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:MENT

Public and Private Equity Outlook

Annual Review

23 January 2023

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Recap

Equity Market Returns

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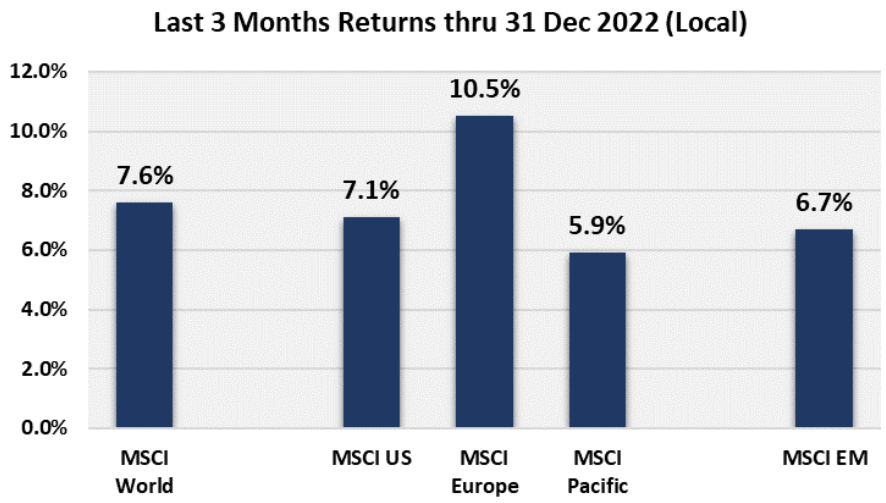

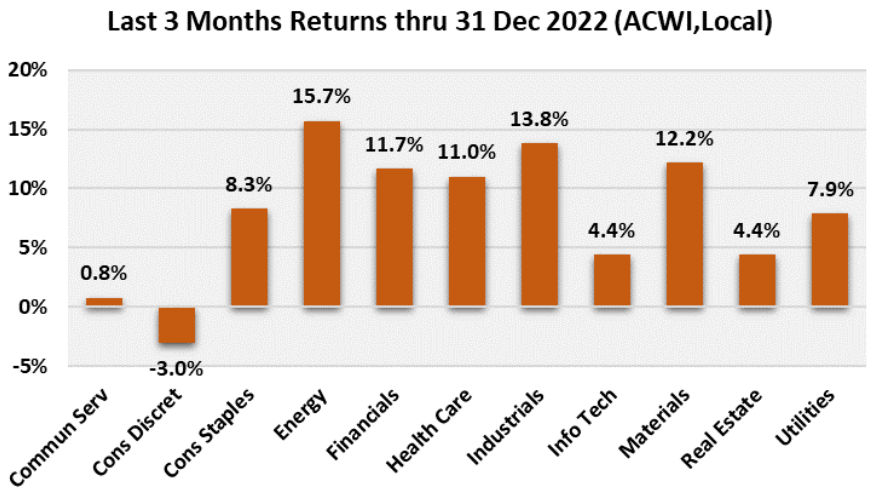

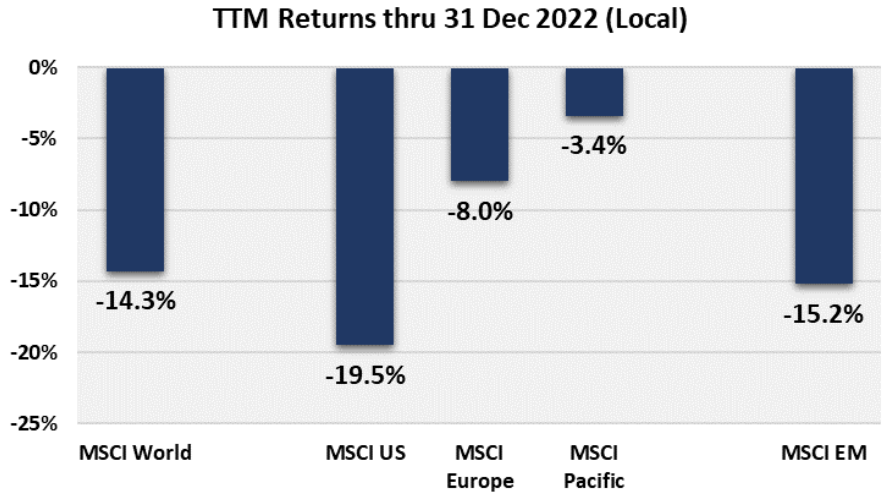

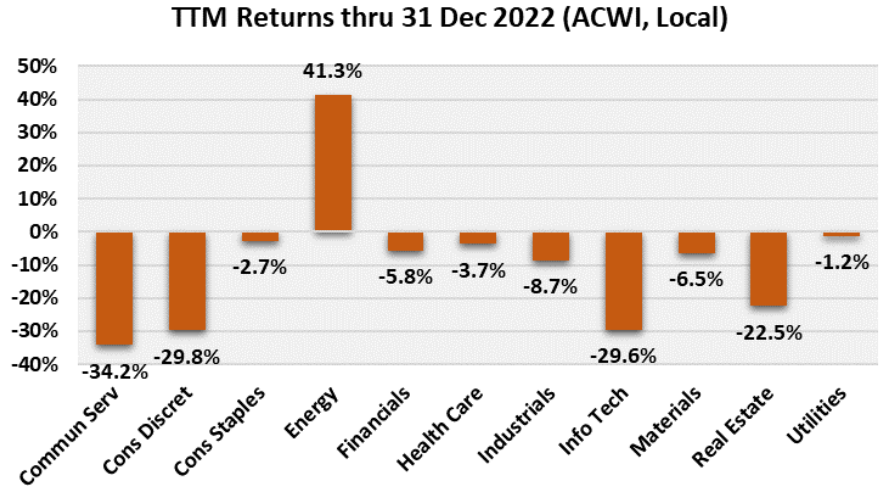

Sources: MSCI, Bloomberg. TTM defined as Trailing 12 months. ACWI refer to the MSCI ACWI Index - a capitalization-weighted global equity index provided by MSCI.

