Multi Asset Monthly

Global Strategy – Quarterly Edition

Fed in a balancing act

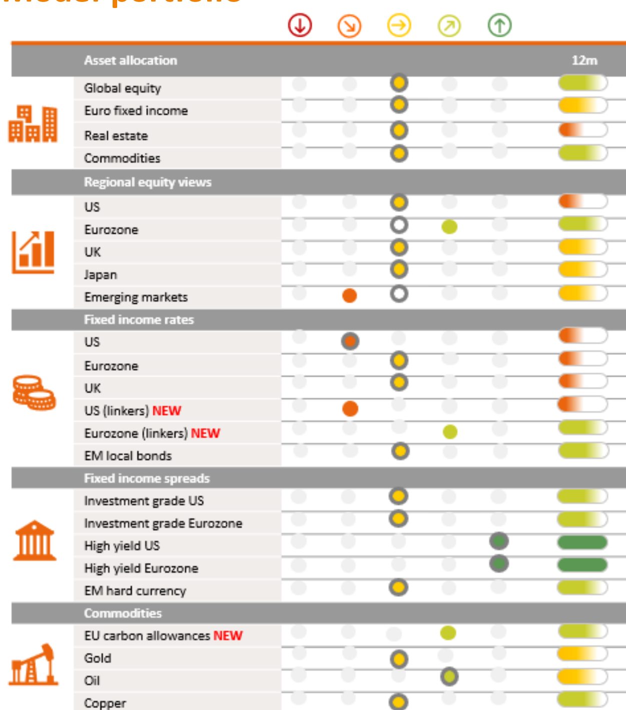
Economic outlook

The economic normalization process is well under way in regions where the vaccine roll-out has been smooth. Inflation numbers and expectations have risen sharply, but we see this as transitory. During the June FOMC meeting, the Fed made a hawkish pivot to manage inflation expectations. In the medium term, the sustainability of the recovery will depend on virus developments, policymakers' willingness to continue providing stimulus, the release of excess savings, and private investment.

Market outlook

Investors fully embraced the reflation story in the first half of 2021. Economic support, improving macro data, the roll-out of vaccines, and strong earnings drove equity markets higher. The cyclical commodity markets also benefited from this trend. On the other hand, the rise in government bond yields limited fixed income returns. We expect this market strength to continue over the coming months, but we believe that as the economy moves from recovery to mid-cycle, a different more balanced portfolio approach may be warranted.

Model portfolio



Current active views are shown by coloured circles, inactive views by grey circles. Previous views are shown by thick grey edges around the circles. The five rankings for the views are (from left to right): strong /moderate underweight, neutral, moderate/strong overweight.

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Mid-year scenario update

- US inflation is expected to be transitory
- Fed is likely to react late if inflation turns out to be permanent
- Equities remain more attractive than government bonds

The outlook for the second half of 2021 depends heavily on the question of how the Federal Reserve and markets deal will with the high inflation prints in the US.

In our base case, the **"Cruise Control"** scenario, we presuppose that the strong recovery of the developed economies remains intact. We assume it will take a few months before we see signs that inflation is in transition, and that the Fed is moving towards tapering. This should create an environment in which equities have some moderate upside left and rates should then rise gradually. And while this overall trend might be gradual, markets may be volatile along the way due to the strong macroeconomic dynamics and the nervousness always attached to monetary tightening.

In our **"Full Throttle"** scenario, we describe an alternative future in which the global economy overheats. Inflation lasts well into next year and forces the Fed to tighten prematurely.

The third scenario, "**Idling Engine**", takes us into different a market environment, in which the current strong stimulus is followed by a push back from fiscal hawks. In this case, consumers decide to hoard their saving and new virus mutations could lead to an increasing number of smaller setbacks.

Our three **"New Future"** scenarios provide the most likely outcome in our base case and an exploration of two alternative relevant outcomes. In this update, we publish projections for the rates and returns consistent with each scenario (see Table 1).

Table 1: Rates and returns consistent with our "New Future" scenarios

		Cruise Control			Full Throttle			Idling Engine		
		2021	2022	2023	2021	2022	2023	2021	2022	2023
GDP (1)	US	7.7	4.5	2.0	8.0	5.7	2.8	7.1	3.4	2.0
	Eurozone	4.4	4.9	2.1	5.0	5.8	2.6	2.9	1.3	1.7
	China	8.9	5.0	5.0	9.1	5.8	5.5	8.5	4.0	4.4
	EM	8.0	4.3	4.8	8.3	5.5	5.1	7.6	3.4	3.6
Core inflation (1)	US	3.2	2.8	2.0	3.6	3.3	2.8	1.1	1.1	1.2
	Eurozone	1.1	1.0	1.5	1.8	2.2	1.9	0.0	0.1	0.1
Central bank rates (2)	US	0.0	0.0	0.5	0.0	0.5	2.0	0.0	0.0	0.0
	Eurozone	-0.5	-0.5	-0.3	-0.5	-0.5	0.0	-0.5	-0.5	-0.5
10-year rates (2)	US	1.8	2.0	2.3	2.3	3.3	2.5	1.3	1.3	1.3
	Eurozone	0.2	0.4	0.6	0.5	1.3	1.0	-0.3	-0.3	-0.3
Investment grade (3)	US	0.9	1.0	1.0	0.9	1.0	1.5	1.3	1.3	1.3
	Eurozone	0.9	1.0	1.0	0.9	1.0	1.5	1.3	1.3	1.3
High yield (3)	US	2.9	3.0	3.0	2.9	3.0	4.8	4.0	4.0	4.0
	Eurozone	2.9	3.0	3.0	3.0	3.1	4.5	4.0	4.0	4.0
Emerging market debt (3)	Hard currency	3.5	3.3	3.0	3.2	3.4	4.5	3.0	4.0	4.0
Equity (4)	US	15.5	8.8	6.1	18.5	8.5	2.8	13.3	-0.7	3.1
	Eurozone	18.9	9.7	5.9	20.7	9.2	4.2	12.5	-3.4	3.1
	EM	11.9	6.2	5.9	15.0	8.7	3.2	14.1	-2.3	4.3
Exchange rates (5)	EUR-USD	1.21	1.22	1.21	1.21	1.20	1.19	1.19	1.18	1.17

1: Average growth (%) over last four quarters versus average growth over the previous four quarters, at year-end
2: Yield or interest rate (%) at year-end
3: Spread (%) at year-end
4: Returns (%) over the full year (also for the current year, which includes the year-to-date performance)
5: Exchange rate at year-end

Inflation spike is transitory in our base case

This update concentrates on three questions: Are the high inflation prints in the US transitory or persistent? Which path will the Fed take in the coming quarters? And how will markets process this information? The updated scenarios include different answers to these questions.

We believe that US inflation will peak towards the end of this year. Various inflationary pressure appear transitory: many supply chain disruption should unwind in the coming months, OPEC is likely to agree to increase supply, pent-up demand is a finite boost and the expiration of the US relief package will force workers back to the job market.

For inflation to be persistent, general wages will need to rise sharply once the temporary forces have passed. This would imply that workers need to gain substantial bargaining power. Even though it is a realistic risk factor for inflation in the coming years, we do not expect it to unfold over the coming quarters.

A fundamental assumption embedded across the scenarios is that central banks have the tools to tackle high inflation, even at high costs, but are struggling to generate inflation. This is another reason why it is hard to imagine inflation remaining high beyond 2022, let alone a stagflation scenario.

In a world of transitory inflation, we would expect the Fed to continue on the path of talking about tapering for now and to defer the rate hikes to 2023. In this environment, there is moderate upside potential for rates in the US and, to a lesser extent, in Europe. However, we cannot rule out market nervousness as high inflation prints continue in the coming months.

"Full Throttle" scenario probes the possibility of sticky inflation

But what if US inflation remains high? Given the uncertainty due to reopening, strong stimulus, and supply chain disruptions, the Fed would take a while to change its current course. If the Fed is forced into action to catch up with inflation dynamics, it may have to raise rates to 2% over several quarters to re-establish price stability.

The tightening would be a temporary shock to markets, but we are confident that the Fed would choose a strategy that prevents the economy from sliding into a recession. While the sequence of these events is plausible, it is hard to time each phase. In Table 1, we assume that the first 50 basis points would be added in 2022 and the Federal Funds Rate would stand at 2% at the end of 2023.

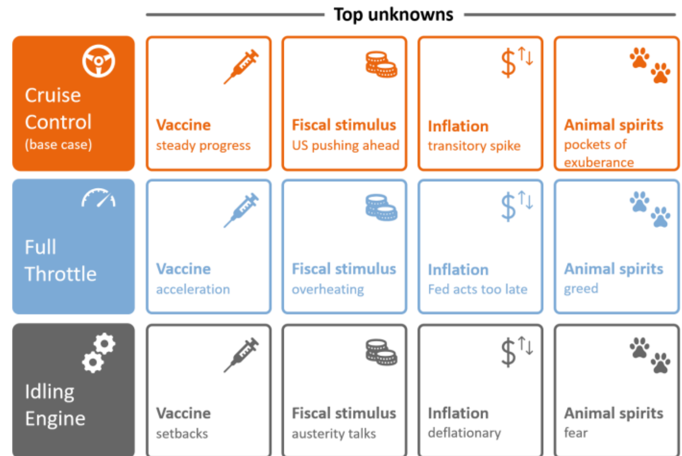
There is a good reason why the discussion is so focused on the US. Inflation and growth dynamics are much weaker in Europe. The welfare system helped European countries weather the crisis with less fiscal stimulus; however, the growth numbers are also much more muted. In addition, the ECB has been struggling for years to reach its 2% inflation target due to the structure of the EU economy, which gives European leaders much less room to manoeuvre.

Meanwhile, China has been able to overcome the Covid crisis with a mix of effective restrictions and limited stimulus. The Chinese Communist Party should be able to steer the economy on a solid growth path in the range of 5-6% in the coming years. The outlooks for the other emerging markets diverge widely, due to the broad range of policy responses and economic outcomes.

Clearly, inflation dynamics are a key structural uncertainty that defines the outcomes of the scenarios. Our approach to scenarios is to build on a limited set of such key structural uncertainties, or unknowns. We adapt three more unknowns from the previous update: the vaccine rollout, animal spirits and fiscal stimulus (see Figure 1).

We continue to assume that the developed economies will focus on rolling out various vaccines throughout the year to reach or exceed the herd immunity of about 70%. Although we made limited changes to this assumption, we recognize that the question of how many people want to be vaccinated will be more important in the coming months. At the moment, we do not assume that a new virus variants will have a major impact on the global economy, but there will be more virus mutations and more local lockdowns. Moreover, developing countries will continue to struggle with the health crisis until the vaccines finally arrive.

Figure 1: The top unknowns in our "New Future" scenarios



Another unknown is the presence of animal spirits amongst investors, which is our wild card to describe irrational exuberance. The massive monetary and fiscal stimulus led to the rise and fall of various social media-driven "meme" stocks, strong inflows into special purpose acquisition companies, and the roller-coaster ride of cryptocurrencies. In our base case, we take the stance that high liquidity might lead to temporary rallies and dislocations but will not distort markets permanently. In the "Full Throttle" scenario, this unknown might lead to wilder swings when the Fed decides it needs

to step in to contain inflation.

In the “Idling Engine” world, investors shift towards muted market expectations after experiencing various setbacks. The third unknown, fiscal stimulus, is one of the starting points for this last scenario, which we describe next.

The global economy weathered the worldwide shutdowns of 2020 reasonably well through a mix of massive monetary and fiscal stimulus in the US and, to lesser extent, in Europe. In 2021, the US Congress passed another relief bill and is surprisingly close to approving another package aimed at infrastructure and some social reforms in the coming years. In the Eurozone, the EUR 750 billion recovery plan is only starting to gain speed in terms of rollout and financing. This pipeline makes us confident that a recession is rather unlikely at this stage across the various scenarios.

