THINK Economic and Financial Analysis

# ING Monthly

November 2021 economic update

## Curve surfing

Follow us
@ING_Economics

# Curve surfing

Couch surfing was the mother of all home sharing platforms and has become a permanent feature of everyday travel. For major central banks right now, there's a new game in town: curve surfing. Until the summer, large central banks followed the principle that being behind the curve was less costly than being ahead of the curve, even as inflation accelerated. In other words, the cost of sticking to very accommodative monetary policy was deemed smaller than the potential cost of any abrupt tightening action, given the high level of uncertainty surrounding growth and inflation. With inflation mainly driven by higher energy prices and a long series of shortages related to the pandemic and the end of lockdowns, taking a rather benign approach to inflation was probably the right thing to do.

While inflation has been higher and stickier than many central bankers had anticipated, most still think it will be transitory. However, the transition period is now expected to be longer than first presumed and with that, the risk of second-round effects and structurally higher inflation is increasing. Inflation expectations - whether survey-based or market-derived - have hardly ever been a good predictor of future inflation. Even so, the recent surge in these measures has become a growing headache for some central bankers and given rise to discussions about whether it is still appropriate to be behind the curve.

Central banks are rarely better at forecasting inflation than markets or economists. After the financial crisis, inflation proved to be almost structurally lower than forecast. In the wake of the pandemic, actual inflation has been higher than expected. This only becomes a real problem if central banks start to lose their grip on inflation amid lasting pressures that are largely beyond their control, just as much of the disinflation of the last 10 years was the result of external structural drivers. At present, there is very little a central bank can do to solve global shortages or to lower energy prices.

Right now, most inflation drivers still look transitory. At the same time, there are increasing risks of a fourth Covid wave, and higher energy prices are denting consumer spending, putting central banks between a rock and a hard place. Doing nothing could be costly, doing too much could also be costly, and in a worst-case scenario even cause a recession. This is why we are now seeing more central banks trying to exit from ultraloose monetary policies. The Federal Reserve made a start this week, the Bank of England said it is likely that rate rises may be needed over coming months, and the European Central Bank could join the tapering bandwagon before the year is out.

Central banks are actually following two different scripts. There is the group going for 'catch-up' moves with rate hikes, such as the BoE, the Reserve Bank of Australia and Bank of Canada, and the group of taperers, prominently led by the Fed and ECB. While hiking rates immediately has a signalling effect and creates space to cut later on, unwinding asset purchases can better target sectors that require less stimulus and can also restrengthen central banks' credibility as inflation fighters. Two different approaches but one common goal: to 'surf the curve' and gradually move forward without destabilising markets and the global economy.

**carsten.brzeski@ing.de**

## At a glance: ING's November Monthly

**1**

**Intensifying US inflation means swifter Fed action**

Inflation is set to breach 6% on bottlenecks, energy prices and rising wages. With inflation looking more pervasive the Fed will conclude QE early and hike at least twice in 2022

**2**

**After a strong 3Q, Eurozone growth is likely to decelerate on the back of supply-chain troubles, high energy prices and a pick-up in Covid-19 infections. Upward inflation surprises will lead to ECB tapering in 2022.**

**3**

**November to see fewer policy shocks in China**

Electricity outages have stopped, hinting at fewer policy shocks. An RRR cut from PBoC has become less likely.

**4**

**Bank of England to hike more quickly in 2022**

Hawkish commentary points to two further rate hikes next year. But growth headwinds mean markets are overestimating pace of tightening

**5**

**Sticky inflation forces CEE central banks to act**

Eastern European central banks have begun to hike interest rates rapidly in the face of rising inflation, and there's more tightening to come across the region

**6**

**FX markets dominated by central bank repricing**

Dollar holds near highs as market awaits next big chapter in Fed story. Dovish central banks come under pressure and are forced to allow some currency appreciation

**7**

**Market rates**

Markets are discounting a terminal rate of 2% and 7-bp respectively for the US and Eurozone. But front-ends aren't discounting an imminent increase in rates, casting doubt over those terminal rate levels

**8**

**Labour shortages: How bad can they get?**

The lack of skilled workers is not just another post-lockdown symptom but also the result of more fundamental developments in the US, the eurozone and the UK

**9**

**Supply chain frictions to last well into 2022**

Input shortages and disruption to result in higher goods inflation and production hiccups, which is likely to dampen the production recovery.