Ranked Asset Class Returns

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Ranked Asset Class Return by Year. Green Means You're Beating Inflation

Ranking	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
1	REITS (26%)	US 10yr (12%)	MSCI CN (21%)	US Small (37%)	REITS (27%)	MSCI JP (9%)	Commod. (21%)	MSCI CN (51%)	USD Cash (0%)	S&P 500 (29%)	MSCI CN (28%)	REITS (32%)	Commod. (0%)
2	US Small (25%)	TIPS (10%)	MSCI EU (18%)	S&P 500 (30%)	S&P 500 (13%)	REITS (2%)	US Small (19%)	MSCI EM (35%)	US 2yr (0%)	REITS (26%)	US Small (18%)	S&P 500 (20%)	USD Cash (-5%)
3	Commod. (25%)	EM$ Sov. (6%)	Global HY (18%)	MSCI JP (25%)	US 10yr (8%)	US 10yr (1%)	US HY (15%)	MSCI EU (24%)	US 10yr (-1%)	US Small (23%)	MSCI EM (17%)	Commod. (18%)	US 2yr (-10%)
4	MSCI EM (17%)	US IG (5%)	REITS (18%)	MSCI EU (24%)	MSCI CN (7%)	EM$ Sov. (1%)	Global HY (12%)	MSCI JP (22%)	US Agg (-2%)	MSCI EU (22%)	S&P 500 (17%)	MSCI EU (9%)	EM Local (-14%)
5	MSCI JP (14%)	US Agg (5%)	MSCI EM (17%)	US HY (6%)	US IG (7%)	S&P 500 (1%)	S&P 500 (10%)	S&P 500 (19%)	TIPS (-3%)	MSCI CN (21%)	MSCI JP (13%)	US Small (7%)	US HY (-17%)
6	US HY (13%)	REITS (4%)	EM$ Sov. (16%)	Global HY (6%)	EM$ Sov. (6%)	US 2yr (0%)	MSCI EM (9%)	US Small (12%)	US HY (-4%)	MSCI JP (17%)	Commod. (10%)	TIPS (-1%)	TIPS (-18%)
7	S&P 500 (13%)	US HY (2%)	US Small (14%)	MSCI CN (2%)	US Agg (5%)	US Agg (0%)	EM$ Sov. (7%)	EM Local (12%)	US IG (-4%)	MSCI EM (16%)	TIPS (10%)	US HY (-2%)	Global HY (-18%)
8	Global HY (13%)	Global HY (0%)	S&P 500 (14%)	REITS (1%)	US Small (4%)	USD Cash (-1%)	REITS (7%)	Global HY (8%)	EM Local (-5%)	US IG (12%)	US 10yr (9%)	MSCI JP (-5%)	US Agg (-19%)
9	EM Local (11%)	S&P 500 (-1%)	US HY (14%)	US 2yr (-1%)	TIPS (3%)	US IG (-1%)	US IG (4%)	EM$ Sov. (7%)	Global HY (-6%)	US HY (12%)	US IG (8%)	Global HY (-6%)	MSCI EU (-20%)
10	EM$ Sov. (11%)	US 2yr (-1%)	EM Local (13%)	USD Cash (-1%)	US HY (2%)	TIPS (-2%)	EM Local (4%)	REITS (6%)	REITS (-6%)	EM$ Sov. (11%)	US Agg (6%)	USD Cash (-7%)	US 10yr (-20%)
11	US 10yr (8%)	EM Local (-3%)	US IG (8%)	US IG (-3%)	US 2yr (0%)	MSCI EU (-3%)	TIPS (3%)	Commod. (5%)	EM$ Sov. (-6%)	Global HY (10%)	US HY (6%)	US 2yr (-7%)	US IG (-21%)
12	US IG (7%)	USD Cash (-3%)	MSCI JP (7%)	US Agg (-3%)	USD Cash (-1%)	Global HY (-3%)	MSCI JP (1%)	US HY (5%)	S&P 500 (-6%)	Commod. (8%)	Global HY (6%)	US IG (-8%)	MSCI JP (-22%)
13	US Agg (5%)	US Small (-7%)	TIPS (5%)	MSCI EM (-4%)	Global HY (-1%)	US Small (-5%)	US Agg (1%)	US IG (4%)	Commod. (-12%)	EM Local (7%)	MSCI EU (5%)	US Agg (-8%)	EM$ Sov. (-23%)
14	TIPS (5%)	Commod. (-11%)	US Agg (2%)	EM Local (-6%)	MSCI EM (-3%)	US HY (-5%)	MSCI CN (-1%)	US Agg (1%)	US Small (-13%)	US Agg (6%)	EM Local (4%)	EM Local (-8%)	S&P 500 (-23%)
15	MSCI CN (3%)	MSCI EU (-13%)	US 10yr (2%)	US 10yr (-7%)	EM Local (-3%)	MSCI CN (-8%)	US 2yr (-1%)	TIPS (1%)	MSCI JP (-14%)	US 10yr (6%)	EM$ Sov. (4%)	MSCI EM (-9%)	MSCI EM (-25%)
16	MSCI EU (3%)	MSCI JP (-17%)	Commod. (2%)	EM$ Sov. (-7%)	MSCI JP (-4%)	EM Local (-11%)	US 10yr (-1%)	US 10yr (0%)	MSCI EM (-16%)	TIPS (6%)	US 2yr (2%)	EM$ Sov. (-9%)	US Small (-26%)
17	US 2yr (1%)	MSCI EM (-21%)	US 2yr (-1%)	TIPS (-10%)	MSCI EU (-6%)	MSCI EM (-15%)	USD Cash (-2%)	USD Cash (-1%)	MSCI EU (-16%)	US 2yr (1%)	USD Cash (-1%)	US 10yr (-9%)	MSCI CN (-27%)
18	USD Cash (-1%)	MSCI CN (-21%)	USD Cash (-2%)	Commod. (-10%)	Commod. (-18%)	Commod. (-19%)	MSCI EU (-2%)	US 2yr (-2%)	MSCI CN (-20%)	USD Cash (0%)	REITS (-6%)	MSCI CN (-27%)	REITS (-30%)

Source: Bloomberg, Morgan Stanley Research; Note We compute annual returns minus US headline inflation. Green means returns (in USD) beat inflation, and red means returns trailed inflation. Data as of December 30, 2022.

Equity Premia Performance & Valuation Summary*

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	Performance		Valuation (z-score)	
	Last 3 Mo.	TTM	Last 10 Yrs	Last 35 Yrs
Value	7.5%	24.4%	-0.6	-1.2
Size (Small)	-0.5%	-4.2%	-0.9	-1.0
Momentum	2.1%	9.8%	-1.2	-0.6
Quality	1.8%	-2.0%	0.0	0.8
Low Volatility	-1.5%	8.0%	-1.2	-0.2

Highlights

- The Value rally resumed in Q4 and was the best performing factor over the last twelve months by a wide margin.
- Small cap stocks continue to lag despite favorable valuations relative to their history.
- High Momentum stocks have delivered a premium consistent with their history over the last quarter and year; their valuations are still attractive versus history as well.
- Low Volatility stocks have outperformed for the year after a long period of negative performance and are cheap versus their history.

Sources: Ken French website (http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html), MSCI, Bloomberg, Compustat, FactSet, IBES, Goldman Sachs Global Investment Research, SECOR
TTM defined as Trailing 12 months. As of December 31, 2022.

Long Term Return & Risk Assumptions

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Asset Class	Market Return	Volatility	Note: Last 10 Yrs Return
Developed Market Equity	**7.0%**	**17%**	10.6%
Emerging Market Equity	**7.5%**	**25%**	5.0%
Private Equity	**8.5%**	**30%**	19.2%

Source: MSCI, Preqin, SECOR. As of January 23, 2023.

