually lowered potential GDP and corporate earnings growth post-crisis and contributed to the sluggish recovery in economic expansion[4]. And yet, recent policy changes to the statutory corporate tax rate and the taxation of offshore earnings have left U.S. companies, in particular, with greater access to their free cash than at any other time in a generation. The consensus expectation is that companies will continue to pass excess cash on to owners through share buyback programs this year. However, there are signs that investors are becoming impatient with this trend and are more willing to pay a premium for companies that are re-focusing on investment and growth.

Figure 2: Valuation of capital allocation spend categories over time



Over the last few years, the market has begun rewarding companies which reinvest more in their business with premium valuation multiples

The last decade was dominated first by post-crisis balance sheet rebuilding and then by activism-driven capital return strategies and now – most recently – by conservative investment strategies due to premium asset valuations. We've uncovered a recent inflection point in the market valuations of companies reinvesting in their businesses. By aggregating the implied market values of the three primary categories of capital allocation based on company valuation multiples[5], Figure 2 shows how investors value capital allocation strategies. Linking capital allocation decisions to market values ensures that they are aligned with the market's current sentiment. Growth-starved investors have begun awarding premiums to companies with higher reinvestment rates, with the latest data showing a ten-year high on the spread between the implied multiple on cash reinvested in growth and the aggregate market's valuation multiple. In fact, at no point in the last ten years has any category of capital allocation seen as substantial a premium as investors are currently paying for reinvestment stories… and growth.

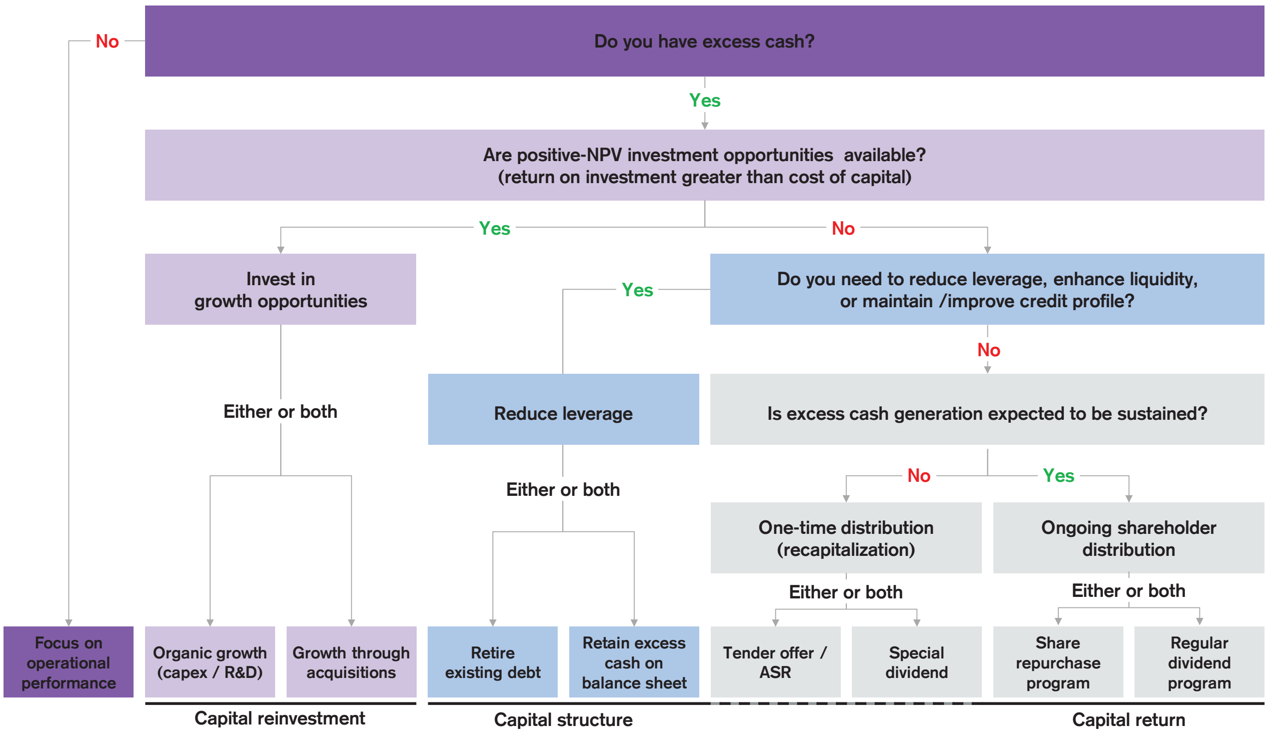
Given this appetite for investment in growth initiatives, companies that feed the hunger through increased organic investment and M&A are more likely to be rewarded in today's market. Yet, despite the ample dry powder available to fund growth initiatives, remember that only profitable growth investment, where marginal returns exceed the cost of the capital funding it, should generate value. The key – and most difficult – part of investing for growth is establishing a framework that links capital allocation decisions to shareholder value. The rest of this paper explores the roots of this link between investment and value.