As the economies reopen, the fiscal debate moves from emergency measures to long-term visions.The risk at this point is a return of the fiscal hawks in the US and Europe. This is one of the assumptions that is embedded in the idling engine scenario. Fiscally conservative countries like Germany, Austria and Finland could increase the pressure to end the ECB’s asset purchases. As we saw in the early 2010s, such a mindset could lead to lower growth and deflationary pressures.

Another major risk factor in the idling engine scenario is consumer behaviour. The relief packages led to high household savings, especially in the US. Whereas much of the savings is turned into pent-up demand in our base case, the consumer would be far more cautious in the “Idling Engine” scenario and continue to hoard cash. The outlook for growth assets would be more muted and there would be little scope for rates to rise.

Scenarios help in constructing portfolios

How do scenarios help to construct portfolios? We think that our “Cruise Control” base case is a good starting point to form expectations. The rates and returns in Table 1 are meant as midpoints; risk measures like standard deviations measured over a long horizon provide an idea about the range of typical outcomes around these midpoints for the regime described by the base case.

All three scenarios are based on unknowns, which encompass our view of the most relevant factors spanning the range of possibilities. The alternative scenarios, Full Throttle and Idling Engine, explore alternative paths for the unknowns and tell consistent stories about relevant markets scenarios.

We believe investors should think through the possibility of persistently higher inflation, even though it is not the most likely outcome in our view. Our discussion has shown that the Fed would most likely be able to fight inflation, though at a high cost, and we believe that it is important to consider possible factors that could undermine the recovery assumption. Fiscal policymakers and consumers are key players to watch, and the existing stimulus should help avoid recession at this stage.

We will never be able to cover all possible scenarios, but we believe that our alternative scenarios help in understanding the range of possibilities and add value to the base case. Investors can use the rates and returns in Table 1 to test their portfolios in the event that the alternative scenarios play out, and check whether they can afford the risk of structural breaks.

Another way of using scenarios is to find patterns that are robust across scenarios. These robust patterns tend to be rare, but when they occur, they send a strong signal. In the current set of scenarios, sovereign bonds have very limited upside and equites are more attractive. This does not mean equities are without risk; but if you can bear the volatility over a longer horizon, you have a good chance of outperforming on a risk-adjusted basis.

Political battles are looming

Another aspect of upcoming normalization is likely to impact our scenarios updates in the coming quarters. Politicians in the US, Europe and in many other regions decided to fight the Covid crisis with massive stimulus. In the coming 15 months, voters will decide whether this was a good choice. Germany’s general elections are in September, and next year, France’s presidential contest in April will be followed by the US Congressional mid-terms in November. In addition, Fed Chair Jerome Powell’s term expires next year. All these events are important signposts of whether we see a progressive era in the 2020s, and whether we need to change our unknowns.

Marco Willner
Head of investment Strategy

Asset allocation

- The next phase in the business cycle requires a more balanced investment approach
- We are neutral on risky assets

Good news is largely priced in. What's next?

Earlier this year we preferred cyclically sensitive assets in our allocation, which was reflected in an overweight in equities and an underweight in government bonds. The prevailing environment at the time fully justified this stance. First and foremost was the continuing fiscal response to the pandemic crisis. Vast, ambitious economic plans were being presented in the US, and the European recovery fund became operational, allocating money to investment projects in member states. Secondly, the vaccination programmes gained further traction in the Western economies. The normalization of the economy is well under way in the Western hemisphere. A third factor was monetary policy support, and finally, the corporate side showed its robustness. Analysts continue to revise earnings estimates upwards; with the start of the Q2 earnings season just days away, the 2021 growth figure stands at +38%.

Risky assets like equities, real estate, commodities, and high yield bonds have all performed very well in this environment. Safe government bonds, on the other hand, have printed negative returns. With all this good news out and largely priced in, the obvious question is: What's next? The market has become less straightforward in its preferences. The rise in bond yields has come to a pause. We witnessed a rotation from value into growth stocks, and overall the pace of progress in equities has moderated.

We scaled back top-down cyclical risk in Q2

The environment is changing. Inflation is surprising to the upside and the US Federal Reserve has made a hawkish pivot. Earnings growth will no longer accelerate. The Delta variant of the Covid virus is spreading rapidly, posing a risk in regions were the vaccination roll-out is lagging. Overall, we believe that central banks in developed markets will remain accommodative, even in the wake of these rising inflation numbers. They are the result of soaring commodity prices, base effects and supply disruptions, all elements which are temporary, in our view. The Fed's hawkish pivot was surprising, but can be interpreted as a way to manage inflation expectations.

The economic cycle is progressing unusually rapidly and over the coming period it will morph from the recovery phase into the mid-cycle phase. This is not necessarily negative for risky assets but warrants a more balanced approach, one that moves away from pure cyclical growth exposure towards stable growth. As a consequence, we scaled back top-down cyclical risk in our model portfolio during Q2. We reduced equites from a moderate overweight to neutral. In commodities we cut our exposure to oil. In the rates market, we maintain a moderate underweight in US Treasuries. On a longer time horizon, Treasury yields are on a rising trend, given the strong macro data and the Fed's likely next steps.

Fixed income

In government bonds, we maintain US Treasuries as a moderate underweight and stay neutral in German Bunds. With this trade we seek to capture the different macro and supply dynamics between the two regions, although at a lower conviction level than before. In spreads we have large overweights in Eurozone and US high yield. High yield offers an asymmetric return profile, outperforming when government bond yields drop and stabilizing when they rise.

Equities

We maintain a neutral equity positioning. The markets have witnessed an exceptionally strong run and the risk/reward trade-off has started to deteriorate. The Delta variant, peaking earnings and macro indicators, rising inflation numbers and a hawkish pivot at the Fed made the environment more uncertain. On the other hand, the risk premium is close to its GFC lows, optimism is high and futures positioning has increased a lot. Our equity allocation remains tilted to benefit from the twin themes of rising bond yields and increasing commodity prices. At the same time, we introduced more focus on secular growth by upgrading health care and communication services. From a regional perspective, we entered the third quarter with an overweight Eurozone equities and an underweight in emerging markets.

Real estate

We are neutral on global real estate. Rising yields due to US fiscal pulses and economic normalization are a medium-term headwind. So far this year, real estate has outperformed equities, catching up after its Covid-driven underperformance. Banks in the Eurozone started to ease housing credit standards again in Q2. Credit standards also eased in the US. US housing and labour data are on the mend but supply bottlenecks, rising US office vacancy rates and high US mortgage delinquencies are headwinds. Valuation of the asset class, both absolute and relative, provides support. Real estate, however, is undergoing structural changes that have been amplified by the covid crisis. The trend to e-commerce reduces retail real estate demand, while strengthening real estate logistics. Increased working from home will continue to affect office demand. These themes will keep weighing on the asset class in 2021 and beyond. Meanwhile, investor positioning in global, US and European real estate is strong underweight, with small inflows in the US and outflows in Europe.

Commodities

We are neutral on commodities. Volatility is high with supply bottlenecks acting as a speed bump on the global economic recovery trend. Chinese authorities remain willing to rein in speculative activity, mostly in industrial metals. China announced plans to release strategic reserves of copper, aluminium, and zinc via public auctioning. Chinese macro data is softening, as is seasonal summer demand for metals. The Chinese policy authorities want to avoid passthrough of rising metal prices to consumers. This may dent sentiment to the sector in the near term, but it is unlikely to derail the physical tightening of the market that will continue in the next several months on restocking amid pent-up demand in developed markets. We are strongly overweight aluminium.

In oil, the US-Iran nuclear deal revival talks remain in focus. We anticipate a deal in the coming months, with a gradual return of Iranian barrels. This should not fundamentally alter a tightening oil market in the near term given the reopening of the global economy, refineries returning from maintenance, and an OPEC+ strategy of gradual production increase. The third quarter should remain tight. Towards year-end and going into 2022, the theme of returning US production along with Iranian output is likely to become a headwind for oil prices. We maintain a moderate overweight US WTI crude oil.

Equity market forecasts

Index	Current	+3m	+6m	+12m
S&P 500	4298	4350	4450	4550
Stoxx 600	453	460	470	485
TOPIX	1943	1975	2000	2075
FTSE 100	7037	7100	7200	7350
MSCI EM Free	1377	1380	1410	1430

Source: NN Investment Partners, 30 June

Patrick Moonen
Principal strategist

Market review

- Q2 was strong for most asset classes
- US, German bond yields diverged
- Dominant market narrative has changed

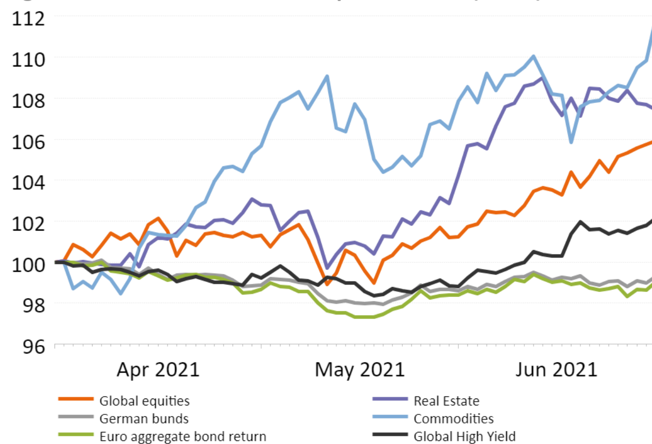
The road towards normalization

The second quarter was a strong one for most asset classes. Equities, real estate and especially commodity markets rose significantly. Riskier credit outperformed safe government bonds, although we observed a significant divergence throughout the quarter between declining US Treasury yields and rising German Bund yields.

During the quarter, the normalization process gained traction and became more tangible with the gradual reopening of economies. The V-shaped recovery was confirmed with the help of fiscal support, accommodative monetary policy, strong earnings growth with positive guidance, and vaccination roll-outs in the West.

The underlying narrative changed over the quarter, which led to important reversals at the intra-asset class level. Inflation data surprised to the upside. Although this is currently seen as primarily caused by temporary factors, uncertainty has increased. One of the key events of the quarter was the outcome of the June Federal Reserve meeting, where the US central bank made a hawkish pivot, meant to manage inflation expectations. Surprisingly, the initial reaction of the fixed income market was a further drop in Treasury yields and a bull flattening of the yield curve. Investors eventually adopted a more positive view, which was reflected in a drop in the VIX towards the lows of the year and a renewed rise in risky assets.

Figure 1: Year-to-date asset class performance (euros)



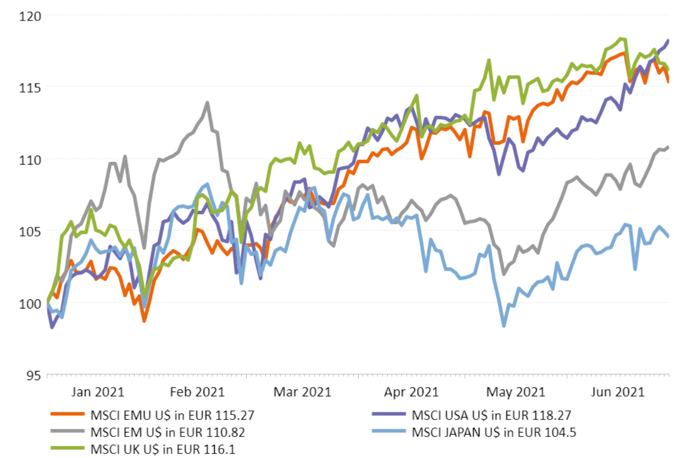
Source: Refinitiv Datastream, NN Investment Partners

Equities

Regional equity performance was mixed. The US, supported by a renewed interest in growth sectors in the second half of the quarter, was the best-performing region, followed closely by Europe. Japan was the laggard, despite being a play on the global recovery. The stall in vaccination rates probably played an important role in explaining the underperformance.

