

The ECB is set to exit negative interest rate policy by the end of Q3:2022

- Global financial markets continue to exhibit increased volatility, as central banks' guidance points to significantly higher policy interest rates from current levels, in order to combat inflation. Stress in global financial markets are above average levels, according to the US Treasury OFR Financial Stress Index (see graph below).
- Discounting rising probabilities for a "hard landing", the S&P500 has decreased by -17% since its January highs of 4797, dipping briefly into "bear market" territory on Friday.
- The US Dollar lost ground after having reached a 20-year high in trade-weighted terms (DXY index -1.4% wow and a further -1% on Monday), as the decline in Bond yields more than offsets investors' elevated "safe haven" demand. Two-year interest rate differentials (Germany versus US) narrowed by 23 bps to 222 bps. The USD tends to benefit both when the US economy overperforms rest-of-the world economic growth, but also, counter-intuitively, during recessions, as demand for safe-assets picks up.
- Sustained geopolitical tensions add to market volatility. US President Biden's comments that the US will intervene militarily if China tries to take control of (the self-governing) Taiwan by force, drew attention. Having said that, Mr. Biden reiterated the US's agreement with the "One China" policy, under which the US acknowledges that Taiwan is part of China.
- The economic background in China remains bleak, as well. House prices lost further ground in April, in view of soft demand combined with pandemic-related restrictions weighing on transactions. In the 70 medium and large-sized cities monitored by China's Bureau of Statistics, the annual growth for new residential buildings stood at +0.7% year-over-year (on a population-weighted average basis), the lowest since October 2015, from a peak of +11% yoy during 2019.
- Regarding euro area data, PMIs for May maintained an outlook of strong growth in services (56.3), in view of tourism and recreation activities getting a boost from pandemic-related pent-up demand. On the other hand, manufacturing output struggled to grow (51.2) due to headwinds from supply chain jitters. Overall, the composite PMI was down by 0.9 pts to 54.9 in May.
- The European Commission downgraded sharply its GDP forecasts for the euro area compared with three months ago, by 1.3 pps to +2.7% for 2022 and by 0.4 pps to +2.3% in 2023, from +5.4% in 2021. That development is mainly due to the war in Ukraine, leading to supply disruptions, uncertainty and renewed inflation pressures which squeeze households' purchasing power and accelerate the tightening of financial conditions. The balance of risks is heavily skewed to the downside.
- The still strong headline forecast for 2022 masks a subdued growth dynamic. Indeed, the biggest portion (1.9 pps) is the result of carry-over effects from the previous year (or, in other words, the mechanical effect if the quarterly levels of GDP remained at the same level as those in Q4:2021), with 0.8 pps attributed to growth within 2022. According to our estimates, full-year 2022 expectations are boosted mechanically in the US, as well (see graph below).

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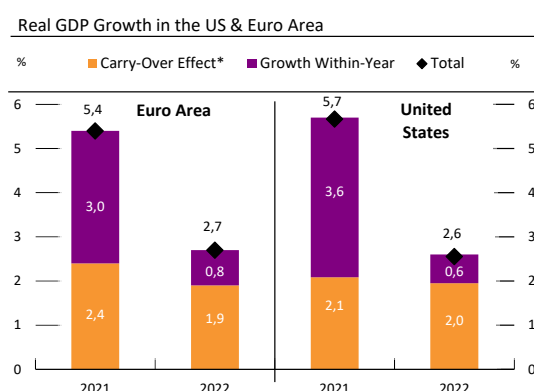
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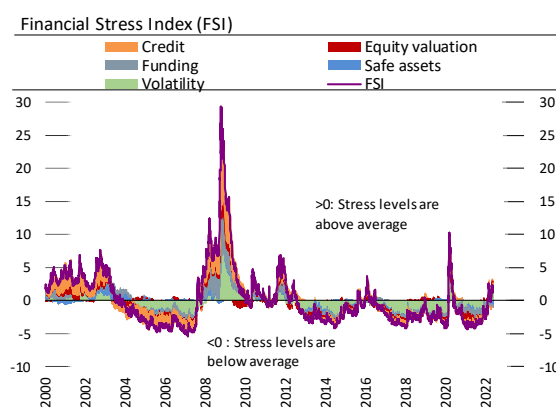
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Charts of the week



*: How much GDP would grow on a year-on-year basis, if it remains at the same level as in the last quarter of the previous year
Source: European Commission, US Bureau of Economic Analysis, NBG Research, Estimates for 2022 from the European Commission for the Euro Area and from NBG Research for the US



Source: NBG Research, Office of Financial Research, FSI measures systemic financial stress - disruptions in the normal functioning of financial markets. It is constructed from 33 financial market variables from 5 categories: credit, equity valuation, funding, safe assets and volatility

US housing market faces heavy challenges, as affordability is pressured in view of sharp construction costs and mortgage interest rates are on the rise

- **Existing home sales fell by 2.4% mom in April (-5.9% yoy), to 5.61mn (on an annualized basis), broadly in line with expectations.** Although April's reading still exceeds an average of 5.37mn since 2000, an easing has now been recorded consistently in the past three months (-3.0% mom in March and -8.6% mom in February), suggesting a moderation in demand in view of: i) more potential purchasers being priced out of the market and; ii) higher mortgage interest rates.
- **On affordability,** recall that the median existing home sales price has demonstrated a sustained strong upward momentum for more than two years now (roughly since the start of the pandemic), standing in April 2022 at levels 46.9% above the respective ones in January 2020 and with the annual pace of growth at +14.8%. In a similar note, in February, the S&P CoreLogic Case-Shiller 20-City home price index stood at +20.2% yoy (+35.5% compared with January 2020). Sharp construction costs remain a major factor for the increase in housing valuations. In the event, the international supply chain crunch regarding building materials, combined with the sharp increase in international commodity prices, have pushed prices paid for goods used in residential construction, up by 22.1% yoy in April 2022 and at +46.5% versus a trough in April 2020.
- **Finally, mortgage interest rates are on the rise, in tandem with monetary policy tightening in the US.** Indeed, according to data from Freddie Mac, the 30-year fixed mortgage rate stood at 5.25% for the week ending on May 19th, compared with a trough of 2.77% in early-August 2021 (3.76% just 11 weeks ago in early March | 3.9% on average since 2010). In that context, mortgage applications have posted a substantial easing recently, according to the Mortgage Bankers Association (-48.3% for the week ending May 13th, compared with late-January 2022).

US retail sales remained robust in April

- **Nominal retail sales rose strongly, by 0.9% mom (seasonally adjusted) in April,** largely in line with consensus estimates. However, the level exceeded expectations, given a meaningful upward revision for March (+0.7 pps to +1.4% mom). Regarding the annual pace of growth, it accelerated to +8.2% from +7.3% in March. At the same time, the so-called "control group", as it feeds into the calculation for GDP (i.e., excluding autos, gas, food services and building materials) was up by 1.0% mom, versus consensus for +0.6% mom. Moreover, the positive surprise was more profound for the level of the "control group", given an upward revision of 0.4 pps for March's outcome (to +1.1% mom). The annual growth was +6.7% yoy in April from +4.2% yoy in the previous month. In all, retail sales remain particularly elevated, 29% above (in nominal terms) pre-pandemic (February 2020) levels (+27% for the "control group").

US industrial production exceeded expectations in April

- **US industrial production rose by 1.1% mom in April, from +0.9% mom in March, above consensus estimates for +0.4%.** The latest, was the 4th consecutive robust monthly growth (+0.9% mom on average since January), while the annual pace of growth accelerated to +6.4% yoy in April, from +5.4% yoy in the previous month. Importantly, manufacturing production (78% of total) rose solidly for a 3rd consecutive month, by 0.8% mom (+5.8% yoy) in April, following also a +0.8% mom in March and +1.3% mom in

February, versus consensus estimates for +0.3% mom, as factory output strives to catch up with demand. In the event, the insofar major laggard among industry groups, particularly since early-2021, i.e. the output of motor vehicles & parts, continued its recovery, up by 3.9% mom following a +8.3% mom in March.

Japanese real GDP slightly fell in Q1:22, albeit more modestly than expected

- **Real GDP decreased by 0.2% qoq in Q1:22 according to the preliminary estimate (+0.2% yoy), following a downward revised (by 0.2 pps) +0.9% qoq (+0.4% yoy) in Q4:21, albeit exceeding consensus estimates for -0.4% qoq.** Both the outcomes in the past two quarters were significantly influenced by the pandemic situation (improved in Q4:21, with respective states of emergency being lifted | deteriorated in Q1:22, with some measures being reimposed). In all, **private consumption** was largely flat on a quarterly basis in Q1:22 (broadly neutral to overall GDP growth | +1.9% yoy), from +2.5% qoq (+1.6% yoy) in Q4:21. At the same time, **business investment** increased by 0.5% qoq (+1.0% yoy) in Q1:22, contributing 0.1 pp to the headline figure (+0.4% qoq | -0.2% yoy in the previous quarter). **Inventories** added further 0.2 pps to the headline figure in Q1:22 after having subtracted 0.2 pps in the previous quarter. **Government consumption** rose by 0.6% qoq (+0.1 pp | +2.2% yoy), from -0.3% qoq (+0.9% yoy) in Q4:21, contrary to **public investment** which fell by 3.6% qoq (-0.2 pps | -15.2% yoy) from -4.7% qoq (-11.6% yoy) in Q4:21. **Residential investment** was also down, by 1.1% qoq (minor drag on overall GDP growth | -3.0% yoy), from -1.2% qoq (-0.9% yoy) in Q4:21. Finally, the most meaningful drag on the headline, came from **net exports** (-0.4 pps), as imports (+3.4% qoq | +7.3% yoy) outpaced exports (+1.1% qoq | +4.5% yoy).