Source: ING

## ING's three scenarios for the global economy and markets

### **ING Global Outlook:** Our base case

#### Covid-19

**Winter lockdowns averted** in US/Europe, but hospital pressure persists. Regions with lower vaccine uptake in older groups suffer more. Boosters help mitigate new variants.

#### Vaccines

**The 'vaccine gap'** between DM & EM/SE Asia continues to narrow, but some retain 'zero Covid' approach into 2022, amplifying supply chain issues. Global herd immunity by summer 2022.

#### Economic backdrop

**Some consumer caution returns** on negative virus headlines. Global travel slowly returns as countries reopen to vaccinated travelers. Return to the office plateaus.

#### Inflation

**Supply chain disruption lasts longer.** Christmas beset by shortages. Headline inflation remains higher for longer, but falls faster in Europe in 2H22 vs. the US.

#### Jobs market

**Jobs market recovery faster than post-GFC.** Existing staff shortages ease as government support ends. European unemployment rises modestly as furlough stops.

#### Governments

**Biden's spending plans trimmed** and money dispersed in 2022. **European Recovery Fund** continues to pay out money in 2022 and **fiscal policy** stays accommodative after German and French elections.

#### Central banks

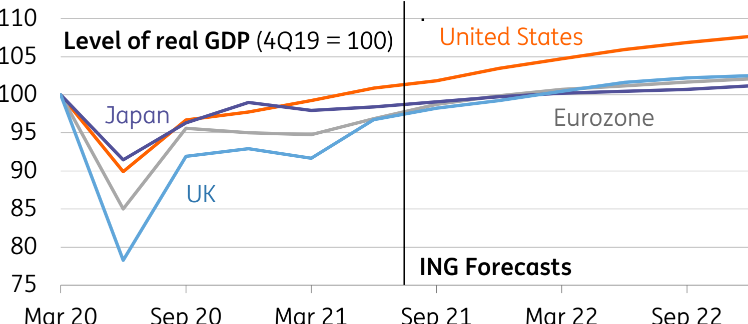
**Fed tapers in 4Q21,** and starts hiking in 3Q22. We're forecasting 5 rate hikes by the end of 2023. **ECB starts gradual taper in 1Q22** but without explicit end to QE.

#### FX

Dollar **gearing up for an extended rally through 2022** ahead of the start of the Fed tightening cycle. EUR and JPY to under-perform, while commodity currencies should hold gains on strong export story.

#### Market rates

A Fed taper facilitates a **gradual move higher in market rates,** on a global scale. **Delta impact mutes upside**. Europe is lagging, but core rates look to have bottomed.




2021 growth
US: 5.6 % Eurozone: 5.1% China 8.9%

2022 growth
US: 4.7% Eurozone: 3.9% China 5.4%

End-2022 market forecasts
EUR/USD: 1.10 US 10-year: 2.25%

### Optimistic scenario

**Hospital pressure less than feared** over winter. More countries ease restrictions and 'zero Covid' largely ends. Several EM manage to vaccination >50% populations by year-end.

**Confidence grows** and consumers/firms spend greater share of cash accumulated through pandemic, lifting growth. Reduced Covid pressure in manufacturing hubs means faster return of capacity.

2021 growth
US: 5.80% Eurozone: 5.20% China 9.20%

2022 growth
US: 6.00% Eurozone: 4.50% China 4.60%

End-2022 market forecasts
EUR/USD: 1.05 US 10-year: 3.25%

### Pessimistic scenario

**Vaccine immunity wanes** faster than hoped and/or new variants are a greater threat. Some business closures required. Rush for boosters constrains supply further, so DM-EM divide lasts longer

**Return of some lockdown restrictions** hit GDP and further dent confidence. Pressure on corporates/SMEs grows. Closures amplify supply chain pressures. Inflation above target for most of 2022

2021 growth
US: 5.10% Eurozone: 4.90% China 2.80%

2022 growth
US: 2.40% Eurozone: 2.50% China 5.00%

End-2022 market forecasts
EUR/USD: 1.20 US 10-year: 1.50%

Note: GDP forecasts have been rounded to nearest whole or half number. Source: ING

