DWS

April 2024

Dividends and Inflation – Let's Get Real...

Authors: Alicia Ansorg, Robert Bush, Jay Joshi

"Do you know the only thing that gives me pleasure? It's to see my dividends coming in."

– John D. Rockefeller

In a nutshell

- Dividends are a critical component of total returns for equity investors. Over the last 20 years, they have accounted for around a quarter of the average monthly total return to the MSCI World index, while contributing practically no risk.
- There is no discernible relationship between the two components of total returns – price returns and dividend returns. Dividends are stable over time, and operate independently of price returns.
- The distribution of dividends is approximately normal, but the yield has always been positive (as one would expect), and shows some evidence of skewing to the right. Surprisingly, this skew does not appear to coincide with lower price returns.
- Finally, although inflation is uncorrelated to both dividend returns, and price returns in the short run, longer run evidence suggests that the Value equity style outperforms the Growth equity style in moderate to higher inflationary periods.

We hope they are not your only source of pleasure, but Rockefeller was right about one thing – dividends matter. In this paper, the first of a series of four, we will look at the relationship between dividends and inflation over the last twenty years, and then longer, sharing our insights for investors as we live through what could be, for many, their first experience of a higher inflation regime. In subsequent papers we plan to look at the relationships between dividends and interest rates, sectors, and factors. We hope these four papers will equip investors with some new insights, some discussion of known dividend theory, and of course with a clear understanding of the interplay between dividends and these four important financial topics. Our view is that better understanding can lead to better investing. And better understanding starts with the data, and the facts.

The Data

Whenever one looks at long run financial relationships, one must choose between having a large enough data sample, i.e., going back as far as possible, while at the same time recognizing that the world changes, potentially making the older data less relevant. There's no right or wrong answer to that problem, but, in this paper, we take a reasonable approach by first looking at the monthly returns of the MSCI World index over the last twenty years (this is a market cap index of global developed markets, effectively the US, Europe, Australasia, and the Far East). We think this has the merits of capturing enough business cycles, financial crises, and inflation regimes to make our analysis both sufficiently rigorous and relevant. We later contrast this to a longer data series in the US, and draw some interesting distinctions.

Our original data had price returns and total returns for the MSCI World index, and we use the difference between these two as the income or dividend component of returns. We note there are many ways to define and calculate dividend yields, but, for us, taking the difference between price and total returns is simple and reasonable. Finally, our inflation data comes from Eurostat and FRED, and we use month-on-month price changes in both the US and Euro Area (EA). When we convert from nominal to real, we simply deduct the relevant inflation rate for that period, though, again, we recognize this can be done in different ways.

Figure One: Summary Statistics of MSCI World Monthly Returns, and Euro Area and US Inflation
(monthly, 9/30/03-9/29/23)

	Nominal Returns			Inflation			Real Returns
Metric	**Total Return**	**Price Return**	**Dividend Return**	**Euro Area**	**USA**	**Average**	**Total Return**
Min	-13.07%	-13.37%	0.07%	-0.43%	-1.77%	-1.06%	-12.73%
Max	11.54%	11.12%	0.54%	1.64%	1.38%	1.32%	11.63%
Mean	0.79%	0.59%	0.20%	0.18%	0.21%	0.19%	0.60%
Attribution	100%	74%	26%				
Vol	3.75%	3.75%	0.10%	0.26%	0.32%	0.26%	3.76%
Var	0.0014	0.0014	0.0000	0.0000	0.0000	0.0000	0.0014
Attribution	100%	100%	0.07%				100%
Mean/Vol	0.21	0.16	2.14				0.16

Source: DWS, MSCI, Eurostat, as of end of December 2023

The Facts

Figure One presents some of the summary statistics from looking at the monthly returns of the MSCI World index over the last twenty years. For us, there is a critical insight from this table. Looking at just the nominal returns in the three columns on the left, one can see that the average monthly total return over this period was 0.79%. In addition, the next two columns show the average breakdown of this number, with around 0.59% coming from the price movement of the stocks, and the remaining 0.20% coming from dividends. So, on average, over the last twenty years or so, price returns have accounted for around 74% of an investor's total return, with dividend or income return (we will use the two terms interchangeably), the other 26%.