Emerging markets also underperformed, with a huge divergence between weak Asian markets and strong non-Asian markets. The strength in oil and industrial metal prices, and the strength of commodity currencies, are surely among the reasons. Another reason is the struggle with the pandemic in several emerging markets in Asia, which is denting their growth outlook and creating a clear headwind for EM.

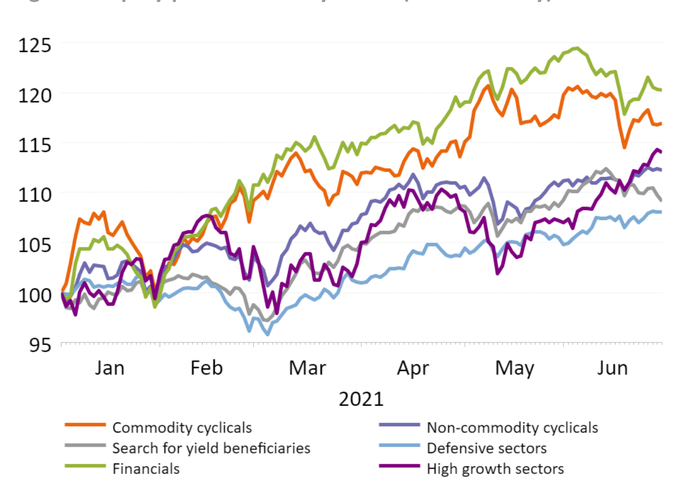
Figure 2: Equity performance by region (euros)



Source: Refinitiv Datastream, NN Investment Partners

The sector performance underwent a true reversal of fortune. In the first half of the quarter, the reflation trade outperformed, with strong performances by the financial and commodity sectors. In the second half of the quarter, the high-growth sectors took over and ended the quarter on top. To explain these developments we need to look at the fixed income market, where US long-term bond yields declined despite high inflation numbers and the Fed's hawkish pivot. Also, industrial metal prices reversed course, which was linked to China's efforts to rein in commodity speculation.

Figure 3: Equity performance by sector (local currency)

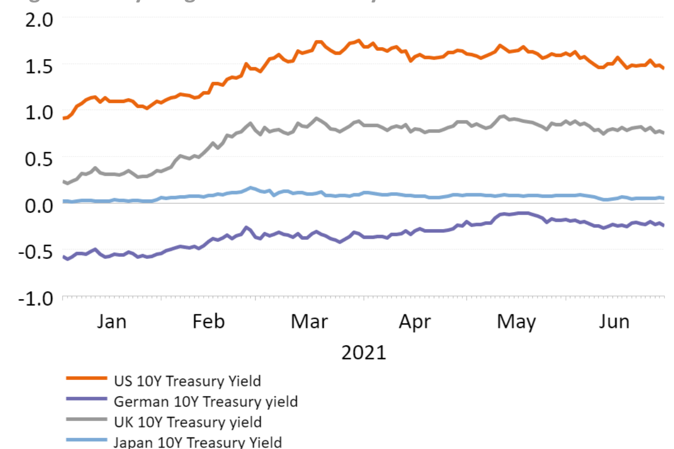


Source: Refinitiv Datastream, NN Investment Partners

Fixed income

In fixed income, we observed a narrowing of the spread between US and German yields, which we consider temporary.

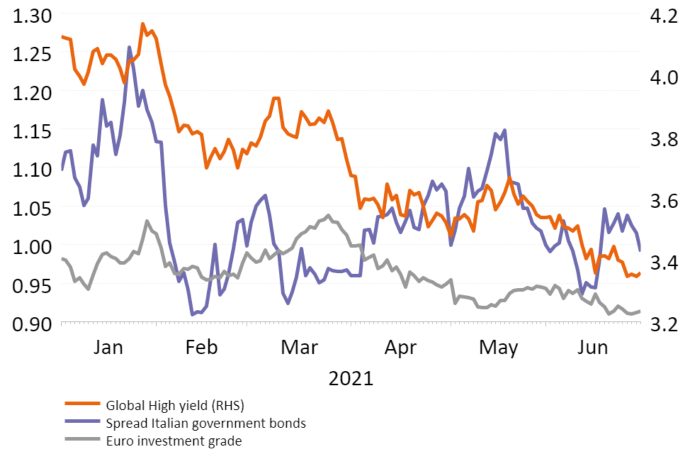
Figure 4: 10-year government bond yield trends



Source: Refinitiv Datastream, NN Investment Partners

In fixed income spreads, global high yield and high-grade spreads tightened. Lower US yields fuelled the search for yield and were a tailwind as was the rapid improvement in corporate profitability.

Figure 5: Credit spreads

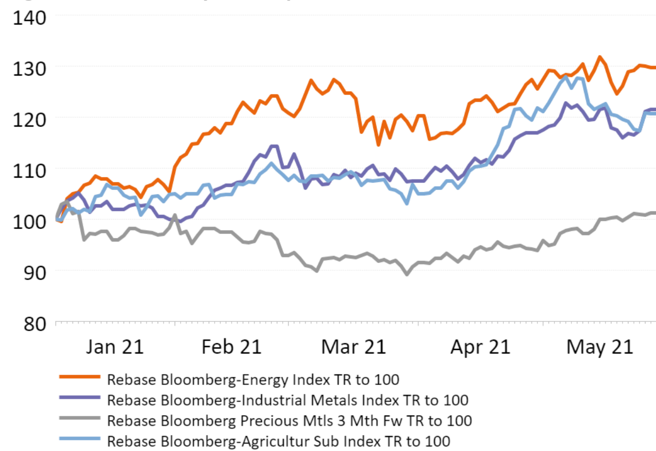


Source: Refinitiv Datastream, NN Investment Partners

Commodities

Commodities were the best performing asset class in Q2, supported by the economic reopening and further supply discipline in the oil sector. In June, non-oil commodity prices fell as a hawkish turn at the Fed, a rising US dollar and Chinese clampdown measures weighed. Only energy escaped the declining trend in June.

Figure 6: Commodity sector performance in USD



Source: Refinitiv Datastream, NN Investment Partners

Performance overview main indices

	Euro		Local Currency	
	QTD	YTD	QTD	YTD
MSCI WORLD - TOT RETURN IND	6.92%	16.92%	7.72%	14.47%
MSCI EM - TOT RETURN IND	4.18%	11.00%	3.90%	8.08%
MSCI USA - TOT RETURN IND	7.93%	18.52%	8.90%	14.87%
MSCI JAPAN - TOT RETURN IND	-1.14%	4.67%	0.19%	9.06%
MSCI EMU - TOT RETURN IND	6.17%	15.77%	6.17%	15.76%
MSCI EUROPE - TOT RETURN IND	6.78%	15.84%	6.78%	14.99%
MSCI UK - TOT RETURN IND	5.03%	16.11%	5.84%	11.36%
MSCI PACIFIC EX JP E TOT RETURN IND	3.85%	13.13%	5.72%	11.80%
MSCI WORLD HEALTH CARE- TOT RETURN IND	8.27%	13.73%		
MSCI WORLD FINANCIALS - TOT RETURN IND	5.90%	24.99%		
MSCI WORLD UTILITIES - TOT RETURN IND	-1.32%	3.42%		
MSCI WORLD IT - TOT RETURN IND	10.60%	16.79%		
MSCI WORLD ENERGY - TOT RETURN IND	8.01%	37.39%		
MSCI WORLD MATERIALS - TOT RETURN IND	4.53%	15.11%		
MSCI WORLD INDUSTRIALS - TOT RETURN IND	3.33%	16.07%		
MSCI WORLD CONS DISCR - TOT RETURN IND	5.55%	13.85%		
MSCI WORLD CONS STAPLES - TOT RETURN IND	5.08%	8.92%		
MSCI WORLD T/CM SVS - TOT RETURN IND	8.33%	20.56%		
GPR 250 REIT WORLD - TOT RETURN IND	9.56%	22.52%	10.53%	19.85%
Gold Bullion LBM $/t oz DELAY			3.56%	-6.97%
Crude Oil BFO M1 Europe FOB $/BBl			18.47%	45.02%
LME-LMEX Index - PRICE INDEX			9.62%	21.58%
Bloomberg-Agricultur Sub Index TR - RETURN IND. (OFCL)			12.77%	20.44%
Bloomberg- Commodity TR - RETURN IND. (OFCL)			13.30%	21.15%
EBF EURIBOR 1M - OFFERED RATE	-0.569%	-0.554%		
US GVT BMK BID YLD 10Y (U$) - RED. YIELD	1.444%	0.912%		
GERMANY GVT BMK BID YLD 10Y (E) - RED. YIELD	-0.203%	-0.575%		
JAPAN GVT BMK BID YLD 10Y (Y) - RED. YIELD	0.054%	0.021%		
UK GVT BMK BID YLD 10Y (£) - RED. YIELD	0.717%	0.196%		
Barclays Euro-Aggregate EUR - Yield to worst	0.08%	-0.14%		
Barclays Euro-Aggregate: Corporates EUR - Yield to worst	0.33%	0.24%		
Barclays Global High Yield USD - Yield to worst	4.22%	4.47%		
Barclays US Aggregate ex Government USD - Yield to worst	1.86%	1.47%		
US $ TO ECU/EURO (WMR) - EXCHANGE RATE	1.1859	1.22355		
JAPANESE YEN TO EURO (WMR) - EXCHANGE RATE	131.623	126.326		
GBP TO EUR (BOE) - EXCHANGE RATE	0.8604	0.904		

Source: Refinitiv Datastream, 30 June 2021

Patrick Moonen
Principal Strategist Multi-Asset

Economic outlook

- Short-term bottlenecks are biting ...
- ...while the long-run equilibrium is still pretty uncertain as well
- A breakout of inflation expectations is possible but not very likely

During the second quarter it once again became clear that we live in an extraordinary environment where the near term as well as the medium term of the economy are fairly hard to predict. The near-term outlook is dominated by reopening dynamics. Even before the reopening started in earnest, it was expected to push several data points to historic highs because of the release of pent-up demand supercharged by the release of excess savings and ongoing fiscal stimulus. As the quarter progressed, we learned about the importance of supply bottlenecks, another factor that further escalates the level of noise in the data and that may show that there is at least a temporary speed limit on the recovery.

These supply bottlenecks have various causes. The overriding story is the fact that for a long time, businesses relied on "just-in-time" inventory management. In a world that evolves smoothly and predictably, this is great way to increase efficiency and lower costs, also from a macroeconomic perspective. In the 1950s, 60s and 70s, inventory swings were an important driver of the business cycle, but the adoption of just-in-time largely eliminated this source of macro volatility. This year, inventories have made a stunning comeback. In a world characterized by a fundamental uncertainty, various sectors face a combination of a huge underestimation of demand and very lean inventory levels. The resulting supply bottlenecks reverberate throughout global production chains and restrict the pace at which output can grow. As a result, supplier delivery times and the new orders-to-inventory ratio in the global manufacturing PMI has reached record highs.

Over time, these supply bottlenecks will be resolved by a combination of additional investment in capacity and rebuilding of inventories. Global capital investment embarked on a strong upward trend in the summer of 2020, and the very high levels of business confidence in the manufacturing sector suggest this trend may well continue for a while. Inventories currently act as a drag on growth, but they will provide a boost once businesses have the opportunity to rebuild them. This boost could be substantial, because many firms may wish to have structurally higher inventory-to-sales ratios from now on.

Labour markets are also experiencing bottlenecks, especially in the US, where the response to the Covid shock was centred around the protection of incomes rather than jobs. As a result, the unemployment rate rose substantially, but so did household income growth. By contrast, Europe and Japan started furloughing schemes which kept workers attached to their jobs. At the start of the quarter, the general expectation was that the US economy could easily add roughly 1 million jobs per month for several months in a row. Actual payroll numbers have since sorely disappointed, and labour supply constraints are probably part of the story. The participation rate remains stuck at around 1.7 percentage points below the pre-Covid level. Many former workers may still not be willing to re-enter the labour market because of lingering health concerns or the need to take care of children. Also, the weekly USD 300 top-up on unemployment benefits could induce former low-wage workers to hold out in the hope of getting better job offers after the summer. These labour supply restrictions should ease from September onwards when emergency unemployment benefits expire and schools fully reopen.