A framework for investing and value

Clients often ask us the question: “how should I break down each incremental dollar of free cash flow I earn across reinvestment, retaining, and returning needs?” But the question of optimal capital allocation lends itself less to a specific answer than to a set of **decision rules** which should lead to positive-NPV investments, an optimal capital structure, and excess cash flow returned to shareholders in a value-maximizing way.

This flow chart acknowledges a hierarchy in capital allocation, where corporate managers are faced with three broad choices: capital reinvestment, capital structure, and capital return. Understanding this hierarchy is key to unraveling the rules which define an optimal capital allocation strategy.

Figure 3: Excess cash decision tree


Do you have excess cash?
No
Yes
Are positive-NPV investment opportunities available?
(return on investment greater than cost of capital)
Yes
No
Invest in growth opportunities
Yes
Do you need to reduce leverage, enhance liquidity, or maintain /improve credit profile?
No
Either or both
Reduce leverage
Is excess cash generation expected to be sustained?
Either or both
No
Yes
One-time distribution (recapitalization)
Ongoing shareholder distribution
Either or both
Either or both
Focus on operational performance
Organic growth (capex / R&D)
Growth through acquisitions
Retire existing debt
Retain excess cash on balance sheet
Tender offer / ASR
Special dividend
Share repurchase program
Regular dividend program
Capital reinvestment
Capital structure
Capital return

A robust capital deployment decision-making strategy will result in positive-NPV investments, an optimal capital structure, and excess capital flow returned to shareholders in a value-maximizing way

Capital reinvestment:
Capital reinvestment describes how a company strategically divides its sources of capital among investment projects, including organic expansion, R&D opportunities, and external investment through M&A. In theory, *all* positive-NPV investments should be pursued, meaning that capital reinvestment policy will be dynamic, opportunistic, and variable through time. For organic reinvestment in the business, shareholder value stems from expenditure on assets where returns exceed the project-specific hurdle rate. For acquisitions, positive value accrues when deal synergies outweigh the purchase premium paid above intrinsic value.

The logical outcomes of this approach are twofold:
1. "Optimal" reinvestment is a company- and opportunity-specific concept that does not necessarily lend itself to broad generalizations. For example, sometimes it may be advisable to plowback only a fraction of free cash flow into the business, whereas at other times it may make more sense to reinvest much more.
2. The size, mix, and risk profile of a company's operating assets, all key inputs to a company's optimal capital structure, are effectively an output of the investing process. So, optimal capital structure is defined (in large part) by optimal reinvestment.

Capital structure:
Capital structure decisions relate to how a company chooses the financing mix to fund and risk manage its invested capital base. A *theoretically* optimal capital structure can unlock shareholder value above the economic value of a firm's assets by trading off the tax benefits of debt financing against the financial risk of leverage and the associated economic costs. *In practice*, choices around the level and structure of debt, the amount and forms of liquidity sources (e.g. balance sheet cash or revolving credit facilities), and risk management and hedging activity can help companies engineer tax savings, reduce cash flow volatility, and secure capital markets access for opportunistic investing.

Just as optimal capital structure is dependent on capital reinvestment policy, strategic capital structure targets create the parameters for downstream issuance and payout activity. That is, the preferred levels of debt and excess cash together denote a company's distribution capacity.

Capital return:
In our hierarchy above, companies should return capital to shareholders via dividends and share repurchases *after* reinvesting in business growth and putting the optimal financial structure into place. In the face of ongoing free cash flow generation (which, theoretically, boosts equity and organically delevers a company), capital return is the mechanism by which companies maintain their target capital structure. Carrying excess cash that is not earmarked for operational needs, acquisition firepower, or a liquidity buffer creates an opportunity cost and valuation drag that can be mitigated by using it to retire equity[6]. Plus, the signaling effects of different forms of payout can have positive share price implications: changes in capital return policy can communicate positive news that may alter the market's expectations about a company. For example, share buyback authorizations may signal management's confidence in the stock's upside, while regular dividend payments can signal belief in robust and consistent future cash flow generation.

Optimal capital allocation policy in a perfect world can be simplified to:
1. Fund any and all identifiable positive-NPV investments.
2. Identify the optimal debt / liquidity levels to support the asset risk profile and rebalance the capital structure as appropriate.
3. Pay out any residual excess cash in the form of dividends and share repurchases.

Ideally, every dollar of excess cash would be deployed using the above decision tree to ensure its most shareholder wealth-additive use.