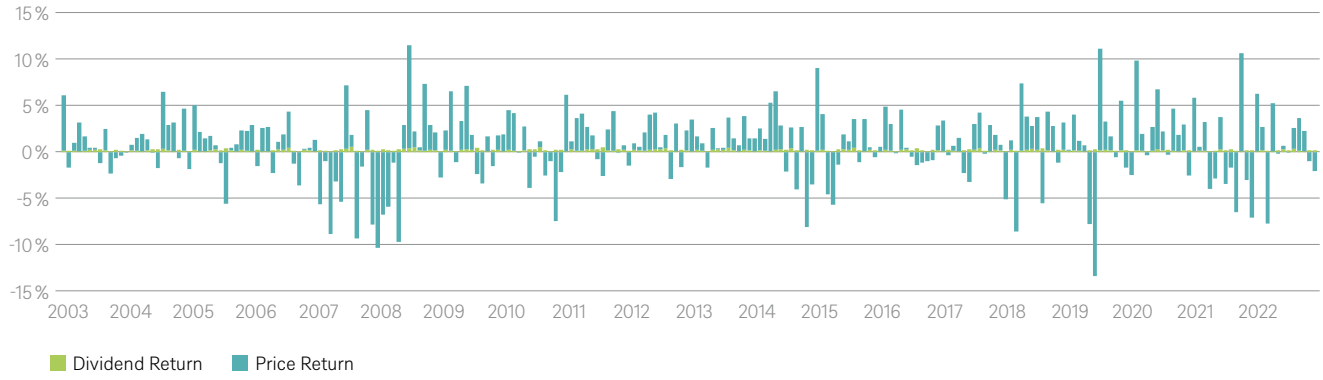
This return attribution may not come as too much of a surprise to readers, but the risk contribution of those returns might. Note that effectively all of one's risk from investing in the stock market over this time came from price variability, with the risk of dividends so dwarfed by that risk as to be effectively inconsequential. The monthly volatility of the dividend return is 0.10%, which compares to 3.75% for the price return (note for risk decomposition we convert to variance so that the numbers sum to 100%). This result is easier to see visually. Figure Two shows the actual monthly price and dividend returns over the time in question, and then Figure Three shows how those returns have compounded over time.

In Figure Two, one can see the stark difference in risk from the two components of return, with the price return swinging around in quite a volatile profile – though still providing a positive outcome on average – equity investors only accept risk for a good reason! The dividend on the other hand is much more stable. It wasn't negative at any point over this period (in theory one could witness a negative dividend yield, but it would imply a vast amount of equity issuance from many companies at the same time), and its relatively low volatility is clear to see.

Figure Three shows the impact over time of these two quite distinct types of return. The dividend component accretes slowly and steadily over time, whereas the price component swings around more wildly (even underperforming the dividend return after several years).

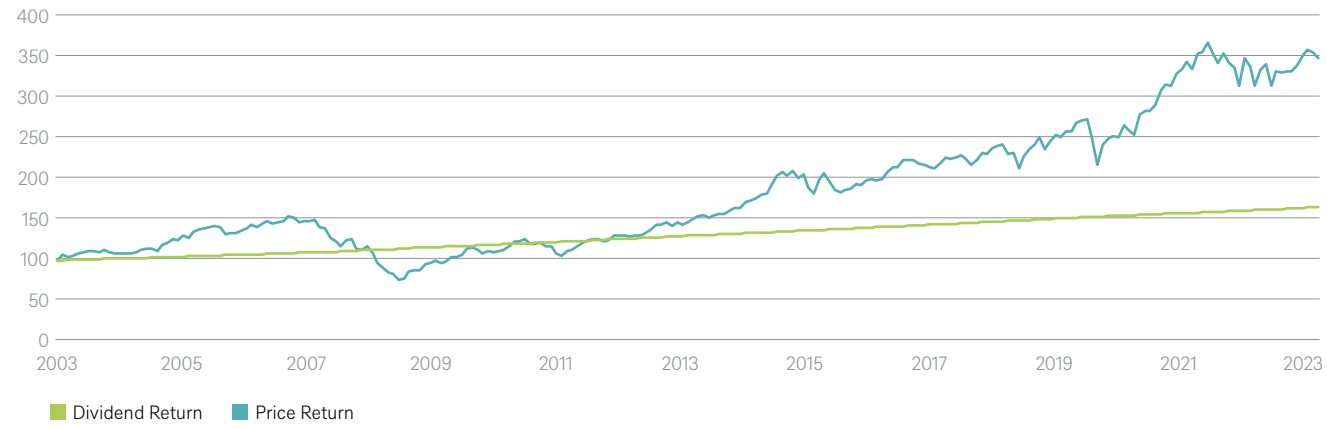
However, the end results are as expected – in the last twenty years, the total return has been positive for the investor, the riskier component of those returns has delivered the lion's share of that return, but the dividend stream has played the key role of a potentially safer port in the stock market ocean.

