

2017 Third Quarter

Corporate Insights

**Dividends: When they matter
and when they don't**

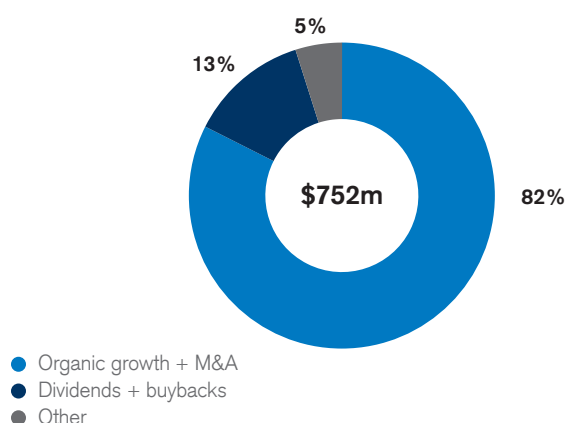


Introduction

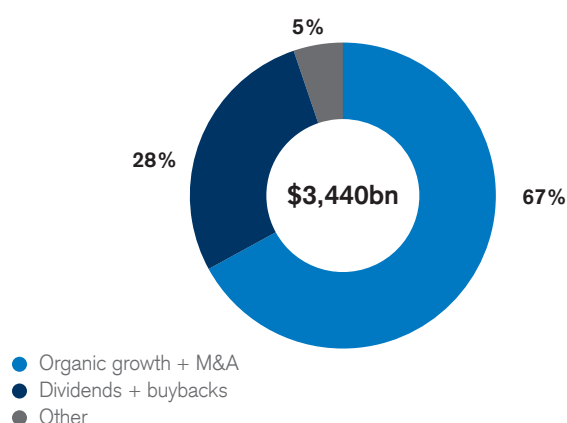
Over the last two decades, the way companies allocate capital has meaningfully evolved. Twenty years ago, the percentage of capital being returned to shareholders was low – approximately 13% of total capital deployed, as shown below in Exhibit 1. Today, the amount of capital companies are returning to shareholders has more than doubled. In 2016, \$408bn of corporate cash for companies in the US and Europe went to buying back shares and \$552bn went towards dividends, meaning a whopping \$960bn of total capital from public companies flowed back to investors. This compares to a mere \$100bn twenty years ago.

Exhibit 1': Historical capital deployment of US and European companies

Capital deployment 20 years ago



Capital deployment today



We have written before about the – perhaps surprising – value that the current market ascribes to growth. So it is a bit of a puzzle as to why returning capital to shareholders remains so attractive relative to business investment.

Paying back your shareholders can of course be done via share buybacks or dividend distributions, although there are many differences between the two approaches. Both share buybacks and special dividends tend to be one-time events, whereas a dividend program tends to be more fixed and more

representative of an ongoing corporate policy - which we can assess and compare to other policy choices. Dividends have represented a significant portion of the way companies return capital to shareholders, accounting for more than half of the total spending allocated to buybacks and dividends. This paper, the eighth in our ongoing series of *Credit Suisse Corporate Insights*, focuses on dividends, evaluating the impact of dividends on valuation and investor perceptions and whether dividends can be considered a strategic lever for management to drive value creation.

Schools of thought on dividends: The good, the bad, and the indifferent

There is not a consensus viewpoint on the impact of dividends on valuation. There are essentially three schools of thought: dividends matter because they are a good thing, dividends matter because they are a bad thing and dividends **don't** matter because they are irrelevant.

Those in the **first school** believe dividends are a good thing and point to the *positive* signal and certainty argument. Fischer Black and Myron Scholes explained this in 1973: "The feeling is that investors prefer a dollar of dividends to a dollar of capital gains, because a 'bird in the hand is worth more than one in the bush'." This bird-in-the-hand notion recognizes that some investors prefer the *certainty* of the cash proceeds that dividends provide in the near term over the *uncertainty* of the potential cash flow streams derived from the business in the future. However, since the capital distribution is a zero-sum event we should compare a dividend today versus price appreciation today. The stock price of a company drops as a result of dividend payments so the total value accruing to shareholders should be unchanged. Those that believe dividends are a good thing also cite their positive signal – a dividend commitment can indicate confidence and reliability in management's ability to generate future cash flow. Initiating or increasing a dividend can be seen as a positive signal, as it communicates to investors the confidence management has in their ability to sustain a certain level of cash flows.

Those in the **second school** believe dividends are a bad thing due to the **negative** signaling impact and the big unknown of taxes. The *perception* of a dividend to some can be that committing to a dividend can crowd out other opportunities for investment and signal that a corporation doesn't have any better way to allocate capital and, therefore, must be "low growth". They also point to the complexity that taxes on dividends create – taxes on dividends lower after-tax returns to equity investors.

Also, the level of tax rate varies depending on who receives the dividend (e.g. individual investors are taxed differently than institutional investors, which further varies across pension funds, mutual funds, etc.). Some also point out the double taxation of these corporate profits, as the dividend cash comes from profits that are already taxed at the corporate level and then these same profits are again taxed again at the personal level when paid out to the individual investor.

Those in the **third school** who believe dividends don't matter point to the "sell-off" argument. This is the idea that different investors have different demands for cash and investors can just recreate their desired payout stream by periodically selling a portion of their shares.² Merton Miller and Franco Modigliani argued that if you ignore taxes and transaction costs and if the corporation does not let dividend policy impact its investment decisions, then in a perfect world, a company's dividend policy should be irrelevant to share prices because investors can just recreate the cash flows they desire themselves.

Warren Buffett made much the same point in his 2012 Berkshire Hathaway shareholder letter, arguing that the sell-off alternative: "lets each shareholder make his own choice between cash receipts and capital build-up. One shareholder can elect to cash out, say, 60% of annual earnings while other shareholders can elect 20% or nothing at all."³ This argument says what investors care about is their total shareholder return (dividend yield + share price appreciation) and, taxes aside, they don't necessarily care whether the mix of that comes from capital appreciation or yield on dividends.