Another part of the disappointing job growth story in the US may have to do with the ease with which unemployed can be matched with vacancies. Many workers who were laid off temporarily last year kept informal ties with their employers. As demand came roaring back, they could be rehired very quickly, thus allowing for very robust job growth at the macro level. This low-hanging fruit may have been plucked now and job-market matching may now well take more time and effort.

Long-run equilibrium is still fairly uncertain

Before the Covid crisis hit, developed economies were in the grip of secular stagnation. This situation was the result of a high level of planned savings, low investment appetite and a high demand for safe assets in investor portfolios. An important implication of this state of affairs is a low level of equilibrium safe Treasury yields. This presents a major problem for central banks, whose ability to push actual real yields below their equilibrium level during a downturn diminished, which over time could cause inflation expectations to drift lower. To compensate, the Fed adopted a structurally more dovish reaction function by moving the inflation and employment goal posts and by making a commitment not to tighten policy until the Fed sees the "whites of the eyes" of inflation in an economy that is at full employment. This is quite something for central bankers who were intellectually raised in a time when monetary policy reacted pre-emptively to an increase in growth and inflation *forecasts*.

Meanwhile, fiscal policymakers have also changed their tune considerably. Just 10 years ago, the prevailing wisdom was that outside recessions, governments should stick to fiscal austerity to keep sovereign debt ratios at low average levels over the cycle. Now fiscal policy has become the active instrument used to push the economy towards a better equilibrium. Concerns about the implications for the debt-to-GDP ratio have receded substantially because real yields have been well below the average real growth rate for many years. Policymakers have also started to realize that underlying GDP growth is by far the most important determinant of long-run debt sustainability. The Biden administration is clearly willing to err on the side of doing too much in this regard, because it is very well aware that "going big" is the only chance it has of changing the political equilibrium as well. In order to do that, the majority of Americans, especially disadvantaged groups, need to be able to clearly discern visible improvements in their quality of life.

It is all very well to make such big policy shifts in the midst of a crisis and promise to stick to them. It is quite another to persevere in this endeavour when the going gets a bit tougher. On one end of the risk spectrum is the possibility that persistent policy easing will cause inflation expectations to break out on the upside. On the other end, a premature tightening of policy could push the economy back in the secular stagnation equilibrium. Policymakers will have to navigate their way between these risks.

A breakout of inflation expectations is not very likely

Several pundits have recently focused on the risk of overshooting inflation expectations. We continue to see this as a tail risk. The rise in inflation can be almost entirely attributed to categories of goods and services that were strongly affected by the lockdown and subsequent reopening. As such, the increase in inflation is the result of relative price changes that help to alleviate supply bottlenecks. In principle these are one-off events that do not exert a permanent effect on inflation. Two conditions would be needed for such an effect. First of all, the distributional conflict between wage earners and profit owners would need to increase significantly, which would trigger the leapfrogging of wages and prices. In 2018 and 2019 we did not see this even when the unemployment rate was below 4%, because of structurally low worker bargaining power. It is possible

but not very plausible that we will see a strong and persistent rise in worker bargaining power as long as overall employment is still well below the pre-Covid trend.

Secondly, even if distributional conflict is about to heat up, it will only be able to do so if the Fed allows it to. After all, the Fed has the power to punish excessive wage and price increases by slowing down aggregate demand and employment growth. What's more, if workers and businesses believe this threat to be credible, they will remain well-behaved in setting wages and prices. In that case, inflation expectations are strongly anchored. US inflation expectations have drifted near, if not a bit below, the lower bound of the mandate consistent range for years. It is not very likely that they will suddenly break out on the upside because of a temporary, reopening-driven rise in inflation. Still, there is a possibility that reopening-induced relative price volatility will persist for some time. The longer it does, the higher the risk that inflation expectations will be persistently affected. The Fed has taken out insurance against this scenario by signalling its willingness to act if necessary, and by backing up that signal with a moderate hawkish shift within the degree of freedom afforded by its rate and QE guidance.

The risk of premature tightening should not be ignored

If the inflation risk scenario unfolds, it will be relatively easy to cure, although there will be costs in terms of a growth slowdown and tightening of financial conditions. From a longer-term perspective, policymakers may find this risk well worth taking, because the expansionary policy mix will probably have pushed the economy at least some way towards an equilibrium with higher productivity growth and higher equilibrium yields. However, if the premature tightening scenario unfolds and the economy falls back or remains stuck in secular stagnation, a cure will be much more difficult to find. It would require a credible commitment by policymakers to keep borrowing costs low and to support private income growth and balance sheet quality until the private sector is willing and able to support a self-sustaining higher growth momentum on its own.

History is littered with examples where policymakers got cold feet because of a fear of overheating the economy, or because of the mistaken belief that fiscal austerity was needed to stop the sovereign debt burden from rising. In 1937, for instance, when output, profits and wages had again reached their 1929 levels, US fiscal and monetary policy was tightened even though the unemployment rate, which had fallen from a 1933 peak of 25%, was still around 14%. This caused a recession that lasted more than a year and pushed the unemployment rate back up to 19%. It was only because of the massive fiscal expansion due to WWII that the unemployment rate fell back and below levels seen in the 1920s. More recently, in 2010-2013, many developed economies made a U-turn from large-scale fiscal easing towards severe fiscal austerity. This is likely to have exerted a severe drag on the recovery, and it is an important reason why it took many years for unemployment rates to get back to their pre-2008 levels.

Policymakers may have adopted a different philosophy now, but that does not eliminate the risk of premature tightening. In Europe, one can already hear noises in some policymaking circles that governments should tighten their belts now that economies are reopening, and that the ECB should phase out its emergency measure as soon as possible. In the US, the risk of premature tightening is definitely less but not completely absent. The Federal Open Market Committee seems internally divided about the extent to which it should respond to upside inflation risks. For now, the majority clearly wants to hold on firmly to the dovish reaction function. In US fiscal space, moderate Democrats are trying to water down Biden's infrastructure plans somewhat, but the result should still be a substantial boost to public investment. Nevertheless, if the Republicans take back control of Congress in 2022, a more pronounced turn towards fiscal austerity may well result.

Navigating the risks of a breakout of inflation expectations and premature policy tightening is a daunting task indeed. The realization of either of these two scenarios will have very different implications for the economy, the markets, and the political system. The inflation scenario would at some point lead to a sharp rise in real yields, a sell-off in risky assets and possibly a recession. Nevertheless, once those waves have abated, the economy may well find itself with higher growth and higher equilibrium returns on assets. The political system may then be more inclined to tackle the great market failures of our era: inequality and climate change. By contrast, a return to secular stagnation will keep us trapped in a world of low productivity growth and low equilibrium yield, where the search for yield will remain a dominant theme in risky asset space. In the political arena, polarization and populism will remain alive and well, making it hard to tackle the aforementioned pressing issues of our time.

The extremely unusual dynamics associated with the pandemic shock and subsequent reopening make it difficult for policymakers to judge where the economy is in real time because of the large amount of noise in the data. Yet in the more medium term, there is one important indicator which should be watched closely to determine whether we are heading toward inflation or premature tightening. This indicator is private investment. It was very much the missing part of the expansion equation in the "secular stagnation expansion" of 2010-2020. A durable increase in private investment growth would be a sign that we could well be escaping this economic predicament. At the same time, a durably higher rate of private investment tends to be associated with a faster growth rate of the supply side in general and of productivity in particular. This will reduce the risk of distributional conflict and thus inflation because workers and profit owners can enjoy a bigger slice of economic pie without having to fight for it.

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Senior Economist

Fixed income outlook

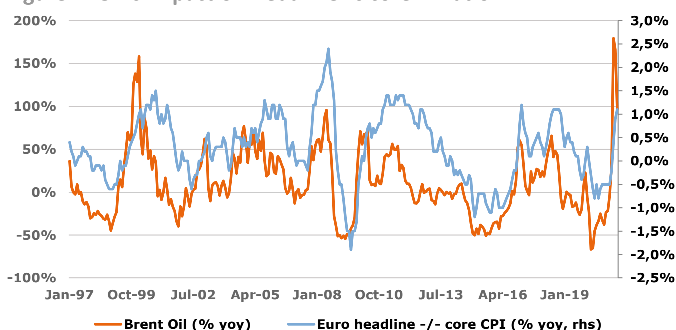
- Inflationary pressures remain transitory
- One-off factors won't make inflation sustainably higher…
- …but divergence in policy and macro dynamics opens up opportunities in linkers

Inflation is the number one theme at the moment. This month we discuss what has driven inflation developments this year and what to expect for next year. We also examine market-based inflation expectations and whether they confirm the "transitory inflation" narrative. We assess central banks' reaction function and describe our preference for inflation-linked products for the rest of the year.

The first factor that will continue to have a strong impact on inflation is base effects. The collapse in oil prices in early 2020 resulted in sharply declining headline inflation, also relative to core inflation, which excludes energy costs.

The reverse has been the case since March this year. The doubling of oil prices has added about one percentage point to US and Eurozone headline inflation relative to core inflation. Assuming Brent crude oil stays around USD 75 a barrel, the positive impact on inflation will become negligible in the first quarter of 2022.

Figure 1: Oil's impact on headline vs core inflation



Source: NN Investment Partners, Bloomberg

In addition, the temporary reduction in Germany's value-added tax from June through December last year reduced German inflation by about 1.2 percentage points and Eurozone inflation by 0.4 point. Starting in June 2021, it will add a similar amount to the inflation numbers because VAT will have been higher than a year earlier. This positive impact on inflation will also disappear in early 2022.

Several statistical problems also arise. The weightings of the Eurozone's key inflation yardstick, the Harmonised Index of Consumer Prices (HICP), were updated for 2021 using data that reflect the major changes in 2020 consumption patterns, which probably added around 0.3 percentage point to headline inflation in January 2021. The change in weights will continue to affect HICP inflation rates throughout 2021 to an uncertain extent. Moreover, this effect will continue to play a role next year, as weights of the HICP basket categories could change significantly once again.

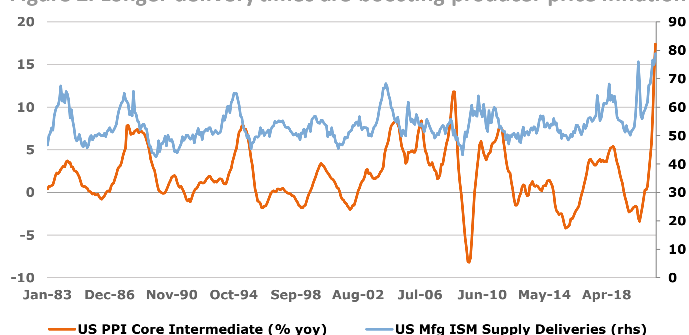
Capturing prices during lockdowns also presents challenges. While statistics offices in Europe imputed prices for items that could no longer be purchased, "lighter-touch" lockdowns in the US enabled statisticians to better capture the full extent of price falls in categories most affected by pandemic-related restrictions. As a result, there is now far more scope for a rebound in "measured" US inflation as restrictions are lifted. Finally, sales distortions are also having an impact on seasonal adjustments.

These base-effect and other statistical factors all support the notion that recent high inflation prints are transitory, but we still have a strong tailwind from demand. The economy is running hot, and demand is recovering rapidly. This is in part due to large fiscal stimulus packages, mainly in the US and in the Eurozone. Moreover, with fiscal support targeting investment and lower incomes, multipliers associated with such spending are likely to be relatively high. Pent-up demand and savings built up during the lockdowns are also likely to play a role. Estimates of excess savings range from 5% to 10% of GDP, but the impact on economic growth will depend on how quickly and how much of these excess savings will be reduced. The real question is to what extent strong demand will persist and whether it will actually lead to structural inflationary pressures. For now, the reopening across the globe has had a significant impact on the supply side's capacity to meet demand.