Figure Two: The Two Components of the Monthly Total Returns of the MSCI World
(%, 9/03 – 09/23)



Source: MSCI, DWS, as of end of December 2023

Figure Three: The Two Components of the Monthly Total Returns of the MSCI World over time
(indexed to 100, 3/03 – 09/23)



Source: MSCI, DWS, as of end of December 2023

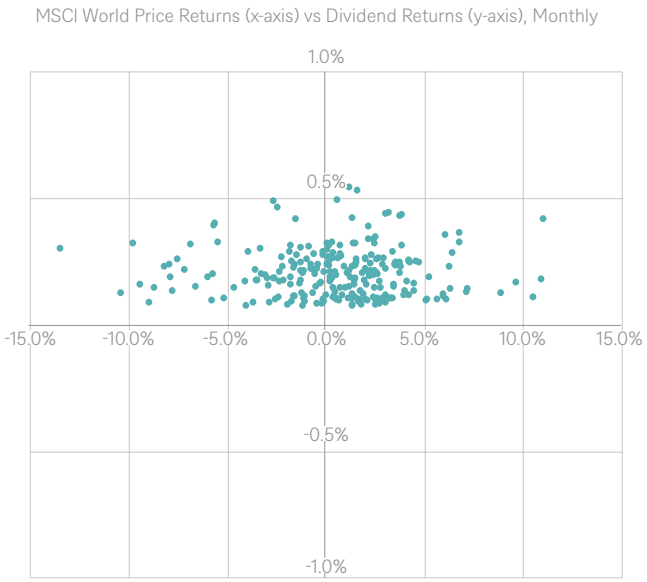
The Insights

This parsing of total returns into the price component and the dividend component is of course standard in finance. But, two final insights are, we believe, less discussed. The first is the return-to-risk ratio of the two streams, something akin to a Sharpe ratio, but using total return not excess return. For the price component an average return of 0.59% divided by a volatility of 3.75% gives a ratio of around 0.16. The interpretation is that every month, around 0.16% of price return comes from one unit of risk. The same ratio for the dividend stream is 2.14. In this case, the same unit of risk contributes around 2.14% of dividend return.

What accounts for such a superior profile? Two things in our view. The first is that the price return has the potential for large upside which is not possible with the dividends, which companies typically announce in advance on a set schedule that changes rarely. The other reason is related to this, that the price return is subject to the full wrath of market movements and news flow, whereas the set schedule of the dividend is surely a large reason for its lower risk.

Our final comment is that the correlation between price and dividend returns over the last twenty years has been effectively zero (-0.01). In other words, dividend streams operate independently of price returns (see Figure Four). Of course this may not be true when one looks at individual companies (where dividend policy and dividend signaling are likely to influence the stock price, and vice versa) but, at the index level, our view is that, in a similar way to company-specific risk diversifying away as one increases the number of stocks in one's portfolio, so the impact of any one company's dividend policy impacting the dividend yield of the index diminishes.

Figure Four: The Scatterplot of Price Returns and Dividend Returns
(monthly, 09/03 – 09/23)



Source: MSCI, Eurostat, BLS, as of end of December 2023

The Distribution

We will finish this first part by sharing the distribution of the dividend returns over time (see Figure Five). These types of histograms are incredibly useful – but surprisingly under used in our view – because they show the approximate statistical distribution of the underlying variable.