Changes over the Quarter

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	30-Sep-22	30-Dec-22	Change
S&P 500 Index	3585.62	3839.50	7%
S&P 500 P/E	20.0x	20.5x	2%
S&P 500 2023 Est. EPS	6.6%	3.0%	-3.6%
US 10 Yr Yield	3.83%	3.88%	+5 bps
High Yield Spread	585 bps	509 bps	-76 bps
US CPI YoY	8.2%	7.1%	-110 bps

Sources: Standard & Poor's, Credit Suisse, Bloomberg, SECOR. P/E is the Price-to-Earnings ratio which is used for valuing a company that measures its current share price relative to its earnings per share. EPS (Earnings-per-Shares) is calculated as a company's profit divided by the outstanding shares of its common stock. The Consumer Price Index (CPI) measures the monthly change in prices paid by U.S. consumers.

Outlook

Public Equity – Factors Driving Outlook - Summary

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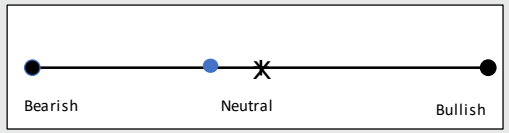
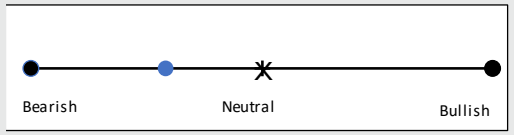
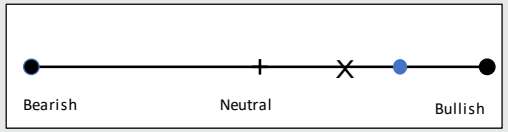
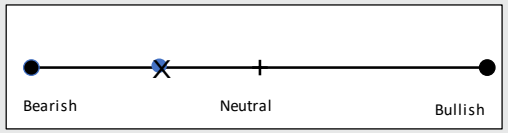
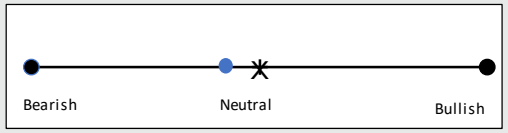
Factors	Comments	Historical Range
Valuation	• Valuations moderate globally from 2022 bear market to levels at or below more historical averages for many measures. • Rising bond yields have begun to narrow the relative attractiveness of stocks.	
Fundamentals	• Consensus earnings expectations for the remainder of 2022 and for 2023 have recently been revised down but remain positive. • Increasingly gloomy expectations driven by hawkish central banks and high (but falling) inflation. • Companies have so far been able to pass along higher costs, resilience may be put to the test should inflation persist.	
Technicals	• Equity outflows resumed after 2021 respite. • Most sentiment surveys have swung to strong pessimism. • Past large drawdowns have often been followed by periods of above-average equity returns. • Household stock ownership percentage no longer in extreme territory.	
Macro Impact	• End of the low-rate, low-inflation environment that underpinned equity valuation expansion? • Hopeful signs of success in inflation fight. • Moderating expectations for global growth threatens equity fundamentals. • No break from geo-political tensions.	
● Current Quarter X Last Quarter	9 – 12 Month View	

Source: SECOR. As of January 23, 2023.

Private Equity – Factors Driving Outlook – Summary

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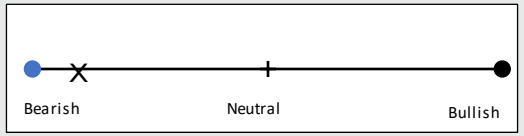
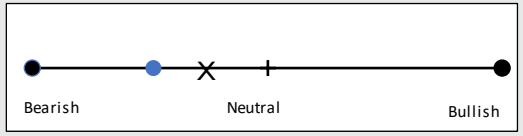
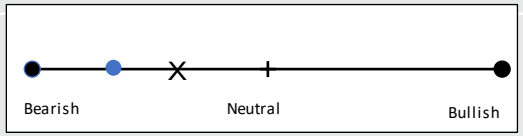
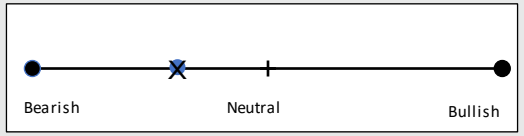
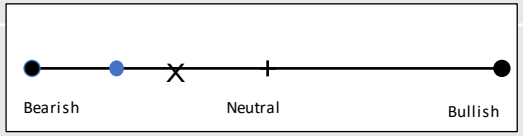
Factors	Comments	Historical Range
Valuation	• Deal multiples continued their rise in 2022 while public equity valuations moderated. • Leverage levels not extreme, however.	
Fundamentals	• Multiple expansion has been the biggest driver of PE returns in recent years; PE unlikely to be immune to compression seen in public stocks. • High yield bond default rates remain very low, but rising financing costs should impact deal economics, dampen activity. • LBO debt market softens but remains open.	
Technicals	• Deal activity well off 2021 record pace but still healthy. Exit activity slowed considerably in 2022. • Fundraising resilient, esp. for larger firms. • Increasing share of PE-sponsored deals in exit market.	
Macro Impact	• Rising rates and inflation threaten to disrupt PE environment. • Potential for increased regulation eased with Republican House control. • Cash conservation strategies likely to become more popular as growth slows.	
● Current Quarter X Last Quarter	9 – 12 Month View	

Source: SECOR. As of January 23, 2023. A leveraged buyout (LBO) is the acquisition of another company using a significant amount of borrowed money (bonds or loans) to meet the cost of acquisition.

Need to Change Inputs to Outlook Based on Drivers & Catalysts?

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The next 5 years return forecast remained unchanged from last quarter and is still well below long-term expectations, primarily due to an expectation for continued P/E contraction.

MSCI World	Long-Term Assumption	Last 5 Years	Next 5 Years Est.
Nominal EPS Growth	**4.2%**	**8.2%**	**3.9%**
Real Earnings Growth	***2.2%***	***3.9%***	***1.9%***
Inflation	***2.0%***	***4.3%***	***2.0%***
P/E Multiple Expansion/(Contraction)	**0.0%**	**-3.0%**	**-3.4%**
Annual Price Gain	**4.2%**	**5.2%**	**0.5%**
Dividend Yield	**2.8%**	**2.2%**	**2.8%**
Total Return (Local)	**7.0%**	**7.4%**	**3.3%**

Data as of 31 December 2022

Sources: Robert Shiller's Website, www.econ.yale.edu/~shiller/,OECD, MSCI, Bloomberg, SECOR.

MSCI World Price/Earnings Ratio

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- **The end-of-year (EOY) P/E for MSCI World of 16.7x was well below the median level of 20.1x since 1995.**
  - 14.0x forecast of long-term mean reversion

- **And MSCI World's Forward P/E of 15.4x is slightly lower than its median of 16.0x since the inception of the time series in 2001.**

Sources: MSCI, Bloomberg, SECOR . As of December 31, 2022. MSCI World Index - a capitalization-weighted global, developed markets equity index provided by MSCI.