UK CPI inflation accelerated sharply to a record high in April

- **Headline CPI came out at +9.0% yoy in April, from +7.0% yoy in March, the highest on record (since 1989).** Recall that a sharp acceleration was anticipated (consensus estimates stood at +9.0% yoy, while the respective ones from the Bank of England in its May Monetary Policy Report, at +9.1% yoy), *inter alia*, due to a reset in the energy price cap (up by 54% due to significantly higher prices for international energy commodities since the last reset in October 2021) from the energy regulator Office of Gas and Electricity Markets (the cap limits the rates which suppliers can charge for their default tariffs). Indeed, a large part of the acceleration in the headline, was due to the annual growth of the energy component coming out at +52.1% from +27.6% yoy in March (the electricity component went up to +53.5% yoy from +19.2% yoy in March and its gas peer to +95.5% yoy from +28.3% yoy).
- At the same time, the respective pace for prices of food, alcoholic beverages & tobacco, accelerated by 0.4 pps to +6.0%, the highest since October 2011. Finally, core CPI (i.e. excluding the two aforementioned components) came out at +6.2% yoy in April from +5.7% yoy in March, the highest since March 1992. The latest outcome compares with consensus estimates for +5.9% yoy, with a boost, *inter alia*, from the return of the VAT rate to 20% in the hospitality sector (from 12.5%, which was a reduced rate in view of policy measures to stem the economic consequences of the pandemic), which led the hotels & restaurants component to +7.9% yoy in April, from +6.9% yoy previously.

Equities

- Global equity markets exhibited high volatility in the past week.** Specifically, the MSCI ACWI declined by -1.2%, with Developed Markets underperforming (-1.7% | -18% ytd) their Emerging Markets peers (+3.1% | -16% ytd). The EM index benefitted by the increase of Chinese equities (China's weight in MSCI EM is c. 31%), with MSCI China rising by 4.2% w/w, as the PBoC announced a 15-bps cut to the five-year loan prime rate (LPR) to 4.45% and a 20-bps cut to the lower limit of mortgage rates for first-time homebuyers, to support the country's property sector. In the US, the S&P500 declined by 3% w/w, posting its lowest level since March 2021 (3901), while also recording its 7th consecutive week with losses, for the first time since 2001. The S&P500 declined by 4% on Wednesday, its largest daily decrease since June 2020, with weaker-than-expected earnings results of major retailers weighing on investors' sentiment. Specifically, Target Corporation declined by 29% w/w and Walmart by 19% w/w, with companies citing significant cost challenges that pressure their profit margins. Furthermore, the index briefly entered into bear market territory on Friday during intraday trading, recording a 20% drawdown from its early-January peak (4797). Volatility remained elevated, with the index posting a daily change of over 2%, in either direction, in 10 of the 21 latest sessions. Meanwhile, the Dow Jones Industrial Average declined by 2.9% w/w, recording its 8th consecutive week with losses, for the first time since 1932.

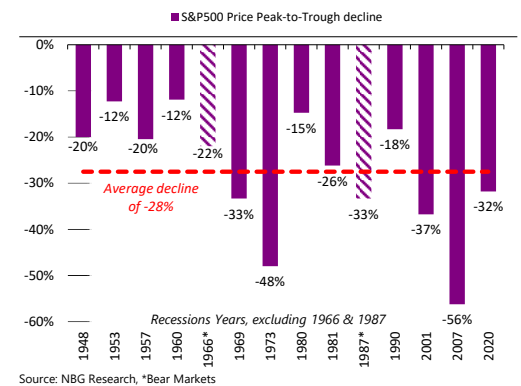
Fixed Income

- Government bond yields were mixed in the past week.** Specifically, in the US, the 10-year yield fell by 14 bps to 2.79%, as investors turned to "safe haven" assets on Wednesday, as equities recorded significant losses. Notably, Fed Chair, J. Powell, commented that the Fed will keep raising interest rates until inflation comes down in a "clear and convincing way", without hesitating moving beyond a neutral policy, if it is required. In the UK, the 10-year government bond yield rose by 15 bps w/w to 1.90%, following the acceleration of inflation to a 40-year high (+9% in April) and better-than-expected employment data. In Germany, the 10-Year yield remained broadly stable at 0.95%. Periphery government bond yields rose significantly, with spreads widening, following ECB Governing Council member Knot's comments that a 50-bps hike in July meeting is possible. Specifically, in Italy, the 10-year yield rose by 13 bps w/w to 2.99% and in Spain, it increased by 7 bps w/w to 2.08%. In Greece, it rose by 26 bps w/w to 3.71%, while notably, EU Commissioner, P. Gentiloni, commented that the Commission may not extend the enhanced surveillance status for Greece after its expiration in August.
- Corporate bond spreads widened in the past week in the USD spectrum.** Specifically, US HY spreads rose by 28 bps to 491 bps, while their Investment Grade peers rose by 8 bps to 155 bps. EUR HY and IG spreads were broadly stable at 500 bps and 165 bps, respectively.

FX and Commodities

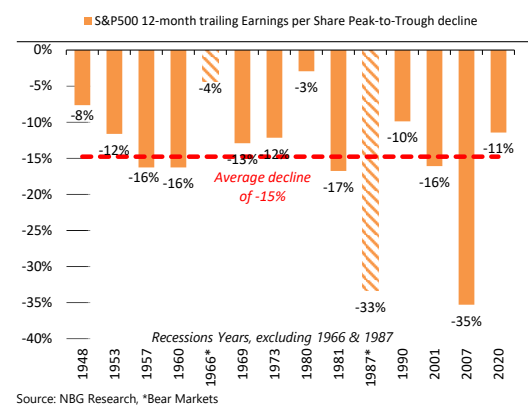
- In foreign exchange markets, the British pound appreciated in the past week,** following strong labor market data, with the unemployment rate falling to 3.7% in the three months ending March 31st, posting its lowest level since 1974, with the job vacancies surpassing the number of unemployed people for the first time on record. Overall, the Sterling, rose by 0.4% w/w against the euro to €0.847 and by 2% w/w against the US dollar to \$1.247.
- Finally, in commodities, oil prices exhibited increased volatility, due to uncertainty regarding the global demand and supply outlook.** Regarding supply, Russian oil production declined by nearly 9% mom in April to 9.2 million bpd, while the country projects that oil production will be 10.3% yoy lower in 2022 and will remain below 2021 levels at least until 2025. Regarding demand, concerns remain elevated due to the restrictive measures still in place in China and the recession worries in the US. Overall, the Brent ended the week up by 0.9% w/w to \$112.6/barrel, while the WTI rose by 2.5% to \$113.2/barrel.

S&P500 Price Peak-to-Trough decline around Recessions & Bear markets



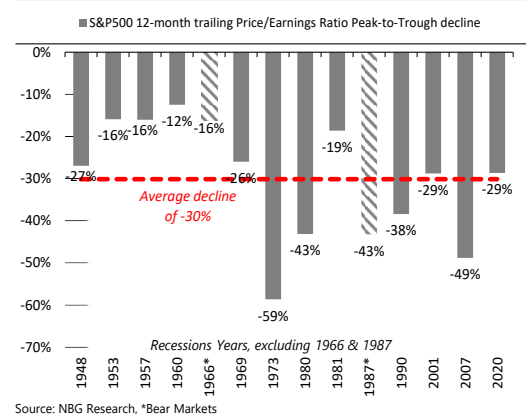
Graph 1.

S&P500 12-month trailing Earnings per Share Peak-to-Trough decline



Graph 2.

S&P500 12-month trailing Price/Earnings Ratio Peak-to-Trough decline



Graph 3.

Quote of the week: "I expect net purchases under the APP to end very early in the third quarter. This would allow us a rate lift-off at our meeting in July, in line with our forward guidance. Based on the current outlook, we are likely to be in a position to exit negative interest rates by the end of the third quarter", **President of the ECB, Christine Lagarde, May 23rd 2022.**

Interest Rates & Foreign Exchange Forecasts

| 10-Yr Gov. Bond Yield (%) | May 20th | 3-month | 6-month | 12-month | Official Rate (%) | May 20th | 3-month | 6-month | 12-month |
|---------------------------|----------|---------|---------|----------|-------------------|----------|---------|---------|----------|
| Germany | 0.95 | 1.00 | 1.10 | 1.30 | Euro area | -0.50 | -0.50 | -0.25 | 0.25 |
| US | 2.79 | 3.00 | 3.10 | 3.20 | US | 1.00 | 1.50 | 2.00 | 3.00 |
| UK | 1.90 | 1.87 | 1.92 | 1.91 | UK | 1.00 | 1.25 | 1.50 | 1.75 |
| Japan | 0.23 | 0.22 | 0.23 | 0.26 | Japan | -0.10 | -0.10 | -0.10 | -0.10 |

| Currency | May 20th | 3-month | 6-month | 12-month | May 20th | 3-month | 6-month | 12-month | |
|----------------|----------|---------|---------|----------|----------------|---------|---------|----------|------|
| EUR/USD | 1.06 | 1.06 | 1.08 | 1.10 | USD/JPY | 128 | 125 | 124 | 123 |
| EUR/GBP | 0.85 | 0.85 | 0.86 | 0.87 | GBP/USD | 1.25 | 1.25 | 1.26 | 1.27 |
| EUR/JPY | 136 | 132 | 134 | 136 | | | | | |