So how and when do dividends matter? Corporate finance theory is one thing, but what really happens in the market? How do you make an informed choice about your own dividend policy?

Dividends in the real world

What really is the relationship between dividends and value creation? In one sense, the simple answer is “none”. But the nuances around that simplistic answer provide useful insights.

We looked at over 2,000 companies in the US and Europe and compared two key valuation measures to dividend yields. With r-squared results quite close to zero (Exhibit 2), we see that

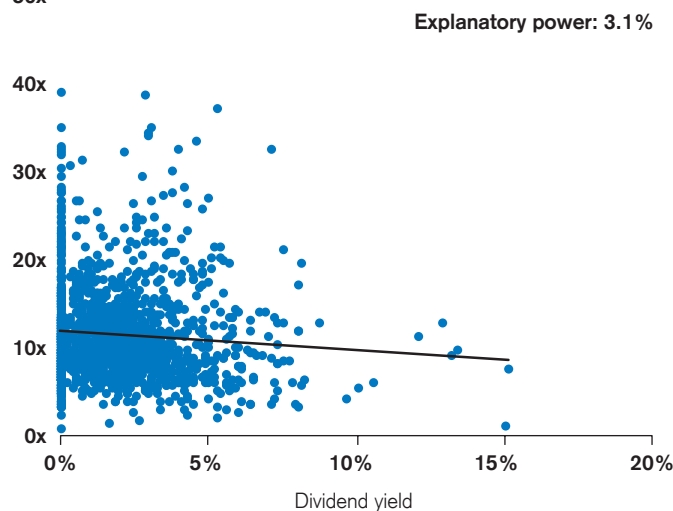
dividend yields offer no explanation as to why companies trade at higher or lower multiples or have higher or lower total shareholder returns (TSR). Across both regions, we see little evidence of explanatory power between dividend yield and valuations. Admittedly, when we look at Europe in isolation, the correlation of TSR to dividend yield is higher than the US at 13%, but that is still quite low.⁴

Exhibit 2⁵: Are market valuations explained by dividend yield?

EV / EBITDA versus dividend yield

EV / next twelve months EBITDA

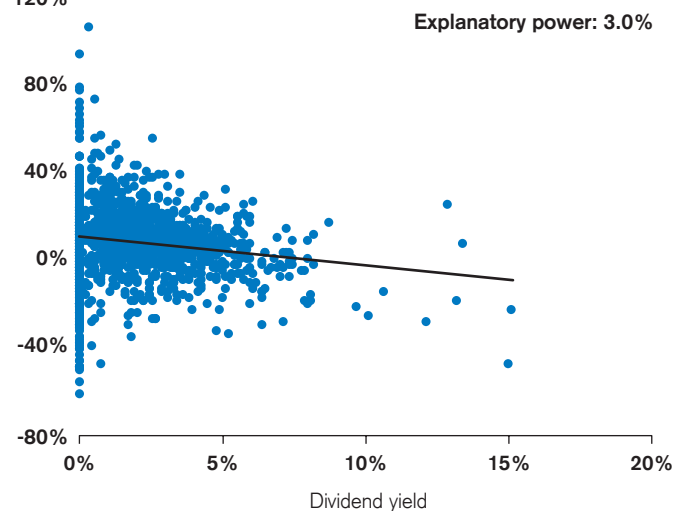
50x



Total shareholder return versus dividend yield

3YR TSR

120%



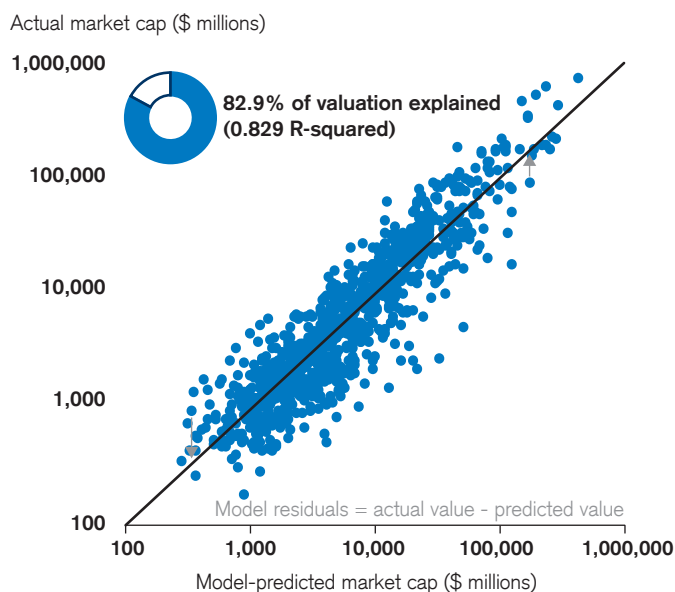
So if dividend policy doesn't explain market valuations - then what does? In a word: fundamentals.

Consider this: if we compare where companies *should* trade - in terms of share prices - based on their fundamentals versus where the market *actually* values them right now, then we see that the majority of market valuations are determined by their underlying fundamentals.