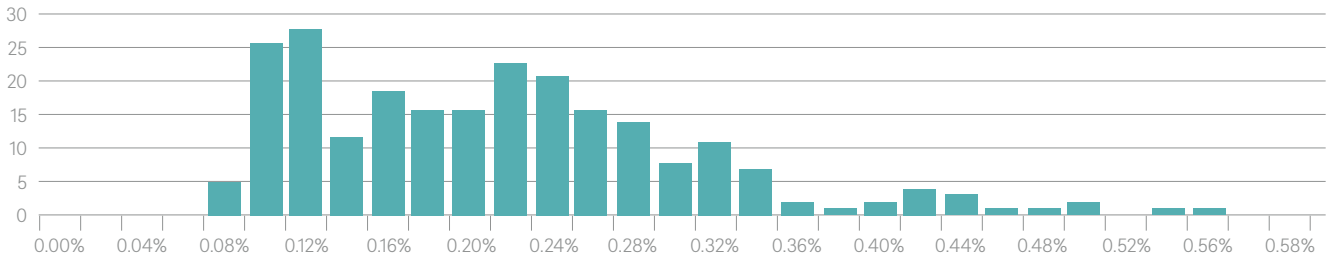
As a reminder, the x-axis is a series of user-determined buckets of dividend yield levels, all evenly split from 0.00% to 0.60%, and the y-axis is the simple count of the number of times the yield was in that range, hence there are 240 observations in here, and the columns add to that number.

What do we conclude as we look at this? Firstly, it serves as another visual confirmation that the dividend yield was never negative over this period, this is not unlike the familiar histogram for stock prices, though that is absolutely bounded at zero – stock prices can never be negative; if you find someone willing to pay you to buy a stock then please let us know! Secondly, one might argue that, although the distribution of dividends is approximately normal, there is some significant positive skew, i.e., the tail is longer to the right. This initially made sense to us because we assumed it reflected the tendency for stock returns to skew to the left, representing more frequent negative returns, or crashes. However, as discussed, Figure Four implies that that is not the case, leaving this puzzling, albeit welcome, right skew needing another explanation. Finally, we note the higher occurrences of yields in the 0.08% to 0.12% range, the two tallest columns, but don't ascribe any particular significance to that, arguing only that we would expect a smoother shape from a larger sample size.

The Policy

So far, we have shared several quantitative findings. But, before we move to our next section, which introduces inflation, we would like to add one or two more qualitative remarks based on the expertise and experience of DWS portfolio managers' collective, and extensive, experience, in managing dividend portfolios. If we think about dividend policy from a company's perspective, then it really comes down to a quite subjective preferred absolute level of payout – essentially management must propose how much of their previously generated profits to pay out to shareholders.

Figure Five: The Distribution of MSCI World Monthly Dividend Returns
(3/03 – 09/23)



Source: MSCI, DWS, as of end of December 2023

Typically, in the US, the board of directors will then approve, or deny, that proposal with US companies usually paying quarterly dividends, but increasing their dividends per share annually. In Europe, it is more often the shareholders that vote on the proposed dividend at a firm's Annual General Meeting (AGM), and most often they will vote in line with the management's proposed amount. Many European companies, especially those in Germany and Switzerland, pay a dividend annually. Others, however, pay twice a year, and UK companies often pay on a quarterly basis.

What then determines the payout proposal? In our view, it is a function of the capital required by the business. A rapidly growing company might prefer to use cash for capital expenditure, or to finance merger and acquisition activity, whereas a more mature company might feel it can return a higher share of its earnings back to shareholders. In both cases though, companies try to carefully manage their cash positions to provide some cushion against temporarily lower earnings. Not doing so risks the need to cut dividends, which investors and analysts often perceive negatively. In our experience management teams will try to avoid this outcome if they can, since it can represent a blemish on their corporate record.

Finally, we have not mentioned buybacks which are another method that management teams can use for returning cash to shareholders. Companies often complement their dividend with a share buyback program, i.e., they might target a dividend payout ratio of 50% of earnings, and then only return the excess cash they do not need in the form of share buybacks. As a result, dividends are a much more stable form of capital return while share buybacks are usually more volatile from year to year.