Forecasts at end of period

Economic Forecasts

| United States | 2020a | Q1:21a | Q2:21a | Q3:21a | Q4:21a | 2021a | Q1:22a | Q2:22f | Q3:22f | Q4:22f | 2022f |
|---------------------------------------|-------|--------|--------|--------|--------|-------|--------|--------|--------|--------|-------|
| Real GDP Growth (YoY) (1) | -3,4 | 0,5 | 12,2 | 4,9 | 5,5 | 5,7 | 3,6 | 2,6 | 2,8 | 1,7 | 2,7 |
| Real GDP Growth (QoQ saar) (2) | - | 6,3 | 6,7 | 2,3 | 6,9 | - | -1,4 | 2,9 | 3,0 | 2,4 | - |
| Private Consumption | -3,8 | 11,4 | 12,0 | 2,0 | 2,5 | 7,9 | 2,7 | 3,2 | 3,5 | 2,7 | 3,3 |
| Government Consumption | 2,5 | 4,2 | -2,0 | 0,9 | -2,6 | 0,5 | -2,7 | 2,6 | 1,7 | 1,7 | -0,4 |
| Investment | -2,7 | 13,0 | 3,3 | -0,9 | 2,7 | 7,8 | 7,3 | 4,9 | 4,1 | 3,7 | 4,1 |
| Residential | 6,8 | 13,3 | -11,7 | -7,7 | 2,2 | 9,2 | 2,1 | 2,6 | 2,7 | 2,2 | 0,1 |
| Non-residential | -5,3 | 12,9 | 9,2 | 1,7 | 2,9 | 7,4 | 9,2 | 5,6 | 4,4 | 4,0 | 5,4 |
| Inventories Contribution | -0,6 | -3,7 | -1,7 | 2,1 | 5,4 | 0,1 | -0,7 | -0,7 | -0,7 | -0,7 | 0,7 |
| Net Exports Contribution | -0,2 | -2,0 | -0,4 | -1,5 | -0,7 | -1,9 | -3,8 | 0,0 | 0,2 | 0,2 | -1,3 |
| Exports | -13,6 | -2,9 | 7,6 | -5,3 | 22,4 | 4,5 | -5,9 | 5,2 | 6,6 | 4,2 | 4,1 |
| Imports | -8,9 | 9,3 | 7,1 | 4,7 | 17,9 | 14,0 | 17,7 | 3,0 | 2,8 | 1,3 | 9,5 |
| Inflation (3) | 1,2 | 1,9 | 4,9 | 5,4 | 6,7 | 4,7 | 8,0 | 7,6 | 7,2 | 6,7 | 7,3 |

| Euro Area | 2020a | Q1:21a | Q2:21a | Q3:21a | Q4:21a | 2021a | Q1:22f | Q2:22f | Q3:22f | Q4:22f | 2022f |
|-----------------------------------|-------|--------|--------|--------|--------|-------|--------|--------|--------|--------|-------|
| Real GDP Growth (YoY) | -6,5 | -0,9 | 14,6 | 4,0 | 4,6 | 5,4 | 4,8 | 3,0 | 1,8 | 2,1 | 2,9 |
| Real GDP Growth (QoQ saar) | - | -0,5 | 9,1 | 9,3 | 1,0 | - | 0,1 | 2,0 | 4,2 | 2,0 | - |
| Private Consumption | -8,0 | -8,9 | 16,5 | 19,1 | -2,3 | 3,5 | 0,4 | 2,1 | 3,9 | 2,8 | 3,9 |
| Government Consumption | 1,1 | -2,1 | 9,4 | 1,1 | 1,9 | 3,8 | -0,1 | 0,7 | 0,9 | 0,9 | 1,3 |
| Investment | -7,3 | 0,6 | 5,2 | -3,7 | 14,9 | 4,3 | 3,7 | -6,7 | 6,5 | 5,7 | 3,2 |
| Inventories Contribution | -0,5 | 4,3 | -2,2 | -0,5 | 1,5 | 0,4 | -0,3 | -0,5 | -0,5 | 0,2 | -0,1 |
| Net Exports Contribution | -0,4 | 0,4 | 0,0 | 0,9 | -2,6 | 1,4 | -0,7 | 2,7 | 1,1 | -1,0 | 0,0 |
| Exports | -9,4 | 5,1 | 11,8 | 7,0 | 12,1 | 10,9 | 2,1 | 2,2 | 6,0 | 1,6 | 5,6 |
| Imports | -9,2 | 4,8 | 13,0 | 5,8 | 19,8 | 8,6 | 3,8 | -3,2 | 4,2 | 4,1 | 6,0 |
| Inflation | 0,3 | 1,0 | 1,8 | 2,9 | 4,7 | 2,6 | 6,1 | 8,5 | 7,6 | 6,5 | 7,2 |

a: Actual, f: Forecasts, 1. Seasonally adjusted YoY growth rate, 2. Seasonally adjusted annualized QoQ growth rate, 3. Year-to-year average % change

12-Month View & Key Factors for Global Markets

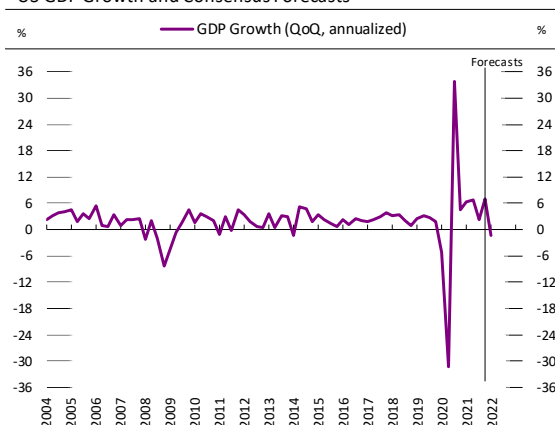
| | US | Euro Area | Japan | UK |
|-------------------------|---|--|---|---|
| Equity Markets | <ul style="list-style-type: none"> + Households' balance sheets are healthy + Service-oriented sectors are re-opening + Sentiment (e.g. AAI) and positioning indicators are hitting extreme lows - Peaking profit margins - Recession risks are increasing - P/Es (Valuations) still remain above l-t means, despite the recent correction <p>● Neutral/Negative</p> | <ul style="list-style-type: none"> + Still high equity risk premium relative to other regions + Still loose fiscal policy in 2022 (plus RRF) - Geopolitical uncertainty (Ukraine-Russia, natural gas) could intensify - Logistic disruptions (vaccine) and renewed lockdowns in China delay the export-led recovery <p>● Neutral</p> | <ul style="list-style-type: none"> + Still aggressive QE and "yield-curve" targeting by the BoJ + JPY depreciation @ 20Y highs (¥130) support exporters - Signs of policy fatigue regarding structural reforms and fiscal discipline - Chinese growth deceleration <p>● Neutral</p> | <ul style="list-style-type: none"> + Significant exposure to commodities + Undemanding valuations in relative terms relative to other regions - Elevated domestic policy uncertainty <p>● Neutral/Positive</p> |
| Government Bonds | <ul style="list-style-type: none"> + Valuations appear rich despite the 200bps increase, with term-premium @ 0% (1% for 2000-2015) + Sizeable fiscal deficit + Underlying inflation pressures under Average Inflation Targeting + Fed: End of asset purchases - Global search for yield by non-US investors (e.g. Japan, repatriation from EM Economies) continues - Safe haven demand <p>▲ Slightly higher yields expected</p> | <ul style="list-style-type: none"> + Valuations still appear excessive compared with long-term fundamentals + ECB: End of APP purchases in June 2022, interest rate hikes in H2 - Political Risks - Fragile growth outlook - ECB QE "stock" effect <p>▲ Slightly higher yields expected</p> | <ul style="list-style-type: none"> + Sizeable fiscal deficits + Restructuring efforts to be financed by fiscal policy measures - Safe haven demand - Extremely dovish central bank - Yield-targeting of 10-Year JGB at around 0% <p>● Stable yields expected</p> | <ul style="list-style-type: none"> + Inflation expectations could drift higher due to supply disruptions (persistent post Brexit, temporary due to China) + The BoE is expected to raise rates towards 2% - Slowing economic growth post-Brexit <p>▲ Slightly higher yields expected</p> |
| Foreign Exchange | <ul style="list-style-type: none"> + Weak global growth / Safe-haven demand status + USD interest rate differential vs peers remain significant + Aggressive Fed tightening - Global political uncertainty to decline <p>● Broadly Flat USD against G10 FX</p> | <ul style="list-style-type: none"> + Current account surplus + Still negative interest rates - Global growth risks remain to the downside <p>● Broadly Flat/Stronger EUR against the USD</p> | <ul style="list-style-type: none"> + Safe haven demand + More balanced economic growth recovery (long-term) + Inflation is bottoming out - Additional Quantitative Easing by the Bank of Japan if inflation does not approach 2% <p>▲ Slightly higher JPY</p> | <ul style="list-style-type: none"> + Valuations appear undemanding with REER below its 15-year average - Sizeable Current account deficit <p>● Broadly stable GBP expected</p> |

Economic Calendar

In the US, the minutes of the latest FOMC meeting are released on Wednesday. On Thursday, the second estimate of GDP for Q4:21 will be closely monitored. GDP growth is expected to be unchanged compared with the previous estimate at -1.4% qoq saar. On Friday, April's personal income, personal consumption and PCE price data (the Fed's preferred measure for gauging inflation developments) for April will gather investors' attention.