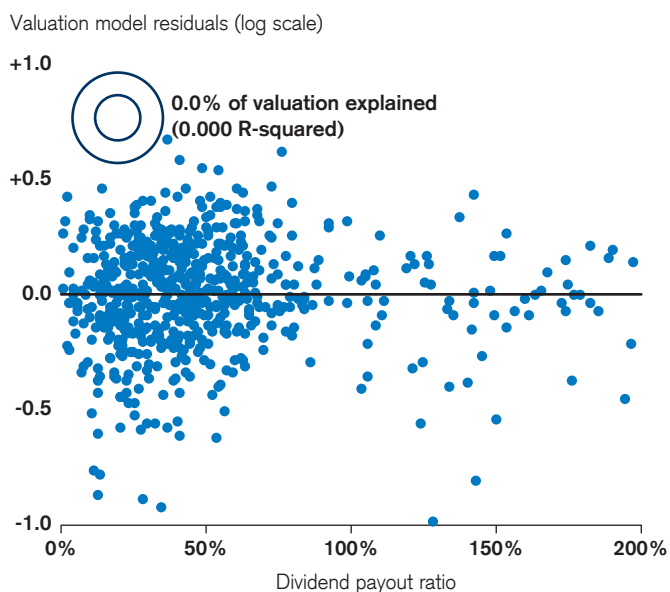
Exhibit 3 shows that four fundamental factors (profitability, growth, size and leverage) explain over 80% of current market valuations across our universe. So what explains the remaining 20%? The right side of this same exhibit makes clear dividends do not explain the difference. There are a number of other factors that may cause a company's share price to deviate from its warranted fundamental valuation but, broadly speaking, dividend policy is not one of them.⁶

Exhibit 3': Explaining market valuations through fundamentals

Market share price vs. model-predicted share price based on company fundamentals



Can dividend payout ratio help explain the noise? Regression of dividend payout ratio vs. unexplained component

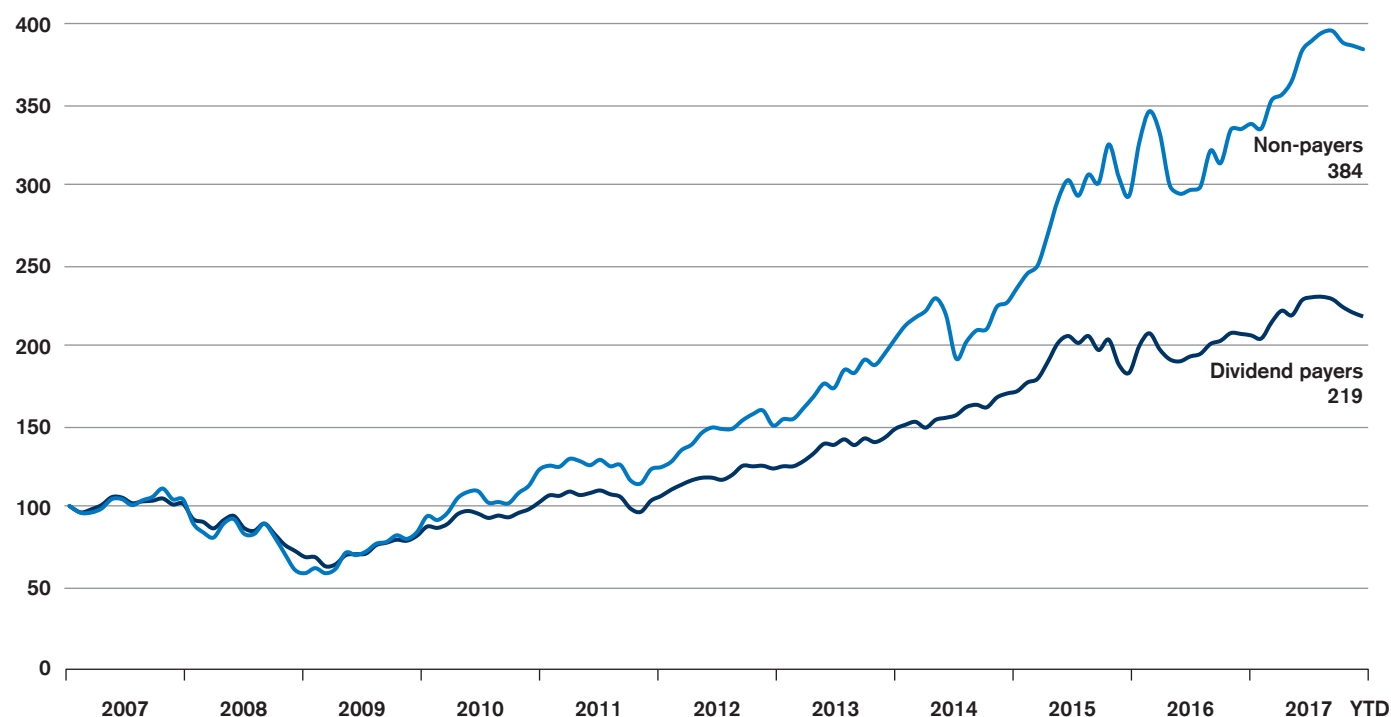


There may be no **explanatory** relationship between dividends and market valuations, but do companies with different dividend policies actually perform differently in the market and if so, why?

To answer that question, let's examine a broad universe of companies and split it into those companies that pay dividends

("payers") and those that don't ("non-payers"). To evaluate market performance in the long-term, we focus on a measure of share-price appreciation, total shareholder return (TSR), for these companies. As shown in Exhibit 4, we see that non-payers have meaningfully outperformed payers by a factor of 2.39 times.⁸

Exhibit 4⁹: Total shareholder return over time – dividend payers vs. dividend non-payers



— Payers: Companies in the S&P1500 and the STOXX Europe 600 that consistently paid a dividend in eight of the last ten years
 — Non-payers: Companies in the S&P1500 and the STOXX Europe 600 that did not pay a dividend in eight of the last ten years

Does this conclusion hold up over time? Exhibit 5 and Exhibit 6 reveal that, over both short and long-term periods, dividend payers have **underperformed**. In the last five years, for example, dividend payers delivered a 3.3% **lower** TSR than

non-payers. Dividend payers seem to offset lower TSR with correspondingly lower volatility; which intuitively aligns with the notion that companies that pay dividends enjoy a perception of stable and consistent operating performance.