But unfortunately, this advice ignores the practical considerations that our clients face, especially around reinvestment. For example, capital deployment is often constrained by budgets that may require leaving some worthwhile investments on the sidelines. Many executives must split their capital budgets across operating divisions so that cultural, political, and analytical obstacles may trump shareholder value. So, even when our clients intuitively appreciate the theoretical best practices, in reality, available capital is finite and decision makers need to establish plans and budgets for how expected free cash will be deployed *in advance.*

So, how can our clients align value creation with capital allocation?

Deconstructing growth forecasts

We have frequently written about the vital role that returns on capital and growth play in determining market value[7]. This is because a company's return and growth profile communicates key information about its operational performance and investing success, both organic sources of value creation. But while analytical frameworks like the DuPont formula disaggregate returns on capital into component contributions from asset efficiency and profit margins, growth is more commonly talked about as an external variable that affects value but is disconnected from the operating choices of the company. But we believe that growth is an endogenous function of a company's capital allocation choices. Just as returns represent the interaction between asset efficiency and margins, cash flow growth is a direct and measurable result of how much a firm reinvests and the quality of its investments as measured by their marginal returns[8].

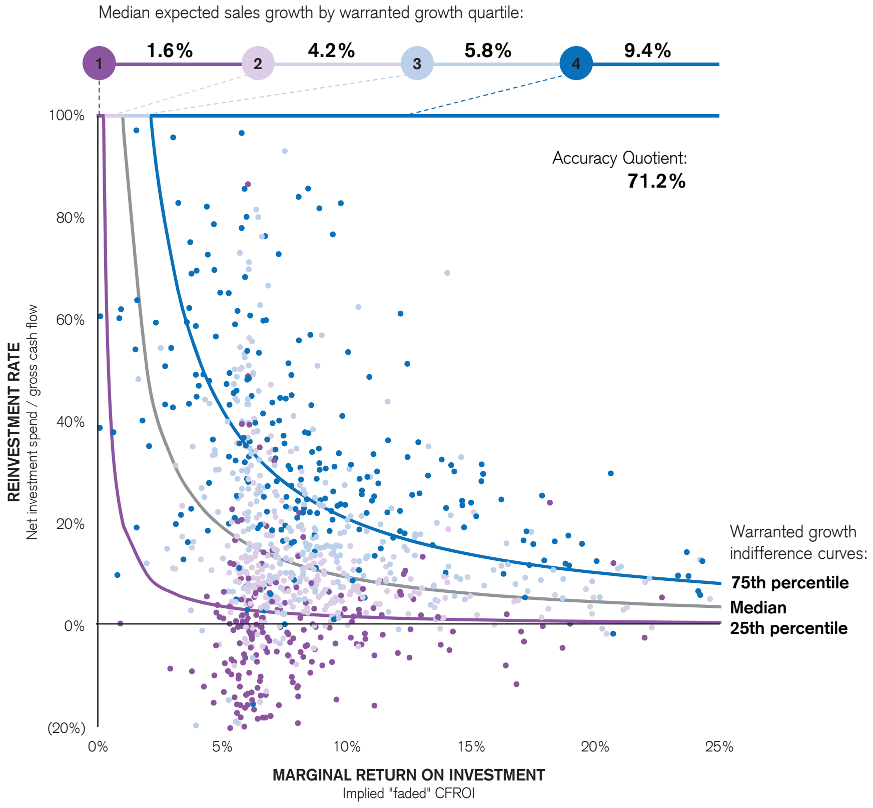
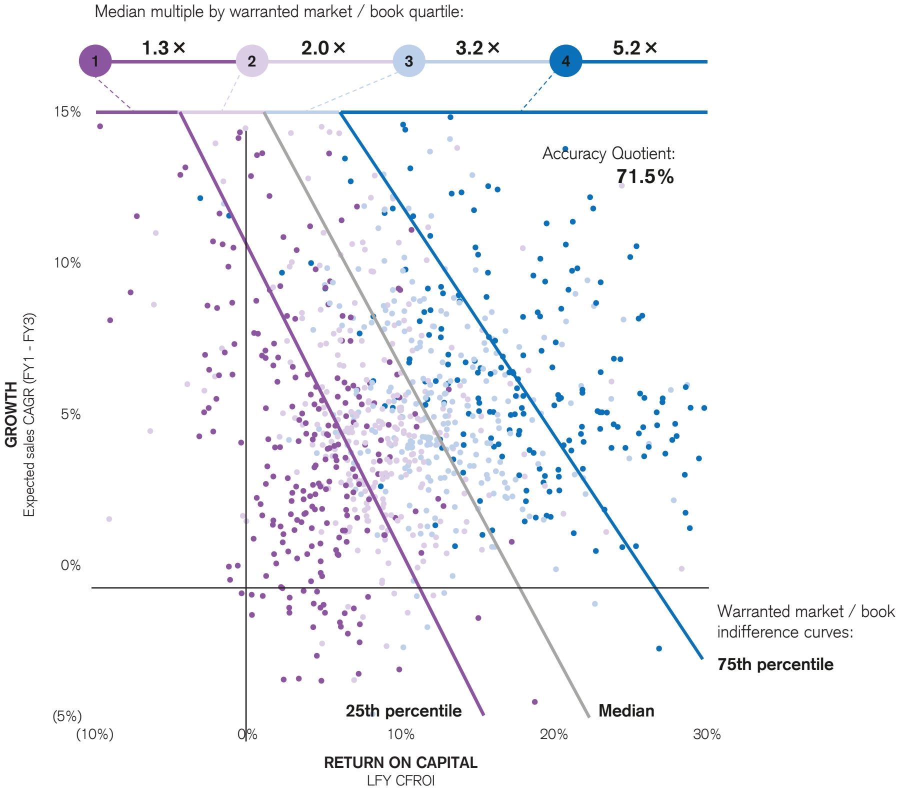


