

Strategic Sector Selector

Desperately seeking direction

The rally in global equities has started showing signs of running out of juice, mainly driven we think, by a rotation out of technology and consumer discretionary into financials and energy. Concerns have increased about interest rates having to stay “higher for longer” as the US economy has proved more resilient than expected, while an increase in energy prices stalled the decline in headline inflation rates. We expect economic growth to fall from current levels followed by the emergence of a new cycle in the next 12 months, though we do not expect a deep global recession. Nevertheless, as long as uncertainty remains about when an eventual economic recovery will start, we expect markets to remain unsettled. Therefore, we retain our allocations to defensive sectors and decrease retailers to Neutral from Overweight. However, as we slowly transition to a more mature phase in the cycle, we raise industrial goods & services to Overweight (from Neutral) and in a nod to an increase in geopolitical risks, we upgrade energy to Neutral.

Changes in allocations:

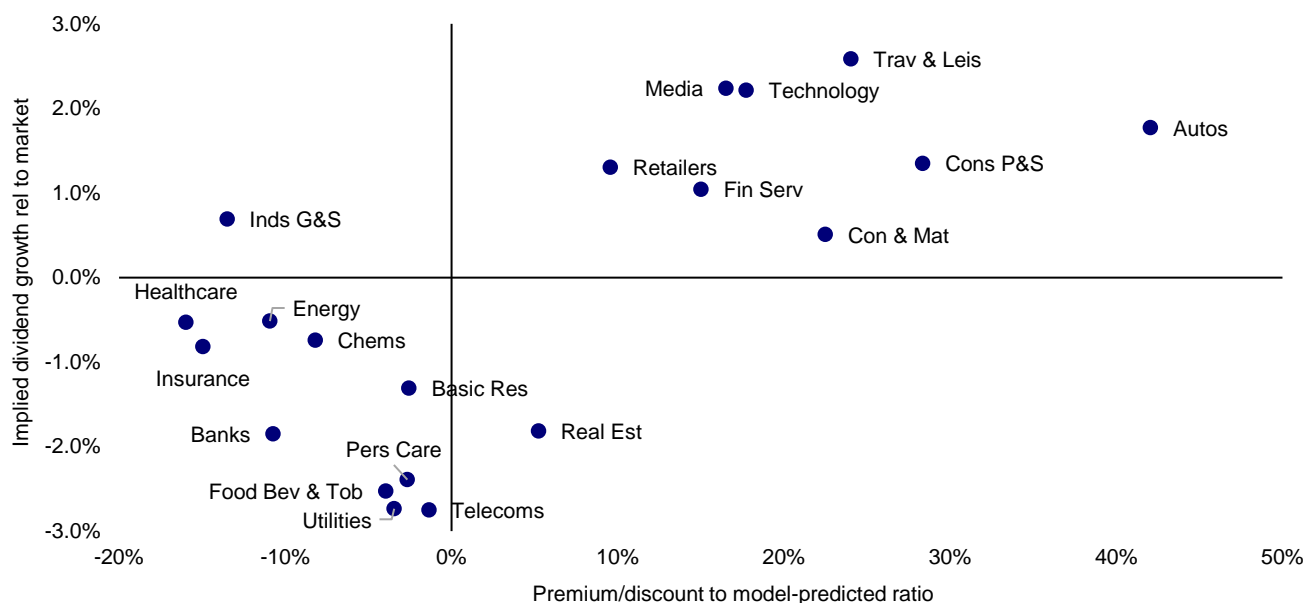
- Upgrades: energy (UW to N), industrial goods & services (N to OW)
- Downgrades: retailers (OW to N)

Most favoured	Least favoured
US healthcare	US automobiles & parts
US real estate	European travel & leisure

Sectors where we expect the best returns:

- Healthcare: exposure to moderating rate expectations, defensive sector, strong pricing power
- Food, beverage and tobacco: resilient in economic downturns, exposure to growth factor
- Real estate: attractive valuations, high dividend yield, exposure to eventual recovery in housing markets

Figure 1 – Global sectors valuation matrix



Notes: On the horizontal axis, we show how far a sector's valuation is above/below that implied by our multiple regression model (dividend yield relative to market). The vertical axis shows the perpetual real growth in dividends required to justify current prices relative to that implied for the market. We consider the sectors in the top right quadrant expensive on both measures, and those in the bottom left are considered cheap. See appendices for methodology and disclaimers. Source: Refinitiv Datastream and Invesco

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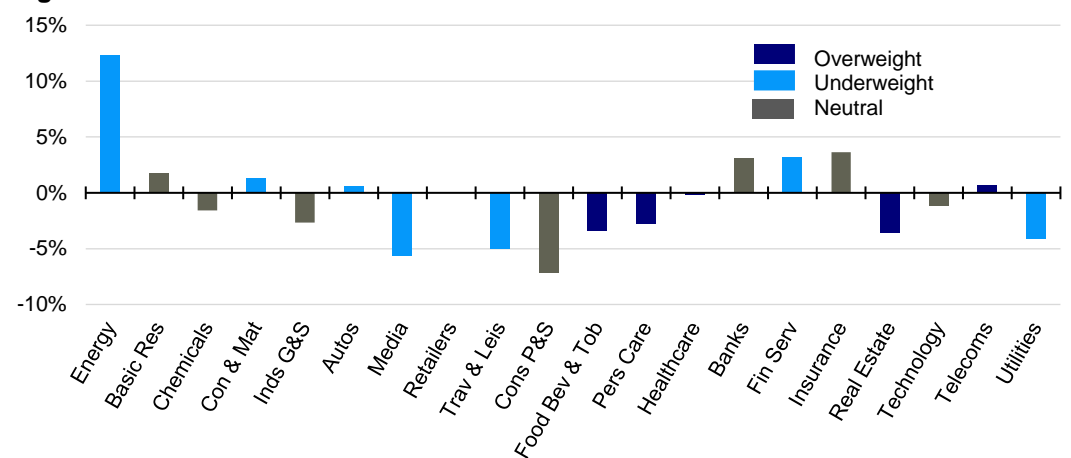
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Summary and conclusions

Since the last time

The macroeconomic outlook remained at the forefront of investors' minds in Q3 2023. The MSCI All Country World index declined by 3% in local currency terms mainly driven by a repricing of interest rate expectations. GDP growth continued to surprise on the upside, while inflation maintained its steady decline. The resilience of consumer spending has made developed market central banks, especially the US Federal Reserve (Fed) and the Bank of England cautious in their rate outlook. They reinforced their stance of keeping rates higher for longer, especially after their September meetings. This depressed sentiment in equities, where fear of higher discount rates proved to be a stronger force than the potential for strong earnings growth stemming from a resilient economy.

Figure 2 – 3m Global sector returns relative to market in USD



Notes: See appendices for methodology and disclaimers. Returns shown between 30 June 2023 and 30 September 2023. Colours indicate allocations in period considered. **Past performance is not a guarantee of future results.** Source: Refinitiv Datastream and Invesco

Narrow sector leadership has been a theme this year, perhaps due to the macroeconomic outlook dominating investors' attention. We think these forces will continue to drive equity markets until the economy reaches a more stable phase and earnings growth becomes the most important factor. A quick glance at **Figure 2** suggests a return to the inflationary concerns of 2022 with the outperformance of commodity-related sectors and the realisation that higher rates are here to stay in the outperformance of financials. Despite a decline in the overall market, defensive sectors did not shine, which we think reflects a rotation out of cyclical growth sectors into the lesser weighted cyclical value sectors. We were positioned for a market drawdown with an Overweight in most defensive sectors, but we were perhaps too cautious in our allocation to financials and resource-related sectors.

Asset allocation backdrop

We find ourselves at odds with recent market behaviour. We believe the global economy is decelerating, while we think cyclical assets are behaving as though the economy is accelerating. This leads us to expect a period of consolidation for riskier assets (at best, sideways movement). However, within our 12-month forecast horizon we expect major central banks to start cutting rates. Our analysis suggests that government bonds and investment grade (IG) have tended to outperform many cyclical assets (though not equities) at that stage.

Perhaps the single most important forecast is that Fed policy rates will be lower in 12 months (even if they rise in the meantime). Elsewhere, we think ECB rates will also be lower in 12 months, while we expect BOE rates to be little changed (up, then down) and look for mild tightening from the BOJ and PBOC. We expect yield curves to steepen in

2024, with short rates finally falling (we see more scope for 10-year yields to fall in the US over the next year than elsewhere – see [The Big Picture](#) for the full details and **Figure 3** for our market forecasts).

In determining our Model Asset Allocation we follow the optimisation results in direction, if not magnitude (we are wary of having too many bank loans at this moment, for example). Overall, we scale back risk by reducing High Yield (to Neutral), while adding to government bonds (but remain Underweight) and introducing bank loans (Overweight).

HY spreads have narrowed again, which we find odd at a time of economic slowdown. We expect spreads to widen and defaults to rise, on top of which we note that HY tends to underperform other fixed income assets when the Fed starts to ease. Government bond yields have risen over the last three months and we note that government bonds tend to perform relatively well when the Fed starts to ease (and when yields curves steepen). We maintain a bias towards longer duration instruments but expect that to change once the rate cutting cycle becomes well established.

We have not changed the equity allocation, remaining Underweight at 34%. We are surprised at recent gains, given slowing economies and rising bond yields. We also maintained the maximum allocation to cash, which remains our favoured diversifier. We also leave the broader commodities allocation at zero, the consequence of expected cyclical weakening and prices that we find too high in many cases (including gold).

Regionally, we favour EM assets, largely because we think they are cheap but also as a hedge in case the global economy does better than we expect. Finally, we expect yen strength and maintain a partial hedge from USD into yen.

Figure 3 – Market forecasts

	Current (30/09/23)	Forecast 12-month
Central Bank Rates		
US	5.50	4.75
Eurozone	4.00	3.50
China	3.45	3.50
Japan	-0.10	0.10
UK	5.25	5.25
10y Bond Yields		
US	4.57	3.75
Eurozone	2.81	2.65
China	2.72	2.80
Japan	0.76	0.90
UK	4.44	4.50
Exchange Rates/US\$		
EUR/USD	1.06	1.15
USD/CNY	7.30	7.00
USD/JPY	149.38	125.00
GBP/USD	1.22	1.30
USD/CHF	0.91	0.86
Equity Indices		
S&P 500	4288	4450
Euro Stoxx 50	4175	4650
FTSE A50	12398	14300
Nikkei 225	31858	33500
FTSE 100	7608	7650
Commodities (US\$)		
Brent/barrel	96	80
Gold/ounce	1857	1900
Copper/tonne	8213	8500

Notes: There is no guarantee that these views will come to pass. See Appendices for definitions, methodology and disclaimers. See [The Big Picture](#) for a full explanation.
Source: Refinitiv Datastream and Invesco Global Market Strategy Office

Changes to model sector allocations

“Are we there, yet?” asks the young child repeatedly, as his exasperated parents try to answer as calmly as they can. We frequently have the feeling that equity markets behave like three-year olds with short attention spans, an inability to focus on more than one narrative and wild swings in mood. A market that was convinced of the revolutionary impact of generative artificial intelligence switched to worrying about banks in Q1 2023. After that, it convinced itself that rate cuts were imminent and plentiful (the financial market equivalent of a sweet treat). Lately, however, there has been a noticeable shift to concerns about “higher for longer” as central banks relentlessly pushed back on a quick turnaround in the monetary policy cycle.

Does this matter? Well, we think it does, because it tends to determine sector leadership, at least in the short term. While we try to ignore the noise generated by rotations driven by these different narratives, we cannot completely ignore them, because they tell us something about how investors en masse think about which sector will thrive in the macroeconomic environments implied by expectations for growth, inflation and the direction of fiscal and monetary policy.

So, what is this “there” we are travelling towards? We think what investors are trying to determine is whether or not we are in a new economic cycle. If not, perhaps there is a recessionary storm we have to survive, or we may be in the fairy tale land of “no landing”. Would it not be nice to get a nice cup of hot cocoa without having to trudge home in the driving rain? Does it really matter if all's well that ends well?

In our view, the next 12 months will include a slowdown in economic growth, but also the start of the recovery. Therefore, the journey is unlikely to be smooth and may be punctuated by outbursts of concern, especially if the geopolitical environment continues to be fragile in both Europe (Ukraine) and Asia (Taiwan and Israel). With falling inflation, but possibly weaker demand, the tussle between pricing and volumes dominates our thinking, especially regarding sectors exposed more directly to consumer spending.