Exhibit 5¹⁰: Total shareholder return of dividend payers vs. non-payers across S&P 500

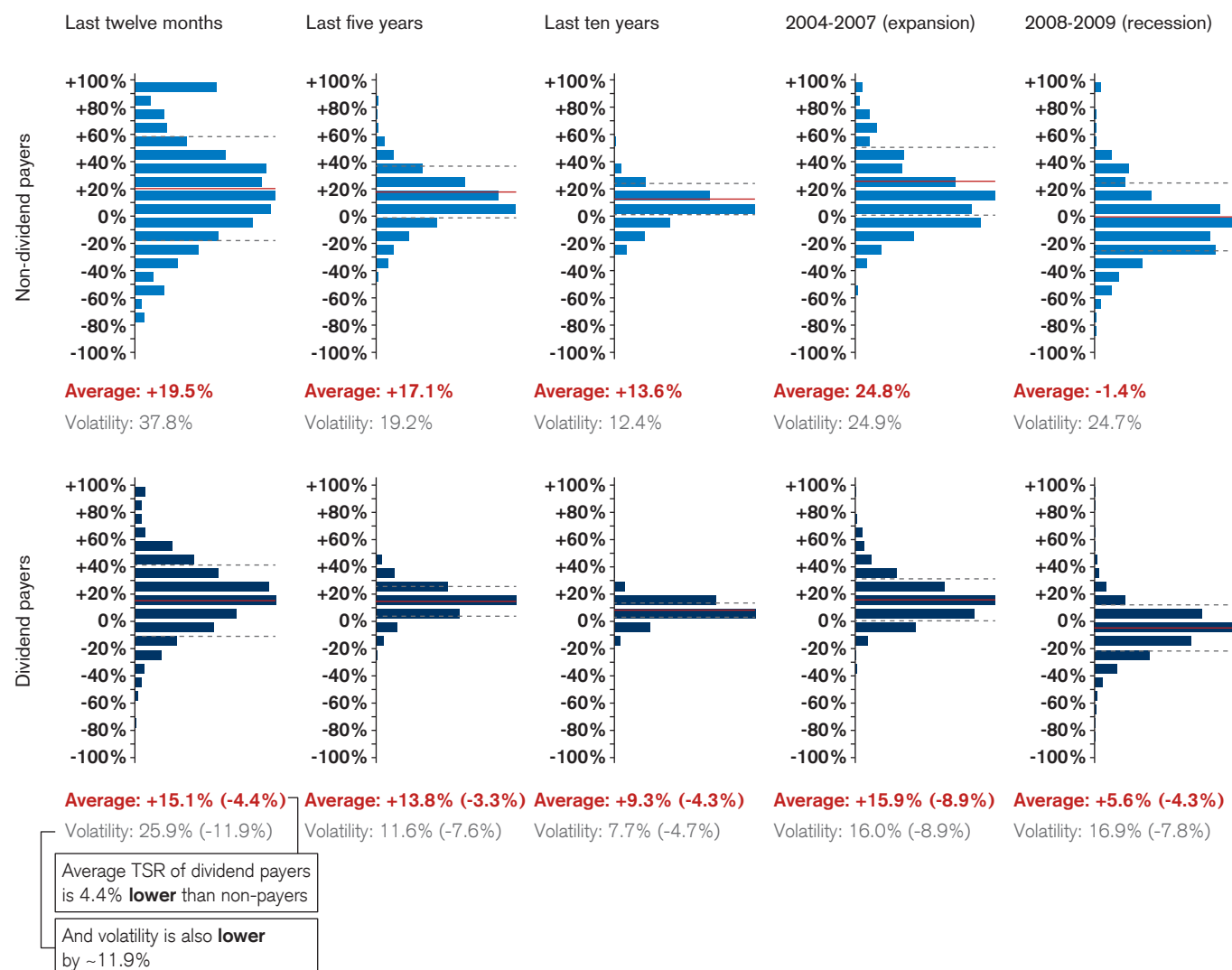


Exhibit 6¹¹: Comparing total shareholder return of dividend payers vs. non-payers for the S&P 500

Non-payer minus dividend payer total returns		Analysis horizon (period over which returns are calculated)									
		1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years
Start date	10 years ago	+2.0%	-4.2%	-7.5%	-7.1%	-6.1%	-6.1%	-5.7%	-6.4%	-4.5%	-4.3%
	9 years ago	-12.4%	-14.8%	-12.2%	-9.8%	-9.0%	-7.9%	-8.3%	-5.9%	-5.4%	
	8 years ago	-14.6%	-11.8%	-8.7%	-8.0%	-6.8%	-7.5%	-4.8%	-4.4%		
	7 years ago	-9.1%	-5.7%	-6.4%	-5.7%	-6.5%	-3.7%	-3.6%			
	6 years ago	-3.3%	-5.7%	-5.1%	-6.3%	-2.9%	-2.9%				
	5 years ago	-9.8%	-7.5%	-7.9%	-3.6%	-3.3%					
	4 years ago	-5.4%	-6.9%	-1.7%	-1.8%						
	3 years ago	-9.1%	-0.9%	-1.3%							
	2 years ago	+5.5%	+0.6%								
	1 year ago	-4.4%									