Figure 4: S&P 1500 reinvestment rates and marginal investment returns[9] vs. expected top line growth

Cross sectional analysis reveals that consensus top line growth expectations are driven, in large measure, by the amount of capital companies are reinvesting in their businesses coupled with the quality of those investments as measured by their marginal returns

Figure 5: S&P 1500 returns and growth vs. valuation



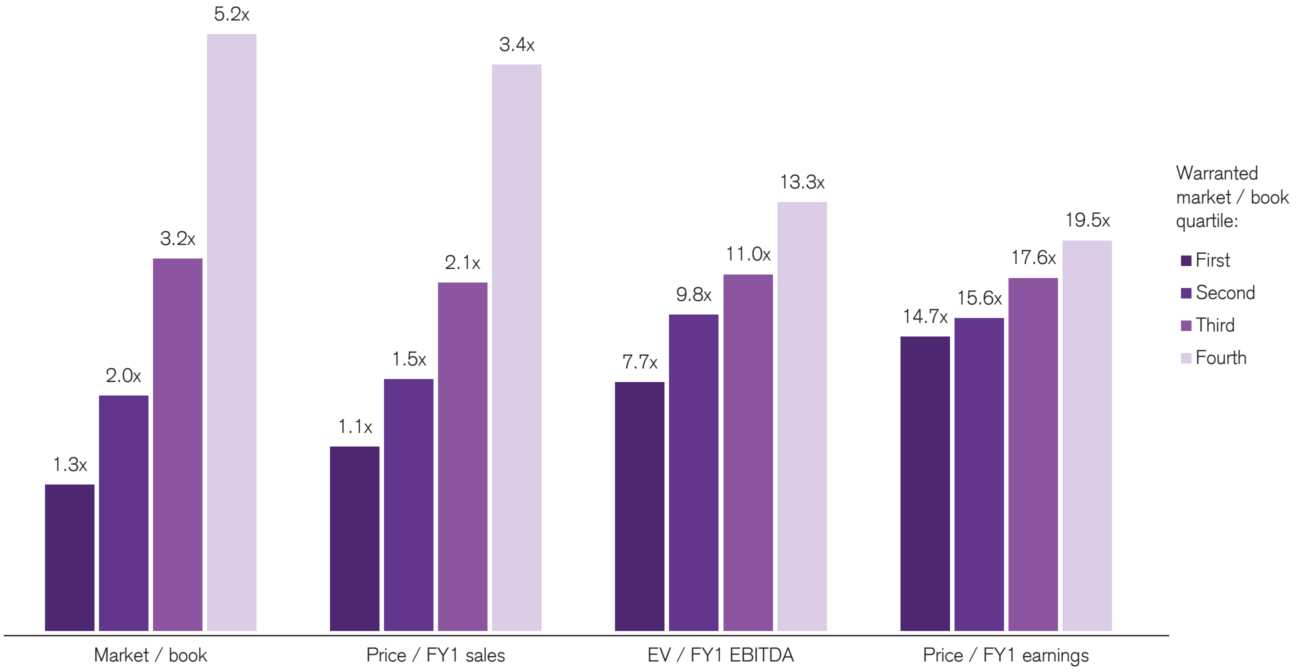
Market multiples reflect investor sentiment around company profitability and growth potential, and observed valuations can be explained with a high degree of significance based on these two factors alone

Does this relationship bear out in practice? The answer is an emphatic *yes*. Figure 4 looks at the reinvestment rates of S&P 1500 companies vs. their expected marginal returns on investment and how the product of the two, which we've labeled "warranted growth", lines up with sell-side consensus growth forecasts. Clearly, there is a negative correlation between reinvestment and return, with companies that are reinvesting the most driving the marginal rates of the return down, closer to their costs of capital.