Supply is struggling to keep up with demand as supply chain disruptions persist. These global disruptions relate to production cutbacks during the pandemic, a shortage of semiconductors, and problems in the global shipping industry such as container shortages, congested ports, and the Suez Canal blockage.

Figure 2 shows that the US manufacturing ISM supply deliveries index has risen to unprecedented levels, indicating increasing delivery times. As has been the case historically, this is leading to higher producer price inflation early in the production chain. A similar pattern of supply disruptions and increasing price pressures can be seen in the Eurozone. In total, these supply disruptions might have added around 1 percentage point to US inflation in May, but this impact is expected to abate this year and might even become negative in the second half of 2022.

Figure 2: Longer delivery times are boosting producer price inflation



Source: NN Investment Partners, Bloomberg

The combination of soaring demand and still-constrained supply is expected to result in increasing inflationary pressures in the second half of this year. In addition, oil prices are likely to be higher than a year earlier in this period, as will German VAT. Next year, base effects will probably result in lower inflation. We expect headline US inflation to be in a 4.5%-4.75% range in the second half of this year before easing to around 2% next summer. For the Eurozone, headline inflation might rise to almost 3% in November before falling back to around 1.5-1.75% early next year. Conviction on these forecasts is low in view of all the uncertainties.

Our analysis of the key drivers of the recent inflation prints confirms the transitory nature of the current inflation dynamics. It remains to be seen whether higher headline inflation will have a spill-over effect on core inflation via the wage-price spiral and medium-term inflation expectations. Much also depends on the degree of credibility that market participants attach to central banks' ability to anchor inflation expectations.

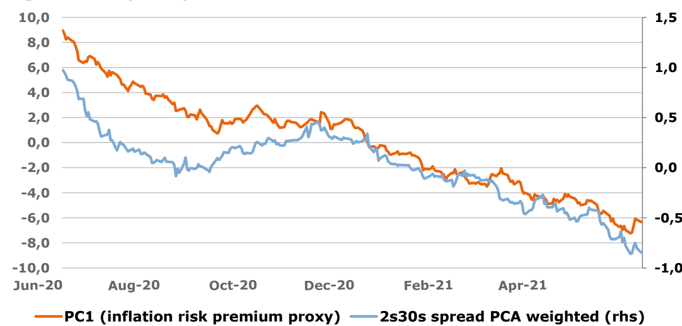
Declining US inflation risk premium signals Fed credibility

What does the behaviour of the USD and EUR inflation (breakeven) swap curves over the past year tell us about the central banks'

credibility in meeting their inflation mandates? To understand current inflation dynamics, we use principal component analysis to assess the most prominent uncorrelated statistical drivers for the inflation breakeven curve.

We find that yield curve movements over time are generally driven by three principal factors. These are, in order of importance, yield level, slope and curvature. Interestingly, if we analyse how the US inflation breakeven curve behaves, we find its most important driver is the 2s30s slope of the breakeven curve. The slope could be interpreted as a proxy for inflation risk premium; longer-dated inflation expectations are inherently more uncertain. The uncertainty regarding future inflation declined over the recent years, so we have seen the breakeven curve flattening while the longer-dated inflation breakeven rates recently settled close to somewhat above 2%, in line with the US Federal Reserve's average inflation target mandate. Hence, the Fed's ability to anchor longer inflation expectations demonstrates a high degree of credibility among market participants.

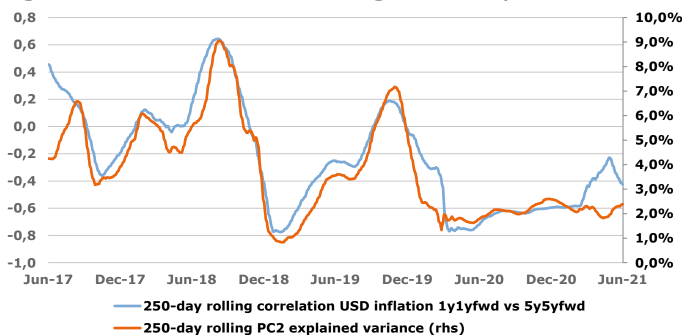
Figure 3: Slope explains most of USD breakeven curve movements



Source: NN Investment Partners

We have seen a significant flattening of the USD inflation breakeven curve and even a strong inversion since the first quarter of this year. This largely supports the transitory inflation narrative as communicated by the Fed and several other central banks.

Figure 4: Correlation of short and long inflation expectations



Source: NN Investment Partners

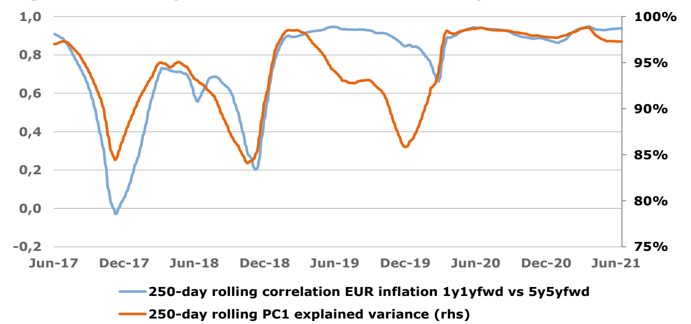
Figure 4 shows that the correlation between shorter- and longer-dated US inflation expectations is highly related to the degree of importance of the second principal component. In other words, the lower the correlation between shorter and longer inflation expectations, the less important this correlation becomes in explaining the moves in the breakeven curve. Lower correlation means that short-term inflation expectations, which could be heavily impacted by transitory factors, become de-anchored from longer dated inflation expectations, which are tied to the Fed's inflation mandate. This points to the belief among market participants that the recent high inflation figures are driven by transitory factors and also implies that the inflation risk premium is relatively low.

Figure 4 also shows that during the first half of this year, the correlation between shorter- and longer-dated breakevens rose slightly and temporarily. The second principal component, however, did not contribute more to explain the movements in the US breakeven curve. Longer inflation expectations remain anchored to the Fed's average inflation target. In Europe, see quite the opposite.

The ECB's inflation issue stems from its struggling credibility

In Europe, we see quite the opposite. A higher correlation between 1y1y forward and 5y5y forward inflation swaps are commensurate with a larger importance of the inflation level (first principal component) on overall inflation expectations. In other words, the more the different maturities on the euro inflation breakeven curve move, the more important realized and shorter inflation expectations become for longer inflation breakevens.

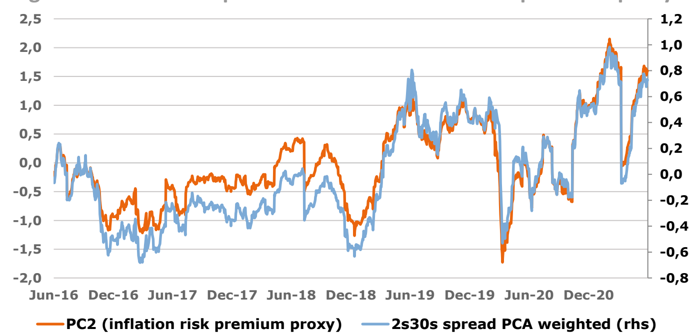
Figure 5: In Europe, it's all about short-term expectations



Source: NN Investment Partners

If market participants consider the ECB's monetary policy less credible in terms of reaching its inflation mandate of "below, but close to, 2%" over the medium term, the shorter and longer dated inflation expectations become more correlated. In other words, the market will mainly use realized inflation and short-term expectations as guidance instead of anchoring its longer inflation expectations to the ECB's inflation mandate.

Figure 6: Second component as a EUR inflation risk premium proxy



Source: NN Investment Partners

The key conclusion from these findings is that the market prices in a relative difference in perceived monetary policy credibility between the Fed and the ECB. In the US, the longer inflation expectations better reflect the Fed's inflation mandate while shorter dated inflation expectations are more impacted by transitory factors, de-anchoring short and long inflation expectations. In Europe, the ECB's declining credibility has increased the correlation between shorter- and longer-dated inflation expectation, indicating that realized and short-term inflation expectations are the most important guide for investors' inflation outlook.

The disparity in central bank credibility levels will also affect the path of monetary policy decisions as inflation expectations are impacted differently. Asset purchases have had a profound impact on real yields and the outlook for a tapering of asset purchases by the Fed adds to the risk that US real yields could move materially higher versus nominal yields, negatively impacting breakevens. In Europe, the ECB's difficulty in pushing inflation higher will keep its asset

purchase program very much alive in some form for the foreseeable future and could keep European real and nominal yields more anchored near current low levels.

How will central banks navigate this uncharted territory? Their credibility is particularly important, especially because the ECB is likely to present the outcome of its strategy review after the summer. There are signs that the ECB will change its mandate to allow for some kind of symmetry around 2% core inflation over the medium term. If the bank is deemed credible in reaching this new inflation target, nominal yields and inflation expectations could rise. On the other hand, a less credible ECB would lead market participants to interpret the new inflation target as more dovish, which could lead to a prolonged period of very loose monetary policy with continued asset purchases. This would keep real yields around historically low levels and would also limit the rise in nominal rates and inflation breakevens. Given the ECB's inflation track record in recent years and the low degree of credibility the market attaches to it, a continuation of easy monetary policy can be expected over the next few years, which should keep European real yields at depressed levels.

In contrast, the Fed made a hawkish pivot at the June meeting by initiating the taper discussion and by signalling earlier rate lift-off in the dot plot. The essential motivation is risk management with respect to inflation expectations. The Fed adopted a strategic dovish reaction function in reaction to a world characterized by low equilibrium yields in combination with a zero bound on the policy rate. In this world, the Fed's ability to stimulate the economy in a downturn is limited. As a result, inflation may on average run below target during the cycle, pushing inflation expectations down. The Fed compensates for this by making a commitment to keep policy considerably looser during the expansion phase, which will result in a moderate inflation overshoot for some time.

The potential cost of this move is that the market may conclude that the Fed is reneging on its strategically dovish reaction function. If that happens, inflation expectations may move down again, and any commitment made by the Fed to take action to re-anchor inflation expectations might test its credibility. Statements by the Fed leadership after the June meeting, reaffirming the commitment to its strategically dovish tilt in general and to the realized progress towards its goals in particular, suggest the Fed is well aware of this potential cost. In this respect, the Fed clearly stated that there is still considerable ground to cover before the thresholds for tightening policy are met.

Worries about overheating are causing some pundits to advocate policy tightening. Their arguments are centred around the output gap and the notion that the Fed's new framework will put it behind the curve. The output gap is a fuzzy concept because potential output estimates vary wildly over time. The reason is that the supply side is often pretty responsive to the demand side of the economy.

More fundamentally, the concept of the output gap hides a more basic cause of inflation, namely distributional conflict between workers and profit owners. It is possible, but not very plausible, that this kind of conflict will heat up in the foreseeable future given the low relative bargaining power of workers. Even if it heats up it would be a misinterpretation of the Fed's strategically dovish reaction function to assume the Fed will not react to it.

However, there is a lot of noise in the data, so the Fed and the markets will by definition be behind the curve if the tail-risk scenario of an outbreak of inflation expectations to the upside unfolds. In the medium term there is also a downside tail-risk scenario that will unfold if policymakers apply premature austerity and monetary tightening. The exit of the secular stagnation equilibrium is far from certain at this point.

The reopening dynamics in the US and Europe are triggering temporary supply bottlenecks in various segments of the economy. Output prices and wage increases are one-off jumps that are causing a transitory spike in inflation. There is a small risk that this will spill over into an unwarranted rise in inflation expectations. The Fed's moderate hawkish shift was within the degrees of freedom afforded by the strategically dovish monetary policy stance, while the ECB is clearly maintaining its dovish stance as the core inflation undershoot over the medium term persists.