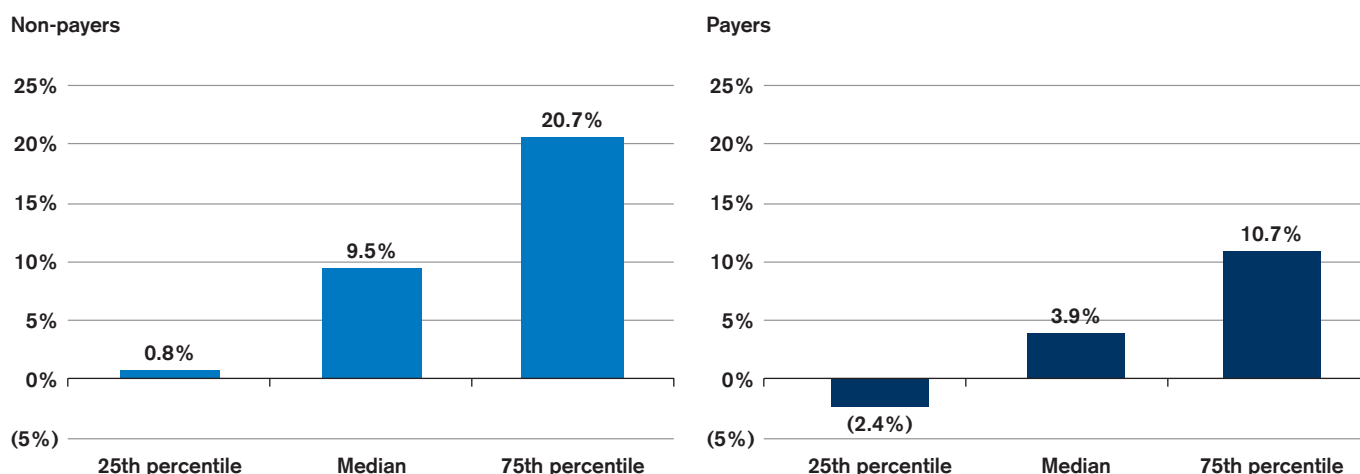
TSR 2010-2016	
6 year dividend payer total shareholder return:	14.9%
- 6 year non-payer total shareholder return:	18.6%
Non-payer vs. dividend payer relative return:	-3.7%

What is the relationship between dividends and growth?

So, companies that do **not** pay dividends generally seem to outperform those that do pay dividends. Why is that? We know dividend policy doesn't explain either multiples or total shareholder

return so, we turn back to fundamentals. Over the last decade, as shown in Exhibit 7, non-payers have delivered higher growth than dividend payers: almost three times higher in fact, on a median basis.

Exhibit 7¹²: Distribution of achieved sales growth of non-payers versus payers – historical sales growth over previous ten years



Notably, the relationship between growth and dividends holds up over time. We looked at expected sales growth forecasts between payers and non-payers over the last decade and found that there is a consistent gap between growth rates of payers and non-payers and that non-payers have consistently had higher growth expectations than dividend payers.

Investor perception plays a role in considering the relationship between growth and dividends – and in turn, market valuations. As we discussed earlier, some view dividend payments as a positive signal of cash flow stability, in other words, a perception of consistent cash flow generation. Others view it as a negative signal that implies a slowdown or lack of alternatives available for reinvestment; in other words, a perception of lower growth prospects. Which is right? Both views can be right, depending on the company and industry.


































We do know there is a significant negative correlation between dividend yield and sales growth. It appears to us that companies without prospects for investing in growth are more likely to pay dividends than those with high growth prospects.

How does valuation change across different levels of sales growth prospects? Exhibit 8 shows the valuation multiples – as measured by the ratio of enterprise value to forward-looking EBITDA – for payers versus non-payers, bucketed based on growth expectations. Companies with the highest growth prospects trade at higher multiples relative to companies with lower growth prospects, irrespective of whether they are payers or non-payers. It is not surprising, then, that companies with higher growth prospects trade at higher multiples.¹³

The delta in multiples between payers and non-payers across all ranges of growth is not dramatic – with the exception of the highest growth companies. The companies with the highest level of growth that choose to pay a dividend suffer an average multiple that is three times lower than that of ultra-high growth non-payers.

When a company has high growth prospects, choosing to pay a dividend should be considered carefully. When a company has low growth prospects, and limited avenues for deploying capital, returning capital can make excellent sense, and dividends can be a great means of doing so.

Exhibit 8¹⁴: Payers vs. non-payers EV / EBITDA in buckets of sales growth

Sales growth percentile	Non-payer EV/ EBITDA	Payer EV / EBITDA	Non-payer minus payer
All companies	 11.7x	 11.5x	 +0.2x
0%-10%	 9.8x	 10.4x	 -0.6x
10%-20%	 9.3x	 10.3x	 -1.0x
20%-30%	 9.7x	 10.7x	 -1.0x
30%-40%	 10.2x	 10.9x	 -0.7x
40%-50%	 10.8x	 11.4x	 -0.6x
50%-60%	 11.0x	 12.0x	 -1.0x
60%-70%	 12.2x	 12.4x	 -0.2x
70%-80%	 13.7x	 12.1x	 +1.6x
80%-90%	 13.0x	 12.4x	 +0.5x
90%-100%	 14.8x	 11.8x	 +3.0x

Because high growth means different things in different sectors, we looked at dividend paying companies across sectors, focusing on the high and low ends of the distribution to discern if there is any benefit or penalty for being a high dividend payer. In other words - does it matter if you are the highest yielding company in your sector? And what happens to companies that choose to pay high dividend yields in high growth sectors?

Exhibit 9 ranks sectors by their sales growth expectations and then looks at the companies that have the highest dividend yields (the top quartile) and those that have the lowest yields (the bottom quartile) within their respective sector.

Across almost all sectors, companies that paid the **highest** dividend yields in their sectors (top quartile) earned a **lower multiple than their sector average**. This seems to suggest

that paying less in dividends than the herd may be beneficial for respective valuation multiples.

Why? We suspect underlying individual company growth prospects, and whether they were above or below the industry average growth, play a role in this. Let's take Information technology as an example – this is a high growth sector where companies that choose to pay the highest dividend yields are “penalized” – earning lower multiples by 1.95x relative to the sector average.

We also see that companies that paid the **lowest** dividend yields in their respective sectors (bottom 25th quartile) earned a subtly higher market multiple than their sector average. Again, we point to the growth prospects of these businesses – across all sectors, the average level of growth for companies that paid the lowest dividend yields was higher than the respective sector average.

