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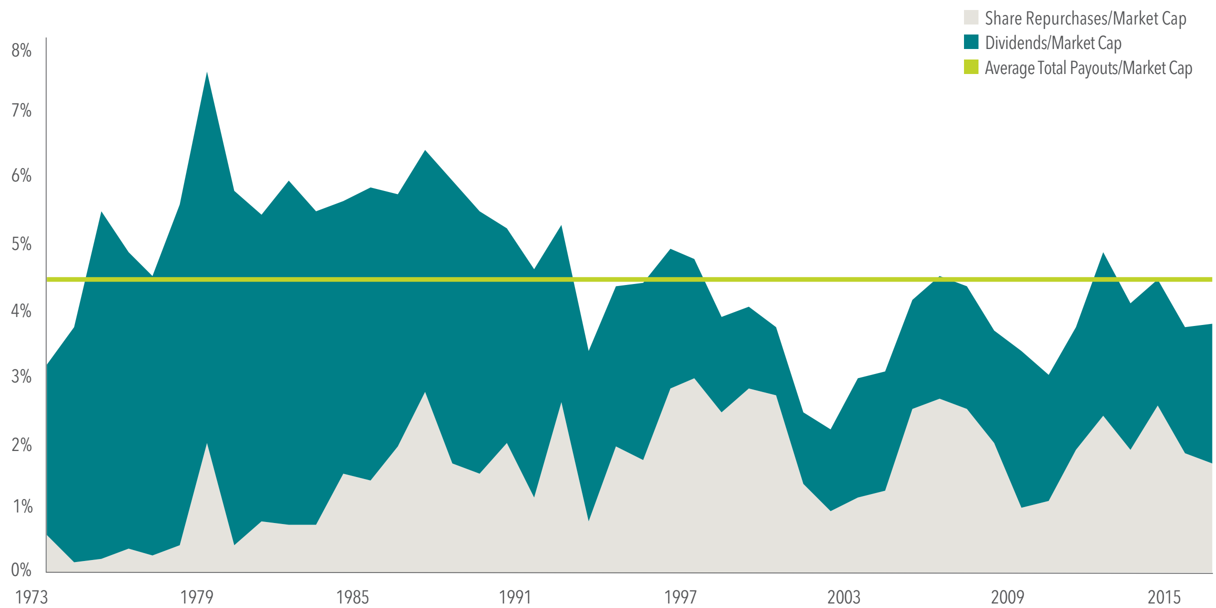
By the Book: Do Share Repurchases Impact Price-to-Book as a Measure of Value?

Price-to-book as a measure of value has been widely studied using data in more than 40 countries over the course of nine decades. The combination of a sensible theoretical framework along with decades of empirical data should give investors confidence in the relation between price-to-book and subsequent returns. But should investors be worried that increasing share repurchases might undermine the current relevance of these historical relations? In this column we will show that the impact of payouts on price-to-book is the same regardless of whether those payouts come in the form of dividends or share repurchases.

RETURNING CASH TO SHAREHOLDERS

Companies have long returned capital to shareholders in one form or another. **Exhibit 1** illustrates the historical level of dividends, share repurchases, and total payouts to shareholders of US companies, expressed as a percentage of market capitalization, from 1973–2016. The middle line represents the average level of total payout over time.

Exhibit 1: Dividends and Share Repurchases as Percent of Market Capitalization



Source: Calculated by Dimensional using CRSP and Compustat data. Each year, dividends and share repurchases are aggregated over the trailing 12 months for all eligible US companies and divided by the aggregate market capitalization at the beginning of the year. Share repurchases are estimated as growth in the number of treasury shares multiplied by share price at the beginning of the year. Total payouts in each year are the sum of dividends and share repurchases.

While dividends once tended to be the preferred payout method, in the last two decades share repurchases have become more prominently used in the US.[1] It is worth noting, however, that the overall level of total payouts has remained roughly the same through time. Additionally, in recent years, total payouts have been similar to the long-term historical average level of approximately 4.4% of total market cap.[2]

"ACCOUNTING RULES"

There is nothing new about the impact of payouts today vs. in past decades. This is not to say that payouts cannot impact price-to-book, because they can. Consider the example in **Exhibit 2**. A stock with a market capitalization of $1,200,000 and a book value of $1,000,000 will have a P/B ratio of 1.2. Suppose that company would like to return $200,000 of capital to shareholders. Regardless of whether it does this through a share repurchase program or through a cash dividend, the impact on price-to-book is the same.

If the company chooses to repurchase shares, market capitalization and book value both decline by the amount of the repurchase. The decline in market value occurs through a drop in the number of shares outstanding. The book value declines because the company reduces cash to fund the share repurchase. Following a $200,000 share repurchase, the new market capitalization is $1,000,000, the new book value is $800,000, and the P/B ratio is 1.25.

If the company pays a cash dividend, market capitalization and book value both decline by the amount of the dividend. Market capitalization falls because the dividend results in a decline in price. Book value declines because of the reduction in cash to pay the dividend. Following a $200,000 cash dividend, the new market capitalization is $1,000,000, the new book value is $800,000 and the P/B ratio is 1.25. This is identical to the share repurchase case.

1. While this may be the case in the US, over time dividends have consistently comprised a greater proportion of total payouts in non-US developed markets.
2. The long-term historical average refers to the average level during the period January 1973–December 2016.

Exhibit 2: Comparison of the Change in Price-to-Book Due to Share Repurchase and Dividend

	Share Repurchase	Dividend
Old Market Value	$1,200,000	$1,200,000
Old Book Value	$1,000,000	$1,000,000
Old Shares Outstanding	100,000	100,000
Old Price per Share	$12.00	$12.00
Old Book Value per Share	$10.00	$10.00
Cash Distribution	$200,000	$200,000
New Market Value	$1,000,000	$1,000,000
New Book Value	$800,000	$800,000
New Shares Outstanding	83,333	100,000
New Price per Share	$12.00	$10.00
New Book Value per Share	$9.60	$8.00
Old P/B Ratio	1.20	1.20
New P/B Ratio	1.25	1.25

Hypothetical example for illustrative purposes only.

While payouts can impact price-to-book, this example helps show how a distribution's impact on the valuation ratio will be the same, regardless of whether that distribution is a dividend or a share repurchase.

WHAT ABOUT OTHER VALUE METRICS?

Cash distributions are likely to have less impact on price-to-book than on other types of valuation ratios, such as price scaled by earnings, cash flows, or sales. This is because cash distributions will impact both market capitalization and book equity but may not have an equivalent offset in earnings, cash flows, or sales.

For example, suppose the company in our previous illustration had annual earnings of $60,000, resulting in a price-to-earnings (P/E) ratio of 20.0 before any distribution. If the company were to pay out $200,000 in dividends or through a share repurchase, the market capitalization would fall by the distribution. It is unclear, however, if that distribution would have any impact on earnings, cash flows, or sales. If earnings were to stay the same, the P/E ratio would fall from 20.0 to 16.7. Therefore, scaling price by a variable other than book value may not mitigate the potential impact of distributions on the valuation ratio.

CONCLUSION

The bottom line for investors is that for as long as public equity markets have existed, there have been cash distributions to shareholders in one form or another. This is not a new phenomenon that should cause investors to doubt the decades of evidence on the relation between price-to-book and future returns. Recent levels of total payouts are similar to the long-term historical average level, and whether those payouts are dividends or share repurchases, the impact on the P/B ratio should be the same.

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