We think that the stalling rally could be a sign that we may be at the beginning of a transition period between the early-cycle phase and the mid-market phase (see [Decomposing equity cycles](#) for more detail). If our assessment is correct, it would explain why the rally has stalled and early cyclical sectors, such as consumer discretionary have underperformed since the end of Q2 2023. These periods are characterised by gradual drawdowns, some of which have been in the low double-digits.

Our expectation for the next 12 months is an equity market moving to an environment more closely driven by economic growth. This most likely implies limited returns in the next 6-9 months, especially if high interest rates put a break on surprisingly resilient growth. Moderating inflation will eventually allow central banks to start a period of easing, but we do not think it is imminent. With this in mind, we tweak our model allocation to increase exposure to select value sectors (indicated as undervalued by our main multiple regression model), while maintaining our exposure to defensives as long as economic uncertainty continues.

One consequence of a higher risk of conflict near major energy exporting regions (both Ukraine and the Middle East) is that the price of oil and gas could remain near current levels supporting the revenues and margins of the **energy** sector. We raise our allocation only to **Neutral** (from Underweight) despite attractive valuations. Based on our macroeconomic outlook, weaker demand could balance out any resilience in pricing.

We also upgrade **industrial goods & services** to **Overweight** from Neutral. The sector is the third most undervalued on our multiple regression model, while global manufacturing momentum may be stabilising, in our view. The sector is also one of the most diversified through its exposures to aerospace & defence, payment systems, vehicle manufacturers and logistics providers. We also expect the pressure on margins to ease as inflation and wage growth fall. Softer demand is a concern, but valuations have reached a level that suggests to us that a lot of bad news may be in the price.

Retailers face similar issues to a certain extent, in our view, but approach it from a different direction. The sector has outperformed year-to-date mostly due to its exposure to both tech-like stocks and surprisingly resilient US consumer spending. As a consequence, the sector looks overvalued on our multiple regression model, while its attraction as an early-cyclical fades. We reduce to **Neutral** from **Overweight**.

The best and worst of the rest

In our view, **basic resources** looks close to “fair value” after an 8% underperformance year-to-date mainly driven by a decline in industrial metals prices (using the S&P GSCI Industrial Metals total return index). We tactically downgraded the sector in April on the back of deteriorating macroeconomic expectations in China and the threat of a deeper economic slowdown in developed markets (see [here](#)). While its valuations look more attractive now on both of our models, we think that a potentially more volatile period for equity markets warrants caution and therefore we keep our **Neutral** allocation.

Chemicals should be boosted by higher prices for its products, but we think it may struggle to outperform in the current economic environment, because its input costs have remained high with oil trading above \$80 per barrel. Although we expect a turnaround in industrial production in the next 12 months, we think it may be too early to upgrade the sector despite trading at a slight discount versus the relative dividend yield implied by our multiple regression model. We maintain our **Neutral** allocation.

Falling house prices, the squeeze on real incomes and higher mortgage rates seem to us like the ingredients of a perfect storm for the **construction & materials** sector. We are also concerned that higher costs of labour and materials will put pressure on their profit margins. The sector looks overvalued on our multiple regression model and its implied dividend growth rate is above that of the market. The sector may have defied expectations so far mostly driven by soaring demand for newbuilds in the US and the boost to investment from the IRA and CHIPS acts, but we believe its valuations are far from reflecting the risk of a potential recession and therefore stay **Underweight**.

After an amazing period of outperformance, **automobiles & parts** remain the most overvalued sector versus the relative dividend yield implied by our multiple regression model. We also consider the sector an early-cyclical, thus we are struggling to foresee any significant upside potential if the next stage is the mid-cycle phase for equity markets. In our view, the main driving forces behind its surge – namely the fall in inflation rates and a rebound after the drawdown in 2022 – will provide less support in the next 12 months.

Media has had to weather a writer’s and actor’s strike in Hollywood, which look to have reached a resolution. However, we think that it may be stuck between a rock and a hard place in the next 12 months if its exposure to the growth factor becomes less of a tailwind, while economic uncertainty may weigh on growth in its subscriber base and ancillary businesses. Its valuations also look too rich for us to ignore. We maintain our **Underweight** allocation.

After the “great reopening” following COVID-19 restrictions drove a surge in bookings, **travel & leisure** finally succumbed to the twin threats of high oil prices and falling real incomes, and we think it is appropriate to keep our **Underweight** allocation. We continue to be surprised by how long the boost from pent-up demand has lasted, but we believe the many headwinds the sector faces are proving too much: labour costs have risen, fuel costs could remain high, and demand may soften as economies slow and higher costs eat further into disposable incomes as excess savings are depleted. Nevertheless, there may be regional differences in returns if Asian tourists continue travelling in greater numbers, offset by weakness in the US and Europe.

We keep our allocation to **consumer products & services** at **Neutral**. Despite significant underperformance in Q3 2023 mainly driven by the more subdued returns of luxury groups as clouds increasingly appeared on the horizon for consumer spending, the sector has the second highest premium compared to the relative dividend yield

implied by our multiple regression model, some of which may be justified by its relative resilience and diversification benefits (which we value). However, as we remain in a turbulent period for equity markets in the short term and potentially enter the mid-cycle stage in the next 12 months, we think the sector will find it hard to outshine the rest of the market.

At this stage of the cycle, assuming our interest rate expectations are proven correct, we believe that defensive growth offers an attractive way to hedge against further equity market volatility and an inflation undershoot. Therefore, we stay **Overweight** both **food, beverage & tobacco** and **personal care, drug & grocery stores**. Following their underperformance in 2023, their valuations look attractive. While both sectors are close to the relative dividend yield implied by our multiple regression model, they are both at a discount. At the same time, both sectors have an implied perpetual dividend growth rate below 1%, which we think is appealing (out of four sectors altogether, all of which are defensives).

We find **healthcare** attractive for similar reasons and believe it makes sense to keep our **Overweight** allocation. As a defensive sector, it suffered year-to-date as markets favoured consumer discretionary and technology. Although the sector's valuations look close to that of the market on implied dividend growth, it has the largest discount to the relative dividend yield implied by our multiple regression model. We are also positive on its relative outlook if expectations of monetary policy move closer to our forecasts in the next 12 months.

A slowing economy with inflation eating into disposable incomes and high interest rates boosting returns on cash savings still signals difficult times ahead for the **financial services** sector, in our view. It is the only financial sector trading at a premium compared to the dividend yield implied by our multiple regression model. Assuming financial market volatility increases and that there will be less demand for their products, we would prefer to wait for those valuations to come down. We stay **Underweight**.

We remain concerned about the profitability of **banks** as margins compress driven by rising deposit rates and loan growth will probably remain sluggish until economic growth picks up after a "bumpy" period as the impact of higher interest rates becomes increasingly visible. Bank failures also remain a tail risk, although the "mini-banking crisis" of H1 2023 has not spread beyond a handful of mid-sized banks in the United States (plus Credit Suisse in Europe). However, valuations are becoming more difficult to ignore and the sector may be able to keep up with the market if "higher for longer" applies not only to interest rates, but also their margins. We keep our allocation at **Neutral**.

We also retain our **Neutral** allocation to **insurance**. We think that the sector's profitability has improved with higher bond yields and we view it as a hedge in case inflation proves stickier than we expect. The sector's valuations are lower than what our multiple regression model would suggest, and its implied dividend growth rate is lower than that of market. The sector tended to outperform in the early stages of a recovery in the past, but we think its returns could be closer to the benchmark in the next 12 months despite underperforming year-to-date.

Valuations for **real estate** continue to hover around "fair value" on our multiple regression model, though they look undemanding on implied perpetual dividend growth at 1.4% (well below that of the market at 3.3%). We think that a significant enough amount of bad news has been priced in after a 14% underperformance in the last 12 months. We stay **Overweight**.

The biggest decision we face at the moment concerns the largest sector (based on market cap): **technology**. Its outperformance this year has been almost completely driven by sentiment (multiple expansion – see **Figure 14**), which we find increasingly difficult to justify. We remain positive about the sector's long-term growth potential, which we think will continue to benefit from the structural trends accelerated and amplified by

the COVID-19 crisis and boosted by the focus on generative artificial intelligence. We also value its high margins and solid cash generation in a time of increasing cost pressures, and it has been one of the first sectors to trim expenses. However, valuations have reached a level which warrants caution, in our view. We keep our allocation at **Neutral** for now.

In a nod to an increasingly uncertain economic and market environment, we stay **Overweight telecommunications**. We are still concerned about its growth prospects, but it is a defensive sector that looks undervalued on our multiple regression model and its relatively high dividend yield could provide some risk mitigation. Therefore, we think it can add to the resilience of our model sector allocation in the short term, while we wait for more clarity on the outlook for GDP growth and inflation.

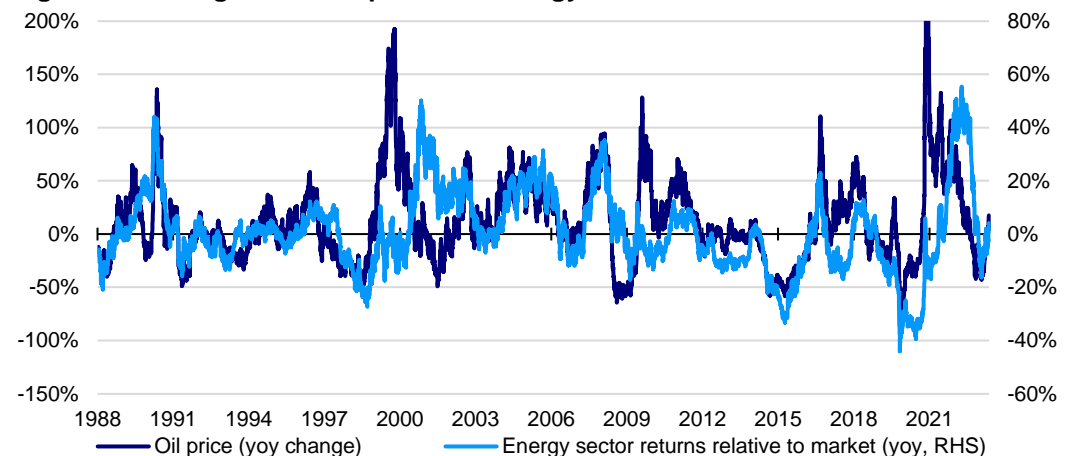
We keep **utilities Underweight**, because we think the sector will struggle to outperform even if equity market volatility increases. We are especially worried about utilities if margins are squeezed further by falling energy prices, while political pressures grow to reduce prices charged to consumers. Its high level of gearing is another cause for concern, unless there is a rapid change in the monetary policy cycle.

Sector in focus: Energy

The energy sector has remained in the spotlight this year, especially as geopolitical ructions seem to be arriving with alarming regularity (we view the sector as one of the most sensitive to conflict). While developed markets have reduced their reliance on fossil fuels compared to the middle of the 20th century, they remain a key input to economic activity. The most recent spike in crude oil prices after OPEC+ pledged to maintain production cuts have already shown up in headline inflation figures and concerns remain over natural gas, especially as Europe approaches winter. The war in Israel/Gaza and the threat of damage to important infrastructure may also keep prices high.

Perhaps the most important factor in the sector's returns is the direction of the oil price. As of 30 September 2023, real oil prices are both above their historical average since 1987 (based on the Brent index) and the \$20-60 range where they have been about 80% of the time since 1870 (using the WTI index). Although we consider oil to be overvalued at these levels, we do not expect a significant weakening especially after recent declines (see **Figure 3** for our forecast). Apart from valuations, we think that the uncertainty about where the global economy is heading is likely to prevent energy prices going much higher in the short term. On the other hand, prolonged war in the Middle East and in Ukraine may also keep them higher than implied by economic fundamentals. We assume that these twin pressures will result in some volatility around a relatively elevated price level implying global sector returns close to that of the market (**Figure 4**).