# US: Bubbling inflation pushes Fed into action

**James Knightley**
Chief International Economist, Americas
james.knightley@ing.com

**Inflation pressures are broadening and intensifying through every sector of the US economy. At the same time, Covid is waning and activity is rebounding. This heady mix is set to ensure a swift conclusion to the Federal Reserve's QE tapering operation and a growing risk the Fed ends up raising rates more than the two 25bp rate hikes we are forecasting for 2022**

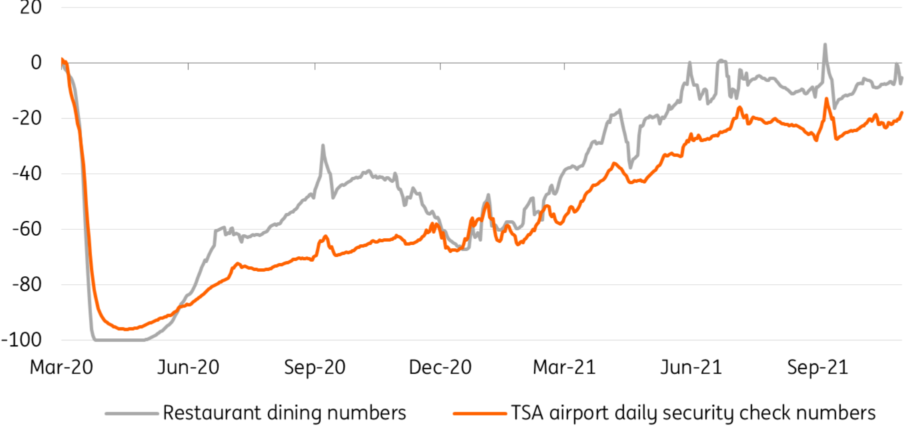
Al fresco dining in Nolita in New York

## 3Q soft patch gives way to stronger growth

The US economy entered a soft patch in the third quarter as the Delta variant of Covid spread across the country and led to heightened caution amongst households. Ongoing supply constraints also hindered economic activity as growth slowed from 6.7% annualised in 2Q to 2% in 3Q.

Thankfully, Covid case numbers have fallen sharply since peaking at 200,000 per day in early September. The seven-day average is now down to around 70,000 and we are seeing a rapid rebound in the willingness of consumers to get out and about and spend money. As can be seen below, air passenger numbers and restaurant dining visits are rising once again while hotel occupancy is back up to 64%, having got as low as 60% in September.

**Air passenger and restaurant dining numbers - % change versus same date in 2019**




Source: Macrobond, ING

This gives us confidence that the fourth quarter will experience much better growth despite concerns surrounding the increasing cost of living. The combination of strong labour demand amidst a dearth of supply will keep incomes rising while households have the resources to weather this latest storm. After all, nationally their wealth has increased by more than $26tn since the end of 2019, equivalent to $78,000 for every American.

Outside of the household sector, strong capital goods orders point to good prospects for business investment while net trade should be positive given the disruption in Chinese output due to Covid constraints and the long queues of ships trying to get into West Coast ports. At this early stage, we think the US growth story will get back on track with the economy set to expand by 6.5-7% in 4Q.

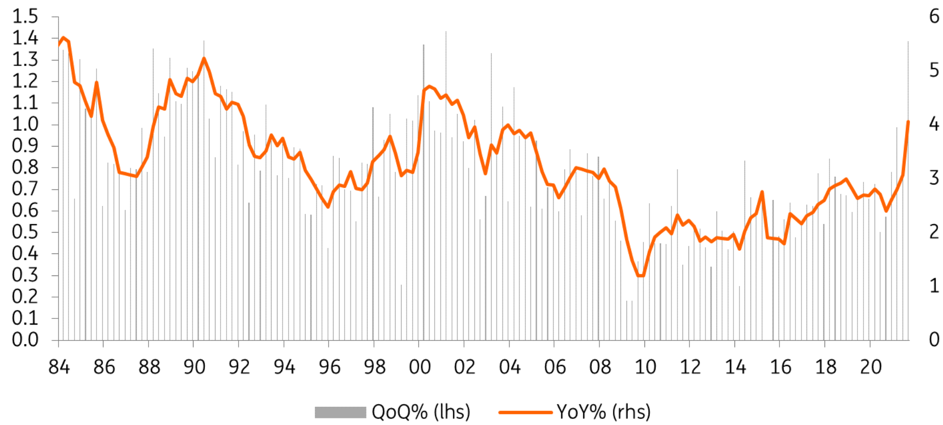
We are hopeful that strong momentum will continue into 2022 given we expect long anticipated government spending on infrastructure and social policy to eventually come to fruition. Add in more corporate capital expenditure, inventory rebuilding as supply chain problems ease, and the return of foreign visitors in significant numbers, and we feel the economy can expand by more than 4.5% next year.