The indifference curves showcase this tradeoff explicitly for the 25th, 50th, and 75th percentile of the distribution of warranted growth, and bound four distinct "regions" that should line up with actual growth expectation quartiles. With each marker colored based on which actual growth quartile it falls in, this relationship is visible. And, we can statistically quantify the relationship[10], demonstrating that premium growth expectations are empirically linked to above-average reinvestment rates and returns on capital invested.

By abstracting away the concept of growth as an exogenous factor in favor of its root drivers, we crystallize the link between capital allocation policy and valuation: **companies that invest more in profitable growth, all else equal, should be valued more highly because they are able to grow cash flows faster**. Even a relatively superficial DCF valuation of companies across the market empirically proves this value relationship. Figure 5[11] shows how return and growth rates, as compounded into warranted market/book valuation ratios, compare to actual valuations across the market.

Figure 6: median valuation multiples by warranted market / book quartile



The impact of returns and growth on valuation manifests regardless of the valuation multiple chosen

There is no denying the relationship. Even though market valuation is obviously much more complex and company-specific than our stylized model can account for, it still explains observed market/book ratios with over 70% accuracy. But while the intuition around returns and growth aligns closely with price to book ratios, we wanted to confirm the results using more conventional multiples of sales, earnings, or cash flows. Figure 6 lays out how the averages for several other commonly used multiples compare across the same warranted market/book quartiles.

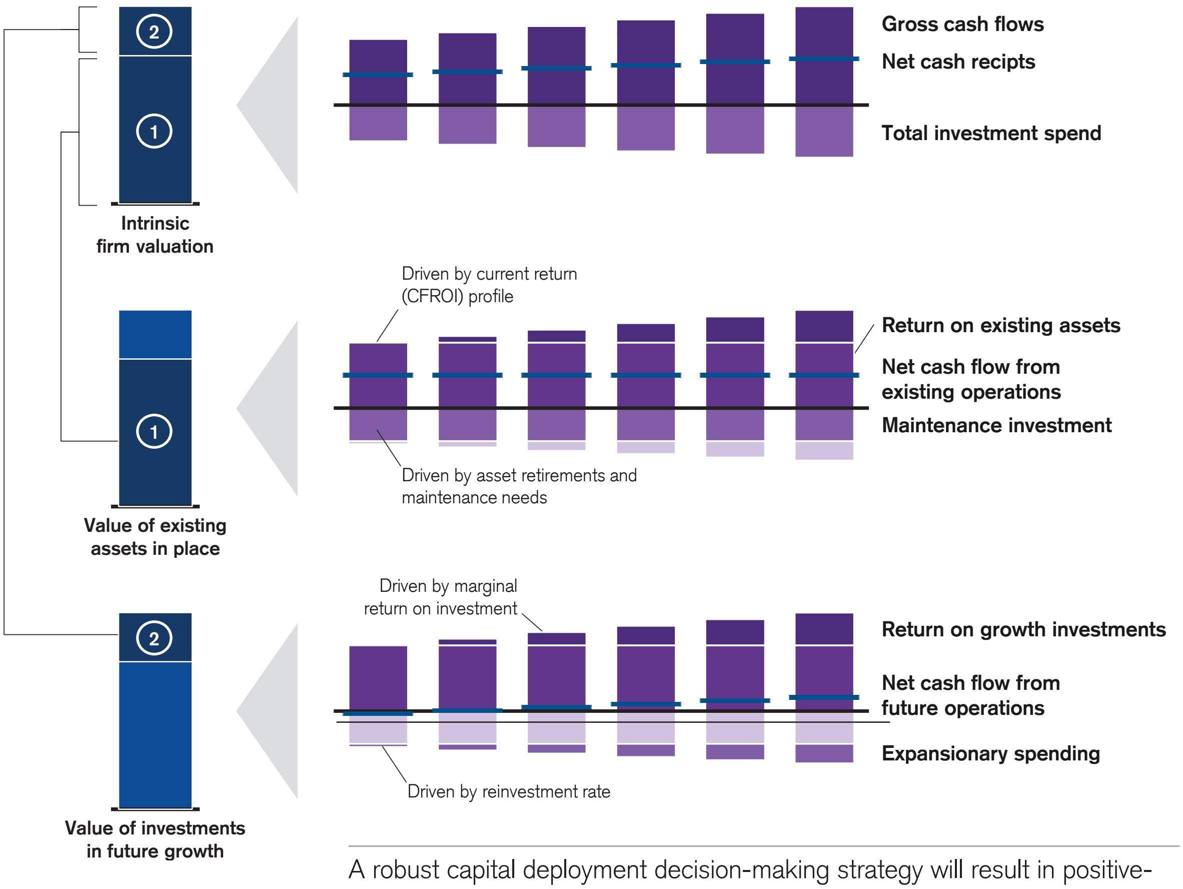
Reverse engineering the value chain to create a decision framework

Now that we've traced the link between capital allocation and shareholder value, can we leverage this logic to answer our core question? Can we apply this feedback loop to improve the capital budgeting process and guide our clients to be more prepared for the capital allocation decisions they face? In the last section we showed that a reasonable proxy for actual company valuations can be estimated using a model consisting only of returns on existing capital, reinvestment rates, and marginal returns on investment. We can look to actual valuations in the market to tell us what's been "priced in" with respect to marginal returns on investment.