Figure 4 – Change in the oil price and energy sector total returns relative to market



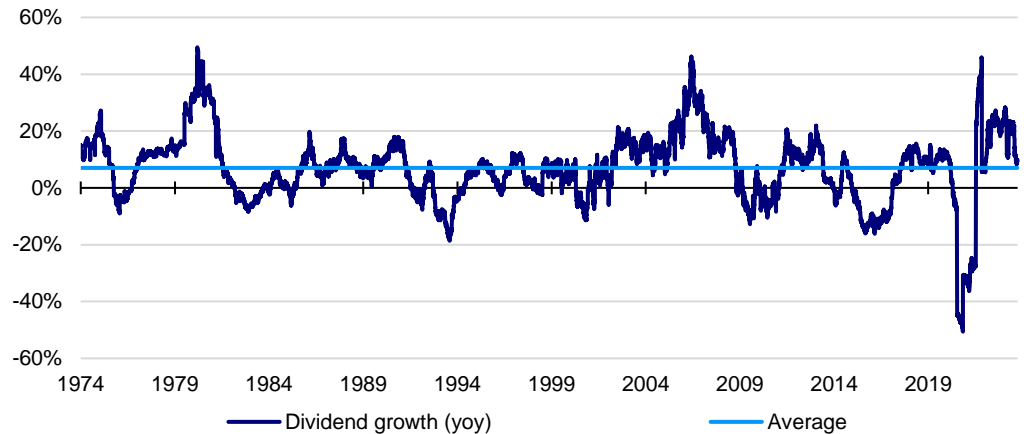
Notes: Data as of 30 September 2023. **Past performance is not a guarantee of future results.** Using daily data between 20 May 1988 and 30 September 2023 in US dollars. We use the Brent crude oil price index to show the year-on-year change in the oil price. Energy sector relative returns are based on the Datastream Energy Total Return Index relative to the Datastream World Total Market Index.
Source: Refinitiv Datastream and Invesco

Sector fundamentals also paint a mixed picture. When it comes to sector allocations, we start by comparing the relative dividend yield implied by our multiple regression model to what the sector trades at. This suggests that the sector is undervalued versus what our model implies (**Figure 12**). We then cross-check that using our perpetual dividend growth model, which shows that eking out strong returns will be a challenge after a significant rise in real yields. Even a value sector, such as energy would have to grow dividends by 2.8% annually (in real terms) to justify current valuations. We think that will be challenging even if it is below that of the market at 3.3% (**Figure 13**).

Comparing other valuation metrics to their own respective historical averages presents a similar conundrum. All main metrics (price/earnings, dividend yield, price/book, price/cash flow as shown in **Figure 25**) suggest that energy is undervalued in absolute terms, but the gap versus historical averages is relatively small. Relative valuations show a bigger dislocation with, for example relative dividend yields at 0.8 standard deviations above its historical average versus 0.2 for absolute yields.

Of course, sector dividend yields can remain higher compared to benchmark levels, which has been the case in the 2020s so far. The high weighting of the technology sector may have structurally pushed yields lower for the market. However, if we assume that the dividend yield gap will close, it can do so in two ways, in our view: either the energy sector outperforms by a large enough margin or sector dividends fall. We think major outperformance is unlikely if, as we argued before, prices remain rangebound. Absent major supply disruptions, we think a sustained rise in the oil price has low probability. Also, as **Figure 13** shows, dividend growth has been the most important contributor to returns in the last 12 months, rather than changes in the dividend yield.

Figure 5 – Global energy sector dividend growth since 1974



Notes: **Past performance is not a guarantee of future results.** Using daily data between 1 January 1974 and 30 September 2023 in US dollars. We derive dividends from the Datastream Energy Index by multiplying the price index by the dividend yield. We then calculate year-on-year dividend growth using those values. Source: Refinitiv Datastream and Invesco

In our view, it is more likely that sector dividends fall. First of all, as **Figure 5** shows, dividend growth is close to its long-term historical average after a period of high growth post the COVID-19 pandemic. Also, the sector may be at peak profitability with EBITDA (earnings before interest, taxes, depreciation and amortisation) margins just above 23% versus 16% historically. The last time margins were above 20% was during the commodity boom of the mid-2000s. Analysts are also expecting a decline in profits, with IBES consensus 12-month forward earning growth at -21% as of 30 September 2023. Another way to increase dividends would be to increase the payout ratio which seem low at around 44% compared to the long-term average of 52%, but we would not expect this to rise significantly as long as uncertainty hangs over the global economy (unless earnings fall). The sector may also have to spend more on servicing debt, even after substantial deleveraging since early-2020. The net debt to EBITDA ratio looks relatively healthy at 0.6x, although that has been driven more by the recent surge in profits than a reduction in debt.

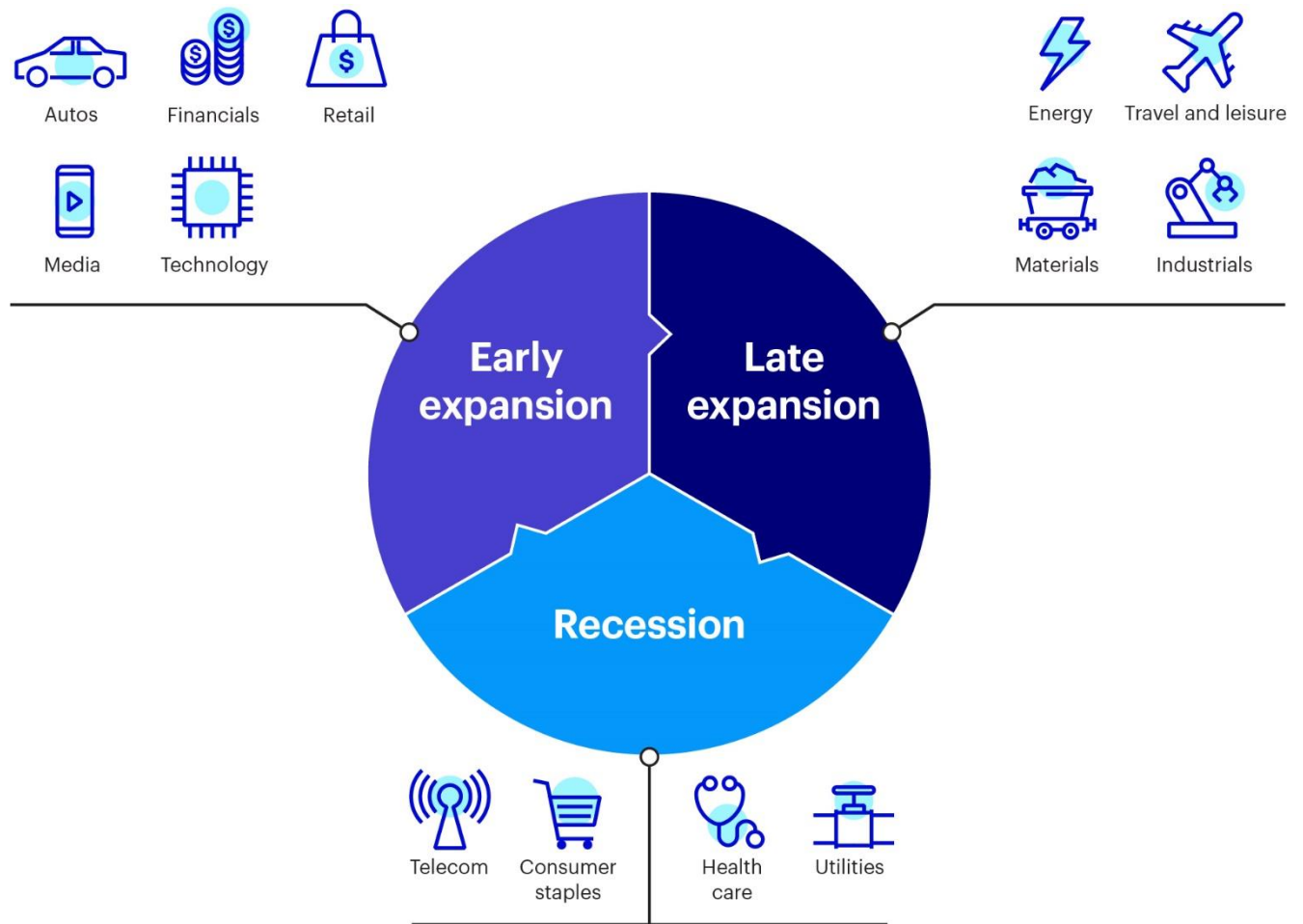
Where does all that leave us? We think the threat of supply disruptions will be enough to keep oil prices near current levels, even if economic growth slows. This means that a near term collapse in profitability is unlikely, which should prevent dividend cuts, in our view. Debt levels are manageable, while margins are high enough to absorb increasing debt servicing costs. Valuations may be somewhat attractive, but they do not give a strong enough signal for us. Nevertheless, we think they will provide enough support even if the global economy slows down, especially if we avoid a deep recession. This is enough to convince us to upgrade the sector to Neutral from Underweight.

Figure 6 – Model allocations for Global sectors

	Neutral	Invesco		Preferred Region
Energy	8.1%	Neutral	↑	EM
Basic Materials	4.2%	Neutral		Europe
Basic Resources	2.4%	Neutral		Europe
Chemicals	1.8%	Neutral		US
Industrials	12.8%	Overweight	↑	US
Construction & Materials	1.6%	Underweight		US
Industrial Goods & Services	11.2%	Overweight	↑	US
Consumer Discretionary	14.5%	Underweight	↓	Europe
Automobiles & Parts	2.9%	Underweight		Japan
Media	1.0%	Underweight		Japan
Retailers	4.8%	Neutral	↓	US
Travel & Leisure	2.1%	Underweight		EM
Consumer Products & Services	3.7%	Neutral		Europe
Consumer Staples	6.0%	Overweight		Europe
Food, Beverage & Tobacco	3.9%	Overweight		Europe
Personal Care, Drug & Grocery Stores	2.1%	Overweight		US
Healthcare	9.7%	Overweight		US
Financials	15.3%	Neutral		Europe
Banks	7.3%	Neutral		Europe
Financial Services	4.9%	Underweight		US
Insurance	3.0%	Neutral		Europe
Real Estate	2.8%	Overweight		US
Technology	19.7%	Neutral		US
Telecommunications	3.6%	Overweight		Europe
Utilities	3.3%	Underweight		Europe

Notes: Arrows indicate latest changes in allocations versus the previous edition. See appendices for methodology and disclaimers.
Source: Refinitiv Datastream and Invesco

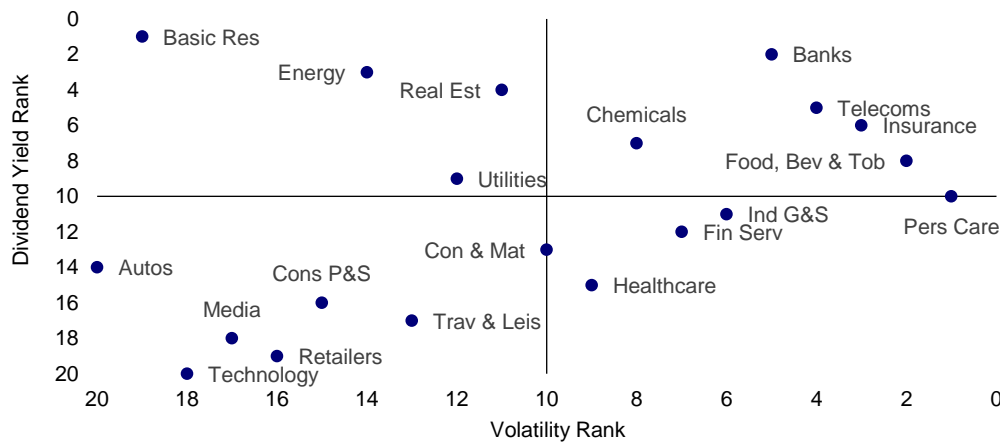
Figure 7 – Economic cycle and main sector allocation decisions



Note: The chart shows our opinion about which sectors tend to perform best at which stage of the economic cycle, based on our analysis of previous cycles.
Source: Invesco