A thorough discussion of the relative merits and rationales for buybacks over dividends is beyond the scope of this paper, but, if we accept the premise that buybacks are effectively an alternative to dividends, then we can at least say that they are part of a company's capital return policy – which mainly comprises the dividend payout and retention ratios, and the composition of the payout between dividends and buybacks – and that company's prefer to keep that policy, and their dividends, as predictable as possible.

The Return Killer

The title of this section may seem dramatic, but investors would surely agree that, aside from negative returns themselves, few things are as pernicious to long-term returns than inflation. Indeed, perhaps the simplest way to think of inflation is as a negative investment return. It fights to destroy an investor's capacity to consume, while asset returns try to increase that same capacity. And while it is true, of course, that higher inflation results in higher nominal growth, and higher nominal asset returns and interest rates, sophisticated market participants know to look through to the real, inflation adjusted, numbers. Small wonder then that central bankers and policy makers keep such vigilant eyes on inflation, with its often-detrimental impact on real economies, and financial market returns.

When it comes to the relationship between dividend yields and inflation, we will examine the evidence of how that looks, but, firstly, we must recognize that there is some considerable debate in the financial community around whether dividend yields are a nominal, i.e., before inflation, or real, i.e., after inflation, income stream.

Our view is that there are merits to both ways of thinking about this, but, rather than allowing ourselves to get drawn into the debate, we think there is an easier, and, for our purposes, more practical way of thinking about this. It is simply to recognize that, whether we are talking about past, observed, returns and inflation levels, or whether we are forecasting those into the future, it must always be true that a nominal total and a real total return will differ by the inflation rate. In our view, difficulties can arise when one tries to allocate that inflation rate between the two components of return.

To give a specific example, suppose that an investor's total return for the last year was 7%, of which 5% was from price return and 2% from dividend income. If the inflation rate over the same period was 2%, then we would presumably all agree that the real return was approximately 5% (again we are subtracting the inflation rate, we know that dividing is technically better, but here it makes no practical difference). However, if we now asked you what your real price return and your real dividend return was, this is where we believe disagreement might set in. Some might deduct the whole of the 2% from the price part, some from the dividend part, and some might allocate it, according to their preferred method, between the two components.

We do not have a satisfactory answer to this problem, indeed we suspect there isn't one, and so we simply note the issue, and neatly sidestep it by examining the relationship between inflation and the two nominal components of return. It is important therefore to remember that inflation will certainly impact one's total return, but we should still be able to shed some light on its interaction with each of the components in nominal terms.

Since we are now drilling down into the most important relationship that we want to examine, we split inflation into its two main geographic regions of interest, the USA, and the Euro Area. Figure Six shows the relationship between inflation in these two regions and the dividend return of MSCI World, and Figure Seven shows the same inflation data, but this time puts it against the price component of returns. Our take on these two charts is that they show – slightly surprisingly – that over the last 20 years there has been effectively no relationship at all between either dividend or price returns and inflation in either the US or the Euro Area. The reason we find this surprising is that we often think of equities as "real assets" which we think has come to mean "inflation hedging" assets by market participants.

As the charts show there is in fact no relationship at all between the inflation rates, and the two components of equity returns. One believing in the inflation hedge thesis might have expected to see higher returns in higher inflation environments.