Inflation – Transitory After All?

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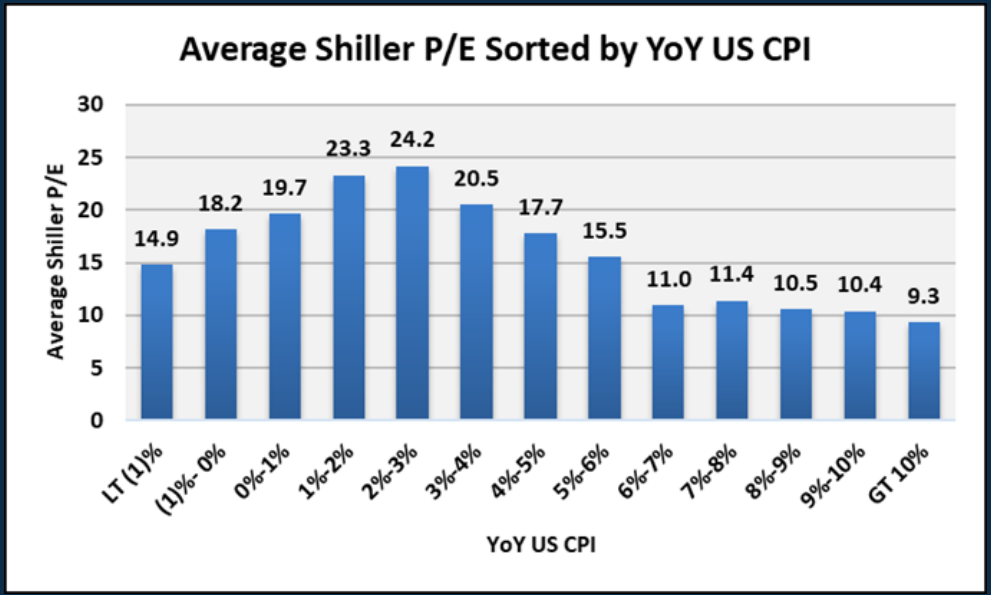
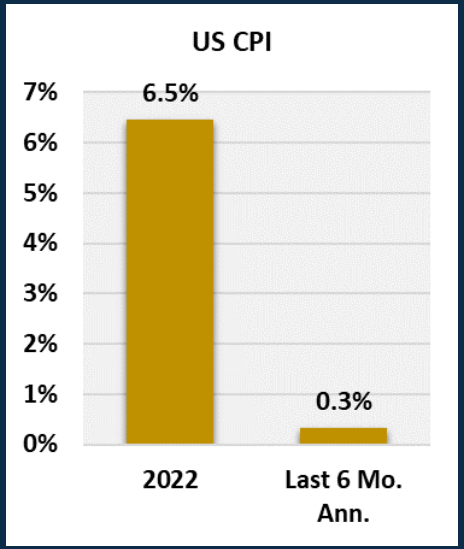
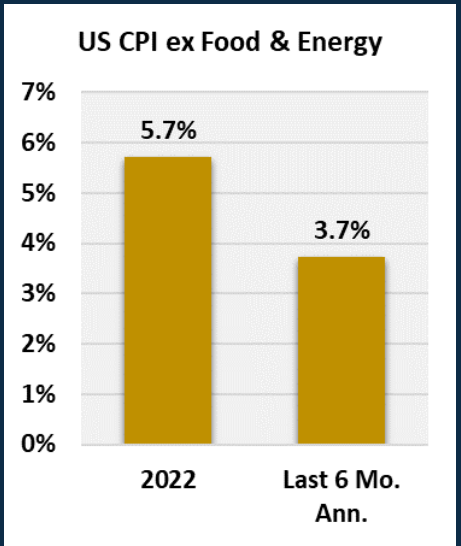
- **Equity markets got slammed in 2022 as valuations compressed with inflation rearing its head, consistent with past inflationary periods.**
  - S&P 500 was down 18% in 2022; its P/E fell 23%, from 26.6x at beginning-of-year to 20.5x at end-of-year
  - 2022 EPS are expected to increase by 4.5%, assuming Q4 comes in at consensus.

- **But early results show inflation has been easing.**
  - Although YoY US CPI is still high at 6.5%, the level of inflation has come down in 2H22; annual run-rate based on last 6 months is 0.3%.
  - Core CPI down to 5.7% YoY, annualized run rate of 3.7% based on last six months.







Sources: Professor Robert Shiller's Data Library, US Bureau of Labor Statistics, SECOR. As of December 31, 2022.

Inflation – Transitory After All?

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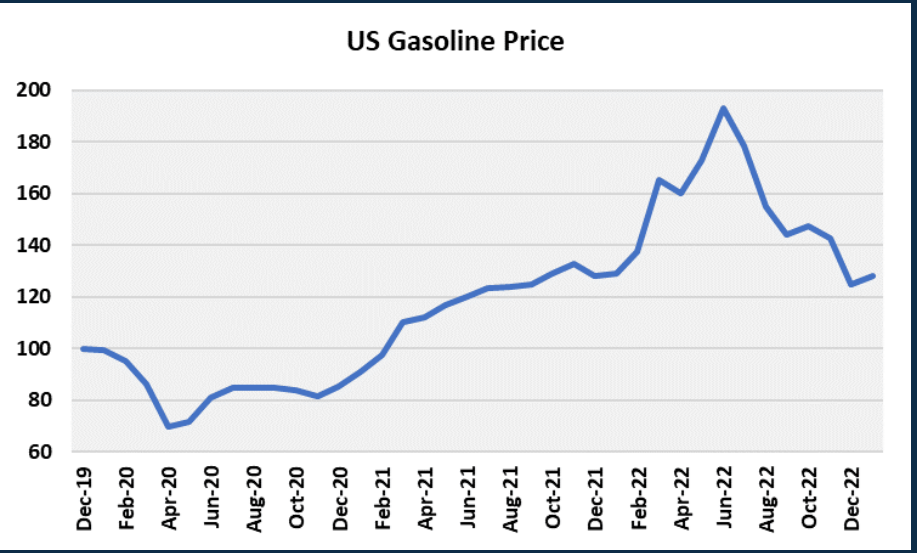
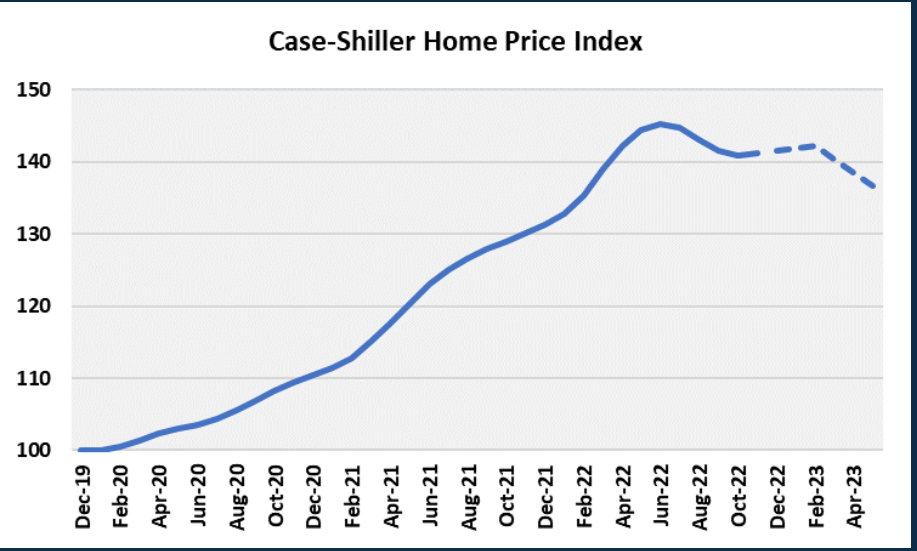
- **Index components that spiked during the pandemic (and as a result of war in Ukraine), such as gasoline prices and home prices are also in retreat.**
  - Gasoline prices peaked in June 2022 and are down 34% since but remain 28% above year-end 2019 level.