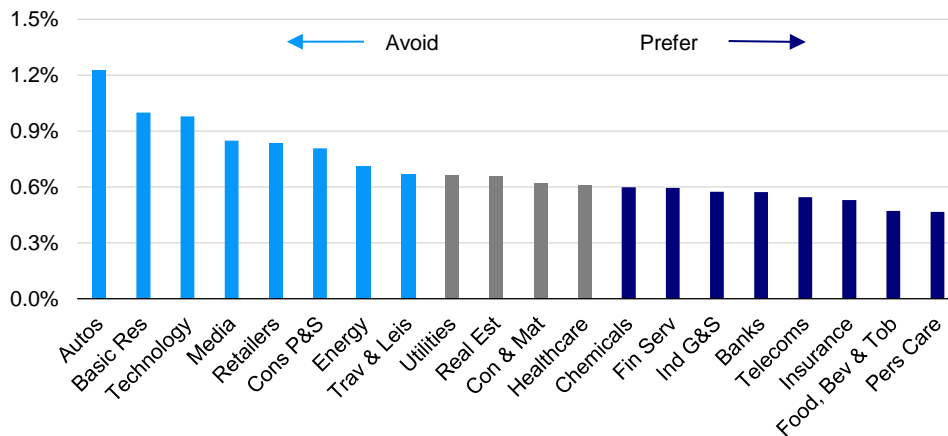
Systematic strategy – Global

Figure 8 – Global sectors ranked by volatility and dividend yield



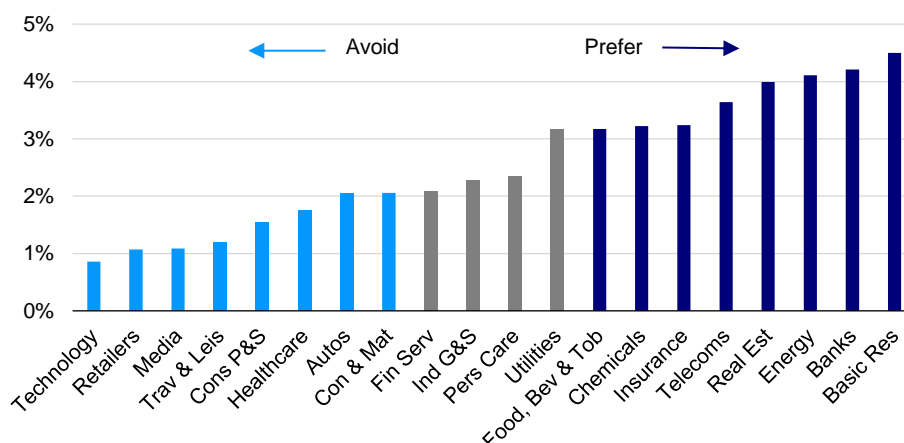
- A purely systematic approach would favour sectors in the top right corner: telecoms, food, beverage & tobacco and insurance.
- The approach would avoid sectors in the bottom left, such as technology, media or autos.

Figure 9 – Global sector volatility of daily returns (using standard deviation in the past 3 months)



- The daily returns of autos, basic resources and technology were the most volatile in the past 3 months.
- Personal care drug & grocery stores, food, beverage & tobacco and insurance were the least volatile.

Figure 10 – Global sector dividend yield (12-month trailing)

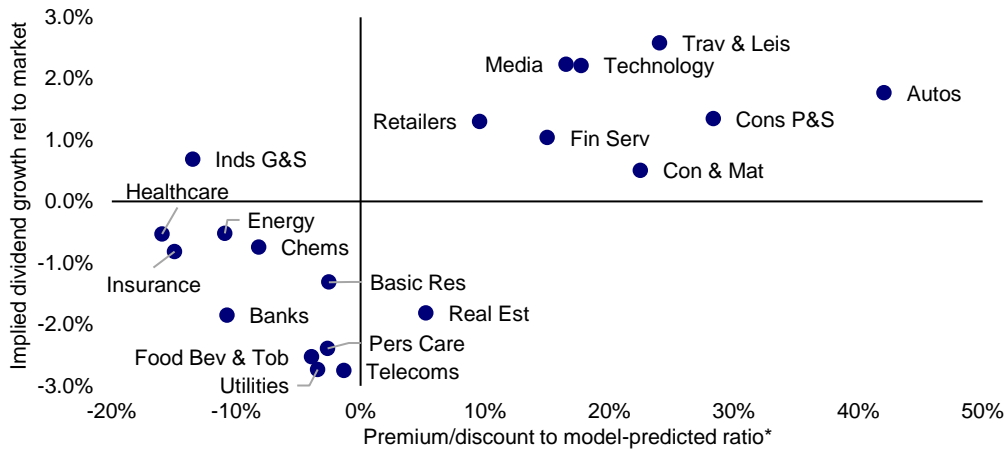


- Basic resources, banks and energy look the cheapest based on their dividend yield.
- The lowest yielding sectors include technology, retailers and media.

Notes: In Figure 6, we rank sectors on the vertical axis by their current 12-month trailing dividend yields. On the horizontal axis, the sectors are ranked by the 3-month standard deviation of their daily returns. See appendices for methodology and disclaimers. Any reference to a ranking, a rating or an award provides no guarantee for future performance results and is not constant over time.
Source: Refinitiv Datastream and Invesco

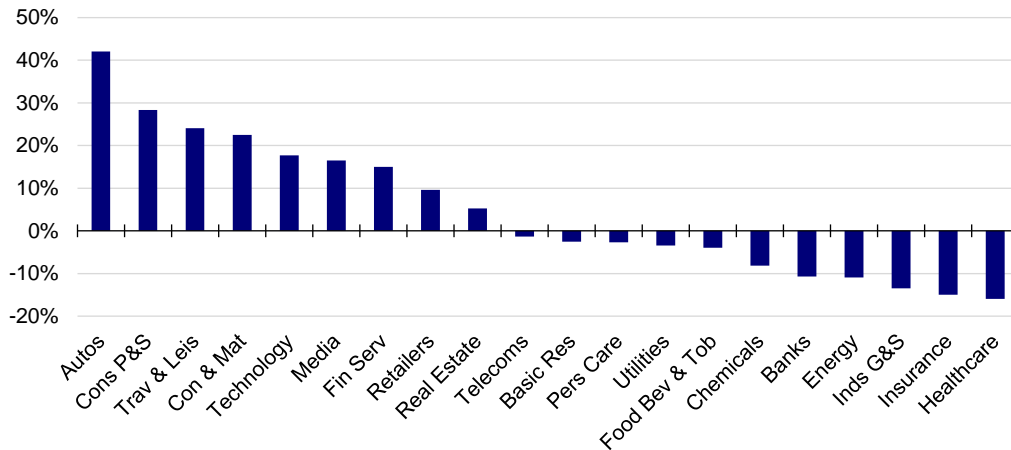
Valuations – Global

Figure 11 – Global sectors valuation matrix



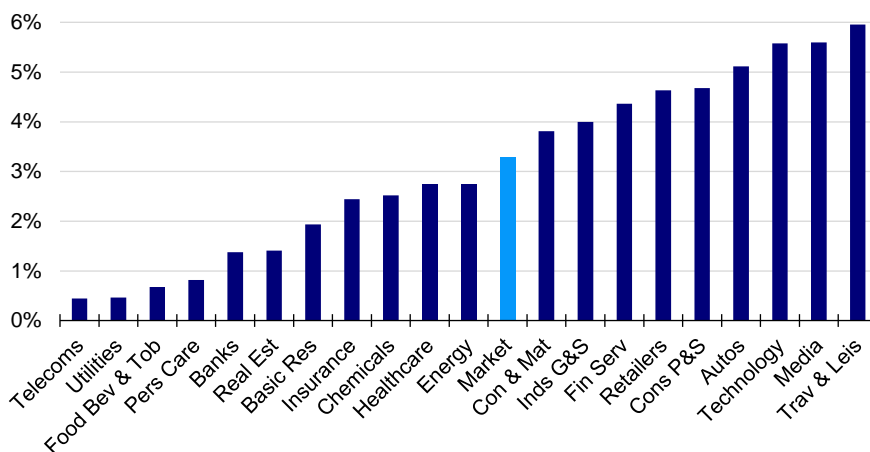
- Sectors in the top right corner look overvalued on both measures, while those in the bottom left appear undervalued
- This approach would avoid, for example, travel & leisure, autos and consumer P&S
- Banks, insurance and food & beverage look better value

Figure 12 – Premium/discount to model-predicted ratio*



- Autos, consumer products & services and travel & leisure look the most overvalued versus our model
- Healthcare, insurance and industrial goods & services seem the most undervalued versus our model-predicted ratios

Figure 13 – Global implied perpetual real dividend growth

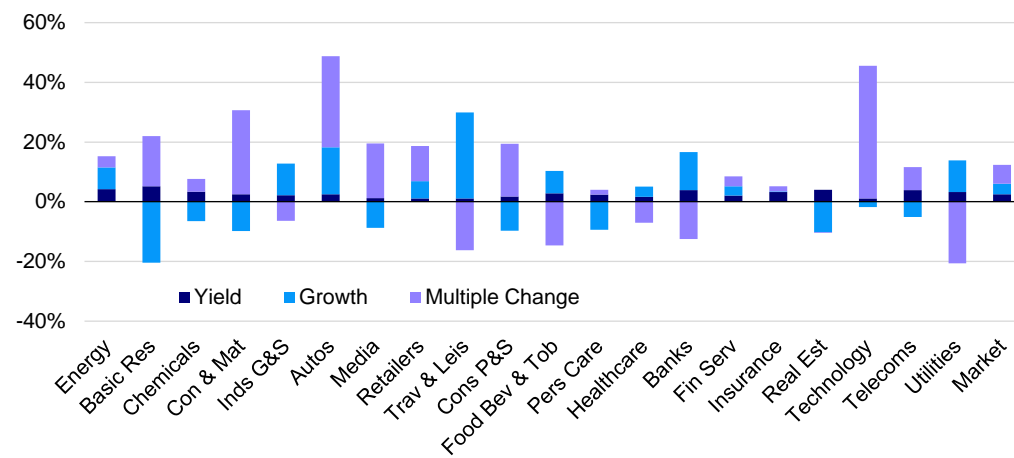


- Shows the future real growth required to justify current prices
- Travel & leisure, media and technology appear priced for over 5% real growth in dividends (expensive)
- Defensive sectors, except healthcare, seem priced for sub-1% growth (cheap)

Notes: *% above/below using dividend yield. See appendices for methodology and disclaimers. Source: Refinitiv Datastream and Invesco

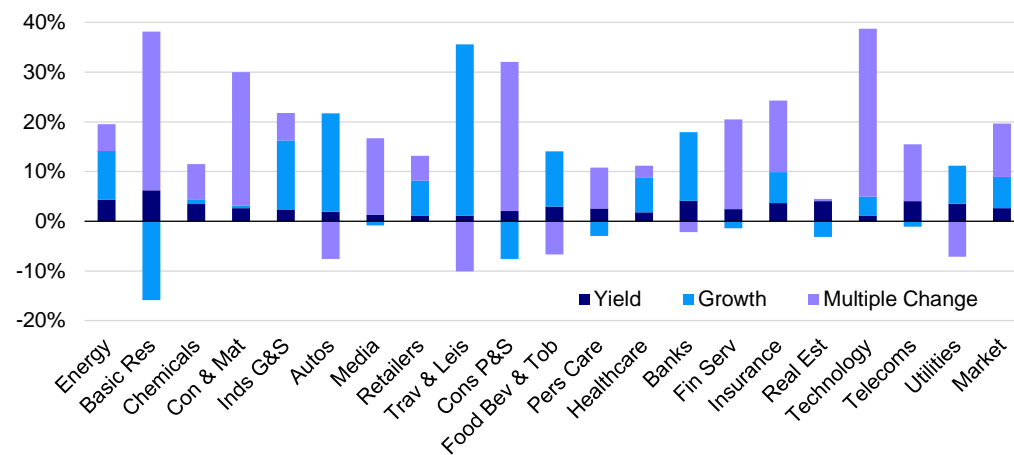
Decomposed returns – Global

Figure 14 – Global year-to-date total returns decomposed (annualised)



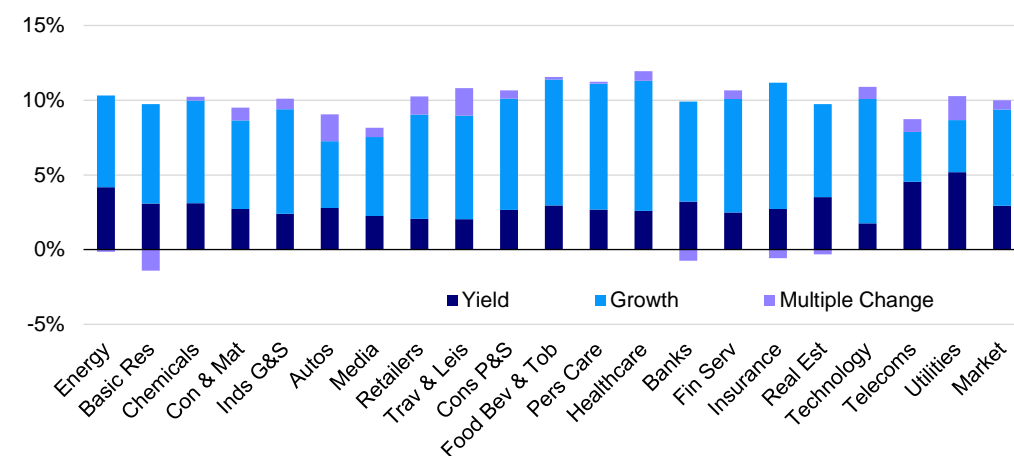
- Only five sectors had both positive growth and rise in sentiment (multiple expansion): energy, autos, retailers, financial services and insurance
- Two sectors had double-digit dividend growth: travel & leisure and autos.