Returns on capital can be measured explicitly. Sell-side consensus forecasts provide useful estimates of reinvestment rates. Thus, a company's trading value in the market communicates information about the missing puzzle piece, **the expected returns on new investments**. Let's call it the Market-Implied Marginal Investment Return ("MIMIR"). MIMIR is the key to unlocking shareholder value through capital allocation because it allows companies to tailor their investment tactics to the goal of delivering better-than-expected growth. Quantifying a company's MIMIR and targeting investments where expected returns exceed this threshold should fuel higher than expected growth and be rewarded with valuation premiums.

Distilling what the market is baking in for incremental return on capital on expansionary growth is not easy[12]. But Figure 7 illustrates schematically how we've tried to address the task of reversing an MIMIR out of observed valuations.

Figure 7: How are MIMIRs derived?



2
1
Intrinsic firm valuation
Gross cash flows
Net cash recipts
Total investment spend
Driven by current return (CFROI) profile
1
Value of existing assets in place
Return on existing assets
Net cash flow from existing operations
Maintenance investment
Driven by asset retirements and maintenance needs
Driven by marginal return on investment
2
Value of investments in future growth
Return on growth investments
Net cash flow from future operations
Expansionary spending
Driven by reinvestment rate

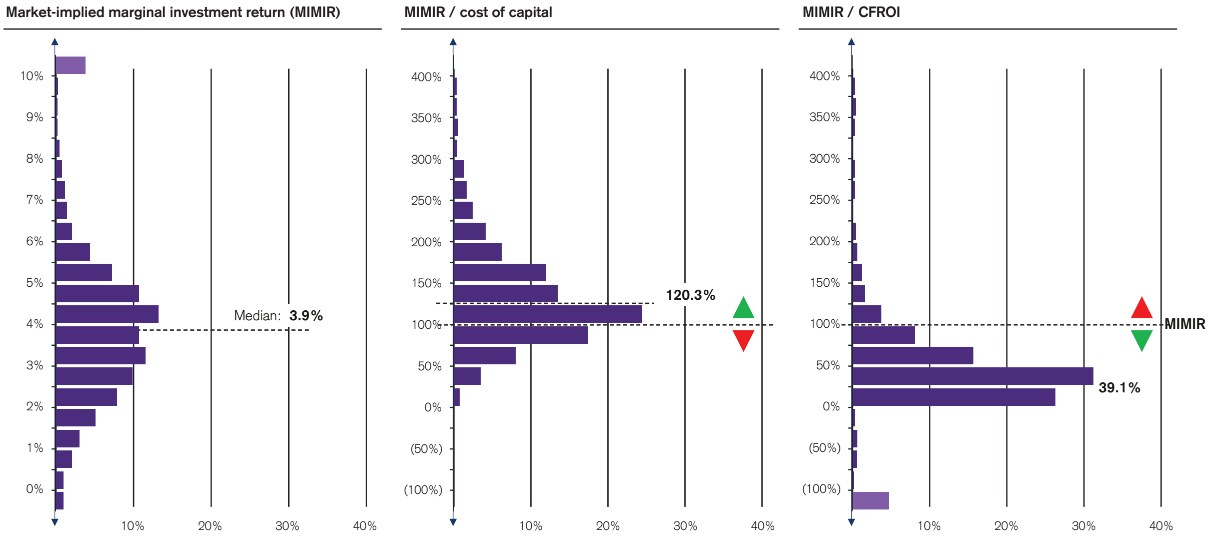
A robust capital deployment decision-making strategy will result in positive-NPV investments, an optimal capital structure, and excess capital flow returned to shareholders in a value-maximizing way Market-Implied Marginal Investment Returns ("MIMIR") reflect the level of return on incremental investment that has been priced in to trading levels for a stock, all else equal

The MIMIR approach acknowledges that a firm's value can be decomposed into the operating value of its current assets plus the value of any future growth investments. The value of assets in place reflects the steady-state value of the current business operations where operating cash flows are based on existing returns on capital[13] and the investment profile is defined by maintenance expenditures only. The value of any growth investments, therefore, reflects the value of returns on expansionary expenditures, i.e. investments in growth.

To calculate MIMIR, we first derive a value for existing assets and subtract that value from observed firm value to arrive at the expected value for future growth opportunities. MIMIR then represents the internal rate of return of the value of future growth and a cash flow stream composed of incremental operating cash flows above those associated with current assets (i.e. cash flow growth) and incremental investment outlays beyond maintenance expenditures (i.e. expansionary spending).