## Inflation pressures get even stronger

This does assume that we see supply chain issues ease and that labour supply starts to increase. After all, schools are back to in-person tuition so parents don't have to stay home, there is an effective vaccine so Covid anxiety should be waning and the extended unemployment benefits that may have diminished the financial need to get a job have concluded.

Nonetheless, we suspect wage pressures will continue to build as companies compete for workers in an environment where there are already 10.5 million job vacancies. The quit rate – the proportion of workers quitting their job to move to a new employer – is at a record high, which suggests companies are not only having to pay up to recruit new staff, but also pay existing staff more in an effort to retain them.

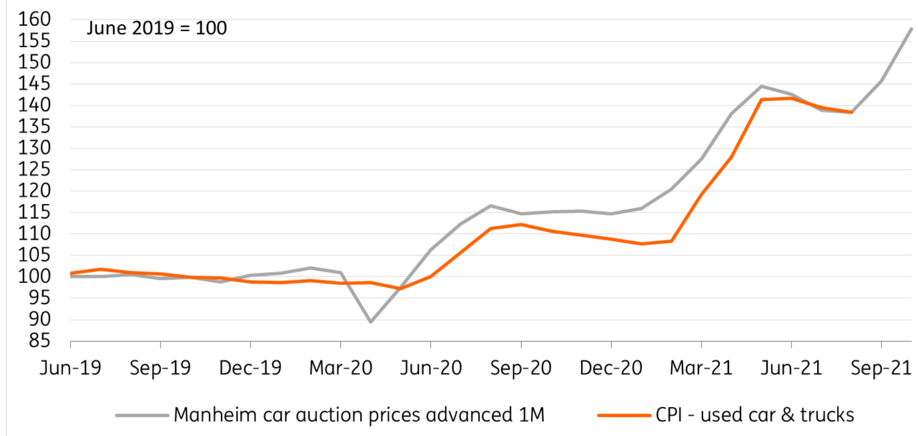
**US employment cost index (1984-2021) shows labour market costs are soaring**




Source: Macrobond, ING

The fact that the latest employment cost index readings accelerated sharply shows that inflation pressures are no longer impacting just the goods sector, but increasingly infiltrating the services sector. With housing costs on a sharp upward trajectory, energy prices moving higher and second-hand car prices getting a second wind on the lack of new vehicles, we now expect headline inflation to break above 6% around the turn of the year with core inflation moving above 5%.

**Second-hand car prices to push inflation above 6% – price levels indexed to 100 for June 2019**




Source: Macrobond, ING

## An early QE end with at least two rate hikes in 2022

With market and consumer inflation expectations looking less and less "anchored," the Fed's confidence that inflation is transitory has weakened and the bank has finally announced a taper of its QE asset buying programme. Purchases are set to be reduced by $15b each month, which would mean it is concluded by June. However, given our growth and inflation projections, we see a strong chance of it ending sooner, possibly in 1Q 2022.

We don't think interest rate increases will be far behind. We continue to forecast two 25bp interest rate moves in the second half of 2022 – one in September and one in December. However, given the evident intensification of inflation pressures, the risks are skewed towards earlier action, which could open the door to the possibility of three hikes next year.