Figure 15 – Global rolling 12-month total returns decomposed



- All sectors had positive total returns.
- Eight sectors had a yield above 3%: energy, basic resources, chemicals, banks, insurance, real estate, telecoms and utilities

Figure 16 – Global overall total returns decomposed (annualised, since 1973)



- Growth and yield drive long-term returns
- Growth is the most important, except for telecoms and utilities
- Five sectors suffered from a multiple-related performance drag: energy, basic resources, banks, insurance and real estate

Notes: See appendices for methodology and disclaimers. Past performance is not a guarantee of future results. Source: Refinitiv Datastream and Invesco

Appendices

Appendix 1: Coefficients for variables used in multiple regression model

Figure 17 – Regression coefficients of Global defensive sectors

	Food, Bev & Tobacco	Personal Care	Health Care	Telecoms	Utilities	Market
Real Oil		-0.19			0.41	
Real Copper		0.00	0.00	0.02	-0.01	
Consumer Confidence	0.00		0.00	0.00	0.00	-0.01
Manufacturing Confidence		0.01	0.01	0.01		
IP		0.57	0.99		2.59	-5.08
10y Yield		-1.89		-6.26	10.73	-11.50
CPI	4.26	1.41	-2.55		-7.68	3.66
Net Debt/EBITDA		0.05	-0.06	0.09		
ROE	-1.64	-0.84	1.07	0.85	-4.84	

Notes: IP = industrial production. CPI = consumer price index. EBITDA = earnings before interest, taxes, depreciation and amortization. ROE = return on equity. Bev = beverage. Only showing coefficients that have a statistically significant relationship with valuations at the 0.05 level. We use the dividend yield relative to market as our dependent variable. See the Methodology in Appendix 6 for more details. Source: Refinitiv Datastream and Invesco

Figure 18 – Regression coefficients of Global resource-related and industrial sectors

	Energy	Basic Resources	Chemicals	Construction & Materials	Industrial G&S	Market
Real Oil	-1.81	-1.00				
Real Copper	0.01			-0.01	0.00	
Consumer Confidence	0.01	0.01	0.01	0.00		-0.01
Manufacturing Confidence		-0.02	-0.01	-0.01	-0.01	
IP	-1.67		-0.87	1.12	0.22	-5.08
10y Yield		-6.87		1.64	0.51	-11.50
CPI	12.09	30.73	7.88	6.18	0.92	3.66
Net Debt/EBITDA	-0.10	-0.16		0.22		
ROE	-2.78	-3.13	-1.88	-0.89		

Notes: IP = industrial production. CPI = consumer price index. EBITDA = earnings before interest, taxes, depreciation and amortization. ROE = return on equity. G&S = goods & services. Only showing coefficients that have a statistically significant relationship with valuations at the 0.05 level. We use the dividend yield relative to market as our dependent variable. See the Methodology in Appendix 6 for more details. Source: Refinitiv Datastream and Invesco

Figure 19 – Regression coefficients of Global consumer discretionary and technology sectors

	Autos & Parts	Media	Retail	Travel & Leisure	Cons P&S	Tech	Market
Real Oil	1.04			0.49	1.00	0.40	
Real Copper	-0.01	0.00	0.00	0.00	-0.01		
Consumer Confidence	0.01	0.00	0.00	0.00	0.00	0.00	-0.01
Manufacturing Confidence			0.00	0.00	0.00	0.01	
IP	-3.25	-0.45	0.95	-0.51	0.78	-1.82	-5.08
10y Yield	3.57	6.99	3.40	-0.98	5.33	-1.54	-11.50
CPI		-5.76	-4.91	-3.24	-4.22	-2.89	3.66
Net Debt/EBITDA	-0.06	0.03	0.24		-0.22	0.09	
ROE		1.25	-0.71	0.63	-2.03	0.59	

Notes: IP = industrial production. CPI = consumer price index. EBITDA = earnings before interest, taxes, depreciation and amortization. ROE = return on equity. Cons = consumer. P&S = products & services. Only showing coefficients that have a statistically significant relationship with valuations at the 0.05 level. We use the dividend yield relative to market as our dependent variable. See the Methodology in Appendix 6 for more details. Source: Refinitiv Datastream and Invesco

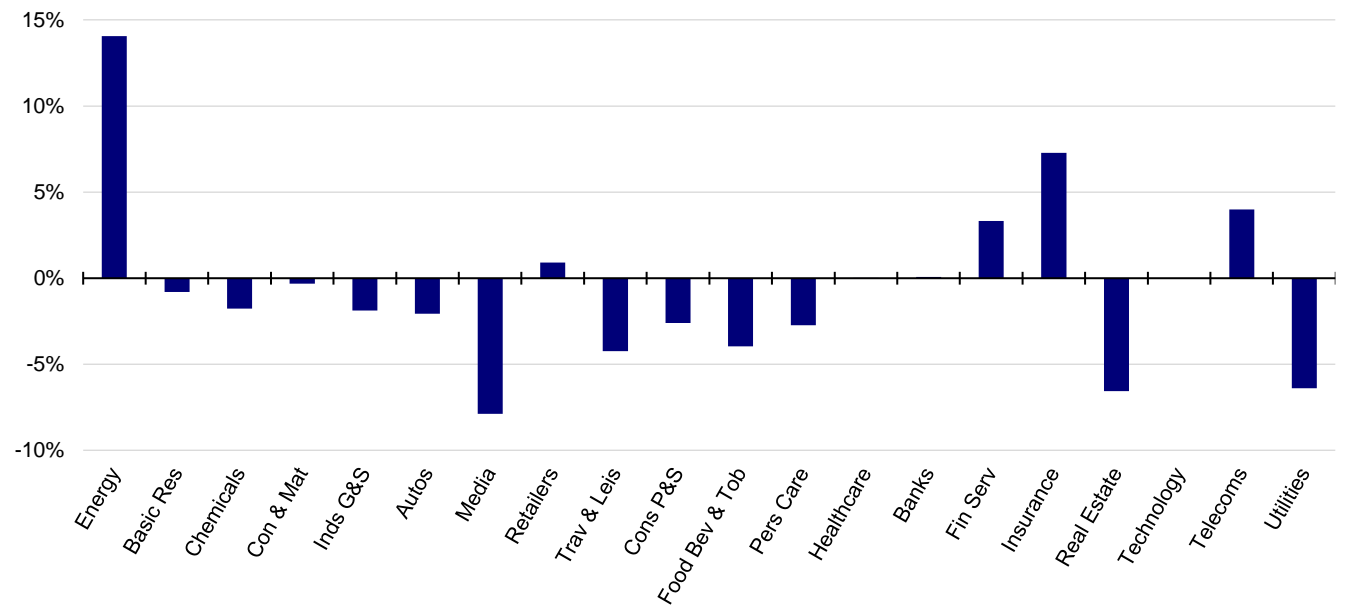
Figure 20 – Regression coefficients of Global financial sectors

	Banks	Financial Services	Insurance	Real Estate	Market
Real Oil	0.37	-0.23	-0.45	0.55	
Real Copper	-0.01	-0.01	0.01	-0.02	
Consumer Confidence	0.01	0.00	0.00	0.01	-0.01
Manufacturing Confidence	-0.01	-0.02		-0.03	
IP	-2.32	1.63		3.58	-5.08
10y Yield	-10.10	1.09	-6.51	3.05	-11.50
CPI	6.34		9.87		3.66
ROE	4.37	0.71	-1.13	-3.71	

Notes: IP = industrial production. CPI = consumer price index. EBITDA = earnings before interest, taxes, depreciation and amortization. ROE = return on equity. Only showing coefficients that have a statistically significant relationship with valuations at the 0.05 level. We use the dividend yield relative to market as our dependent variable. See the Methodology in Appendix 6 for more details. Source: Refinitiv Datastream and Invesco