In Germany, the final estimate of Q1:22 GDP on Wednesday will be closely watched. GDP is expected to remain unchanged compared with the previous estimate (+0.2% qoq | +3.7% yoy wda).

US GDP Growth and Consensus Forecasts



Economic News Calendar for the period: May 17 - May 30, 2022

| Tuesday 17 | | | | Wednesday 18 | | | | Thursday 19 | | | | | | |
|--|-------|-------|---------|--------------|--|-------|-------|-------------|-------|--|-----------|-------|---------|-------|
| US | | S | A | P | US | | S | A | P | US | | S | A | P |
| Retail Sales Advance MoM | April | 0.9% | 0.9% | 1.4% | Building permits (k) | April | 1808 | + 1819 | 1879 | Initial Jobless Claims (k) | May 14 | 200 | - 218 | 197 |
| Retail sales ex-autos (MoM) | April | 0.3% | + 0.6% | 2.1% | Housing starts (k) | April | 1770 | - 1724 | 1728 | Continuing Claims (k) | May 7 | 1333 | + 1317 | 1342 |
| Industrial Production (MoM) | April | 0.4% | + 1.1% | 0.9% | UK | | | | | Existing home sales (mm) | April | 5.60 | + 5.61 | 5.75 |
| NAHB housing market confidence index | May | 75 | - 69 | 77 | CPI (YoY) | April | 9.0% | 9.0% | 7.0% | Philadelphia Fed Business Outlook | May | 17.0 | - 2.6 | 17.6 |
| UK | | | | | Core CPI (YoY) | April | 5.9% | + 6.2% | 5.7% | JAPAN | | | | |
| ILO Unemployment Rate | March | 3.8% | + 3.7% | 3.8% | JAPAN | | | | | Exports YoY | April | 13.9% | - 12.5% | 14.7% |
| EURO AREA | | | | | GDP (QoQ) | Q1:22 | -0.4% | + -0.2% | 0.9% | Imports YoY | April | 33.0% | - 28.2% | 31.2% |
| GDP (QoQ) | Q1:22 | 0.2% | + 0.3% | 0.2% | | | | | | | | | | |
| GDP (YoY) | Q1:22 | 5.0% | + 5.1% | 5.0% | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Friday 20 | | | | Monday 23 | | | | | | | | | | |
| UK | | S | A | P | GERMANY | | S | A | P | | | | | |
| Retail sales Ex Auto MoM | April | -0.2% | + 1.4% | -0.9% | IFO- Business Climate Indicator | May | 91.3 | + 93.0 | 91.9 | | | | | |
| JAPAN | | | | | IFO-Expectations | May | 86.8 | + 86.9 | 86.8 | | | | | |
| CPI (YoY) | April | 2.5% | 2.5% | 1.2% | IFO- Current Assessment | May | 96.7 | + 99.5 | 97.3 | | | | | |
| Core CPI (YoY) - ex. Fresh Food | April | 2.1% | 2.1% | 0.8% | | | | | | | | | | |
| Core CPI (YoY) - ex. Fresh Food and Energy | April | .. | 0.8% | -0.7% | | | | | | | | | | |
| EURO AREA | | | | | | | | | | | | | | |
| Consumer Confidence Indicator | May | -21.5 | + -21.1 | -22.0 | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Tuesday 24 | | | | Wednesday 25 | | | | Thursday 26 | | | | | | |
| US | | S | A | P | US | | S | A | P | US | | S | A | P |
| S&P Global US Manufacturing PMI | May | 58.0 | .. | 59.2 | FOMC Minutes | May 4 | | | | GDP (QoQ, annualized) | Q1:22 | -1.4% | .. | -1.4% |
| New home sales (k) | April | 750 | .. | 763 | Durable goods orders (MoM) | April | 0.6% | .. | 1.1% | Personal consumption (QoQ, annualized) | Q1:22 | .. | .. | 2.7% |
| UK | | | | | Durable goods orders ex transportation (MoM) | April | 0.7% | .. | 1.4% | Initial Jobless Claims (k) | May 21 | 213 | .. | 218 |
| S&P Global / CIPS UK PMI | May | 55.1 | .. | 55.8 | GERMANY | | | | | Continuing Claims (k) | May 14 | 1305 | .. | 1317 |
| Manufacturing SA | May | 57.0 | .. | 58.9 | GDP (QoQ) | Q1:22 | 0.2% | .. | 0.2% | Pending home sales (MoM) | April | -1.7% | .. | -1.2% |
| S&P Global / CIPS UK Services | May | 57.0 | .. | 58.9 | GDP (wda, YoY) | Q1:22 | 3.7% | .. | 3.7% | WORLD | | | | |
| JAPAN | | | | | Private Consumption (QoQ) | Q1:22 | 0.2% | .. | -1.8% | World Economic Forum Annual Meeting | May 22-26 | | | |
| PMI manufacturing | May | 53.0 | .. | 53.5 | Government Spending QoQ | Q1:22 | 0.4% | .. | 1.0% | | | | | |
| EURO AREA | | | | | | | | | | | | | | |
| S&P Global Eurozone Manufacturing PMI | May | 54.9 | .. | 55.5 | | | | | | | | | | |
| S&P Global Eurozone Services | May | 56.7 | .. | 57.7 | | | | | | | | | | |
| S&P Global Eurozone Composite | May | 55.0 | .. | 55.8 | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Friday 27 | | | | Monday 30 | | | | | | | | | | |
| US | | S | A | P | UK | | S | A | P | | | | | |
| Personal income (MoM) | April | 0.6% | .. | 0.5% | Nationwide House Px NSA YoY | May | .. | .. | 12.1% | | | | | |
| Personal spending (MoM) | April | .. | .. | 1.1% | EURO AREA | | | | | | | | | |
| PCE Deflator (YoY) | April | 6.3% | .. | 6.6% | Business Climate Indicator | May | .. | .. | 2.0 | | | | | |
| PCE Core Deflator (YoY) | April | 4.9% | .. | 5.2% | Economic confidence indicator | May | .. | .. | 105.0 | | | | | |
| EURO AREA | | | | | | | | | | | | | | |
| M3 money supply (YoY) | April | 6.3% | .. | 6.3% | | | | | | | | | | |

Source: NBG Research
S: Consensus Analysts Survey, A: Actual Outcome, P: Previous Outcome

Equity Markets (in local currency)

| Developed Markets | | Current Level | 1-week change (%) | Year-to-Date change (%) | 1-Year change (%) | 2-year change (%) | Emerging Markets | | Current Level | 1-week change (%) | Year-to-Date change (%) | 1-Year change (%) | 2-year change (%) |
|-------------------|--------------------|---------------|-------------------|-------------------------|-------------------|-------------------|-----------------------|---------|---------------|-------------------|-------------------------|-------------------|-------------------|
| US | S&P 500 | 3901 | -3.0 | -18.1 | -6.2 | 31.3 | MSCI Emerging Markets | 60911 | 2.3 | -13.1 | -17.9 | 12.1 | |
| Japan | NIKKEI 225 | 26739 | 1.2 | -7.1 | -4.8 | 29.8 | MSCI Asia | 926 | 3.0 | -13.4 | -19.7 | 11.0 | |
| UK | FTSE 100 | 7390 | -0.4 | 0.1 | 5.3 | 21.8 | China | 67 | 4.2 | -19.2 | -36.8 | -19.8 | |
| Canada | S&P/TSX | 20198 | 0.5 | -4.8 | 3.3 | 34.7 | Korea | 805 | 1.7 | -11.7 | -17.7 | 29.8 | |
| Hong Kong | Hang Seng | 20717 | 4.1 | -11.5 | -27.2 | -15.1 | MSCI Latin America | 93745 | 2.2 | 1.6 | -8.5 | 27.0 | |
| Euro area | EuroStoxx | 410 | -0.7 | -14.3 | -7.4 | 26.4 | Brazil | 313431 | 1.4 | 2.3 | -17.2 | 20.7 | |
| Germany | DAX 40 | 13982 | -0.3 | -12.0 | -9.0 | 24.6 | Mexico | 48236 | 4.0 | -3.3 | 5.6 | 43.9 | |
| France | CAC 40 | 6285 | -1.2 | -12.1 | -0.9 | 39.8 | MSCI Europe | 2403 | 1.0 | -65.3 | -62.9 | -54.4 | |
| Italy | FTSE/MIB | 24095 | 0.2 | -11.9 | -2.5 | 40.0 | Russia* | 2373 | 2.8 | -37.3 | -34.7 | -14.3 | |
| Spain | IBEX-35 | 8485 | 1.8 | -2.6 | -7.0 | 26.9 | Turkey | 2620036 | -1.6 | 26.1 | 70.0 | 106.8 | |