**Peter Vanden Houte**
Chief Economist, Belgium, Luxembourg, Eurozone
peter.vandenhoute@ing.com

# Eurozone: Inflation worries increase in the eurozone

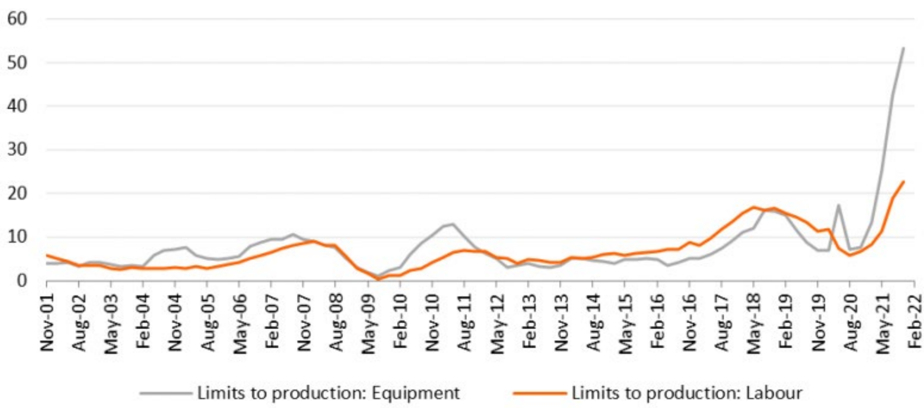
**After a strong third quarter, eurozone growth is likely to decelerate on the back of supply chain troubles, high energy prices and a pick-up in Covid-19 infections. Inflation continues to surprise on the upside, likely pushing the European Central Bank to take away some of the monetary stimulus next year**

Europe Energy Crisis - Frankfurt Oct 2021

## As good as it gets

With 2.2% quarter-on-quarter growth in 3Q, the eurozone recovery proved stronger than expected. The catch-up in the services sector, in particular, was the main driver of the robust growth figure. However, this is as good as it gets. Growth is bound to decelerate from the fourth quarter onwards, not only because we're now getting close to the pre-pandemic GDP level, but also because headwinds are becoming stronger. The supply chain troubles continue to rattle the manufacturing sector, with car manufacturers especially producing much less than they want to. On top of that, we see high energy prices sapping consumption, even though the strong labour market remains supportive. Finally, Covid-19 infections are picking up again. Admittedly, the high vaccination rate limits the burden on the health care system, but services consumption tends to suffer when the fear of getting infected increases.

**Growing supply constraints are hampering manufacturing production**




Source: Refinitiv Datastream

## But there is still some growth momentum

As such, 4Q might see much weaker growth. That said, we certainly don't expect the recovery to falter again. Order book positions were close to historic highs in October, while hiring intentions remain very strong and consumers' perceptions of the labour market are increasingly buoyant. All of this means that even if growth turns out to be a bit weaker in the coming months – some catch-up seems likely in the course of 2022. We stand by our GDP growth estimates of 5.1% for 2021 and 3.9% for 2022.

## Inflation forecasts revised higher (again!)

*"We expect inflation to fall in 2022, but remain above 2% until the second half of the year"*

The inflation story is getting more difficult to navigate for the ECB. The flash Harmonised Index of Consumer Prices (HICP) inflation estimate for October, came out at 4.1%. True, energy prices remain the main culprit, but core inflation also climbed to 2.1%. We agree with the ECB that there are still a lot of factors that might prove to be temporary. Higher services price inflation, which pushed up core inflation, is to a large extent due to its weak base a year ago. Likewise, the German VAT increase has added around 0.6 percentage points to eurozone inflation, an effect that will disappear in January 2022. That said, even though we don't believe oil and natural gas prices will continue to increase at the same pace in 2022 (we are actually forecasting a decline), the upward inflation impact might last a bit longer. The same holds true for goods price inflation, which has been pushed upwards by high commodity prices and shortages. And in an environment of tightening labour markets, wage agreements are likely to be a bit more generous, though the impact on inflation is unlikely to be felt before 2023 at the earliest. Summing it all up, we expect inflation to fall in 2022, but remain above 2% until the second half of the year. We have therefore revised our inflation forecast up yet again to 2.4% for 2021, 2% for 2022 and 1.8% for 2023. Thereafter, we might see a slight upward trend.