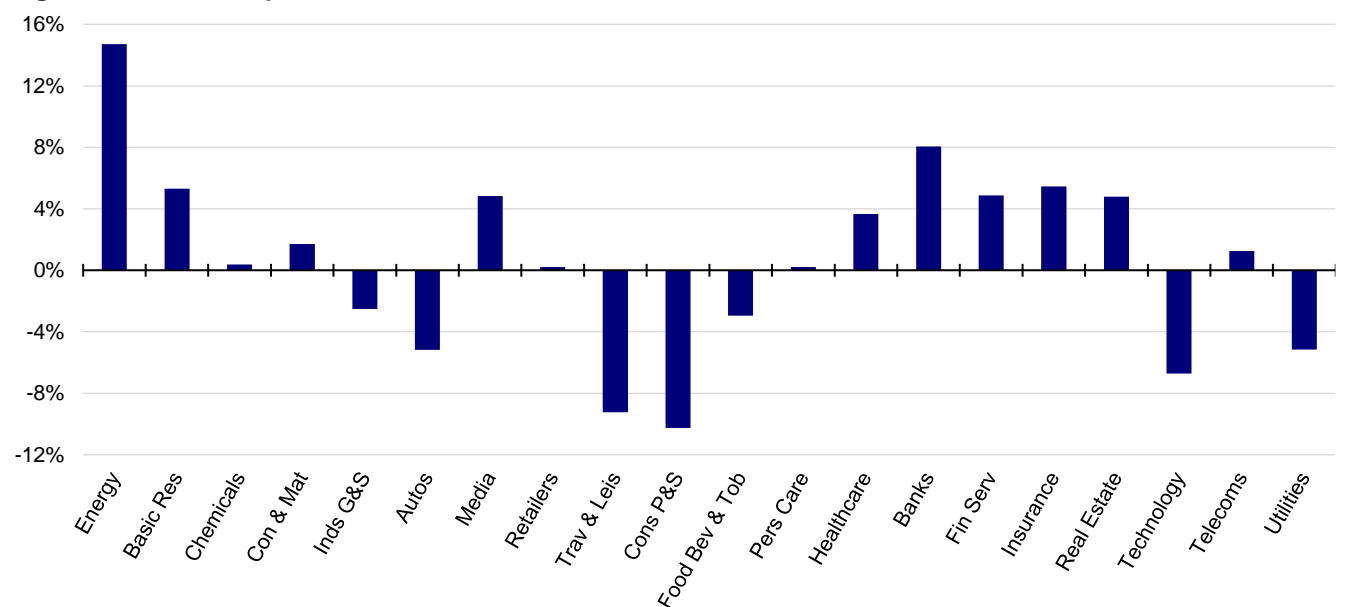
Appendix 2: Sector returns by region

Figure 21 – 3m US sector returns relative to market



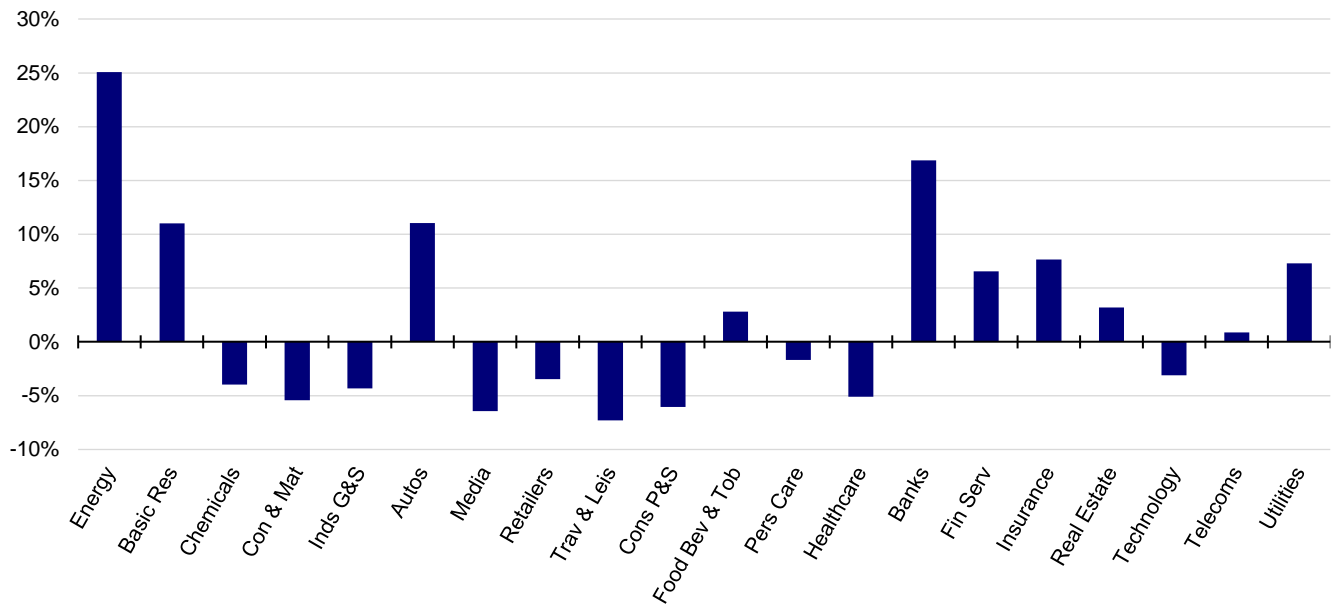
Notes: See appendices for methodology and disclaimers. Returns shown between 30 June 2023 and 30 September 2023. **Past performance is not a guarantee of future results.** Source: Refinitiv Datastream and Invesco

Figure 22 – 3m European sector returns relative to market



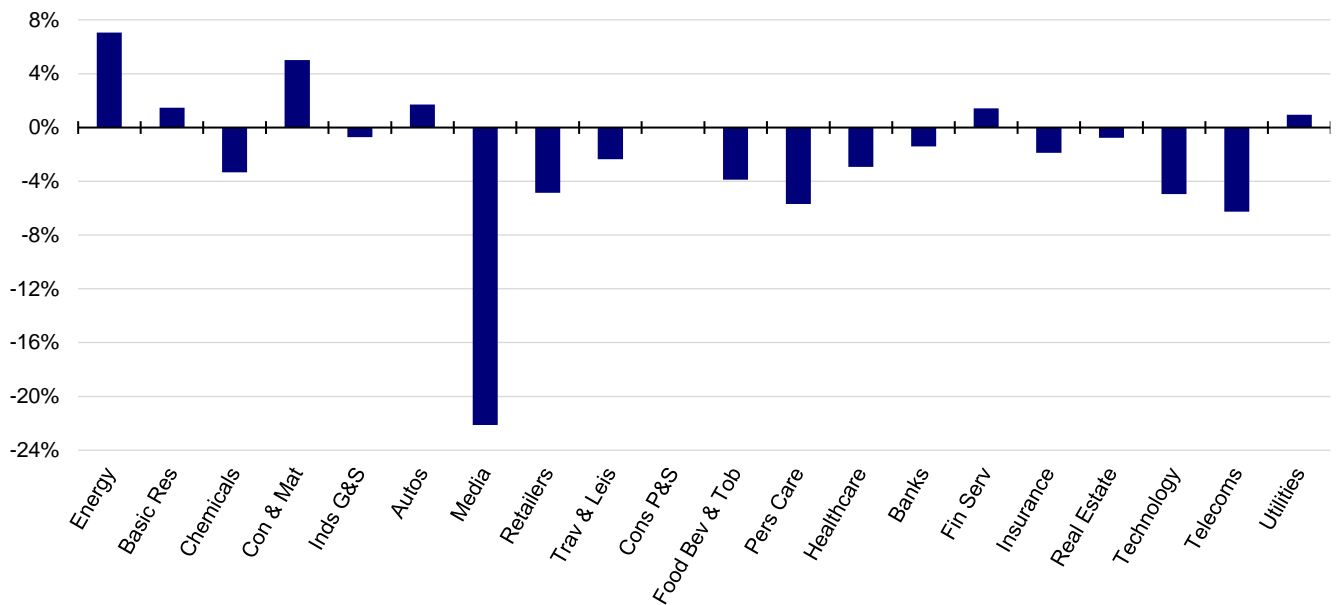
Notes: See appendices for methodology and disclaimers. Returns shown between 30 June 2023 and 30 September 2023. **Past performance is not a guarantee of future results.** Source: Refinitiv Datastream and Invesco

Figure 23 – 3m Japanese sector returns relative to market



Notes: See appendices for methodology and disclaimers. Returns shown between 30 June 2023 and 30 September 2023. **Past performance is not a guarantee of future results.** Source: Refinitiv Datastream and Invesco

Figure 24 – 3m Emerging Market sector returns relative to market



Notes: See appendices for methodology and disclaimers. Returns shown between 30 June 2023 and 30 September 2023. **Past performance is not a guarantee of future results.** Source: Refinitiv Datastream and Invesco

Appendix 3: Valuations tables

Figure 25 – Global absolute valuations

	Price/Earnings			Dividend Yield			Price/Book Value			Price/Cash Flow		
	Now	Avg	Now vs Avg*	Now	Avg	Now vs Avg*	Now	Avg	Now vs Avg*	Now	Avg	Now vs Avg*
Energy	10.6	14.5	-0.6	4.1	3.9	0.2	1.7	1.8	-0.2	5.4	6.2	-0.5
Basic Materials	13.8	16.6	-0.6	4.0	2.8	1.5	1.7	1.8	-0.3	6.4	7.3	-0.5
Basic Resources	12.2	16.8	-0.7	4.5	2.9	1.6	1.5	1.7	-0.4	5.7	7.2	-0.7
Chemicals	16.9	17.0	0.0	3.2	2.9	0.4	1.9	2.0	-0.2	7.7	7.7	0.0
Industrials	16.9	18.1	-0.3	2.2	2.3	0.0	2.7	2.2	1.1	10.1	9.2	0.5
Construction & Mat.	17.5	16.7	0.2	2.1	2.5	-0.7	2.0	1.7	0.6	10.1	9.1	0.4
Industrial G&S	16.8	18.6	-0.4	2.3	2.2	0.1	2.8	2.2	1.2	10.1	9.2	0.5
Consumer Disc.	19.0	18.8	0.0	1.4	2.2	-1.0	3.2	2.2	2.0	11.0	8.5	1.4
Automobiles & Parts	12.9	15.1	-0.3	2.1	2.6	-0.5	1.6	1.5	0.3	7.1	5.5	1.4
Media	29.2	21.6	1.0	1.1	2.1	-1.2	2.2	2.4	-0.2	9.2	9.7	-0.1
Retailers	29.0	21.5	1.2	1.1	1.9	-1.0	5.5	3.5	2.1	14.1	13.3	0.3
Travel & Leisure	12.4	23.4	-1.0	1.2	1.8	-0.8	5.9	2.6	3.4	12.4	9.3	1.1
Consumer Prod & Serv	21.9	19.4	0.5	1.5	2.4	-1.3	3.6	2.3	1.9	12.9	10.7	0.9
Consumer Staples	20.3	16.9	0.7	2.9	2.5	0.4	3.0	2.8	0.3	11.7	10.8	0.3
Food, Bev & Tobacco	19.4	18.4	0.2	3.2	2.7	0.6	2.8	2.7	0.2	12.1	11.0	0.4
Personal Care	22.2	20.5	0.3	2.4	2.4	-0.1	3.5	3.0	0.6	11.0	10.4	0.2
Healthcare	28.0	20.2	1.4	1.8	2.3	-0.7	4.0	3.3	0.5	15.0	12.8	0.6
Financials	10.8	15.6	-1.0	3.3	2.7	0.8	1.2	1.5	-0.7	5.2	5.8	-0.4
Banks	8.5	14.3	-1.2	4.2	3.0	1.4	1.0	1.3	-0.8	5.1	6.2	-0.6
Financial Services	14.2	18.3	-0.8	2.1	2.3	-0.3	1.3	1.5	-0.4	11.3	9.1	1.0
Insurance	14.7	15.9	-0.3	3.2	2.5	1.0	1.6	1.7	-0.2	2.7	3.8	-1.1
Real Estate	19.8	19.1	0.1	4.0	3.2	0.9	1.1	1.4	-0.9	13.2	13.7	-0.2
Technology	30.3	24.3	0.6	0.9	1.6	-0.8	6.3	3.2	2.5	18.8	11.8	1.7
Telecommunications	14.2	17.4	-0.4	3.6	4.3	-0.3	1.8	2.6	-0.7	5.2	6.1	-0.4
Utilities	14.6	14.6	0.0	3.8	4.8	-0.6	1.7	1.6	0.3	7.7	5.7	1.4
Market	16.9	17.1	-0.1	2.4	2.7	-0.3	2.3	2.0	0.6	8.9	7.8	0.6

Notes: *in standard deviations from historical average. Mat. = materials. G&S = goods & services. Disc. = discretionary. Prod & Serv = products & services. Bev = beverage. Data starts on 1st January 1973 for price/earnings and dividend yield and 1st January 1980 for price/book and price/cash flow. See appendices for methodology and disclaimers. Source: Refinitiv Datastream and Invesco

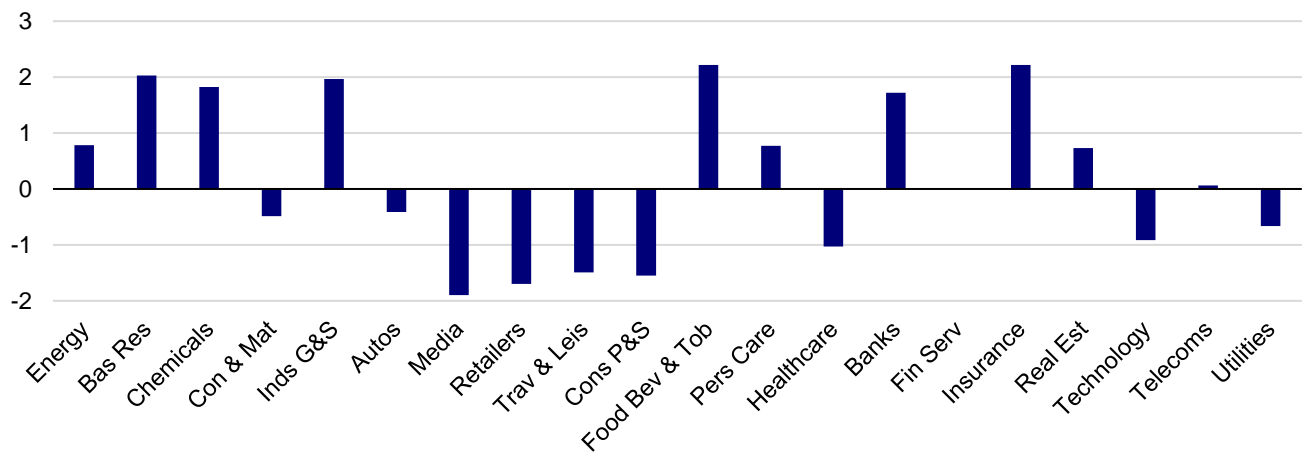
Figure 26 – Global cyclically-adjusted valuations