World Market Sectors (MSCI Indices)

| in US Dollar terms | | Current Level | 1-week change (%) | Year-to-Date change (%) | 1-Year change (%) | 2-year change (%) | in local currency | | Current Level | 1-week change (%) | Year-to-Date change (%) | 1-Year change (%) | 2-year change (%) |
|------------------------|--|---------------|-------------------|-------------------------|-------------------|-------------------|------------------------|--|---------------|-------------------|-------------------------|-------------------|-------------------|
| Energy | | 237.0 | 1.8 | 35.9 | 44.9 | 86.9 | Energy | | 246.2 | 1.3 | 39.1 | 52.1 | 84.6 |
| Materials | | 331.4 | 1.8 | -8.0 | -8.7 | 41.3 | Materials | | 325.4 | 0.9 | -4.6 | -2.2 | 41.7 |
| Industrials | | 284.8 | -1.3 | -18.7 | -15.6 | 28.7 | Industrials | | 292.1 | -1.9 | -15.8 | -10.1 | 32.3 |
| Consumer Discretionary | | 306.2 | -5.2 | -30.6 | -22.7 | 17.6 | Consumer Discretionary | | 303.3 | -5.6 | -29.0 | -19.4 | 20.1 |
| Consumer Staples | | 259.2 | -6.4 | -11.6 | -6.6 | 13.8 | Consumer Staples | | 265.5 | -7.1 | -8.9 | -1.6 | 15.0 |
| Healthcare | | 334.0 | 1.4 | -9.7 | 0.7 | 19.9 | Healthcare | | 335.2 | 0.9 | -7.7 | 4.3 | 21.2 |
| Financials | | 127.8 | -0.2 | -14.4 | -12.1 | 44.6 | Financials | | 130.5 | -0.8 | -12.2 | -7.7 | 44.7 |
| IT | | 417.2 | -3.4 | -27.1 | -9.6 | 28.1 | IT | | 408.1 | -3.6 | -26.5 | -8.0 | 29.1 |
| Telecoms | | 80.4 | -1.8 | -24.7 | -23.3 | 8.2 | Telecoms | | 85.3 | -2.1 | -23.6 | -21.4 | 9.5 |
| Utilities | | 160.5 | 1.9 | -2.3 | 1.8 | 22.4 | Utilities | | 167.5 | 1.4 | 0.0 | 6.7 | 23.2 |

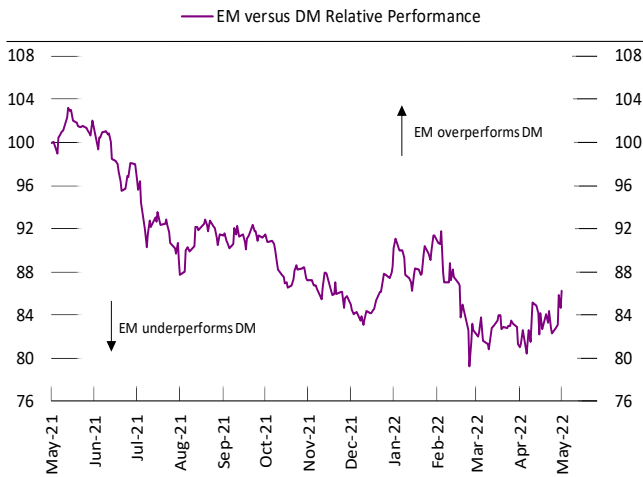
Bond Markets (%)

| 10-Year Government Bond Yields | | Current | Last week | Year Start | One Year Back | 10-year average | Government Bond Yield Spreads (in bps) | | Current | Last week | Year Start | One Year Back | 10-year average |
|---|--|---------|-----------|------------|---------------|-----------------|--|--|---------|-----------|------------|---------------|-----------------|
| US | | 2.79 | 2.93 | 1.51 | 1.63 | 2.04 | US Treasuries 10Y/2Y | | 24 | 36 | 78 | 147 | 107 |
| Germany | | 0.95 | 0.96 | -0.18 | -0.11 | 0.44 | US Treasuries 10Y/5Y | | -2 | 5 | 25 | 82 | 55 |
| Japan | | 0.23 | 0.24 | 0.07 | 0.08 | 0.23 | Bunds 10Y/2Y | | 60 | 84 | 46 | 55 | 85 |
| UK | | 1.90 | 1.75 | 0.97 | 0.85 | 1.41 | Bunds 10Y/5Y | | 29 | 35 | 28 | 39 | 58 |
| Greece | | 3.71 | 3.46 | 1.32 | 1.02 | 6.46 | Corporate Bond Spreads (in bps) | | Current | Last week | Year Start | One Year Back | 10-year average |
| Ireland | | 1.54 | 1.59 | 0.25 | 0.29 | 1.65 | EM Inv. Grade (IG) | | 188 | 182 | 139 | 154 | 194 |
| Italy | | 2.99 | 2.86 | 1.17 | 1.06 | 2.29 | EM High yield | | 726 | 699 | 618 | 505 | 624 |
| Spain | | 2.08 | 2.01 | 0.57 | 0.59 | 1.91 | US IG | | 155 | 147 | 98 | 92 | 134 |
| Portugal | | 2.12 | 2.06 | 0.46 | 0.58 | 2.82 | US High yield | | 491 | 463 | 310 | 342 | 454 |
| US Mortgage Market (1. Fixed-rate Mortgage) | | Current | Last week | Year Start | One Year Back | 10-year average | Euro area IG | | 165 | 165 | 98 | 86 | 119 |
| 30-Year FRM ¹ (%) | | 5.49 | 5.53 | 3.31 | 3.15 | 4.01 | Euro area High Yield | | 500 | 501 | 331 | 305 | 414 |
| vs 30Yr Treasury (bps) | | 247.3 | 242.5 | 138.9 | 79.5 | 129.6 | | | | | | | |

Foreign Exchange & Commodities

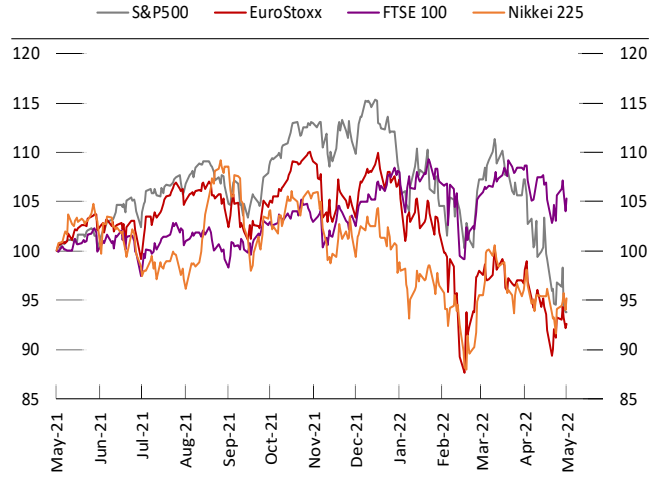
| Foreign Exchange | | Current | 1-week change (%) | 1-month change (%) | 1-Year change (%) | Year-to-Date change (%) | Commodities | | Current | 1-week change (%) | 1-month change (%) | 1-Year change (%) | Year-to-Date change (%) |
|------------------------|--|---------|-------------------|--------------------|-------------------|-------------------------|---------------------------|--|---------|-------------------|--------------------|-------------------|-------------------------|
| Euro-based cross rates | | | | | | | Agricultural | | 583 | 0.3 | 0.7 | 34.0 | 30.9 |
| EUR/USD | | 1.06 | 1.6 | -2.8 | -13.6 | -7.2 | Energy | | 384 | 0.3 | 5.8 | 82.5 | 52.3 |
| EUR/CHF | | 1.03 | -1.1 | 0.1 | -6.3 | -0.6 | West Texas Oil (\$/bbl) | | 113 | 2.5 | 10.2 | 82.5 | 50.6 |
| EUR/GBP | | 0.85 | -0.4 | 1.7 | -1.8 | 0.9 | Crude brent Oil (\$/bbl) | | 113 | 0.9 | 5.4 | 72.9 | 44.7 |
| EUR/JPY | | 135.16 | 0.5 | -2.6 | 1.6 | 3.2 | HH Natural Gas (\$/mmbtu) | | 8.1 | 4.3 | 13.5 | 182.6 | 111.6 |
| EUR/NOK | | 10.30 | 1.1 | 7.7 | 1.5 | 2.7 | TTF Natural Gas (EUR/mwh) | | 88 | -9.3 | -6.7 | 256.1 | 25.0 |
| EUR/SEK | | 10.50 | 0.3 | 2.4 | 3.4 | 2.0 | Industrial Metals | | 515 | 4.4 | -10.3 | 11.0 | 3.2 |
| EUR/AUD | | 1.50 | -0.1 | 3.1 | -4.5 | -4.0 | Precious Metals | | 2398 | 2.0 | -6.4 | -4.3 | 0.3 |
| EUR/CAD | | 1.35 | 0.6 | -0.2 | -8.1 | -5.7 | Gold (\$) | | 1847 | 1.9 | -5.7 | -1.6 | 1.4 |
| USD-based cross rates | | | | | | | Silver (\$) | | 22 | 3.1 | -13.6 | -21.8 | -6.1 |
| USD/CAD | | 1.28 | -0.9 | 2.7 | 6.3 | 1.6 | Baltic Dry Index | | 3344 | 7.7 | 56.1 | 18.4 | 50.8 |
| USD/AUD | | 1.42 | -1.7 | 6.1 | 10.5 | 3.4 | Baltic Dirty Tanker Index | | 1111 | -1.9 | -30.1 | 82.1 | 41.3 |
| USD/JPY | | 128.02 | -1.1 | 0.3 | 17.6 | 11.2 | | | | | | | |