**Long-term market inflation expectations are back at 2%**

Source: Refinitiv Datastream

## Taking away monetary stimulus

It is interesting to note that the 5 year 5 year forward inflation swap, the measure that was for Mario Draghi one of the warning signals that quantitative easing was needed in 2015, is now back around 2%. At the press conference after the monetary meeting, ECB President Christine Lagarde acknowledged that "market and survey-based measures of longer-term inflation expectations have moved closer to two per cent". It, therefore, seems logical that the ECB will start to take away some of the stimulus: we expect a gradual decrease of bond purchases after the end of the Pandemic Emergency Purchase Programme in March 2022. A first rate hike will now happen, in our view, in the third quarter of 2023 (for more details see our article on the ECB).

James Smith
Economist, Developed Markets
james.smith@ing.com

# UK: Bank of England set to hike less quickly than markets expect

**The UK central bank looks poised to increase rates this December and we expect two further hikes next year. But growth headwinds and a comparatively less severe inflation issue suggest markets are overestimating the pace of tightening. Brexit is also set to return as a source of uncertainty, as tensions build between the UK and EU**

Protest March Against Northern Ireland Protocol in London, United Kingdom - 09 Oct 2021

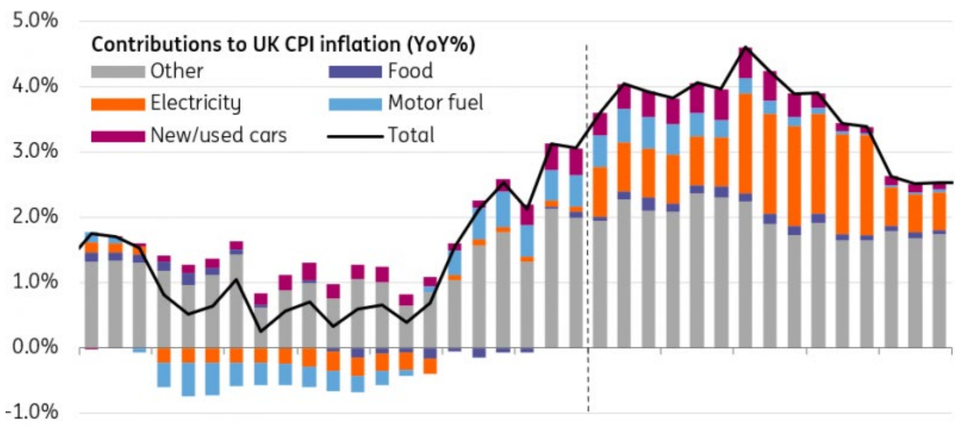
## Bank of England set for an imminent rate rise

After weeks of excitement, the Bank of England has defied market expectations and left rates on hold at its November meeting. In the end, policymakers wanted more time to assess the impact of the recent conclusion of the furlough scheme, though early evidence suggests there hasn't been a material rise in unemployment. The Bank's latest policy statement makes it clear a rate hike is coming in either December or February.

Still, the UK's recovery is undoubtedly slowing, even if GDP will reach pre-virus levels in the next couple of months. Inflation is set to peak at around 4.5% next April, linked to higher household energy prices. Meanwhile, it's far less clear that wage growth will keep pace, despite often-cited shortages of certain occupations. And while savings levels remain pretty elevated, individuals have shown very little appetite to spend them.

Markets are probably therefore wrong to price in over four rate hikes next year. At most, we expect two.

**Electricity is set to drive UK inflation higher**




Source: Macrobond, ING

## Brexit is returning as a source of uncertainty

There's also a growing chance that the UK and EU's ongoing war-of-words surrounding the Northern Ireland (NI) protocol may be about to escalate into concrete action.

The 2019 Brexit deal means NI has effectively remained within the EU's single market for goods, which means that some products coming from the British mainland need to be checked on entry. Prime Minister Boris Johnson argues that this is causing unwarranted friction within the UK's internal market.

The EU has recently made some substantive proposals that could make it easier for companies to bring goods into NI, though the UK government has signalled that these don't go far enough. The UK wants the role the European Court of Justice plays in resolving disputes linked to the NI protocol, to be watered down.

Britain appears close to suspending parts of that 2019 deal under the so-called Article 16 clause. If that happens – and there is growing discussion that it might now that world leaders have left COP26 – then it would almost certainly provoke a counter-response from Brussels. The question is whether this takes the form of targeted tariffs on politically sensitive goods, or a full suspension of the trade deal agreed last year.

Either way, it adds another layer of economic uncertainty this winter.