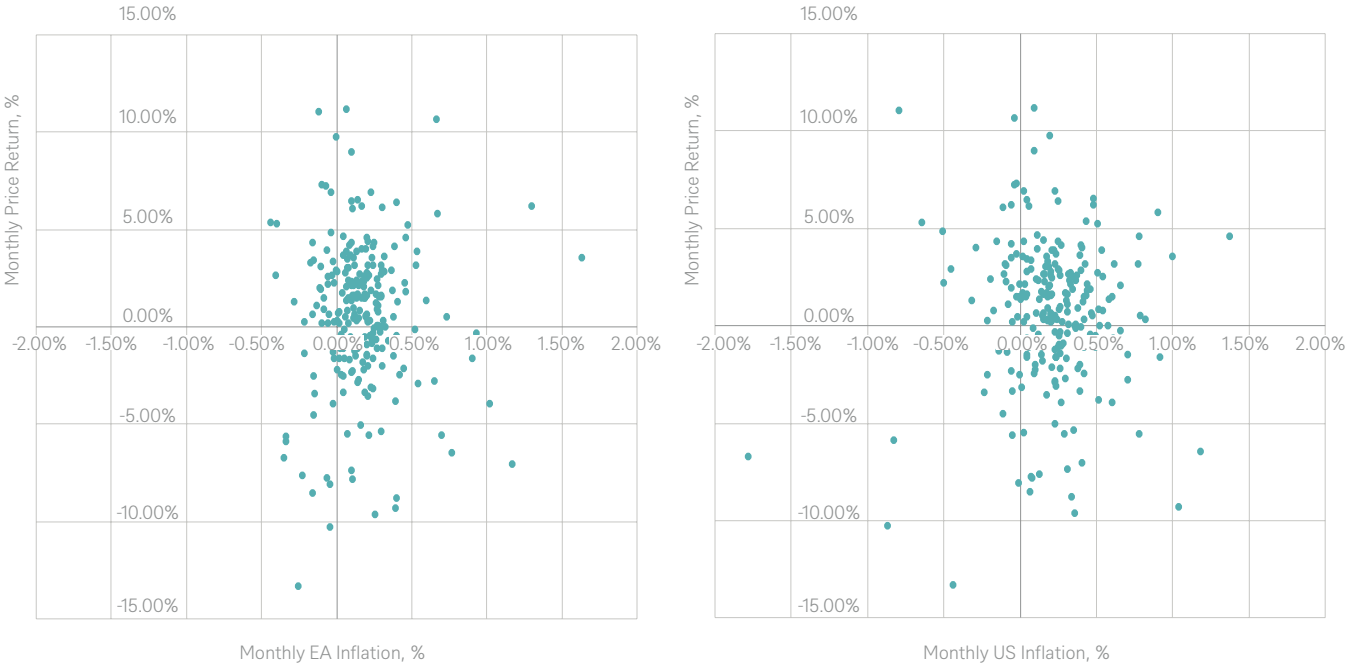
However, here is the key point. Just because equity returns have not been positively correlated with inflation, this does not mean, in our view, that they are not a real asset. In fact, as one can see from the data in Figure One, the monthly total return to equities over the last 20 years has easily outstripped the average monthly inflation rate. And this, surely, is not a bad result. Equity investors should not need, and do not want, to time their equity allocations according to changes in inflation. Instead, we believe they should take comfort from the long run tendency for equity returns to provide real returns above inflation, and to have achieved that in an independent way.

For those that emphasize dividend approaches, the same observation – that dividends have also operated independently of inflation – is also not a bad result. Indeed, we believe it should lend a degree of comfort that their dividend yields are not influenced by changes in inflation, which, keep in mind, central bankers will fight hard to minimize.

Figure Six: The relationship between monthly inflation and MSCI World Dividends in the Euro Area (left), and the US (right)

Source: MSCI, Eurostat, BLS, as of end of December 2023

Figure Seven: The relationship between monthly inflation and MSCI World Price Returns in the Euro Area (left), and the US (right)