Underweight in US vs German inflation-protected securities

All in all, there is ample evidence of the transitory nature of inflation in the US and in Europe. The narrative for medium-term inflation depends on how the central banks interpret current inflation dynamics, especially in the US where Fed credibility is high. An overly hawkish Fed could surprise the market, consequently pushing real yields significantly higher and longer-dated inflation expectations significantly lower.

Given these considerations, potential moves in US real yields appear asymmetric. Real yields could move higher alongside nominal yields, as a Fed taper could serve as a prelude to future rate hikes. We don't expect the Fed to sound overly hawkish and threaten the current economic recovery, hence a volatile drop in inflation breakevens and a sharp volatile jump in US real yields isn't likely. As the ECB is on a more dovish path given its stubbornly low core inflation projections over the medium term and its lack of credibility to reach its medium-term inflation mandate, the scope for higher real yields appears much lower in Europe than the US. Given the central bank divergence and differences in relative growth and inflation, we initiate a moderate underweight in 10y US Treasury inflation-protected securities versus German linkers.

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Equity outlook

- Delta variant remains a concern
- Market drivers are beyond maximum support
- We added secular to cyclical growth

Flip-flopping higher

Global equity markets continued their advance in the second quarter. Still, it was a bumpy ride with brutal monthly rotations in sector and style performance. Over the full quarter, cyclicals outperformed defensive sectors but value underperformed growth. The main explanatory factor was the rise and fall of US bond yields in an environment of peaking macro surprises, peak year-on-year earnings growth, soaring inflation data and a Federal Reserve that made a hawkish pivot during its June meeting. Emerging markets in Asia continued to struggle.

The pandemic news is fairly encouraging. The vaccine roll-out is proceeding at full speed across most developed countries and the journey towards economic and social normalization has begun. Many countries are relaxing restrictions and summer holiday travel is expected to stage a comeback, which is crucial for the Mediterranean countries.

All is not well, however. The more transmissible Delta variant is rapidly becoming the dominant strain and has already led to renewed restrictions or delayed reopenings in various parts of the world including the UK, Australia, Israel, and Portugal. The emerging markets are also struggling to control the virus.

In the US, more fiscal policy support is under way with the Biden administration's announcement of the USD 2.3 trillion American Jobs Plan and USD 1.8 trillion American Families Plan. Timelines are uncertain as the debate is also focussing on the revenue side. Who will pay for this? A corporate tax increase and higher capital gains tax are in the pipeline. Although tax increases would be a headwind, equity markets have so far shown little reaction. This is because tax plans may be modified during the approval process and the positive growth impact of fiscal policy must also be taken into account. The net earnings impact in 2022 should be less than 5%, which appears manageable.

Meanwhile, the European recovery fund will soon begin disbursing the funds to finance the projects member countries have submitted for approval in recent months. While this package has received less attention than the US fiscal bazookas, it is actually a political game-changer. If these US and European stimulus plans are well-executed and trigger more private investment, this could turn out to be a once-in-a-decade opportunity to lift the economy out of secular stagnation. For equities this would mean lower risk premiums and structurally higher earnings growth.

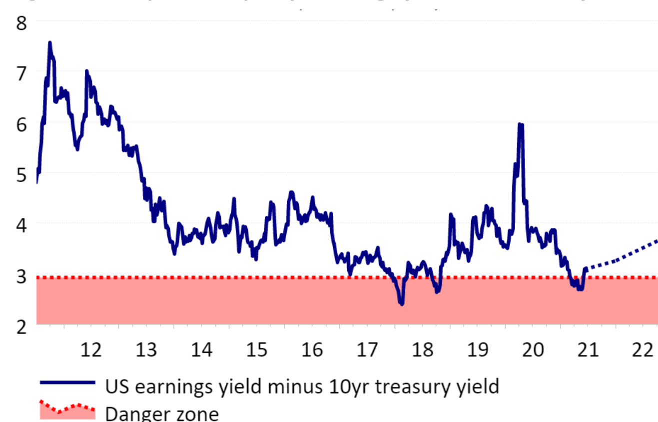
Easy monetary policy remains the baseline, but it seems we have reached the point of maximum support. The hawkish pivot in the June Fed meeting illustrated that the extremely loose monetary policy path can no longer be taken for granted. In an attempt to manage inflation expectations, tapering is on the table and rate hikes have been moved forward in the dot-plot. Strong macro data and surprisingly high inflation numbers have led to more uncertainty and market volatility. However, in our base case and that of the central banks, these inflation upticks are temporary, driven by base effects and one-off items. These include partial spending of excess savings, supply-side constraints, and rising commodity prices.

Looking at corporate earnings, the second quarter will show the biggest year-on-year change in growth. After that, the numbers will start to normalize rapidly, from more than 60% in Q2 to 23% in Q3 and 17% in Q4 for US earnings. This slowdown is not only linked to base effects but also to increasing cost pressures stemming from rising commodity prices, higher transportation costs, supply chain disruptions, sub-optimal use of capacity, higher wages, and potentially higher taxes. Depending on their pricing power, companies will either allow their margins to absorb these costs or they will try to recoup them in higher sales prices, which will fuel inflation. Historically, health care, staples, and real estate deal relatively well with higher inflation.

In the past few months, equity markets have also been driven by the gyrations of bond yields. In Q1, rising yields led to a strong performance of value stocks and cyclical sectors. In Q2, this picture was turned upside down and we saw a sharp reversion of the value-versus-growth trade.

It is clear that yields matter for relative sector returns, but the question is whether rising yields are a risk for equity markets as a whole. In examining this question, we make two observations. First, the correlation between yields and equity markets is not stable. In the recovery phase, both often move in tandem as higher yields are compensated by a better growth outlook. In the more mature phase of the cycle, the correlation turns negative. We are currently switching from the recovery phase to this more mature phase. Secondly, the cause of the rate rise is important. Is it linked to a shift in monetary policy expectations, or to rising inflation expectations? The former is more of a headwind than the latter.

Figure 1: Risk premium proxy: earnings yield minus bond yield



Source: Refinitiv Datastream, NN Investment Partners

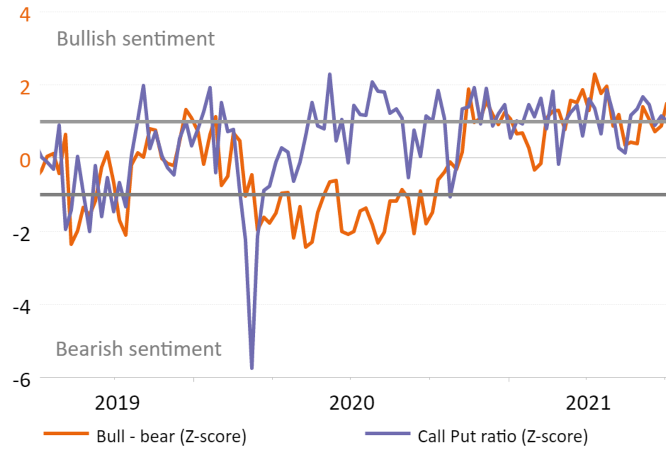
The net market impact will ultimately depend on two factors: expected earnings growth and the speed at which yields rise. Based on this metric, the risk/return trade-off for the US market has deteriorated rapidly since end-2020. At one point during the second quarter, it fell to levels that – since the global financial crisis – have produced negative results three months ahead. However, these periods of negative returns often coincided with tighter monetary policy (2017-2018), which is not currently in the cards, despite the start of the tapering discussion.

This leads us to believe that if yields rise in an orderly way and are justified by improving macro data and accompanied by strong earnings growth, they will not derail the bull market. Taking into account the consensus earnings estimates for 2021 (+36%) and 2022 (11%), US 10-year bond yields could gradually rise to 185 bps by the end of this year.

Investors are rationally exuberant

With the exception of a short period in May, investor sentiment has remained buoyant but not irrationally so. Pockets of the market where signs of over-optimism were visible earlier in the year, such as cryptocurrencies and SPACs, have significantly corrected recently.

Figure 2: Investor sentiment indicator (Z-score)



Source: Refinitiv Datastream, NN Investment Partners

Moreover, equity inflows are accelerating, and equity buybacks will jump this year following the strong increase in companies' expected cash flow generation. By early May, over USD 500 billion was already authorized. Buybacks will also be boosted by the Fed's loosening of restrictions for banks that passed the stress test. This will add several tens of billions of dollars to the buyback amounts. The net impact will be less, given the high level of new IPOs and secondaries. In the US, 558 companies have gone public so far, raising USD 171 billion. Full-year estimates are in the range of USD 250-300 billion.

Positioning

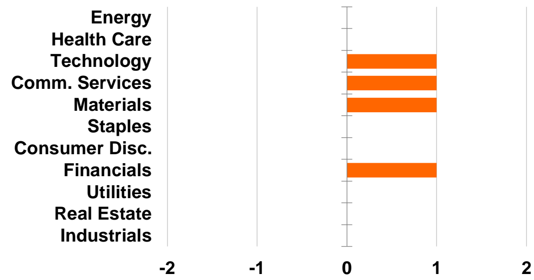
After the strong rally since the beginning of the year, it looks like a lot of the positive fundamental news on the economic normalization path, the earnings outlook and the pandemic are priced in. But uncertainties remain, not least concerning the inflation outlook and its policy implications, and the potential discovery of new more contagious coronavirus strains.

In our view, therefore, the balance of risk and returns has deteriorated in Q2, making equities less attractive compared to the previous quarter. Still, "less attractive" does not mean "unattractive". There are some signs of market exuberance and fundamentals remain strong. In summary, we maintain a constructive long-term view on equity markets but the short-term risk/reward trade-off has deteriorated. This explains our neutral stance on equities versus cash.

One of the focus points in Q3 and beyond will be the shift from a recovery environment towards a mature growth environment. History shows that as the economy moves from the recovery phase to the mid-cycle phase, sector performance starts to shift from cyclical growth towards secular/stable growth and quality. This cycle is advancing very quickly due to the event-driven nature of the preceding downturn and the unprecedented policy support that followed.

With this pattern in mind, we made some significant changes over the previous quarter. We cut the value overweight from large to moderate and closed our small-cap preference. We also added secular growth in our sector allocation by upgrading the health care and communication services sectors. Industrials were downgraded to neutral. We maintained the overweight in financials and materials, as we believe that in H2 of this year bond yields will move higher and commodity prices will remain supported as the world economy normalizes further.

Figure 3: Equity sector allocation



Source: NN Investment Partners

Regionally, we added an overweight in Eurozone equities. Relative earnings growth estimates are high (47% this year and 14% in 2022), and so is the 5% equity risk premium. The European recovery fund may also revive foreign investor interest in the region. And the Fed's hawkish pivot may lead to further dollar appreciation and higher bond yields, two factors that benefit the Eurozone given its high export share (>50%) and heavy weight of the financial sector in the benchmark.

We financed the Eurozone overweight through an underweight in emerging markets. Headwinds for EM include a stronger USD, higher bond yields, a worsening pandemic situation and a diminishing growth differential with DM. China economic policies remain a factor of uncertainty.

Patrick Moonen
Principal Strategist Multi Asset

Commodity special: EU carbon allowances

- We initiate EU carbon coverage with an overweight
- Higher EU carbon prices are likely in the near and medium term

We start coverage of EU carbon allowances

In anticipation of new and revised European Union regulations, our strategy team has initiated coverage of European carbon dioxide emission permits with an overweight. In this piece, we explain how EU allowances (EUAs) fit into the global fight against climate change, and discuss some of the crucial drivers of this unusual asset class.

To the best of our knowledge, NN IP is among the first asset managers to include carbon allowances in their standard multi-asset coverage. The EU Emissions Trading System (EU ETS) has been in place for more than 16 years, but as an asset class, carbon allowances are still far from liquid. We believe liquidity will increase as the accelerating energy transition changes how investors look at the whole commodity segment.