# CEE: Risk of sticky inflation forces central bankers to hike

**Rafal Benecki**
Chief Economist, Poland
rafal.benecki@ing.pl

**Disruptions in global value chains weighed on Central and Eastern Europe in the third quarter and the Delta variant blurs the outlook for the fourth. Yet the 2022 activity outlook remains sound. Record high inflation can no longer be written off as temporary though, with labour markets tighter than those in developed markets**

## Economic activity losing momentum but prospects for 2022 remain quite bright

After a strong rebound in the second quarter following the lifting of pandemic restrictions, GDP growth in CEE3 (Hungary, Poland, and Romania) moderated in the third quarter. Sequential growth (quarter-on-quarter) may suffer in the fourth quarter to an extent. The main downside risks are:

- Supply-side bottlenecks in global markets (Hungary is the most sensitive);
- Labour market frictions due to shortages of qualified workers;
- Increases in global commodity prices, including energy, and maritime freight costs;
- The Delta variant outbreak (Romania is most sensitive due to low vaccination rates).

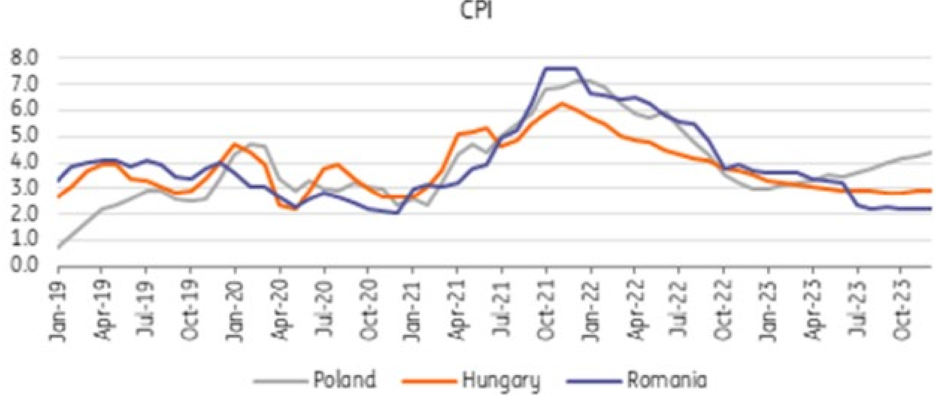
Prospects for growth in 2022 remain bright, but with risks tilted slightly to the downside. Although all the factors mentioned above will stay in CEE3 countries into 2022, economies will remain in the post-pandemic economic upswing, still heavily supported by public funds and a solid labour market performance.

Hungary and Poland are, however, struggling with unlocking access to advance payments from the new EU Recovery Fund due to legal disputes with the European Commission. In early December, the European Court of Justice will announce a ruling on compliance of the conditionality mechanism with the EU Treaties. Thus, the Hungarian government is pre-financing projects. Romania's National Recovery Plan has been given the green light and the country will receive some €3.8b later this year.

Labour markets in CEE3 were tight and minimum wages were expanding even before the pandemic. Thus labour cost pressures should come to the fore in 2022 with a pro-inflationary impact. CEE3 governments are pouring oil onto the inflationary fire, not only with accommodative fiscal policy (e.g. PIT rate cuts in Poland, payroll tax cuts and tax

refunds for families in Hungary), but also sizeable hikes in minimum wages (e.g. by 10% in Romania and Hungary, and 7.5% in Poland).

**Inflation close to the peak in CEE3. In 2022, wages and demand come to the fore**




Source: Macrobond, ING

## Increased inflationary pressures and more interest rate hikes coming

There is no doubt that supply-side factors have been a primary driver of accelerating inflation from the spring. But, in addition to energy and food, price increases have become generalised and visible in elevated core inflation numbers. This signals that inflation is becoming widespread and in 2022, the contribution of demand-side pressures and wages should take a leading role in holding core inflation at elevated levels. For example, Polish CPI accelerated to 6.8% year-on-year in October with prices rising in 70% of the categories in the CPI basket.

The most hawkish central bank in CEE3, the National Bank of Hungary, started with a cycle of interest rate hikes in June 2021. It raised the base rate by 120bp in five steps - from 0.6% in June to 1.80% in October. Its forward guidance remains hawkish, clearly pointing towards further rate hikes, which will continue in early 2022 with an additional 100bp. We see the terminal rate of 2.75% being reached by spring 2022 (just before the general election in April 2022).