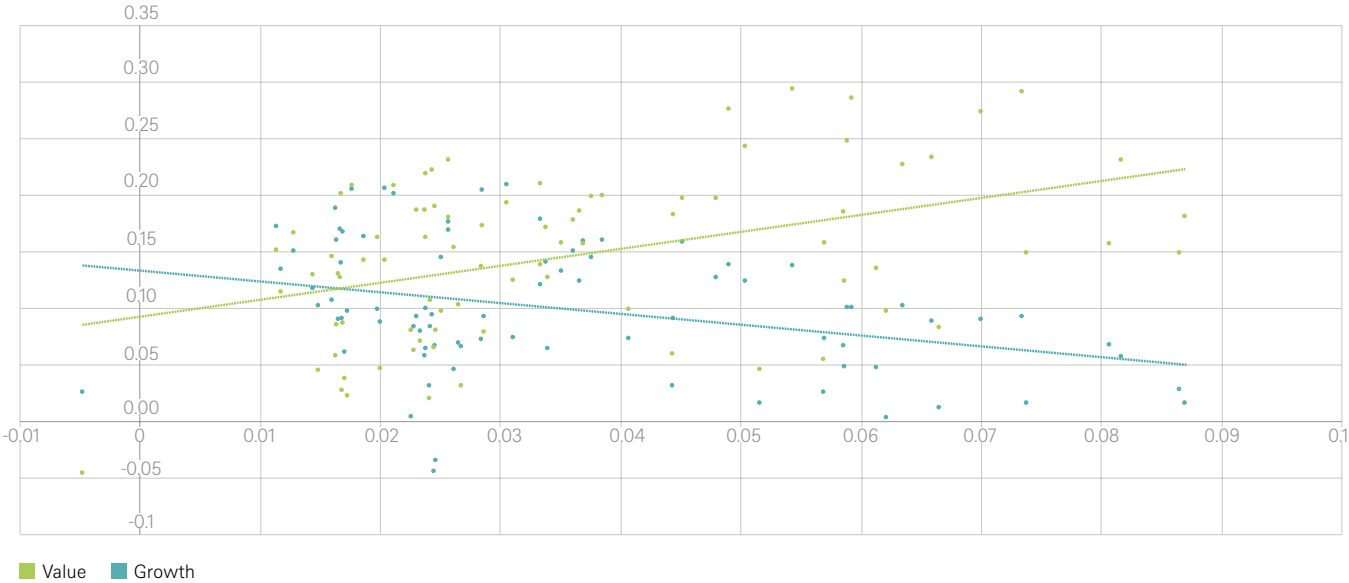


Source: MSCI, Eurostat, BLS, as of end of December 2023

The Long Run

The analysis in this paper has all focused on the last twenty years, which, as we said at the outset, we think treads a good balance between capturing enough of the business cycle but still emphasizing the relevancy of more recent data. However, we would like to finish by showing one final, longer run exhibit.

Figure Eight: The Scatterplot of Average Annual Ten-Year US Inflation (x-axis), to Average Annual Ten Year Returns to Growth and Value Stocks
(1940-2022)



Source: FRED, Ken French Database, as of end of December 2023

Figure Eight shows the relationship between ten-year average annual inflation in the US, and the average annual returns over the same period to both Value and Growth stocks (specifically the highest and lowest deciles, delineated by Price-to-Book ratio, and sourced from Ken French's website). Looking at this longer period, an interesting finding appears. It seems that, for decades defined by "low" inflation ranges (0%-2%), there is little to distin-guish between the returns to these two equity styles.

But note what happens in the decades when inflation ran high (more than 4%), the returns start to diverge, with clearly superior performance to Value approaches. Even during periods of moderately high inflation (2%-4%), Value tended to outperform Growth. Out of 39 years in Figure Eight when inflation ranged between 2% to 4%, there were 27 years when Value outperformed Growth. Over the entire period in Figure Eight (1930-2022), the Value correlation with inflation was 0.43, Growth was -0.34.

Why do we cite Value returns in a paper on dividends? The reason is that dividend investing typically has a more similar profile to Value than to Growth, partly because growth companies tend to use their cash earnings to reinvest in the business, and partly because a high dividend yield (D/P) is like a high earnings yield (E/P), which implies a low price-to-earnings ratio (P/E), a classic valuation metric. We will explore this relationship further in a future paper in this series, looking at the relationship between factor investing and dividend investing. Here we show that the Value factor, for example, appears to be a useful counter to inflation, and our belief is that the relationship between inflation and traditional equity sectors will also differ markedly across those sectors. For now, we reiterate again the subtle point that aggregate equity returns in the shorter run did not have a relationship with inflation – aside from outperforming it – but that splitting equity returns into Value and Growth does appear to change the nature of that relationship with inflation over the longer run.