EM vs DM Performance in \$



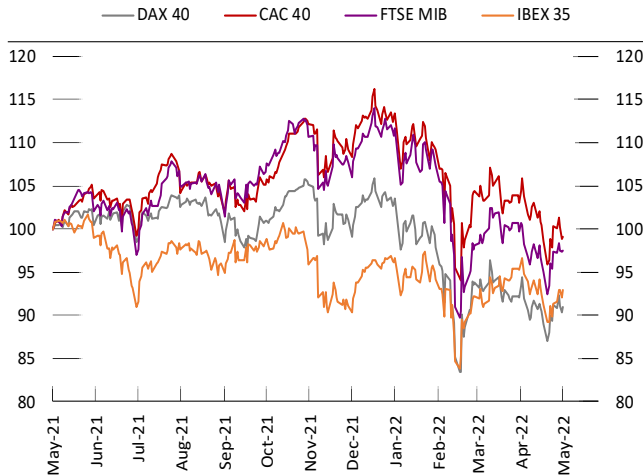
Data as of May 20th – Rebased @ 100

Equity Market Performance - G4



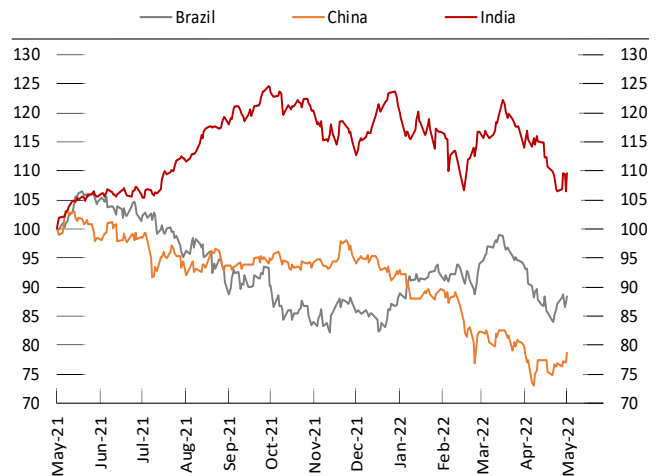
Data as of May 20th – Rebased @ 100

Equity Market Performance – Euro Area G4



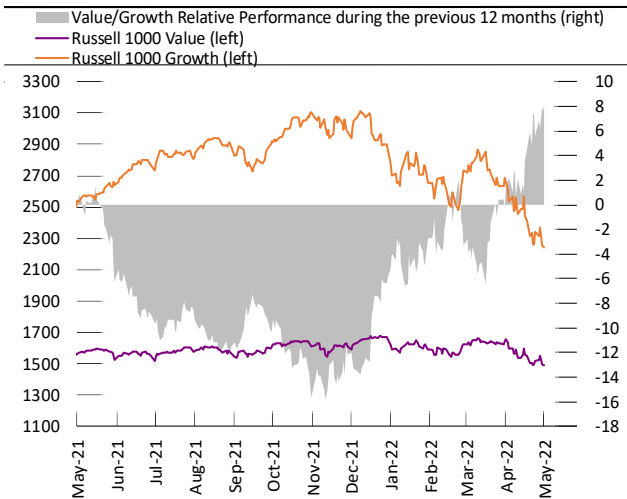
Data as of May 20th – Rebased @ 100

Equity Market Performance – Emerging Markets



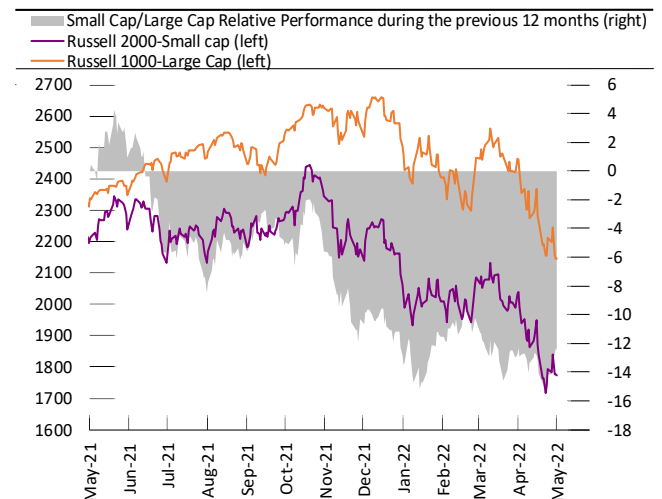
Data as of May 20th – Rebased @ 100

Russell 1000 Value & Growth Index



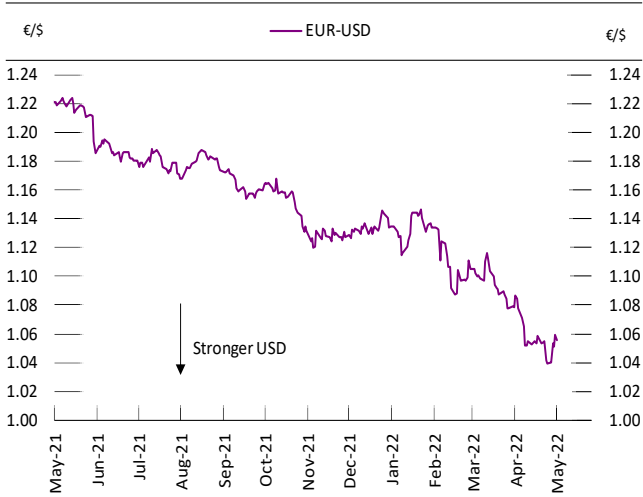
Data as of May 20th

Russell 2000 & Russell 1000 Index



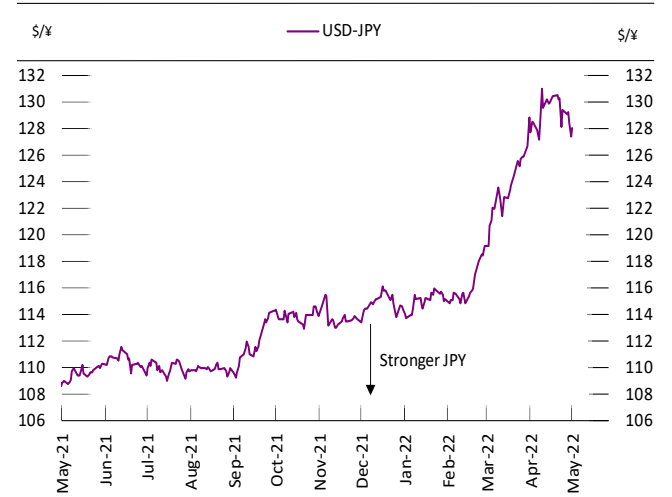
Data as of May 20th

EUR/USD



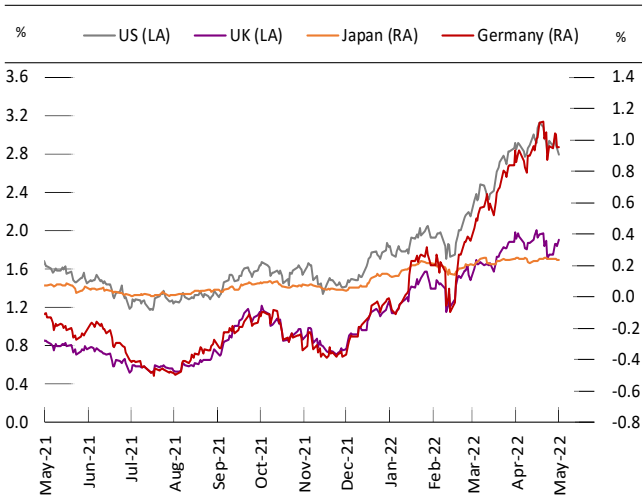
Data as of May 20th

JPY/USD



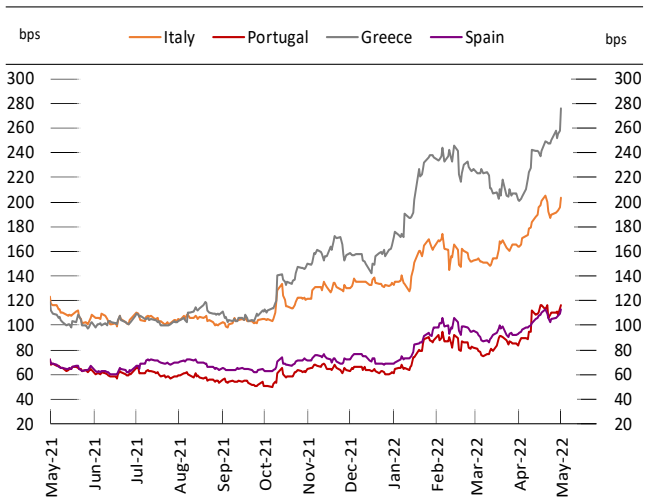
Data as of May 20th

10- Year Government Bond Yields



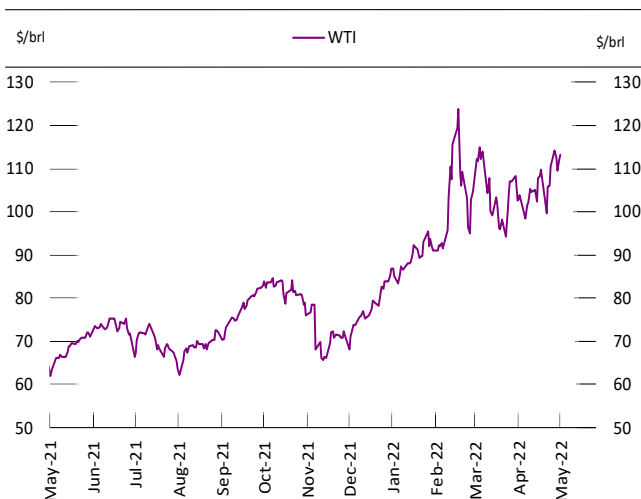
Data as of May 20th
LA:Left Axis RA:Right Axis

10- Year Government Bond Spreads



Data as of May 20th

West Texas Intermediate (\$/bbl)



Data as of May 20th

Gold (\$/ounce)