Exhibit 9¹⁵: EV / EBITDA for top and bottom dividend payers by sector

	Base line sales growth	Top 25% dividend yield in sample			Bottom 25% dividend yield in sample		
		Excess growth	Excess EV / EBITDA		Excess growth	Excess EV / EBITDA	
Energy	10.8%	+4.6%		+0.55x	-0.0%	-1.02x	
Information technology	9.7%	-0.9%	-1.93x		+0.8%		+0.94x
Health care	8.4%	-6.1%	-2.62x		+1.7%		+0.65x
Materials	7.9%	-2.6%	-0.39x		+2.5%		+0.01x
Industrials	6.6%	-3.5%	-1.09x		+1.9%		+0.05x
Real estate	6.2%	-2.0%	-3.87x		+2.4%		+1.20x
Consumer discretionary	5.7%	-4.0%	-2.56x		+1.6%		+0.89x
Consumer staples	5.2%	+1.8%	-1.03x		+1.2%		+0.22x
Utilities	4.9%	-1.8%	-1.63x		+1.1%		+0.59x
Financials	4.7%	-3.2%	-1.02x		+2.2%		+0.29x
Telecom	2.9%	+1.4%	-0.49x		+1.1%		+1.18x
All companies	6.8%	-2.8%	-0.59x		+2.1%		+0.28x

Our analysis suggests that the level of dividend paid may matter, depending on what industry you are in. This analysis supports the idea that dividends are indeed related to a company's growth prospects. There is a difference in valuation multiples between dividend payers and non-payers, but it's important to

recognize this difference seems due to underlying fundamentals of the business, particularly growth. Growth is a vital element that explains the delta in multiples across companies that pay dividends versus those that do not. High growth drives higher valuations, but also begets lower dividend yields...and vice versa.

Should you align your dividend policy with your peers or sector?

In our discussions with clients, we often get asked to benchmark a company's historical capital deployment activity (e.g. M&A spend, R&D spend, capex spend, buybacks, de-levering, dividends) against peers. Companies like to know what the guy next door is doing with his capital decision-making strategy. But should this really make a difference when it comes to determining your own?

Does it really matter what your peers are doing? We've established that dividends do not correlate to market multiples or total shareholder return. What about companies that are dividend payers in industries that are characterized as a high-dividend-paying sector? And is there a **relative** multiple benefit to being a dividend paying stock in a non-dividend paying sector?

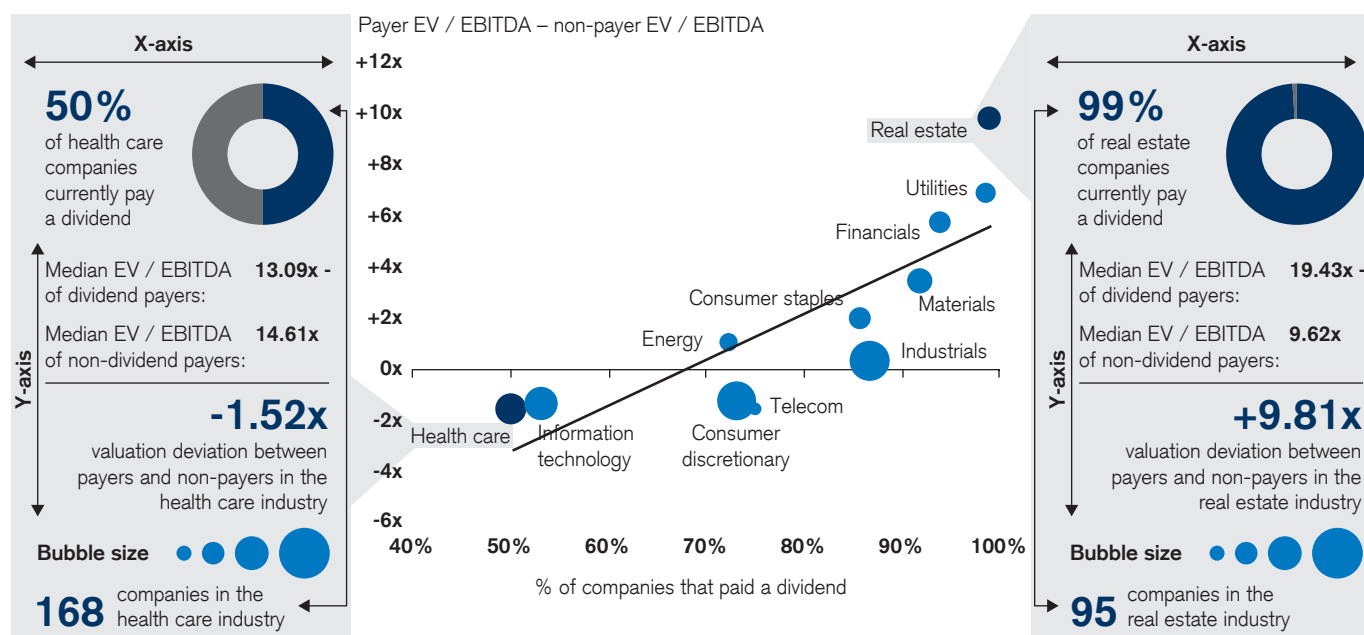
Exhibit 10 compares the valuation multiple deviations between companies that pay dividends versus those that don't pay dividends. The x axis shows the percentage of companies in each sector that pay dividends. The y axis shows the delta in the EV/EBITDA multiple between dividend payers and non-payers in

each specific industry – so the sectors above 0x are ones where dividend payers trade at a **premium** and the sectors below 0x are ones where they trade at a **discount**.

There are observable differences across sectors. For example, Real estate and Utilities are sectors where the great majority of the companies paying a dividend for industry-specific reasons earn a **substantial premium** against the companies in their respective sectors that do not pay dividends. Said differently, these are sectors where **not** paying a dividend appears to result in a valuation penalty.