The US has set 2050 as a carbon neutrality deadline and is targeting a zero-carbon power sector by 2035. In April, the Biden administration raised the carbon reduction targets by calling for a 50%-52% reduction from 2005 levels by 2030, compared with the previous goal of a 26%-28% reduction by 2025. The EU also aims for carbon neutrality in 2050.

The Covid crisis appears to have fast-tracked climate change legislation in the EU. In September 2020, the European Commission presented its plan to ramp up its climate ambitions, proposing to cut carbon emissions in 2030 by at least 55% from 1990 levels. This proposal was more ambitious than the 40% reduction by 2030 foreseen previously. In December, the EU Council endorsed the 55% emission reduction target, paving the way for further negotiations with the European Commission and European Parliament in order to convert this into law. The European Parliament's Environment Committee favours an even steeper reduction of 60%. All this shows an increased willingness by policymakers to tackle climate change more decisively.

In line with these strengthened ambitions and the EU's commitment to reach carbon neutrality by 2050 as part of the Green Deal and European climate law, the Commission is currently reviewing all relevant climate-related policy instruments in order to propose revisions where necessary by July 2021. As such, the EU ETS will undergo review and be re-calibrated with the new targets.

China has targeted a peak in carbon emissions before 2030 and intends to reach carbon neutrality in 2060. It plans to increase the share of non-fossil fuels in primary energy consumption to 20% by 2025 and 25% by 2030, from about 15% currently. China's reduction efforts are critical in a global context, given that the nation accounts for some 27% of global greenhouse gas emissions. The US emits 14% while the EU and India each account for 7%.

The EU ETS remains the cornerstone of the bloc's policy to combat climate change. It is the oldest and largest ETS operating worldwide. It was launched in 2005 and has undergone substantial system reforms and upgrades to establish itself as a cost-effective tool to reduce greenhouse gas emissions. The EU ETS accounts for some 75% of global carbon emissions market turnover and over 85% of its market value. It is operational across all 27 EU member states and European Economic Area countries Norway, Iceland, and Liechtenstein. In January 2020, the EU ETS was linked to the Swiss ETS. Following the UK's departure from the EU, a UK ETS version became operational in May 2021 and may be linked to the EU ETS.

The EU system covers around 45% of the EU's emissions, including those from some 11,000 power and manufacturing installations as well as aviation operators flying in the European Economic Area. The EU ETS is a "cap and trade" scheme. It sets a greenhouse gas emissions cap, or the maximum amount of gases allowed and emitted by the covered entities. Participation in the scheme is mandatory for the installations covered. The EU-wide cap applies to the entire EU ETS. The cap decreases each year to make the EU-wide emissions compatible with the set targets. In light of the strengthened ambitions and a target 55% reduction versus 1990 level by 2030, the cap will be reviewed, as will the size of its annual reduction. A cap-and-trade system is a strong policy tool in climate change combat because it can enforce maximum emissions allowances in line with the set targets. This is a key advantage over a carbon tax. It can also be set to generate the incentives that covered entities need to innovate and decarbonize their production processes. The market-based system could theoretically be structured to raise carbon prices to levels at which emission abatement becomes cost-effective for covered installations.

The EU ETS has an additional benefit in achieving climate policy goals. The allowances are made available via auctioning. In addition, some are freely allocated and some are for the EU's Innovation and Modernisation Funds, which are discussed later in this piece. Auctioning is the default option in the EU ETS. Throughout the different development phases of the EU ETS, the share of auctioning has systematically been stepped up to at least 57% currently. All member states have to auction according to the same rules. Auctions have generally been conducted smoothly and clearing prices have been closely aligned with secondary market prices. Revenue from the auctions accrues to the respective member states. The EU ETS Directive stipulates that at least 50% of these auction revenues, including all revenues generated from allowances distributed for the purposes of solidarity and growth, and all revenues from allowances issued in respect of aviation, should be used by member states for climate and energy-related purposes. In practice, over the period 2013-2019, about 78% of auction revenues were spent for such purposes. Total revenue generated by EU member states, the UK and EEA countries from the auctions between 2012 and 30 June 2020 exceeded EUR 57 billion.

The power sector already works with 100% auctioning, with only an optional exemption for the modernization of the electricity sector in certain member states. Manufacturing industry's share of free allocation has declined from 80% in 2013 to 30% in 2020. Free allocation is to be gradually eliminated after 2026, at the end of the current Phase 4 of the EU ETS (2021-2030). Industries exposed to the risk of carbon "leakage" – whereby companies in exposed sectors move production to non-EU countries with laxer emissions policies, which may lead to an increase in their total emissions – may in principle receive up to 100% of their allocation for free.

The list of sectors deemed to be at risk of carbon leakage was updated in 2019 and will be valid for the period 2021-2030. Alternative options to address carbon leakage risks, including a carbon border adjustment ("taxing" carbon imports) targeting specific industrial sectors, are also considered in the EU Climate Target Plan. In February, the European Parliament's environmental committee endorsed a resolution calling for the introduction of a carbon border adjustment mechanism (CBAM) by January 2023. This endorsement raises the likelihood of CBAM being included in the EU Green Deal in July 2021. This would eliminate free allocation in the EU ETS.

In the meantime, the mechanism of free allocation to exposed industries still applies and has some important built-in features that strengthen the incentives for emissions reductions and innovation, and that reward the most efficient installations. The free allocation for each installation is calculated using greenhouse gas emission benchmarks developed for each product. This product benchmark is based on the average greenhouse gas emissions of the best-performing 10% of the installations producing that product in the EU and EEA-EFTA states. Based on the principle of "one product, one benchmark", the methodology does not vary according to the production technology, the fuel used, or the size or location of an installation. Installations that meet the benchmarks are therefore the most efficient in the EU and will, in principle, receive all the allowances they need to cover their emissions. Installations that do not meet the benchmarks will receive fewer allowances than they need, incentivizing them to decarbonize. They will have to either buy additional allowances or reduce their emissions.

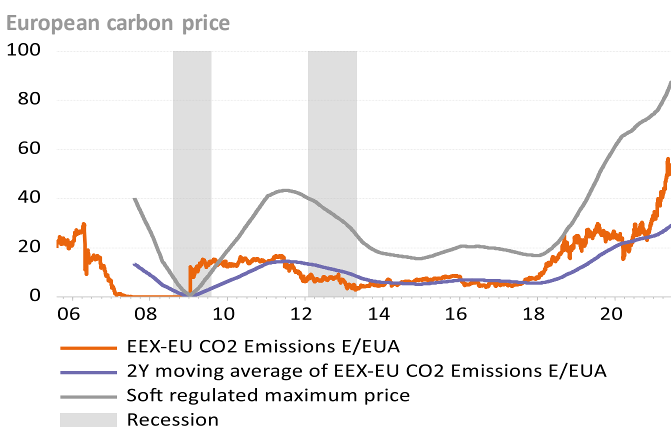
In further support of carbon emission reduction, the latest revision of the EU ETS set up two new multibillion-euro funds. One is the Innovation Fund, with revenue allowances dedicated to breakthrough innovation in industry including carbon capture, utilization, and storage (CCUS) and renewable energy. The other is the Modernisation Fund, which will support investments in modernizing the power sector and wider energy systems in ten lower-income member states.

Under the Directive on Markets in Financial Instruments (MiFID II), emission allowances were classified as financial instruments as of 3 January 2018. This makes them subject to rules applicable to traditional financial markets. Other pieces of financial market legislation also apply, like the Market Abuse Regulation, coordinated by the European Securities and Markets Authority, which covers transactions and conduct involving emission allowances on primary and secondary markets, and the Anti-Money Laundering Directive.

How will EU carbon pricing develop?

In forming an opinion on European carbon pricing, one must consider the key features of the ETS as it has developed since its inception in 2005. This can probably best be illustrated via the long-term price evolution of the EUA over the four development stages, as shown in the figure.

European carbon price



Source: Refinitiv Datastream, NN Investment Partners

Every year, operators covered by the EU ETS must submit an emissions report. Emissions for a given year must be verified by an accredited verifier by 31 March of the following year. Once verified, operators must surrender the equivalent number of allowances by 30 April of that year. Emissions must therefore be covered by allowances that will be cancelled or surrendered. Regulated entities must pay an excess emissions penalty of EUR 100 for each tonne of CO_2 emitted for which no allowance has been surrendered, in addition to buying and surrendering the equivalent number of allowances. The names of non-compliant operators are also made public. So far, this strong enforcement mechanism linking emissions to allowances has resulted in good overall compliance by the covered entities, even in challenging years like Covid-dominated 2020.

As mentioned, the allowances are made available to the covered installations mainly via auctioning, in addition to some allowances that are free-allocated and some additional allowances for the Innovation and Modernisation Funds. A company with an excess of allowances over its verified emissions may retain, or "bank", these allowances for future compliance purposes.

We are currently at the start of the ETS's fourth phase, which runs from 2021 until 2030. The first phase spanned the 2005-2007 period when emission allowances were nationally regulated and mainly freely allocated, either via grandfathering or benchmark-based allocation plus a small overall share of auctioning of allowances. This trial period included a striking experience of prices trending to zero as allowances available during that period could not be transferred to the second phase (2008-2012) because banking was not allowed at that time.

This changed during the second phase, when banking was introduced and allowances could be accumulated and transferred to the next phases. Phase 2 originated in the aftermath of the Kyoto Protocol (operational since February 2005), which allowed for emissions in a country that were offset by similar reductions abroad. As a result, international carbon credits were generated. From Phase 2 of the EU ETS on, these international credits could be used to comply with the EU ETS. This exchangeability into EUA remained in place until the start of Phase 4 (2021-2030). Since 1 May 2021, international credits are no longer allowed as an offset.

The offset of EU allowances with international credits over Phases 2 and 3 proved to be a design failure, because it led to a **structural oversupply of allowances**. During Phase 2 more than 1 billion international credits were transferred into EUA. Moreover, the 2008 financial crisis made things worse as the economic recession led to a collapse in emissions and hence demand for allowances. The combined effect of collapsing demand and increased supply coming from international credits led to a massive oversupply of allowances totalling 2.1 billion in 2013.

In terms of EUA pricing, the experience of the first two phases and part of the third highlights two important features. First, **regulation is key**, working mainly through supply of allowances, although demand could also be heavily impacted through mandatory closures of polluting entities for instance. Secondly, EUA prices are **very cyclical in nature**. Demand for allowances is closely linked to the economic cycle. The grey columns in the figure show the EUA price pressure during Eurozone economic recessions.

In order to **mitigate the structural oversupply** of allowances in 2013, the European Commission decided to backload auctions during Phase 3. Auctions of 900 million allowances foreseen for the period 2014-2016 were moved to the 2019 -2020 period. This short-term relief measure did not provide a structural solution, so these allowances were transferred to the Market Stability Reserve (MSR). **The MSR is a key market balancing mechanism** in the EU ETS intended to address the oversupply of allowances and to improve the resilience of the ETS to major shocks. Operational since January 2019, it adjusts supply of allowances by injecting or withdrawing available allowances according to pre-defined rules. It also absorbs unallocated allowances (representing some 700 million) into the reserve.

By 15 May of each year, the Commission publishes the total number of allowances in circulation (TNAC). The TNAC, which excludes aviation, was set on 15 May 2021 at 1.578 billion for 2020, compared with 1.385 billion in 2019. Allowances are added to the reserve if the

TNAC is above a predefined upper threshold of 833 million allowances and will be released from the reserve if the number is below a predefined lower threshold of 400 million allowances. Since 2019, whenever the TNAC exceeds 833 million, 24% of the TNAC is withdrawn from auctions and put into the reserve. This means that 379 million EUA will be taken out of auction in the period 1 September 2021 until 31 August 2022. From 2023, allowances held in the MSR exceeding the previous year's auction volume will no longer be valid and will be cancelled.