Data as of May 20th

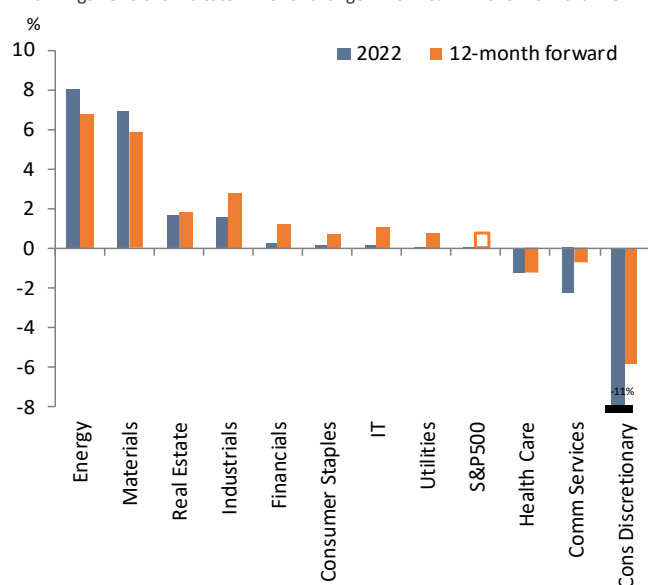
US Sectors Valuation

| | Price (\$) | | | EPS Growth (%) | | Dividend Yield (%) | | P/E Ratio | | | | P/BV Ratio | | | |
|-------------------------------------|------------|-----------------|-------|----------------|-------|--------------------|------|-----------|------|---------|----------|------------|------|---------|----------|
| | 20/5/22 | % Weekly Change | %YTD | 2022 | 2023 | 2022 | 2023 | 2022 | 2023 | 12m fwd | 10Yr Avg | 2022 | 2023 | Current | 10Yr Avg |
| S&P500 | 3901 | -3.0 | -18.1 | 10.2 | 10.0 | 1.6 | 1.7 | 17.2 | 15.6 | 16.6 | 17.1 | 3.7 | 3.3 | 3.5 | 3.0 |
| Energy | 619 | 1.1 | 46.4 | 104.9 | -12.2 | 3.0 | 3.1 | 9.6 | 11.0 | 10.1 | 15.7 | 2.3 | 2.1 | 2.3 | 1.7 |
| Materials | 517 | -0.1 | -9.2 | 18.5 | -5.0 | 2.0 | 2.1 | 13.5 | 14.3 | 13.8 | 16.1 | 2.8 | 2.6 | 2.7 | 2.7 |
| Financials | | | | | | | | | | | | | | | |
| Diversified Financials | 917 | -1.5 | -16.2 | -7.8 | 11.7 | 1.7 | 1.9 | 14.4 | 12.9 | 13.8 | 14.9 | 1.7 | 1.6 | 1.7 | 1.6 |
| Banks | 328 | -1.4 | -21.5 | -16.4 | 16.8 | 3.2 | 3.5 | 10.1 | 8.6 | 9.5 | 11.5 | 1.1 | 1.0 | 1.0 | 1.1 |
| Insurance | 533 | -3.0 | -3.1 | 0.0 | 14.8 | 2.2 | 2.4 | 13.3 | 11.6 | 12.7 | 11.7 | 1.7 | 1.5 | 1.6 | 1.2 |
| Real Estate | 265 | -1.8 | -18.5 | 11.7 | 5.7 | 3.0 | 3.2 | 19.2 | 18.1 | 18.8 | 18.8 | 3.4 | 3.4 | 3.4 | 3.3 |
| Industrials | | | | | | | | | | | | | | | |
| Capital Goods | 761 | -3.3 | -14.6 | 22.0 | 18.0 | 1.9 | 2.1 | 17.8 | 15.1 | 16.8 | 17.1 | 4.0 | 3.6 | 3.9 | 3.9 |
| Transportation | 930 | -5.6 | -17.5 | 123.4 | 27.0 | 1.9 | 2.0 | 15.8 | 12.4 | N/A | 13.9 | 5.2 | 4.2 | 4.8 | 4.1 |
| Commercial Services | 462 | -1.6 | -15.0 | 10.5 | 10.9 | 1.3 | 1.3 | 24.8 | 22.3 | 23.9 | 21.5 | 5.6 | 5.0 | 5.3 | 4.0 |
| Consumer Discretionary | | | | | | | | | | | | | | | |
| Retailing | 2867 | -7.2 | -32.2 | -24.7 | 40.9 | 0.8 | 0.9 | 30.6 | 21.7 | 27.2 | 27.1 | 9.4 | 7.7 | 8.7 | 9.0 |
| Consumer Services | 1180 | -3.7 | -21.9 | 3134.7 | 100.8 | 1.3 | 1.4 | 37.9 | 18.9 | N/A | 28.8 | 23.5 | 16.3 | 20.7 | 10.3 |
| Consumer Durables | 359 | -3.7 | -32.6 | 20.3 | 8.6 | 1.8 | 1.9 | 10.6 | 9.7 | 10.2 | 17.5 | 2.8 | 2.4 | 2.6 | 3.4 |
| Automobiles and parts | 124 | -12.4 | -37.6 | 28.6 | 17.7 | 0.2 | 0.2 | 25.3 | 21.5 | N/A | 15.2 | 4.7 | 4.0 | 4.4 | 2.7 |
| IT | | | | | | | | | | | | | | | |
| Technology | 2616 | -6.6 | -23.3 | 9.1 | 7.4 | 1.0 | 1.0 | 19.5 | 18.2 | 19.0 | 15.4 | 13.3 | 11.5 | 12.6 | 6.5 |
| Software & Services | 2931 | -2.0 | -24.7 | 13.9 | 15.4 | 1.0 | 1.0 | 24.3 | 21.1 | 23.1 | 21.3 | 7.5 | 6.4 | 7.1 | 6.2 |
| Semiconductors | 1872 | -3.5 | -28.8 | 13.9 | 10.7 | 1.5 | 1.6 | 15.7 | 14.2 | 15.1 | 15.5 | 4.5 | 3.8 | 4.2 | 3.8 |
| Communication Services | 194 | -3.0 | -27.6 | -0.8 | 16.2 | 0.9 | 1.0 | 16.2 | 14.0 | 15.4 | 19.1 | 2.9 | 2.6 | 2.8 | 3.2 |
| Media | 746 | -3.8 | -31.2 | 2.1 | 18.3 | 0.3 | 0.4 | 17.8 | 15.0 | 16.7 | 22.5 | 3.5 | 3.1 | 3.4 | 3.7 |
| Consumer Staples | | | | | | | | | | | | | | | |
| Food & Staples Retailing | 565 | -15.9 | -19.4 | 5.3 | 8.2 | 1.7 | 1.8 | 19.1 | 17.6 | 18.5 | 18.3 | 4.1 | 3.8 | 4.0 | 3.6 |
| Food Beverage & Tobacco | 819 | -6.3 | 0.2 | 3.2 | 6.5 | 3.2 | 3.4 | 19.1 | 18.0 | 18.7 | 18.4 | 5.3 | 5.4 | 5.3 | 5.1 |
| Household Goods | 819 | -6.9 | -16.2 | 2.0 | 9.5 | 2.4 | 2.6 | 24.4 | 22.3 | 23.6 | 21.3 | 10.1 | 9.7 | 9.9 | 6.7 |
| Health Care | | | | | | | | | | | | | | | |
| Pharmaceuticals | 1226 | 1.5 | -5.6 | 6.3 | -5.2 | 2.0 | 2.1 | 14.3 | 15.1 | 14.6 | 15.3 | 5.1 | 4.5 | 4.9 | 4.3 |
| Healthcare Equipment | 1778 | 0.1 | -11.2 | 3.2 | 10.0 | 1.2 | 1.2 | 19.1 | 17.4 | 18.4 | 16.8 | 3.7 | 3.3 | 3.5 | 3.0 |
| Utilities | 363 | 0.4 | -0.2 | 1.6 | 8.1 | 3.0 | 3.2 | 20.8 | 19.2 | 20.2 | 17.1 | 2.2 | 2.1 | 2.2 | 1.8 |

Blue box indicates a value more than +2standard deviation from average, light blue a value more than +1standard deviation from average. Orange box indicates a value less than -2standard deviation from average, light orange a value less than -1standard deviation from average

1-month revisions to 2022 & 12-month Forward EPS

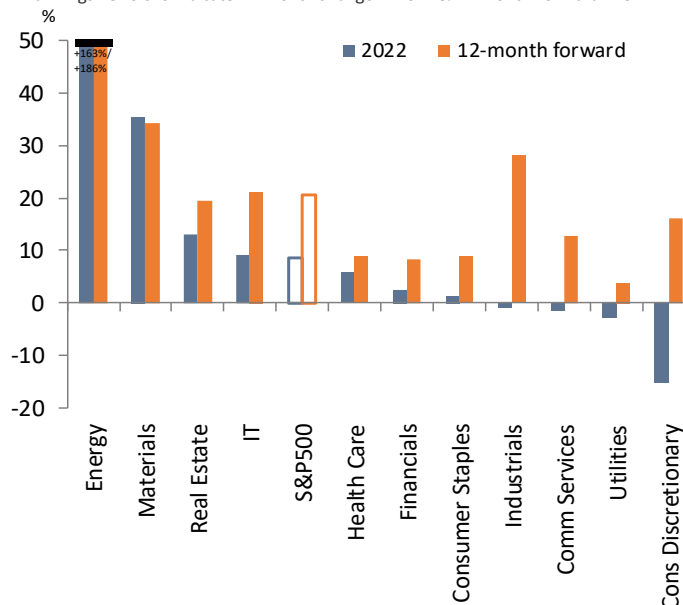
Earnings Revisions indicate 1-month change in 2022 & 12-month Forward EPS