The Conclusions

In this paper we examined the monthly total returns to the MSCI World index over the last 20 years. We then broke these returns into their two component parts, price and dividend, and set these separate return streams against monthly inflation rates in both the Euro Area and the US. Our conclusions are that:

- Dividends are surprisingly stable. They have accounted for around a quarter of the average monthly return, but contributed very little to the risk of total returns.
- There has been no relationship between dividend returns and price returns. The two components of stock returns not only have distinct characteristics, but also operate independently of one another.
- The distribution of dividends is relatively normal. The yield was always positive, as we would expect, and showed some right skew. We would have anticipated higher dividend yields to be associated with lower price returns, but an examination of the relationship does not prove this to be true.
- The relationships between monthly inflation both in the Euro Area and the US, and both the dividend and price components of total returns, are all uncorrelated. Despite outperforming inflation over the long run (i.e., providing investors with real returns), equities seem to have done this independently of the prevailing monthly inflation rate.
- Finally, we examined a longer data set in the US and looked at the relationship between ten-year average annual inflation and ten-year average annual returns to Growth and Value equity styles. Here we found that in low inflation regimes (<2%) there is little to distinguish between the returns to these two styles, but that, when inflation was moderate to high, Value approaches have outperformed Growth approaches. We note that dividend investing is more like Value investing, and will examine these relationships, and their potential causes, in a later paper in this series.

Glossary

Dividend is a distribution of a portion of a company's earnings to its shareholders.

Dividend Yield is the dividend that a company pays out each year divided by its share price.

Histogram is a statistical chart that plots the level of a variable against the frequency of their occurrences.

Inflation is the rate at which the general level of prices for goods and services is rising and, subsequently, purchasing power is falling.

Normal Distribution is a bell-shaped statistical distribution into which many physical and social-science variables fall.

Payout Ratio is the proportion of earnings paid our as dividends to shareholders, typically expressed as a percentage.

Retention Ratio is the proportion of earnings retained by a company, typically expressed as a percentage.

Share Buybacks involve a company buying back its own shares.

Sharpe Ratio puts an asset's excess return (the return above the risk-free rate) in relation to the asset's risk as measured by its standard deviation.

Skew is a measure of the asymmetry of the probability distribution of a real-valued random variable about its mean.

Variance is volatility squared.

Volatility is the degree of variation of a trading-price series over time. It can be used as a measure of an asset's risk.

This document contains forward looking statements. Forward looking statements include, but are not limited to assumptions, estimates, projections, opinions, models and hypothetical performance analysis. No representation or warranty is made by DWS as to the reasonableness or completeness of such forward looking statements. Past performance is no guarantee of future results.

The information contained in this document is obtained from sources believed to be reliable. DWS does not guarantee the accuracy, completeness or fairness of such information. All third-party data is copyrighted by and proprietary to the provider. DWS has no obligation to update, modify or amend this document or to otherwise notify the recipient in the event that any matter stated herein, or any opinion, projection, forecast or estimate set forth herein, changes or subsequently becomes inaccurate.

Investments are subject to various risks. Detailed information on risks is contained in the relevant offering documents.

No liability for any error or omission is accepted by DWS. Opinions and estimates may be changed without notice and involve a number of assumptions which may not prove valid.

DWS does not give taxation or legal advice.

This document may not be reproduced or circulated without DWS's written authority.

This document is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction, including the United States, where such distribution, publication, availability or use would be contrary to law or regulation or which would subject DWS to any registration or licensing requirement within such jurisdiction not currently met within such jurisdiction. Persons into whose possession this document may come are required to inform themselves of, and to observe, such restrictions.

For institutional / professional investors in Taiwan:
This document is distributed to professional investors only and not others. Investing involves risk. The value of an investment and the income from it will fluctuate and investors may not get back the principal invested. Past performance is not indicative of future performance. This is a marketing communication. It is for informational purposes only. This document does not constitute investment advice or a recommendation to buy, sell or hold any security and shall not be deemed an offer to sell or a solicitation of an offer to buy any security. The views and opinions expressed herein, which are subject to change without notice, are those of the issuer or its affiliated companies at the time of publication. Certain data used are derived from various sources believed to be reliable, but the accuracy or completeness of the data is not guaranteed, and no liability is assumed for any direct or consequential losses arising from their use. The duplication, publication, extraction or transmission of the contents, irrespective of the form, is not permitted.