- **Home prices also rolled over in June and are down ~3% since with the futures market anticipating declines over the next couple of quarters.**





Sources: Federal Reserve Economic Database, SECOR. As of December 31, 2022.

Inflation – Transitory After All?

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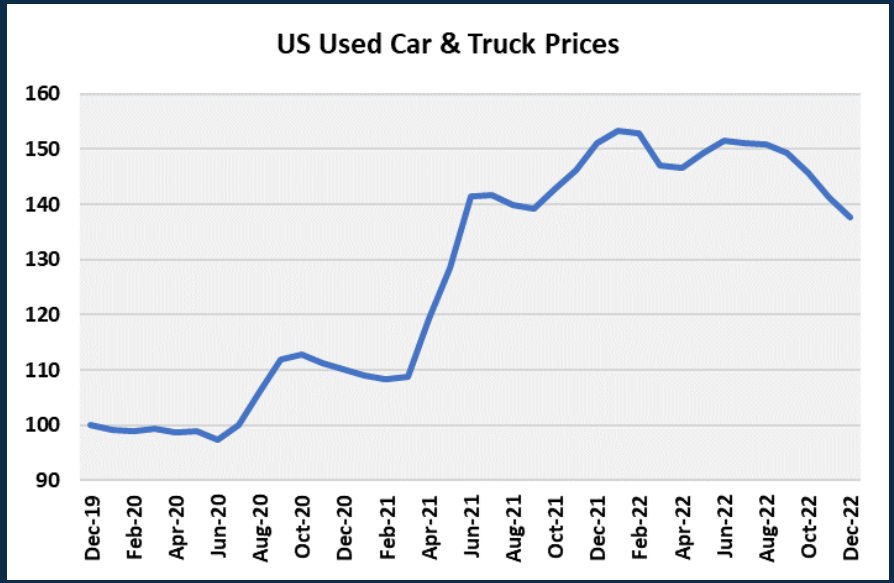
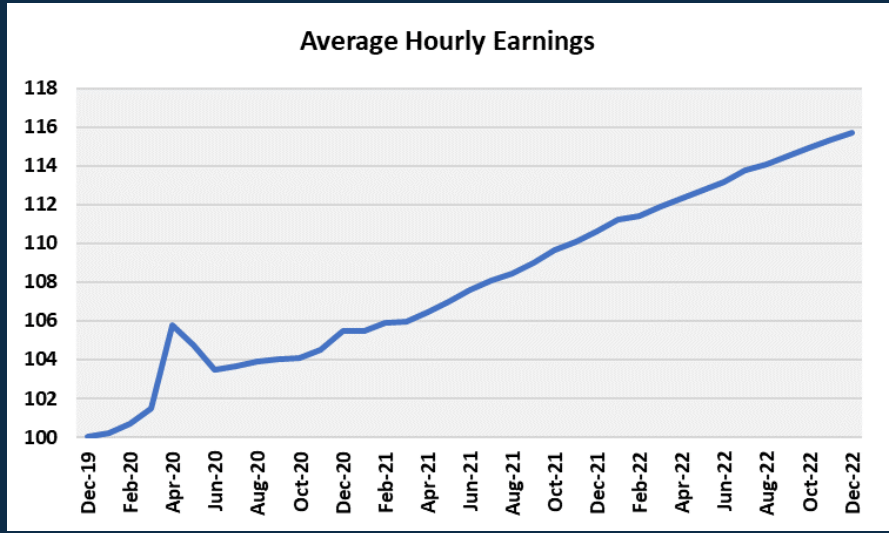
- **Used car prices peaked in Jan. 2022 and have fallen 10% since then; prices are still 40% above year-end 2019 level however.**

- **Hopeful signs from the labor market - Hourly wages grew 4.6% in Dec. YoY after peaking at 5.6% in Mar. 2022; current rate, however, is still above the average growth rate of 2.9% for the five years ending 2019.**





Sources: Federal Reserve Economic Database, US Bureau of Labor Statistics, SECOR. As of December 31, 2022.