On the other hand, other sectors display a **negative** valuation multiple delta between companies that pay dividends and those that do not. Health care and Information technology fall on this side of the spectrum. Companies that pay dividends in these two sectors trade at a **discount to** their sector medians as a whole. This analysis suggests that companies that pay dividends in sectors comprised primarily of non-payers get penalized with a lower valuation multiple.

Exhibit 10¹⁶: EV / EBITDA delta of payers versus non-payers by sector



While there are differences across sectors, let's not forget that some of these differences can be attributed back to differences in underlying fundamentals, e.g. growth prospects.

Understanding the industry dynamics and your competition will help determine whether a dividend could be warranted or seen as an undesirable drag on valuation.

What influences investor preferences for dividends?

Let's spend a moment looking at this from an investor perspective. What can help explain the recent focus towards dividends?

One key explanation of the observed phenomenon of investor preferences towards dividends can be explained by the substitution effect between low risk corporate bonds and dividend-paying equities. Investors are more sensitive and tend to favor dividend-paying companies when rates are low. Exhibit 11 shows S&P 500 dividend yield for the companies that do pay dividends

over the last decade in comparison to ten year treasury rates.

Up until 2009, average dividend yields were well below the yield earned on the low risk corporate bonds (looking at ten year treasury rates below as a proxy). But since 2009, that gap has converged as interest rates declined.¹⁷ While dividend yields have historically been well below the least risky corporate bond yields, interest rates near all-time lows have created a substitution effect for investors seeking yield.

Exhibit 11¹⁸: Bond yield vs. S&P 500 dividend yield



Exhibit 12 shows the announcement effect following a dividend announcement for both dividend increases and dividend cuts. Generally, as the interest rate level decreases, the positive effect of a dividend increase and the negative effect of a dividend cut

are magnified. This implies that investor sensitivity to dividend announcements increases when interest rates are lower and decreases when interest rates are higher.

Exhibit 12¹⁹: Market reactions to dividend announcements by interest rate level – S&P 500

Treasury yield	Dividend increases		Dividend cuts	
	Average excess return	% positive	Average excess return	% positive
Less than 2.5%	+0.73%	60.9%	-1.59%	41.9%
2.5% to 3.0%	+0.75%	60.0%	-2.49%	35.6%
3.0% to 3.5%	+0.86%	58.7%	-1.80%	39.8%
3.5% to 4.0%	+0.73%	59.8%	-1.57%	43.5%
4.0% to 4.5%	+0.61%	58.3%	-1.36%	41.2%
4.5% to 5.0%	+0.47%	57.6%	-2.05%	50.5%
5.0% to 5.5%	+0.55%	56.4%	-1.12%	43.9%
5.5% to 6.0%	+0.31%	54.5%	+0.90%	62.9%
6.0% to 6.5%	+0.52%	51.4%	-1.03%	44.6%
Greater than 6.5%	+0.59%	59.0%	-1.25%	44.4%

While it is important to understand and recognize the fashion for dividends relative to the interest rate environment, we believe companies should resist such short term attraction. Instead, they should operate with an informed, long-term, value-creation focus. Issuing dividends shouldn't be a default just based on

the current investor mood towards dividends. Over the long term, we see that dividends don't drive valuations. What drives share prices the most in the long run is not market reactions to dividend increases or dividend cuts but rather underlying company fundamentals.

Concluding thoughts

So, when do dividends matter and are they a strategic lever for driving valuation? The answer, like most things, depends on the context.

Dividends can matter when deciphering valuation multiples, but as we showed, growth expectations and sector-specific circumstances must be taken into account as well. Companies that pay dividends tend to have lower growth prospects than those that do not, but once growth is blended into the equation, there are nuances in the way investors ascribe valuation premiums or discounts to dividend payers.

However, dividends **don't** matter when it comes to setting strategy for long term value creation. The evidence we reviewed suggests that **dividends do not drive valuation in the long term in any meaningful way**. Dividends don't drive total shareholder returns, and, as presented earlier, dividend payers actually tend to underperform non-payers. Fundamentals are the key drivers of long-term value; dividends are neither the cause nor the key driver of valuation differences.

To be clear, we are not suggesting dividend-yielding companies are doing the wrong thing. Returning excess capital to shareholders is an important part of capital deployment. Moreover, we do not propose that companies that have a long history of paying dividends should stop. While there is no relationship between dividend yield and market valuations in the broad market, the impact of dividends on the market valuation

of a specific company is not so black-and-white. Market psychology plays a big role in dividends: differences in investor perceptions and preferences towards dividends across sectors and in different interest rate environments can influence near term market reactions.

Sound investor communication on dividends is vital. To quote the "Oracle of Omaha": "above all, dividend policy should always be clear, consistent and rational. A capricious policy will confuse owners and drive away would-be investors." Moreover, decisions on dividend policy shouldn't be made in a vacuum – they should be made in the context of growth prospects, reinvestment needs and overall capital deployment strategy. Choosing to issue a dividend and understanding how it can potentially impact valuation and investor preferences matters.

Our view is that dividend policy should not be thought of as a **strategic** lever to influence long term value creation but rather simply as a **tactical** decision on a mechanism to pay back shareholders. Dividends do not create value; they are a value distribution event. What matters the most in valuation are strategic decisions that companies make on investing in the business and on driving profitable growth.