We've applied this new methodology to a wide-cross section of companies making up the U.S. market for example[14]. Figure 8 shows the distribution of absolute MIMIRs across the market and how they relate to current CFROIs and costs of capital.

Figure 8: Distribution of S&P 1500 MIMIRs and how they relate to the cost of capital and CFROI



For the average company comprising the market today, investors have priced in the expectation that future investment returns will exceed the cost of capital and generate economic profit while also falling significantly short of realized returns on existing capital (as measured by CFROI)

The market currently expects companies, on average, to make investments that produce returns above the cost of capital[15]. This can be seen in the middle graph above, which plots the distribution of the ratio between MIMIR and the cost of capital across the sample. For the median company, the market has priced in marginal investment returns that are just over 20% higher than its cost of capital, with over 70% of companies expected by the market to generate a positive spread. In other words, for a company whose real discount rate[16] is, say, 5%, its MIMIR would be expected to be about 6%, on average.

Is the bar for investment set too high?

More instructive, however, is the observed ratio of MIMIR to CFROI. The distribution of this ratio is shown in the third graph of Figure 8. Investors are currently pricing in expectations that new investments will return a fraction of the returns on existing assets. The median company's MIMIR is only about 40% of the level of its last fiscal year CFROI. Moreover, only about 10% of all companies are expected to meet or beat their current asset returns with their future investments.

Conventional thinking suggests that investments that **enhance** returns on capital are the only way to drive value. With the large majority of the market sample earning economic profits (i.e. returns exceeding cost of capital) on their current assets, this is a safe way to avoid value-destroying investments. Yet, the market seems to expect a "fade" in returns that can be observed empirically. For companies to beat consensus estimates for growth and thereby generate excess market returns and create shareholder value, they need to earn marginal returns on capital at a proportion of the current CFROI that we can now quantify. For the average company earning about 10% on existing assets, the expected CFROI of new investments should be benchmarked against a rate of return likely closer to 4% than 10%. Any **incremental** expected return above the 4% (or whatever that company's MIMIR is revealed to be) should provide a positive future growth surprise and help drive higher valuation multiples.

Additionally, if lowering the hurdle rate on funds for reinvestment promotes expansionary spending levels above consensus expectations, the virtuous growth effects would compound into additional value improvements. For example, if we assume that following the implicit guidance of our MIMIR approach allowed companies to allocate about 7.7%[17] more, in aggregate, to reinvestment spending reflecting the expanded opportunity set considered, aggregate market value could expand by 8.1% – that's over $2 trillion![18]

Conclusion

As we mentioned at the beginning of this paper, in today's market environment, we believe the top priority for our clients should be reinvesting in their businesses to drive future growth. Investing in growth matters, but that does not mean chasing growth at all costs. Profitable growth is achieved through investment in high-quality assets whose returns are sufficient to cover the economic cost of the capital funding it. This is why getting capital allocation strategy "right" is vital for companies.

Our solution to this challenge is to redefine investment hurdles in terms of the market's growth expectations. Acknowledging that future growth can be modeled as a direct function of a company's reinvestment level allows us to translate market values into investor expectations for how much those investments need to return. Quantifying the incremental return on capital expected by the market gives managers a deeper understanding of the hurdles to overcome in driving value. Integrating that hurdle rate into the capital allocation process should empower managers to then beat the market's expectations. Our MIMIR concept indicates that investors assume marginal returns on new investments for the average company will be somewhat lower than its existing returns, suggesting that companies that set internal hurdle rates too high relative to market expectations may be inadvertently leaving value-creating projects on the table. When articulating long-term targets to investors, it's not just about setting topline growth expectations, but also about showing how capital allocation decisions will support growth goals and help beat the market's expectations.

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Endnotes

1. Credit Suisse Corporate Insights: The Capital Deployment Challenge (Q4 2015).

2. Sample equals a stable cohort of current S&P 1500 constituents (excluding Financials, Real Estate, and Utilities) with data available over the analysis horizon.

3. Growth rates calculated by dividing the cumulative amount of capital allocated to invested capital / cash + payout growth by the market aggregate invested capital base / cash balance respectively.

4. The arithmetic mean of annual real U.S. GDP growth from 2009 – 2017 was 2.0% in the U.S. since 2009 per Bloomberg

5. Sample equals a stable cohort of current S&P 1500 constituents (excluding Financials, Real Estate, and Utilities) with data available over the analysis horizon. Relative valuation of capital allocation alternative reflects the difference between the implied price / NTM earnings (P/E) of each category and the aggregate market P/E. To calculate implied P/E's, each company's NTM earnings are multiplied by the latest proportionate breakdown of LTM capital deployed and "capitalized" into an implied market value using that company's P/E, measured using the average price over the 3 months following the reporting of quarterly financials. Earnings allocations and implied market values are then aggregated across the sample for each category to derive their P/E's. Reinvestment in the business includes expansionary capital expenditures (estimated as the excess over depreciation expense), R&D expense, and cash spent on M&A. Balance sheet strengthening includes net debt retirement and net cash build. Shareholder returns includes dividends and share repurchases. Data sourced from FactSet and Bloomberg.