US Equity versus Credit

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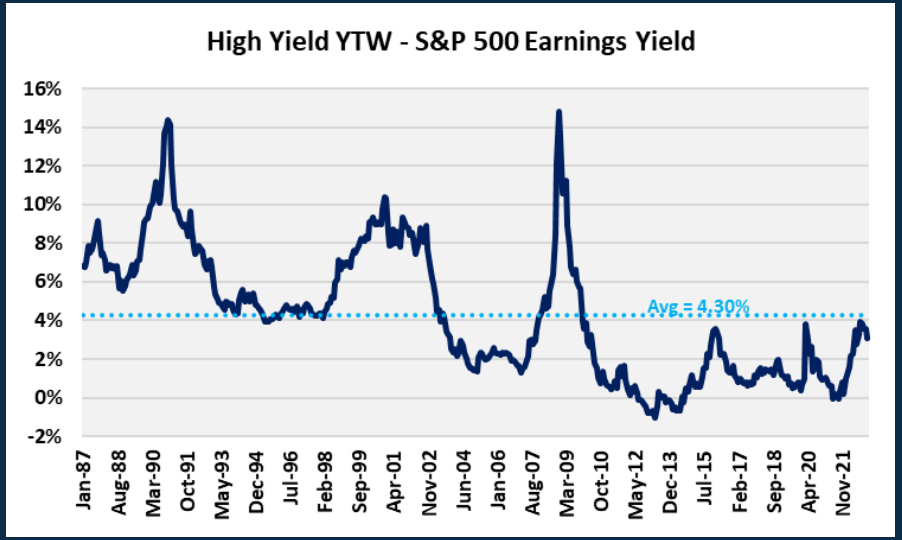
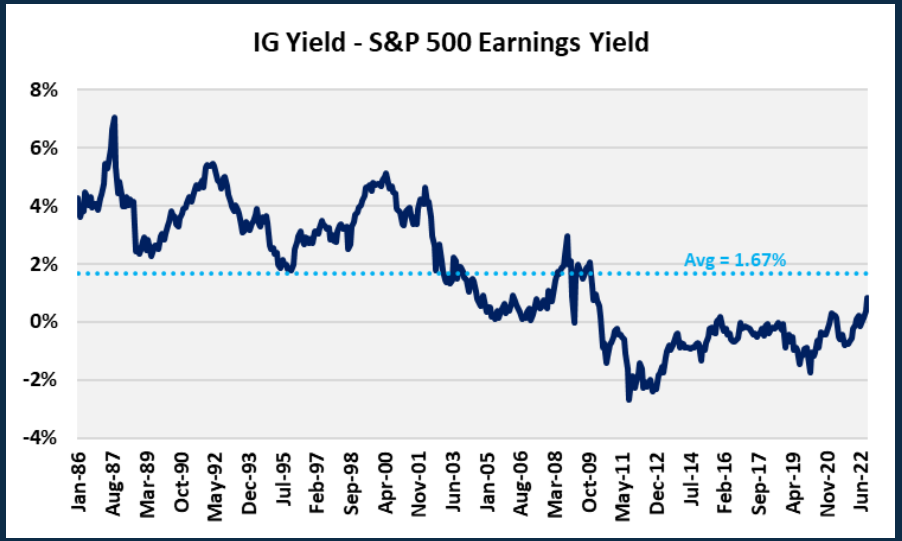
- **With the narrowing high yield bond spread in Q4, the spread between high yield yield-to-worst (YTW) and the US equity Earnings Yield is now below average.**
  - The spread between High Yield YTW (8.35%) and the S&P 500 Earnings Yield (5.27%) stood at 308 bps at 10-Jan-2023, below the average of 430 bps since 1987 (44th percentile).
  - The spread has expanded from ~0 one year ago.

- **The spread between the Investment Grade (IG) Yield and the equity Earnings Yield, however, remains below average.**
  - The spread between the IG Yield (5.63%) and the S&P 500 Earnings Yield (5.27%) stood at 36 bps at 10-Jan-2023, below the average of 166 bps since 1986 (and 36th percentile).
  - This spread has also expanded from a year ago when the earnings yields exceeded the IG yield by ~-70 bps.





Sources: CS BarCap, Federal Reserve Economic Database, Moody's, Standard & Poor's, Bloomberg.
As of December 31, 2022.

US Equity versus Bonds

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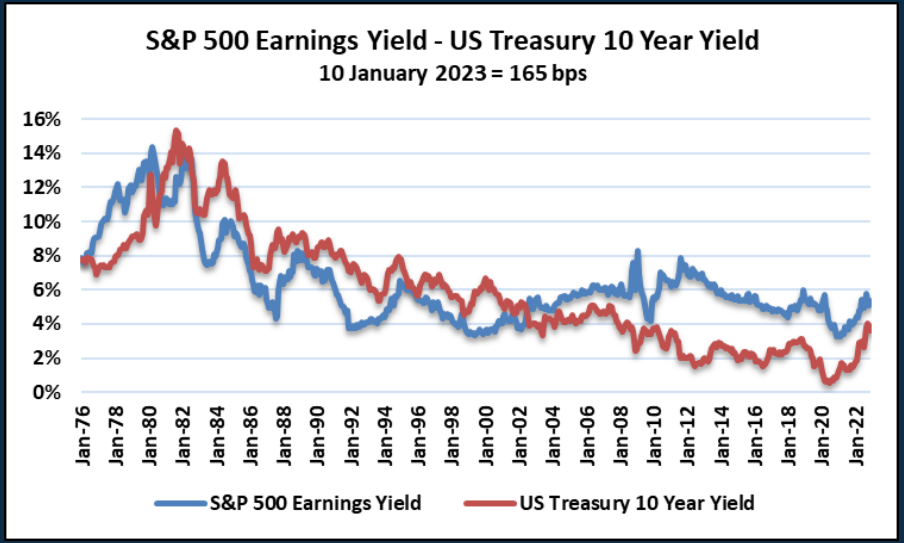
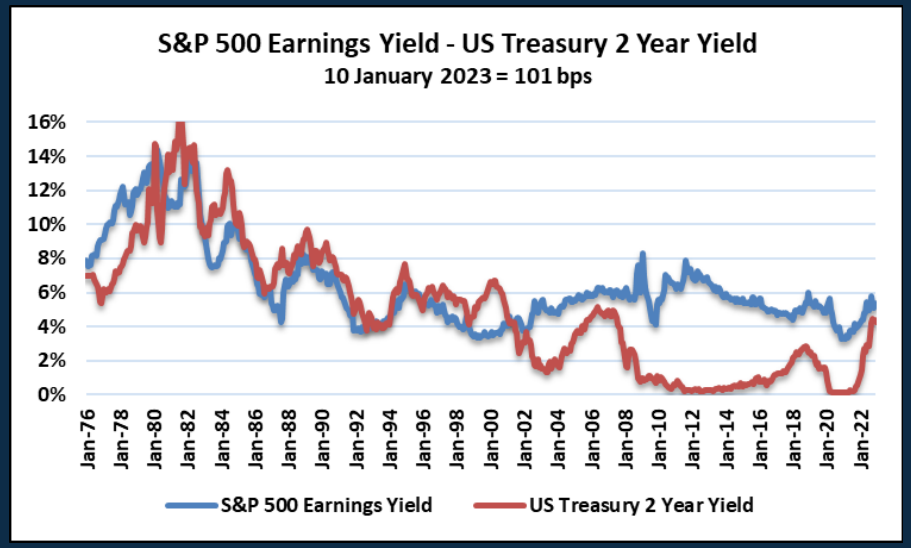
- **The spread between the equity earnings yield and the US 10 Year yield remains wide by historical standards but has narrowed recently.**
  - The spread of 165 bps as of 10-Jan-2023 compares to a median of 77 bps from 1976.

- **And the spread between the equity yield and the yield on the US 2 Year Note (101 bps) is at its narrowest since 2007 and narrower than long-term median of 131 bps.**
  - TINA (There Is No Alternative) → TARA? (There Are Reasonable Alternatives)





Sources: Standard & Poor's, Bloomberg. As of December 31, 2022.