	Price/Earnings			Dividend Yield			Price/Book Value			Price/Cash Flow		
	Now	Avg	Now vs Avg*	Now	Avg	Now vs Avg*	Now	Avg	Now vs Avg*	Now	Avg	Now vs Avg*
Energy	16.5	18.6	-0.3	3.6	2.9	0.7	1.7	2.6	-0.8	7.1	8.6	-0.5
Basic Materials	17.5	23.1	-0.8	2.7	1.9	1.5	1.8	2.4	-0.8	8.1	9.8	-0.7
Basic Resources	16.6	21.3	-0.6	2.9	2.2	1.0	1.6	2.2	-0.6	7.3	9.3	-0.6
Chemicals	18.6	24.3	-1.1	2.5	1.9	1.3	2.0	2.7	-1.3	9.2	10.7	-0.9
Industrials	23.6	26.6	-0.5	1.6	1.5	0.4	3.0	3.0	-0.1	13.0	12.8	0.1
Construction & Mat.	21.7	23.9	-0.2	1.8	1.9	0.0	2.1	2.2	-0.2	11.5	11.6	0.0
Industrial G&S	24.0	27.3	-0.6	1.6	1.4	0.5	3.1	3.1	0.1	13.2	12.7	0.3
Consumer Disc.	24.8	27.0	-0.4	1.4	1.4	-0.2	3.1	3.0	0.3	12.4	11.7	0.4
Automobiles & Parts	16.4	18.9	-0.6	1.7	1.7	-0.1	1.6	2.0	-1.0	7.5	6.7	0.5
Media	20.7	29.9	-1.1	1.5	1.4	0.3	2.6	3.3	-0.6	11.2	13.1	-0.5
Retailers	33.5	32.2	0.2	1.1	1.1	-0.3	5.6	5.1	0.6	18.3	19.7	-0.4
Travel & Leisure	24.1	33.9	-1.0	1.4	1.2	0.7	3.7	3.5	0.3	12.1	12.9	-0.3
Consumer Prod & Serv	26.5	28.6	-0.4	1.5	1.6	-0.2	3.8	3.1	1.3	15.4	15.2	0.1
Consumer Staples	20.0	22.6	-0.6	2.4	1.6	1.9	3.3	3.8	-1.0	13.5	14.6	-0.5
Food, Bev & Tobacco	23.3	28.2	-1.0	2.4	1.6	2.0	3.2	4.0	-2.0	14.2	16.3	-1.3
Personal Care	24.1	31.5	-1.1	2.2	1.4	1.7	3.6	4.6	-1.3	12.4	16.2	-1.5
Healthcare	32.1	31.6	0.1	1.4	1.4	0.0	4.7	5.1	-0.5	18.6	19.6	-0.3
Financials	14.5	23.3	-0.8	2.7	2.0	0.8	1.2	1.9	-1.1	6.7	7.3	-0.4
Banks	11.3	20.7	-1.0	3.5	2.3	1.0	1.0	1.7	-1.2	5.9	7.8	-0.9
Financial Services	20.6	29.2	-0.5	1.6	1.5	0.2	1.5	2.0	-0.9	13.2	11.2	0.8
Insurance	16.9	23.7	-0.7	2.3	1.6	1.1	1.7	2.5	-0.9	4.1	5.0	-0.8
Real Estate	12.5	26.2	-1.0	4.1	2.6	1.8	1.1	1.7	-1.4	12.4	16.9	-1.2
Technology	42.8	39.0	0.2	0.7	0.9	-0.5	8.2	4.9	1.3	26.4	19.1	0.8
Telecommunications	14.7	22.8	-0.8	4.2	3.0	0.9	1.9	3.3	-1.1	4.9	7.7	-0.9
Utilities	18.3	18.6	-0.1	3.4	3.5	-0.1	1.7	2.0	-0.7	7.1	7.0	0.1
Market	21.8	24.7	-0.5	1.9	1.8	0.4	2.4	2.8	-0.6	10.9	10.7	0.1

Notes: *in standard deviations from historical average. Mat. = materials. G&S = goods & services. Disc. = discretionary. Prod & Serv = products & services. Bev = beverage. Data starts on 1st January 1983 for price/earnings and dividend yield and 1st January 1990 for price/book and price/cash flow. See appendices for methodology and disclaimers. Source: Refinitiv Datastream and Invesco

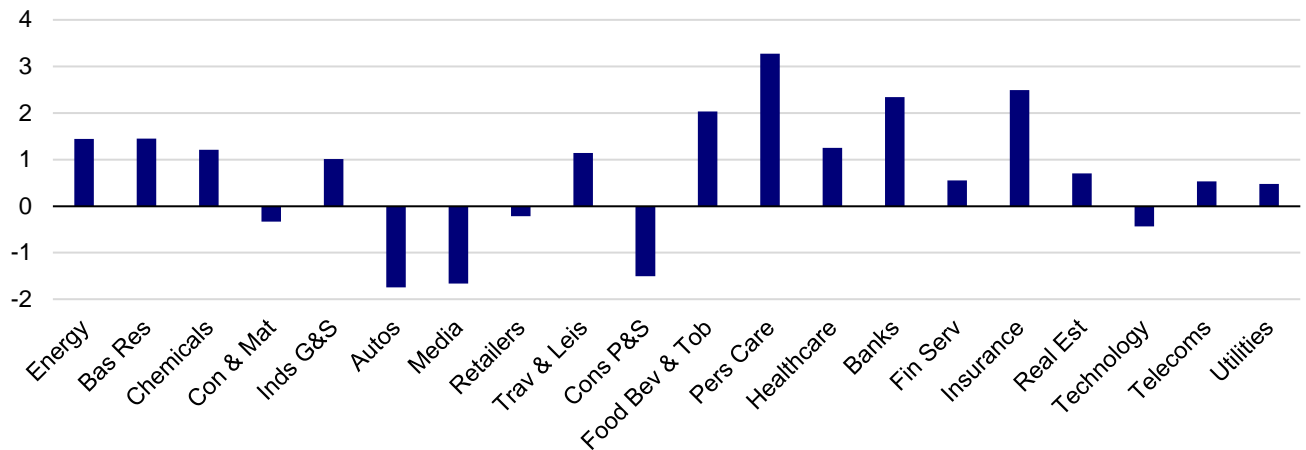
Appendix 4: Sector valuations by region

Figure 27 – Global dividend yields relative to market (z-score)



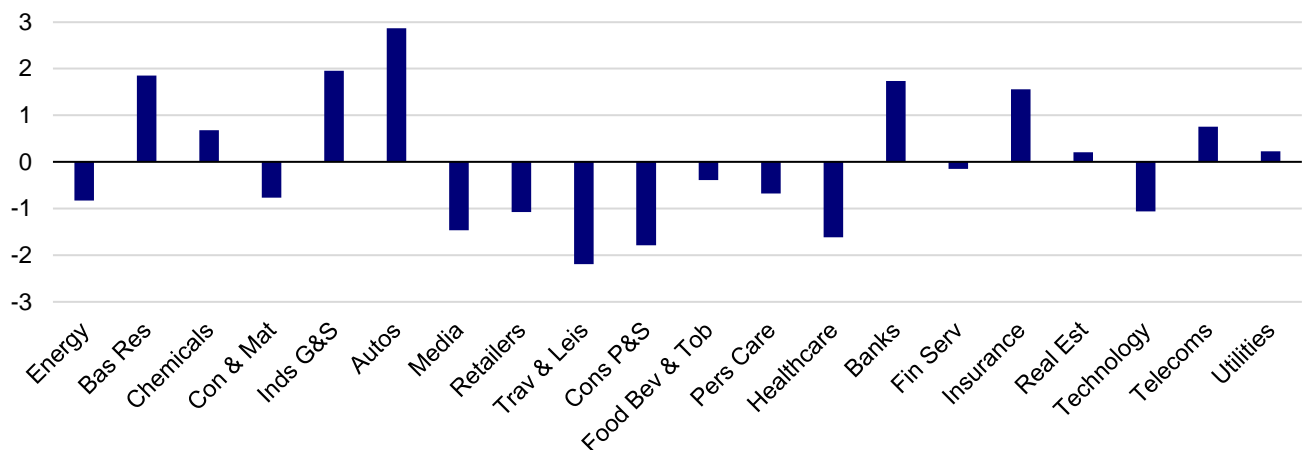
Notes: See appendices for methodology and disclaimers. Source: Refinitiv Datastream and Invesco

Figure 28 – US dividend yields relative to local benchmark (z-score)



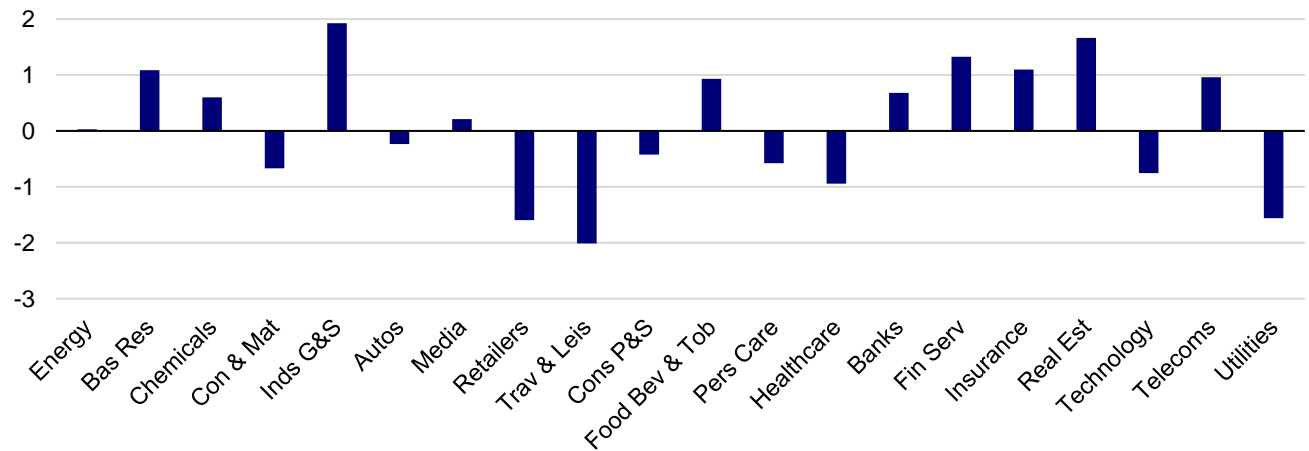
Notes: See appendices for methodology and disclaimers. The local benchmark is the Datastream US Total Market Index. Source: Refinitiv Datastream and Invesco

Figure 29 – Europe dividend yields relative to local benchmark (z-score)



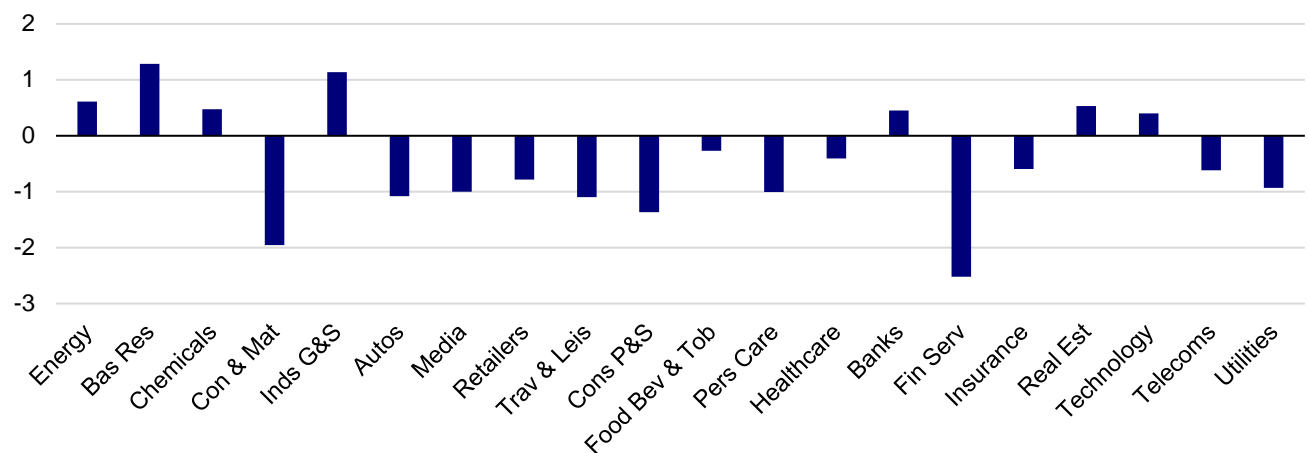
Notes: See appendices for methodology and disclaimers. The local benchmark is the Datastream Europe Ex-Emerging Total Market Index. Source: Refinitiv Datastream and Invesco