6. Even though there are no meaningful fundamental shareholder value implications for the actual company distributing excess capital, shareholders themselves can reinvest capital returned to them for profitable gain elsewhere in their portfolio, making it the systematically best use of remaining excess cash.

7. The following supplements the main body of this paper by algebraically manipulating core valuation identities to help connect the intuition behind the shareholder value chain with specific theoretical formulas and their components.

Consider the following stylized formula for estimating firm value based on the value of a growing perpetuity of free cash flows:

$$\text{Warranted firm value (V)} \approx \frac{\text{Free cash flow}}{\text{Cost of capital (k) - FCF growth (g)}}$$

If we disaggregate free cash flow into operating profits and net investment and ignore any external sources of financing, the numerator can be re-written as a function operating profit (NOPAT) and reinvestment rate (RR)

$$\begin{aligned}\text{Free cash flow} &= \text{NOPAT-net investment}\\ &= \text{NOPAT-(NOPAT} \times \text{RR)}\\ &= \text{NOPAT} \times \text{(1-RR)}\end{aligned}$$

Likewise, operating profit can be modeled as the product of invested capital base (B) and return on invested capital (r).

$$\text{NOPAT} = B \times r$$

Plugging it all back into the original equation and dividing both sides by invested capital yields the following simple, yet powerful, relationship:

$$\frac{V}{B} \approx \frac{r \times (1 - RR)}{k - g}$$

This formula clearly delineates that returns and growth are primary fundamental drivers of value and codifies a high level link between operational performance (r), reinvestment policy (RR), capital structure (k) and warranted valuation multiples.

Finally, replacing the growth term (g) with its endogenous estimation as the product of reinvestment rate (RR) and marginal investment returns (r^’) establishes the intuition from which the MIMIR concept is architected:

$$\frac{V}{B} \approx \frac{r \times (1 - RR)}{k - (r' \times RR)}$$

Since invested capital (B), return on capital (r), and cost of capital (k) can be measured explicitly, and sell-side consensus forecasts provide defensible estimates for the market’s expectation for reinvestment rates (RR), we can look to actual valuations in the market (V) to tell us what current trading levels have “priced in” with respect to marginal returns on investment (r’).

8. Reinvestment rate is estimated as 3-year average sell-side forecast-implied expansionary investment spend as a proportion of gross cash flow (where expansionary investment spend is net of maintenance investment).

9. Marginal return on investment assumes that current LFY CFROI represents the average marginal returns of investments made over the historical life of asset base and that returns are constantly mean-reverting towards long-term equilibrium. It is estimated by “fading” each company’s CFROI towards a long-term rate of 6% at the standard HOLT rate of mean reversion for half the number of years of the assumed asset life.

10. The Accuracy Quotient is calculated based on the absolute deviations between predicted and actual quartiles of dependent variable as the sum of “success scores” divided by total number of observations. Success scores of 1, 0.5, 0, and -1.5 are assigned to absolute deviations of 0, 1, 2, and 3 quartiles respectively. The resultant proportion measures “goodness of fit” and is loosely comparable to the R-squared statistic of ordinary least squared linear regressions.

11. Warranted market / book ratios calculated using a simplified, stylized variant of HOLT’s discounted cash flow approach where CFROI and asset growth are the only dynamic, company-specific parameters.

12. To assess this, we have used Credit Suisse’s HOLT database and valuation framework to coherently translate the conceptual underpinnings of the fundamental shareholder value chain to a dynamic and comprehensive discounted cash flow valuation model. The HOLT CFROI and Economic Profit framework is a benchmarking and valuation tool that has been used extensively for over 40 years by global investment professionals and corporate managers to help understand the expectations embedded in stock prices.

13. Note that even in this steady state investment profile where investment is only defined by maintenance expenditure, returns on capital are still considered to erode over time due to competitive pressures.

14. The potential insights offered by MIMIR are best seen when applied on a company by company basis.

15. The HOLT discount rate is a forward looking market-derived inflation-adjusted discount rate, which accounts for market risk as well as company specific liquidity and leverage.

16. See above.

17. Based on regression of current reinvestment rates against CFROI for the S&P 1500 sample, which predicts that a 7.3% increase in reinvestment rate for each 10% decrease in CFROI, which we’ve applied to the difference between CFROI and MIMIR to estimate, at a high level, a reasonable increase in reinvestment spending for each company.

18. Aggregate modeled increase in warranted enterprise value associated with the increased estimated growth associated with higher reinvestment rates predicted by following the MIMIR framework.

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