Europe Equity over US Equity

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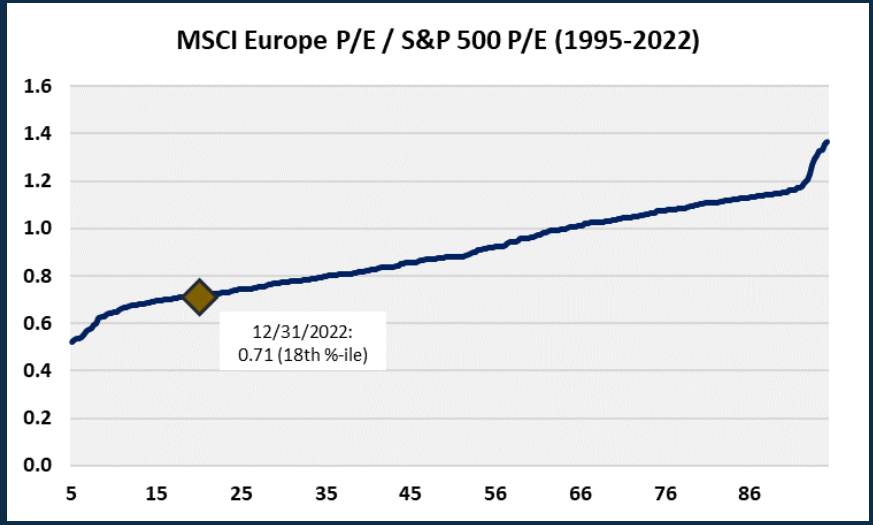
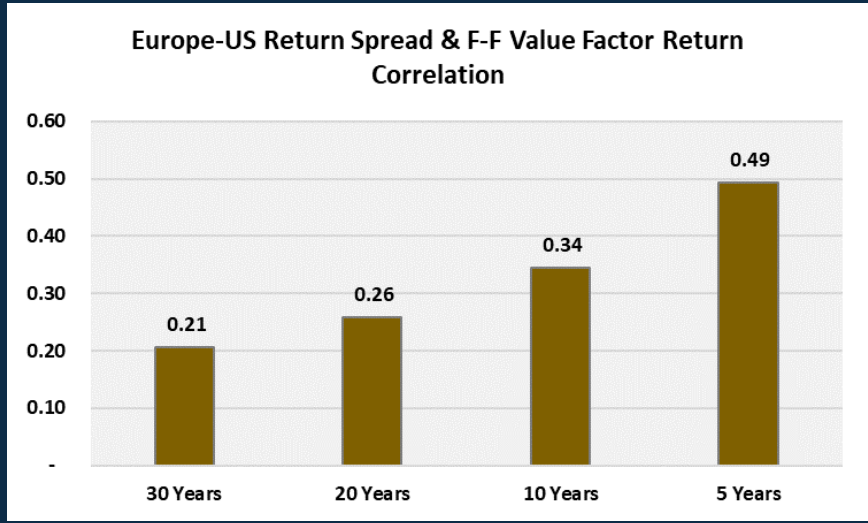
- **European stocks appear attractively valued relative to US stocks.**
  - EOY MSCI Europe P/E = 14.6x
  - EOY S&P 500 P/E = 20.5x
  - EOY P/E relative of 0.71 ranks in the 18th percentile of relative valuation since 1995.



- **The return spread between Europe and the US has become increasingly related to the performance of the global Value factor.**
  - Due to sector differences between the two regions, Europe has become more of a Value market in comparison to the US.



Sources: MSCI, Standard & Poor's, Bloomberg, Professor Ken French Data Library, SECOR. As of December 31, 2022.

Europe Value

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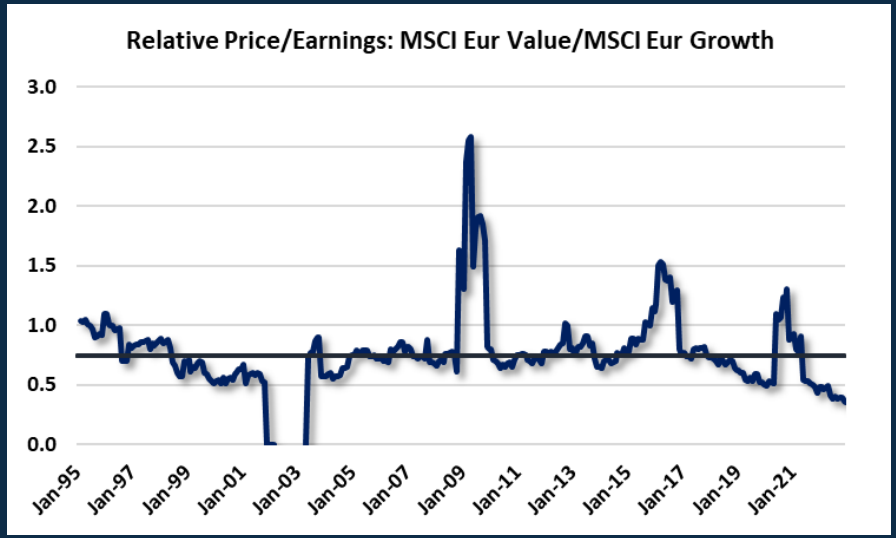
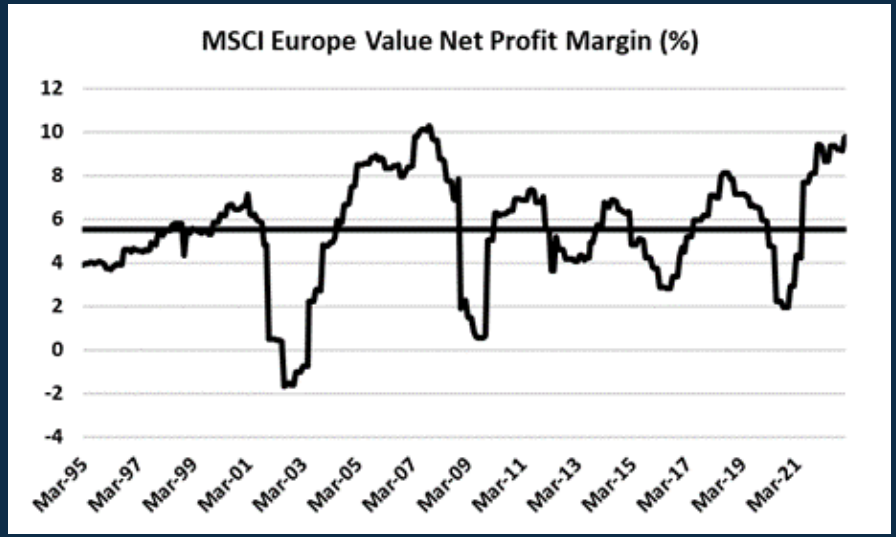
- **And the perceived cheapness of Europe is driven by its Value stocks.**
  - EOY Europe Value P/E = 10.5
  - EOY Europe Growth P/E = 29.2
  - P/E relative to Growth of 0.36 is well below the median of 0.74 since 1995.

- **But those valuations are based on cyclical-peak earnings for Value.**
  - European Value stock profitability is near a 30-year peak with a net profit margin of 9.8%, more than 4% above its median as cyclicals rebounded from COVID disruptions.





Sources: MSCI, Bloomberg, SECOR. As of December 31, 2022.