Figure 30 – Japan dividend yields relative to local benchmark (z-score)



Notes: See appendices for methodology and disclaimers. The local benchmark is the Datastream Japan Total Market Index. Source: Refinitiv Datastream and Invesco

Figure 31 – Emerging markets dividend yields relative to local benchmark (z-score)



Notes: See appendices for methodology and disclaimers. The local benchmark is the Datastream Emerging Markets Total Market Index. Source: Refinitiv Datastream and Invesco

Appendix 4: Performance tables

Figure 32 – Global equity sector total returns relative to market

Data as at 29/09/2023	Global				
	3m	YTD	12m	5y*	10y*
Energy	12.3	2.6	1.1	-2.8	-4.4
Basic Materials	0.3	-7.9	-0.9	0.1	-0.9
Basic Resources	1.8	-7.9	3.2	2.8	-0.8
Chemicals	-1.6	-7.9	-6.0	-3.1	-1.8
Industrials	-2.2	-3.0	2.7	-1.0	0.0
Construction & Materials	1.3	5.7	10.1	0.2	-1.2
Industrial Goods & Services	-2.7	-4.1	1.7	-1.2	0.2
Consumer Discretionary	-2.9	5.1	-2.1	-1.9	-0.7
Automobiles & Parts	0.6	25.2	-5.5	3.4	-0.9
Media	-5.6	-1.3	-3.4	-5.4	-3.3
Retailers	0.1	4.2	-6.0	-2.4	0.1
Travel & Leisure	-5.0	0.8	3.9	-4.9	-2.5
Consumer Products & Services	-7.1	-2.1	3.8	-0.8	0.3
Consumer Staples	-3.1	-11.8	-10.4	-3.3	-2.4
Food, Beverage & Tobacco	-3.3	-11.6	-10.3	-2.1	-2.4
Personal Care, Drug & Grocery Stores	-2.8	-12.4	-10.5	-3.1	-2.3
Healthcare	-0.1	-9.9	-7.3	-0.4	1.8
Financials	3.2	-4.5	-0.4	-0.9	-1.1
Banks	3.1	-5.5	-2.4	-3.2	-3.2
Financial Services	3.2	-2.7	-0.1	1.5	1.7
Insurance	3.6	-5.0	4.5	0.0	0.5
Real Estate	-3.5	-13.3	-14.3	-6.4	-4.2
Technology	-1.2	21.4	14.8	7.8	8.8
Telecommunications	0.7	-4.2	-4.6	-3.2	-4.1
Utilities	-4.1	-13.2	-13.2	-0.4	-1.4

Notes: *showing annualised returns. Returns shown are for Datastream sector indices versus the total market index. **Past performance is no guarantee of future results.** Source: Refinitiv Datastream and Invesco

Appendix 5: Methodology

Multiple regression analysis

We have run a multiple regression analysis to examine how macroeconomic factors influence sector valuations. We have used the dividend yield relative to market as the dependent variable and have run the regressions with the following independent variables:

Monthly series since 31/01/1991:

- **1-year change in:** industrial production, consumer price index
- **The level of:** real oil price (US CPI adjusted), real copper price (US CPI adjusted), consumer confidence index, manufacturing confidence index, 10-year benchmark government bond yield, net debt/EBITDA (only for non-financial sectors), return on equity

We calculate a global measure of industrial production growth, consumer price index growth, consumer confidence, manufacturing confidence and government bond yields using data from four regions or countries representing 65% of global Gross Domestic Product: United States, Europe, Japan and China. The global measures are weighted averages using Datastream global index market capitalisations as weights.

This analysis shows us which independent variables have a statistically significant relationship with sector valuation ratios. In addition, the regression coefficients tell us how much each independent variable influences those ratios. Finally, we use those coefficients to calculate what the valuation ratios should be, based on the model, and compare them to currently observed valuations. In theory, this allows us to determine whether a sector is undervalued or overvalued based on the macroeconomic factors we have used.

Sector classification

We use the Industry Classification Benchmark (ICB).

Leverage and profitability ratios

We calculate Net Debt/EBITDA from sector and market level aggregates supplied by Refinitiv Datastream. They define Net Debt as Total Debt minus Cash, where Cash represents Cash & Due from Banks for Banks, Cash for Insurance companies and Cash & Short Term Investments for all other industries. We tend to exclude Financials from Net Debt/EBITDA comparisons for it is difficult to distinguish debt they sell as a product and debt they incur during the operation of the business. In addition, Refinitiv Datastream define EBITDA – Earnings before Interest, Taxes and Depreciation – as the earnings of a company before interest expense, income taxes and depreciation. It is calculated by taking the pre-tax income and adding back interest expense on debt and depreciation, depletion and amortisation and subtracting interest capitalised.

Decomposed returns

We break down total returns into 3 components to examine what has driven sector performance year-to-date, in the last 12 months and for the whole history of the index. “Yield” shows the income investors received from dividends paid during the period concerned. “Growth” shows the rate of dividend growth, calculated using the percentage change in dividend per share (DPS) values for the sector indices. DPS is calculated as dividend yield times the price index. “Multiple Change” refers to the change in dividend yield between the two periods indicated, plus the change in dividend yield times dividend growth. We use it to measure investor expectations and sentiment regarding the sectors.

Implied perpetual growth models

A valuation cross-check is sought by calculating the perpetual real growth in dividends required to justify current prices. This then allows an evaluation of whether those implied growth rates are realistic.

We use a simple perpetual growth model to calculate implied growth. If $\text{Price} = \text{Dividend}/(\text{Discount Factor} - \text{Growth})$, then $\text{Growth} = \text{Discount Factor} - \text{Dividend Yield}$. The Discount Factor is equal to $\text{Risk Free Rate} + (\text{Beta} \times \text{Market Risk Premium})$. Everything is expressed in real terms to eliminate the distorting influence of inflation, the output being growth in real terms. The important ingredients are derived as follows:

- The risk-free rate is an equity market capitalisation weighted average of US, UK, Eurozone, Japanese and Chinese 10-year real yields.
- Sector betas are calculated using five years of weekly price movements relative to the global market index.
- The risk premium is derived from US equity and treasury market returns since 1871.
- The dividend yield for each sector is the 12-month trailing yield calculated by Datastream.

Sector allocations

We start by considering where the equity markets are in their respective economic cycles, which determines whether cyclical or defensive sectors are more likely to outperform. Our preferred measure of cyclical sensitivity is beta. Sector betas are calculated using five years of weekly price movements relative to the local market index.

Next, we refine our decisions by looking at how sector yields relative to the market relate to the ratio calculated by our multiple regression model and how much dividend growth is implied in current trailing 12-month dividend yields relative to market.

Finally, we rank sectors by their recent volatility, using the standard deviation of daily returns for the three months before our cut-off date. After that we rank sectors by their 12-month trailing dividend yield. Based on our thematic report about sector strategies, Sector strategies: Control your volatility, combining these approaches provided the best cost-adjusted and risk-adjusted returns in the US, and was among the best in cost-adjusted returns in Europe.

An investment decision is the result of balancing a range of factors and the weightings applied to those factors can vary across time and sectors. “Overweight” suggests that we prefer to hold more of the given sector than suggested by the market capitalisation-weighted “neutral” position. “Underweight” suggests we prefer to hold less of the given sector than suggested by the market capitalisation-weighted “neutral” position. “Neutral” suggests a holding in line with the market capitalisation-weighted benchmark.

Preferred regions

We measure sector valuations relative to their respective local benchmarks in the United States, Europe, Japan and Emerging Markets. We calculate a z-score comparing the latest relative dividend yield to its historical average, which gives us a standardised way to measure how far valuations are from those averages in each region. Our normal preference would be for the cheapest region based on this measure, but we also take into account thematic and other fundamental considerations.

Appendix 6: Abbreviations

Changes in allocations on the front page: OW = Overweight, N = Neutral, UW = Underweight

Sector name abbreviations:

Autos = Automobiles & parts
Basic Res = Basic Resources
Chem = Chemicals
Con & Mat = Construction & Materials
Cons P&S = Consumer Products & Services
Fin Serv = Financial Services
Food, Bev & Tob = Food, Beverage & Tobacco
Ind G&S = Industrial Goods & Services
Pers Care = Personal Care, Drug & Grocery Stores
Pers & Hh Gds = Personal & Household Goods
Real Est = Real Estate
Tech = Technology
Telecoms = Telecommunications
Trav & Leis = Travel & Leisure

Appendix 7: Definitions of data and benchmarks

Sources: we source data from Refinitiv Datastream unless otherwise indicated.

Government bonds (Figure 3): Current values use Refinitiv Datastream benchmark 10-year yields for the US, Eurozone, Japan and the UK and the Thomson Reuters China benchmark 10-year yield for China.

Value sectors: stocks or sectors that have low price/book value or price/earnings multiples or high dividend yields. Some of these stocks or sectors may generally trade at a discount compared to the market if investors expect their earnings or dividends to grow at a slower pace than the market. Examples of such sectors are utilities, telecommunications, banks and oil & gas.

Growth sectors: stocks or sectors that have high price/book or price/earnings multiples or low dividend yields, because investors expect them to have high earnings or dividend growth. Examples of these sectors are technology, healthcare and food & beverage.

Defensive sectors: stocks or sectors that have business models that investors consider to be relatively stable throughout the business cycle. We refer to the following sectors as defensive: food & beverage, personal & household goods, healthcare, telecommunications and utilities.

Cyclical sectors: stocks or sectors that have business models that investors consider to be sensitive to the economic cycle. We refer to the following sectors as cyclical: oil & gas, basic resources, chemicals, construction & materials, industrial goods & services, automobiles & parts, media, retail, travel & leisure, banks, financial services, insurance, real estate and technology.

Growth factor: a subset of the S&P 500 in the US and the Stoxx 600 index in Europe and includes stocks in the top third based on both their 5-year sales per share trend and their internal growth rate (the product of the 5-year average return on equity and the retention ratio).

Low volatility factor: a subset of the S&P 500 in the US and the Stoxx 600 index in Europe and includes stocks in the bottom quintile based on the standard deviation of their daily returns in the previous three months.

Price momentum factor: a subset of the S&P 500 in the US and the Stoxx 600 index in Europe and includes stocks in the top quintile based on their performance in the previous 12 months.

Quality factor: a subset of the S&P 500 in the US and the Stoxx 600 index in Europe and includes stocks in the top third based on both their return on invested capital and their EBIT to EV ratio (earnings before interest and taxes to enterprise value).

Size factor: a subset of the S&P 500 in the US and the Stoxx 600 index in Europe and includes stocks in the bottom quintile based on their market value in US dollars for the US and euros for Europe.

Value factor: a subset of the S&P 500 in the US and the Stoxx 600 index in Europe and includes stocks in the bottom quintile based on their price to book value ratios.

Data as of 30 September 2023 unless stated otherwise. This publication is updated quarterly.

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Authors

Paul Jackson
Global Head of Asset Allocation Research
Telephone +44(0)20 3370 1172
paul.jackson@invesco.com
London, EMEA

Andras Vig
Multi-Asset Strategist
Telephone +44(0)20 3370 1152
andras.vig@invesco.com
London, EMEA

Global Market Strategy Office

Kristina Hooper
Chief Global Market Strategist
kristina.hooper@invesco.com
New York, Americas

Brian Levitt
Global Market Strategist, Americas
brian.levitt@invesco.com
New York, Americas

Tomo Kinoshita
Global Market Strategist, Japan
tomo.kinoshita@invesco.com
Tokyo, Asia Pacific

Arnab Das
Global Market Strategist
arnab.das@invesco.com
London, EMEA

Adam Burton
Senior Economist
adam.burton@invesco.com
London, EMEA

Paul Jackson
Global Head of Asset Allocation Research
paul.jackson@invesco.com
London, EMEA

Andras Vig
Multi-Asset Strategist
andras.vig@invesco.com
London, EMEA

David Chao
Global Market Strategist, Asia Pacific
david.chao@invesco.com
Hong Kong, Asia Pacific

Thomas Wu
Market Strategies Analyst, Asia Pacific
thomas.wu@invesco.com
Hong Kong, Asia Pacific

Ashley Oerth
Investment Strategy Analyst
ashley.oerth@invesco.com
London, EMEA

Cyril Birks
Global Thought Leadership Intern
cyril.birks@invesco.com
London, EMEA

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