During Phases 1 and 2 of the EU ETS, the emission cap was established bottom-up, based on the aggregation of the national allocation plans of each member state. Since Phase 3, in order to alleviate the allowance oversupply, a single EU-wide cap for stationary sources applies and is annually reduced by a linear reduction factor (LRF). The LRF was set at 1.74% per annum. During the current Phase 4 (2021-2030) of the EU ETS, the single EU-wide cap for stationary installations for 2021 was set at 1,572 million tonnes of carbon dioxide. The linear cap reduction factor was further increased to 2.2% p.a. The LRF will continue to apply beyond 2030.

Since the creation of the EU ETS in 2005, EUA prices have been driven by regulation and economic cycles. **We anticipate higher EU carbon prices in the near and medium term.** In the near term we expect price support from the upcoming reform by the European Commission in July. The EU climate policies are being revised to align them with the more ambitious carbon emission reduction target of at least 55% from 1990 levels by 2030. If anything this will lead to a reduction of the supply of carbon allowances. We anticipate a reduced allowance cap and an increased annual linear reduction factor of the cap. Moreover, the MSR is likely to be reviewed, implying higher withdrawals of allowances into the reserve.

On the demand side for EUA, the list of sectors covered by the EU ETS will probably be expanded, most likely to include intra-EEA shipping and potentially road transport and building. The share of free allocation of allowances may also be diminished in favour of auctioning, implying higher EUA demand. If a CBAM is equally adopted from 2023, the share of free allocation of allowances (of the industrial sector mainly) will be phased out leading to higher EUA demand.

Elsewhere on the demand side, the economic recovery and reopening will lead to higher EUA demand in the near term. Verified emissions should rise this year after their 11% Covid-driven decline in 2020. In anticipation of these reforms, financial demand for EUA is expected to rise further, both from commercial and non-commercial covered entities. Hoarding of allowances is a distinct possibility because unsold allowances can be used for future compliance or in anticipation of higher prices.

Given these supply and demand dynamics, **we foresee several years of market deficits of EUAs**. This will facilitate the clearing of the structural oversupply of allowances resulting from past EU ETS design failures.

In the medium term, a visible increased credibility in the EU and a sense of urgency dealing with climate change mean that **EUA prices would need to move higher to reach marginal cost of emission abatement to enforce decarbonization**. These marginal costs of abatement can be seen as fair value prices of EUA above which decarbonization technologies become attractive. These marginal costs of abatement are estimated on average clearly above current prices. For the power sector, EUA prices above an estimated EUR 50 are needed, while prices above EUR 70 are required for the industrial sector. For steel abatement, prices would need to exceed 80 EUR. The shipping sector, if included, would be hard to abate, with decarbonization estimated to start at EUA prices above 130 EUR. The incentive prices for carbon capture & storage also are seen at EUA prices of 80-120 EUR, while for green hydrogen these incentive prices are estimated in the 60-100 EUR price range.

A new asset with green pulses

The EU ETS has become the leading policy tool in combatting climate change. It provides strong decarbonization incentives: an allowance cap tailored to the set carbon targets, the use of auction revenues for new energy investments, a free allocation methodology favouring most carbon-efficient production, and the funding of energy transition funds. It has been under development throughout its four phases since 2005 and has established itself as a model that is now being used in other international jurisdictions. Further revisions are expected by July 2021. These revisions go in the direction of further constraining carbon emission allowances at the EU level by expanding the sectors covered in the EU ETS.

Carbon allowances are a new asset under fast development and we have a positive view on its green pulses and on its price. In the near to medium term, EUA prices would need to move higher to reach marginal cost of emission abatement to enforce decarbonization.

Koen Straetmans
Senior Strategist Multi-Asset

Enhancing allocation decisions through ESG integration

- Use of third-party ESG sentiment data adds objectivity
- ESG data consistently improve asset allocation models

In this section of the quarterly edition of the Multi Asset Monthly, we discuss how we have integrated environmental, social and governance (ESG) factors into our dynamic asset allocation (DAA) process. Using ESG sentiment data, we have created our own ESG indicators that are now an important part of quantitative models we use for DAA decisions. The weight of ESG indicators in various models ranges from 6% to 18%. We use two types of ESG data to analyse a multi-asset portfolio: corporate and sovereign. Last quarter, we examined country ESG sentiment data in a piece you can read here; this quarter's article discusses corporate ESG sentiment indicators.

Measuring ESG performance using news and social media

The main reason for using sentiment data is that it provides timely information that represents the opinion of outside observers rather than a company's own assessment. Our provider for corporate ESG sentiment data is Truevalue Labs. Unlike the country indicators, corporate ESG sentiment includes non-English-language sources, which increases the diversity of viewpoints. The data cover almost all corporates in our investable universe and provide history going back to 2007. Although the history is not as long as the country indicators, it still covers at least a full business cycle. The corporate sentiment data consists of 26 different topics across the E, S and G dimensions, as defined by Sustainability Accounting Standards Board (SASB). We mapped the corporate indicators to various UN Sustainable Development Goal (SDG) themes, just as we did with country indicators, and were able to group and map the indicators to eight SDG themes. The table provides a representative set of 12 topics for which natural language processing (NLP) is used to measure sentiment along each dimension. This helps align and compare countries and corporates, two distinct domains of ESG measurement.

Mapping NLP-derived corporate ESG sentiment to UN SDG themes

Dimension	Equivalent SDG Themes	Representative sentiment topics
Environmental	SDG 7 - Affordable & clean energy SDG 13 - Climate action SDG 14 - Life below water SDG 15 - Life on land	Air quality Ecological impact Energy management Greenhouse gas emissions Water & wastewater management
Social	SDG 8 - Decent work & economic growth SDG 12 - Responsible consumption & production	Employee engagement Diversity & inclusion Employee health & safety Human rights & community relations
Governance	SDG 9 - Industry, innovation & infrastructure SDG 16 - Peace, justice & strong institutions	Business model resilience Management of the legal & regulatory environment Product design & lifecycle management

Source: Truevalue Labs, United Nations, NN Investment Partners

Materiality: Not all sentiment topics are created equal

For companies operating in different sectors, certain topics have more material impact than others. Facebook and Unilever, for example, have completely different business models; data security breaches will have far more material consequences for Facebook than for Unilever.

NN IP defines material ESG issues as those issues that affect the financial stability of a company or are a core part of the company's business. In other words, to compare the ESG performances of Facebook and Unilever, we need to decide which ESG topics should be weighed more or less for each company. Once we understand the need for materiality, the most important question becomes how to systematically measure what is material for each company. In our DAA process, the data are combined with human judgement to arrive at a final decision, so we use a purely data-driven approach to this problem.

Truevalue Labs determines the weights of various topics for each company based on how much each topic is being talked about in the media. The underlying assumption behind this approach is that the more relevant a topic is for a company, the more people will talk about it in relation to that firm. So, going back to our example of Unilever and Facebook, the topic of customer privacy will receive significantly more news coverage as it relates to Facebook than to Unilever.

We believe this data-driven approach to materiality provides a reasonable approximation. Truevalue Labs data show that in 2009, about 80% of the information volume across all sectors was on topics later deemed material by the SASB. Our investigations show the same for more recent periods, and we consider this sufficient for the quantitative part of the investment process.

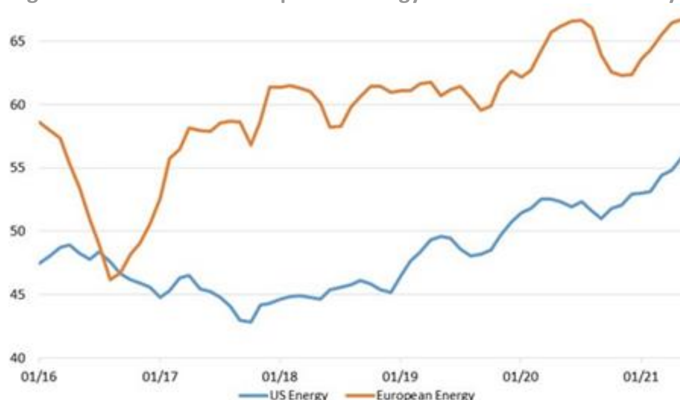
NN IP's proprietary materiality framework is indispensable for arriving at a holistic final assessment of company. It builds upon external data inputs provided by organizations like the SASB by complementing it with the proprietary view of in-house analysts and portfolio managers.

Capturing trends across sectors and regions

Let us now look at some examples of how corporate ESG sentiment responds to decisions by policymakers and companies. For asset allocation decisions, we aggregate the indicators to national and sectoral levels. To avoid dominance by a few companies, we use an equal-weighting approach for aggregation and equity indices provided by MSCI.

Figure 1 shows how our corporate ESG sentiment data capture the trend of European energy companies being more interested in diversifying their energy mix than their US counterparts. The US oil and gas sector spent the latter half of the previous decade focusing on energy efficiency and greater social responsibility to reduce their contribution to climate change. European oil and gas giants, meanwhile, were willing to go a step further and are investing in low-carbon technologies and attempting to diversify their energy mixes.

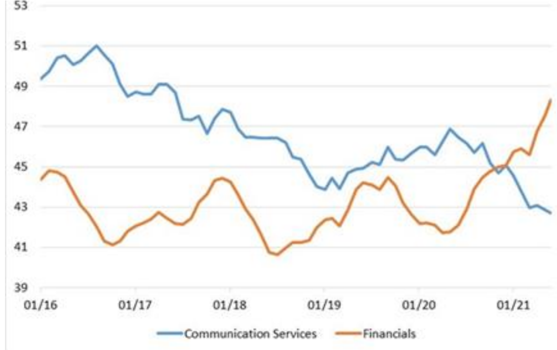
Figure 1: Sentiment data captures energy sectors' drive to diversify



Source: Truevalue Labs, MSCI and NN Investment Partners

Some findings illustrate the importance of materiality. The fact that topics such as data security and customer privacy are given more weight in the case of Google and Facebook, which make up about 46% of communication services sector is why the sector is the lowest-ranked sector in terms of materiality-adjusted average ESG scores. Figure 2 clearly shows the impact of recent media coverage of antitrust investigations and other legal proceedings, putting communications services below financials.

Figure 2: ESG sentiment of US communication services sector



Source: Truevalue Labs, MSCI and NN Investment Partners

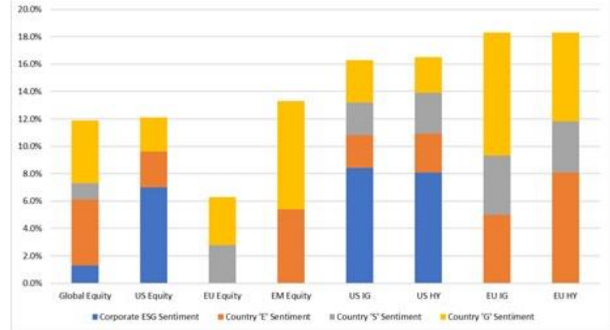
To incorporate ESG in our DAA models, we tested the country and corporate indicators for their ability to forecast equity and credit markets over the subsequent six months. The indicators with stronger forecasting ability were assigned higher weights. The total weight assigned to these indicators for various equity and corporate bond indexes is presented in Figure 3.

Every asset subclass across equity and credits has some ESG sentiment indicators that form a part of our asset allocation model. Barring the European equity model, where ESG sentiment indicators have a total weight of about 6%, the model for every other asset class has a combined weight of ESG indicators in excess of 10%.

Our rigorous statistical testing process has shown that ESG sentiment data can consistently help improve asset allocation decisions and provide a way to monitor ESG developments in countries and in companies. The data, which represent the views of independent third-party observers, also add objectivity to the ESG assessment.

We plan to further refine and enhance these indicators and explore the use of ESG sentiment in allocation decisions for government bonds. We will use this space to share insights from our in-house expertise on the topic of ESG as it relates to asset allocation.

Figure 3: Weight of ESG sentiment in DAA models per asset class



Source: Refinitiv Marketpsych, Truevalue Labs, MSCI, NN Investment Partners

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