Europe Profit Margins

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- **Unlike Value margins that expanded in 2022, Growth margins contracted by ~5% in 2022 to pre-COVID levels, but still well above historical average.**

- **Value stocks finished the year with a higher net margin than Growth stocks – a rare occurrence.**
  - EOY spread favoring Value by 0.4% compares to a longer-term average of a 1.9% advantage for Growth.

Sources: MSCI, Bloomberg, SECOR. As of December 31, 2022.

US Equity versus Europe

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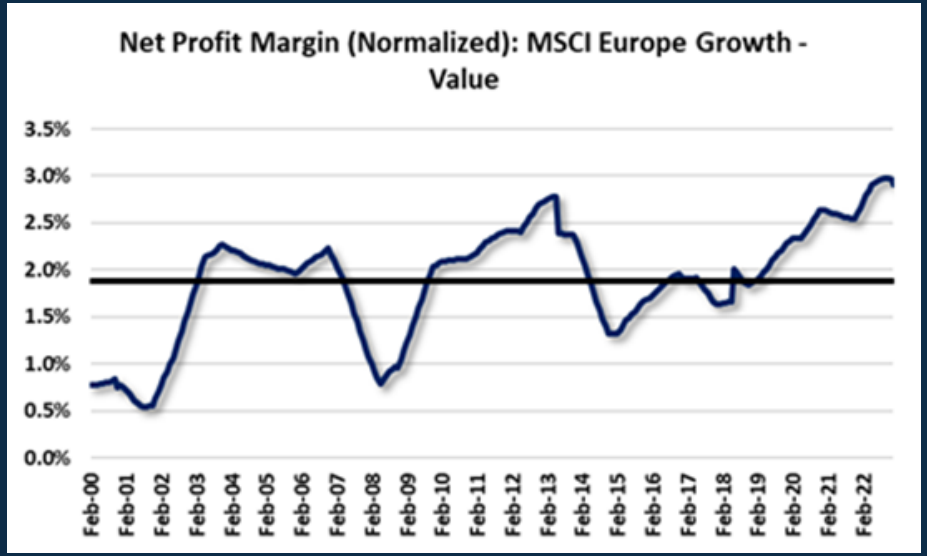
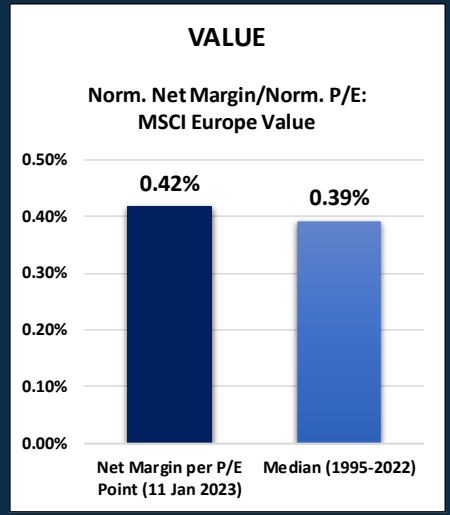
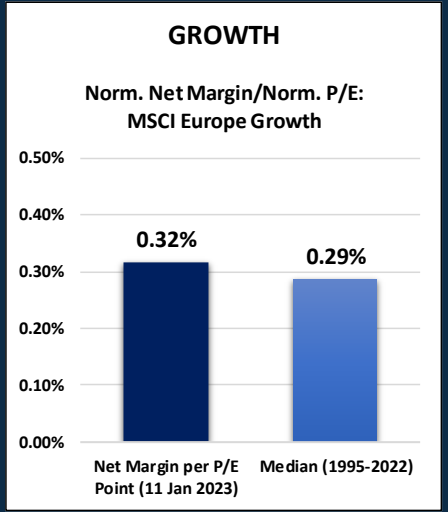
- **On a normalized basis, though, the profit margin advantage of Growth over Value stocks remains wide.**

- **Both Value and Growth stocks in Europe are delivering slightly more profitability per P/E point on a normalized basis, neither supportive of a large under-pricing of European equities.**







Sources: MSCI, Standard & Poor's, Bloomberg, Professor Ken French Data Library, SECOR. As of December 31, 2022.

Three Catalysts That Could Change Our View

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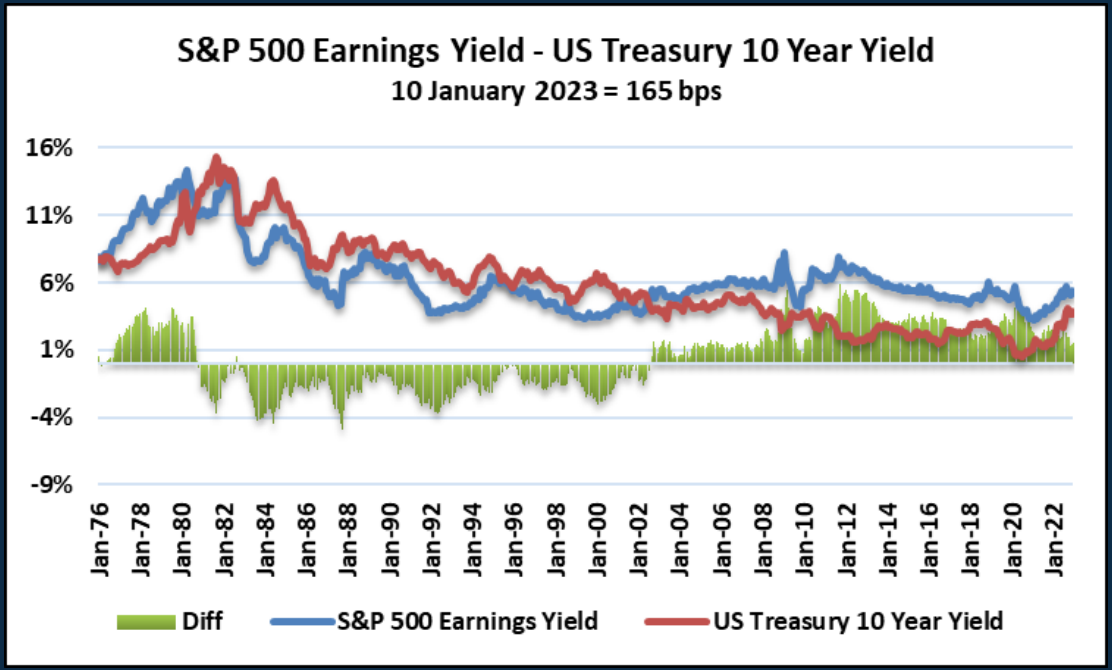
1. **The attractiveness of equities relative to other assets reverses.**
   - The spread between the earnings yield and yields on bonds and credit continues to favor stocks

2. **Inflation cools quickly and we re-enter the era of hyper-dovish central banks making equites at today's valuations attractive.**

3. **Geopolitical shock: Russia resorts to nuclear weapons, China attacks Taiwan; equities look very expensive under this scenario.**



Sources: Standard & Poor's, Bloomberg, SECOR.

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