Data as of May 20th
12-month forward EPS are 61% of 2022 EPS and 39% of 2023 EPS

12-month revisions to 2022 & 12-month Forward EPS

Earnings Revisions indicate 12-month change in 2022 & 12-month Forward EPS



Data as of May 20th
12-month forward EPS are 61% of 2022 EPS and 39% of 2023 EPS

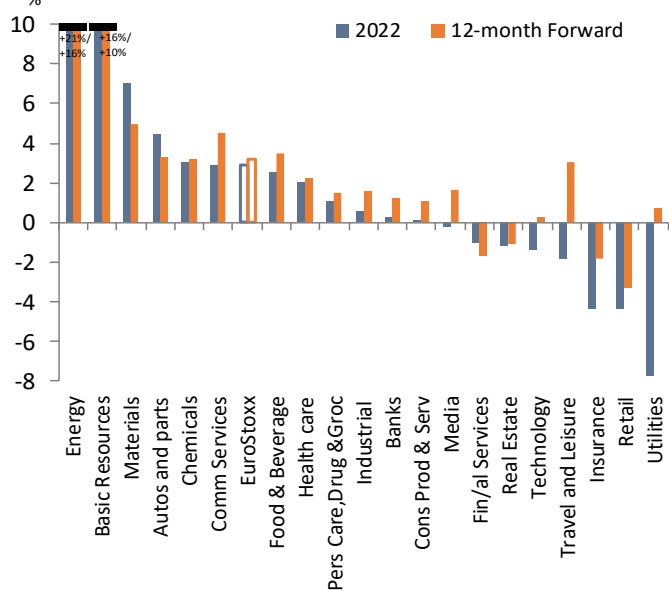
Euro Area Sectors Valuation

| | Price (€) | | | EPS Growth (%) | | Dividend Yield (%) | | P/E Ratio | | | | P/BV Ratio | | | |
|--|-----------|-----------------|-------|----------------|-------|--------------------|------|-----------|------|---------|----------|------------|------|---------|----------|
| | 20/5/22 | % Weekly Change | %YTD | 2022 | 2023 | 2022 | 2023 | 2022 | 2023 | 12m fwd | 10Yr Avg | 2022 | 2023 | Current | 10Yr Avg |
| EuroStoxx | 410 | -0.7 | -14.3 | 10.7 | 9.0 | 3.2 | 3.5 | 13.2 | 12.1 | 12.7 | 14.5 | 1.5 | 1.4 | 1.5 | 1.5 |
| Energy | 325 | 1.9 | 12.5 | 86.9 | -18.6 | 4.7 | 4.9 | 6.0 | 7.4 | 6.6 | 13.1 | 1.2 | 1.1 | 1.2 | 1.2 |
| Materials | 969 | -0.5 | -7.1 | 6.2 | -12.2 | 2.7 | 2.8 | 11.6 | 13.2 | 12.2 | 15.7 | 1.7 | 1.6 | 1.7 | 1.7 |
| Basic Resources | 241 | 3.0 | -2.8 | 4.3 | -37.7 | 2.9 | 3.2 | 4.2 | 6.8 | 5.2 | 10.0 | 0.7 | 0.6 | 0.7 | 0.8 |
| Chemicals | 1402 | -0.9 | -7.7 | 8.3 | 3.6 | 2.7 | 2.8 | 16.2 | 15.6 | 15.9 | 16.7 | 2.2 | 2.1 | 2.2 | 2.3 |
| Financials | | | | | | | | | | | | | | | |
| Fin/al Services | 516 | -0.4 | -10.8 | 24.1 | -8.9 | 3.0 | 3.1 | 11.4 | 12.5 | 11.8 | 14.6 | 1.3 | 1.3 | 1.3 | 1.2 |
| Banks | 87 | 1.6 | -13.2 | -4.0 | 11.2 | 6.2 | 7.2 | 7.7 | 6.9 | 7.4 | 9.9 | 0.6 | 0.5 | 0.5 | 0.7 |
| Insurance | 284 | -1.9 | -7.3 | -0.6 | 14.5 | 5.8 | 6.2 | 9.5 | 8.3 | 9.0 | 9.6 | 0.9 | 0.8 | 0.9 | 0.9 |
| Real Estate | 185 | 0.8 | -16.9 | 7.1 | 6.8 | 4.5 | 5.5 | 14.2 | 13.3 | 13.9 | 17.1 | 0.7 | 0.7 | 0.7 | 1.0 |
| Industrial | 946 | -0.6 | -19.2 | 19.7 | 15.5 | 2.4 | 2.8 | 17.0 | 14.7 | 16.1 | 17.3 | 2.5 | 2.3 | 2.4 | 2.6 |
| Consumer Discretionary | | | | | | | | | | | | | | | |
| Media | 252 | -0.3 | -11.6 | 11.0 | 16.6 | 2.5 | 2.8 | 20.2 | 17.3 | 19.1 | 17.4 | 2.7 | 2.5 | 2.6 | 2.2 |
| Retail | 453 | 1.0 | -34.6 | -4.5 | 11.4 | 4.7 | 5.1 | 19.0 | 17.0 | 18.2 | 26.2 | 3.5 | 3.4 | 3.5 | 5.7 |
| Automobiles and parts | 523 | -1.4 | -17.0 | 0.5 | 5.1 | 6.1 | 6.0 | 5.6 | 5.3 | 5.5 | 8.6 | 0.8 | 0.7 | 0.8 | 1.0 |
| Travel and Leisure | 171 | 1.4 | -11.6 | N/A | 81.8 | 1.3 | 1.9 | 27.4 | 15.1 | N/A | N/A | 2.2 | 2.0 | 2.1 | 2.2 |
| Technology | 713 | -2.5 | -27.4 | 9.6 | 21.2 | 1.1 | 1.2 | 21.5 | 17.7 | 20.1 | 21.3 | 3.2 | 2.9 | 3.1 | 3.6 |
| Communication Services | 297 | -0.6 | 2.8 | 17.6 | 14.1 | 3.8 | 4.1 | 16.2 | 14.2 | 15.5 | 14.4 | 1.6 | 1.5 | 1.5 | 1.7 |
| Consumer Staples | | | | | | | | | | | | | | | |
| Food, Beverage & Tobacco | 168 | -4.6 | -12.5 | 14.0 | 12.8 | 1.9 | 2.1 | 19.0 | 16.8 | 18.2 | 20.0 | 2.1 | 1.9 | 2.0 | 2.6 |
| Personal Care, Drug & Grocery | 172 | -6.6 | -14.5 | 2.7 | 9.4 | 2.6 | 2.8 | 15.6 | 14.2 | 15.1 | 17.5 | 2.2 | 2.0 | 2.1 | 2.4 |
| Consumer Products & Services | 376 | -4.4 | -28.7 | 9.6 | 13.9 | 1.9 | 2.1 | 24.0 | 21.0 | 22.8 | 24.5 | 5.0 | 4.5 | 4.8 | 4.0 |
| Health care | 869 | 1.4 | -6.8 | 9.6 | 8.2 | 2.2 | 2.4 | 16.9 | 15.6 | 16.4 | 16.6 | 2.2 | 2.0 | 2.1 | 2.3 |
| Utilities | 377 | 4.3 | -4.3 | -34.6 | 63.6 | 4.1 | 4.8 | 21.3 | 13.0 | 18.1 | 13.7 | 1.6 | 1.5 | 1.6 | 1.2 |

Blue box indicates a value more than +2standard deviation from average, light blue a value more than +1standard deviation from average. Orange box indicates a value less than -2standard deviation from average, light orange a value less than -1standard deviation from average

1-month revisions to 2022 & 12-month Forward EPS

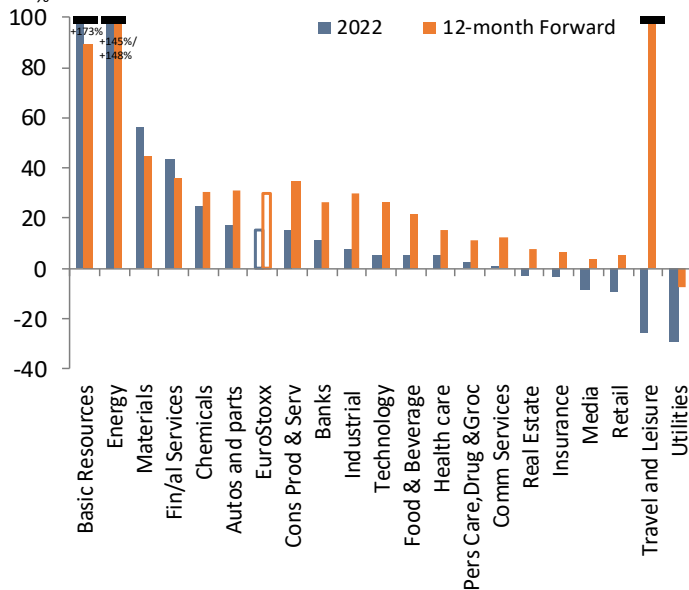
Earnings Revisions indicate 1-month change in 2022 & 12-month Forward EPS



Data as of May 20th
12-month forward EPS are 61% of 2022 EPS and 39% of 2023 EPS

12-month revisions to 2022 & 12-month Forward EPS

Earnings Revisions indicate 12-month change in 2022 & 12-month Forward EPS



Data as of May 20th
12-month forward EPS are 61% of 2022 EPS and 39% of 2023 EPS

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