End notes

- 1 Sample includes over 2,100 companies in US (S&P 1500) and Europe (STOXX Europe 600). Organic growth is defined as capital expenditures + R&D expense + advertising expense + increase in rental expense. M&A is defined as capital invested in acquisitions net of divestitures. Share buybacks is defined as capital used to repurchase shares net of any additional equity issuance. Dividends include only cash dividends distributed. Other is defined as balance sheet strengthening.
- 2 The Modigliani-Miller theorem states that in the absence of taxes, bankruptcy and agency costs, decisions on capital structure don't have an impact on firm value. "The Cost of Capital, Corporation Finance and the Theory of Investment", Franco Modigliani and Merton Miller, 1958.
- 3 Source: Berkshire Hathaway letter to shareholders 2012. Warren E. Buffett (March 2013).
- 3 Source: "Corporate Finance: Theory and Practice", 2nd Edition. Aswath Damodaran (2001).
- 4 We looked at a sub-sample of 600 European companies (STOXX Europe 600) and found that there is a more pronounced negative correlation (-0.148) between the valuation multiple - ratio of Enterprise Value to next twelve month EBITDA - and dividend yield, with an r-squared of 2.2%. We also found a negative correlation of (-0.359) between the valuation multiple and the three year total shareholder return, with an r-squared of 12.9%.
- 5 Sample includes 2,100 companies in US (S&P 1500) and Europe (STOXX Europe 600). Regression analysis is as of September 2017. Valuation Multiple is Enterprise Value to next twelve month EBITDA. Total Shareholder Return is a three year cumulative return.
- 6 Factors such as M&A related premiums, restructuring / bankruptcy noise, perception of management, activism threats, irrational investor behavior would all affect a company's share price beyond the four fundamental factors discussed above.
- 7 Sample includes all non-financial S&P 1500 companies with data available. Explanatory variables for size, profitability, growth, and leverage reflect log of total sales, EBITDA margin, long-term growth estimate and debt-to-EBITDA respectively. Regression analysis is as of September 2017. The left side of Exhibit 3 shows the model's predicted market capitalization against actual market capitalization. The gap between the actual value and the model-predicted value represent the model's residuals. We found that dividends have no explanatory power for the residuals, or the unexplained component in the model. As an example, if a company is trading at \$10 in the market (y axis), yet the four-factor model says it should trade at \$12 (x axis), the right side of the exhibit assesses whether that \$2 value gap is explained by dividends. The low r-squared close to 0% indicates that dividends don't contribute in explaining differences in levels of valuation.
- 8 Over the last ten years, non-payers delivered a TSR to investors of 384% while payers have delivered 219%
- 9 Sample includes 2,100 companies in US (S&P 1500) and Europe (STOXX Europe 600). Dividend payer defined as company paying dividends in at least eight of the last ten years. Non-payer defined as company not paying dividends in at least eight of the last ten years. Running the analysis just on a sub-sample of European payers and non-payers renders results in the opposite direction, showing dividend payers outperforming non-payers. However, it's important to note this sub-sample suffers from a sample size issue, as the number of European non-payers is meaningfully low, making it hard to draw any robust conclusion from this cut of the data.
- 10 Sample includes all non-financial S&P 500 companies with data available during each time period analyzed. Dividend payer defined as company paying dividends in the last twelve months leading to each time period analyzed.
- 11 Difference in average return and return volatility reflect the differences between dividend-paying stocks and non-payers. Cells are conditionally formatted based on difference in average returns on dividend-paying stocks minus average returns on non-payers.
- 12 Sample includes 2,100 companies in US (S&P 1500) and Europe (STOXX Europe 600). Growth refers to the achieved year-on-year sales growth over the last 10 years. Dividend payer defined as company paying dividends in at least eight of the last ten years. Non-payer defined as company not paying dividends in at least eight of the last ten years.
- 13 See our publication: "Managing the multiple: Weighing growth against profitability". Credit Suisse Corporate Insights, 2016 First Quarter.
- 14 Sample includes 2,100 companies in US (S&P 1500) and Europe (STOXX Europe 600). Dividend payer defined as company paying dividends in the last twelve months leading to the analysis. Growth prospects refers to forecasted year-on-year growth in sales, (percent change in fiscal one year forward sales vs. fiscal two year forward sales).
- 15 Ibid. EBITDA used in the calculation of the valuation multiple is next twelve month EBITDA. Growth refers to forecasted year-on-year growth in sales, (percent change in last twelve month sales vs. next twelve month sales). Enterprise Value (EV) / EBITDA premium and excess expected sales growth represent the difference between the sub-sample's averages vs. the average for all companies in the given sector.
- 16 Ibid. Dividend payer defined as a company paying dividend in the last twelve months leading to the analysis. Analysis is as of September 2017.
- 17 See our publication: "The upside of negative rates: Opportunities for financing and growth". Credit Suisse Corporate Insights, 2016 Second Quarter.
- 18 Sample includes all non-financial S&P 500 companies with data available from January 2006 to September 2017. Bond yields reflect 10-year yields based on median trading spreads by rating. Average dividend yield is calculated based on just dividend payers (excludes non-payers from calculation of average).
- 19 Ibid. Bond yields reflect 10-year yields based on median trading spreads by rating. Share price reaction is estimated as percentage change in share price between one day prior and one day post announcement.

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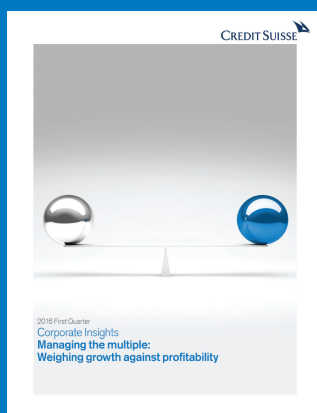
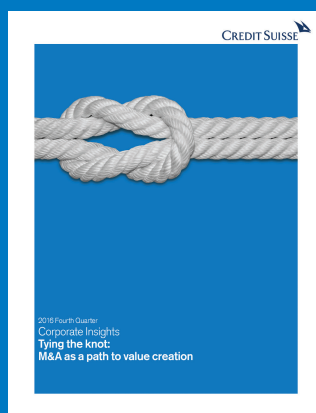
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