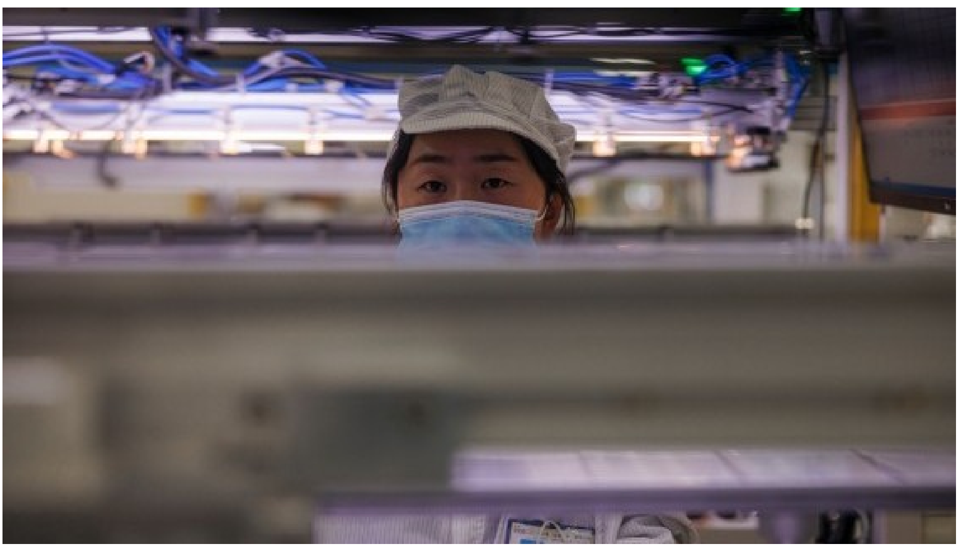
One of the most dovish central banks in Central Europe, the National Bank of Poland, is catching up after making a surprise 40bp hike in October. The market surprise resulted from misleading forward guidance repeatedly provided in its communication. In early November, the NBP delivered another hike – by 75bp and again above consensus. This is due to the rising inflation risk, e.g. CPI above 7% YoY and more visible risk of second-round effects. Also, the new NBP projections showed average CPI in 2023 above the 3.5% upper bound of the 2.5% inflation target. The tightening cycle should bring the main policy rate to 2.5% in 2022/23 - with upside risk.

Romania, which has been very dovish until recently, launched a tightening cycle in October with a 25bp move. We expect a 50bp hike at the next meeting and 25bp at each of the following meetings, until we reach 3.00%. But that depends on the NBP as well, as the interest rate differential needs to stay positive for Romania.

# China: Calmer policy environment ahead

**Iris Pang**
Chief Economist, Greater China
iris.pang@asia.ing.com

**The number - and severity - of new government policies have eased after an abrupt stoppage of electricity in some areas due to a sudden shut down of electricity generators. November could be the start of a calmer period in terms of policy. As such, the chances of an RRR cut in the fourth quarter are now lower and we are revising our yuan forecast**



China wind power generator blades factory, Yancheng - 27 Oct 2021

### No more sudden electricity stoppages offer breathing room

Electricity is vital for households as well as for manufacturing and services. The sudden stoppage of electricity for around 10 days since 28 September in various cities in China created chaos. The policy has been reversed due to complaints from residents and business owners.

The reversal of the sudden electricity stoppage suggests the government may not create any further policy shocks in the fourth quarter.

Other policies are still in place, e.g. data privacy compliance on technology companies and deleveraging in the real estate sector. These policies will continue into 2022 with the intention of creating structural change for better long term growth.

### Inflation less worrying from falling coal prices

China has imposed a few restrictions to suppress coal prices, which is related to the cost of electricity supply this winter. PPI inflation in China should be confined to around 10% year-on-year for the rest of the year. This seemingly high PPI inflation is mainly a result of a low base effect. That said, the economic recovery from Covid around the world has also contributed to higher commodity prices.

CPI inflation in China has been low. But global freight disruptions have added some upward pressure on agricultural prices. This could be seen in October and November. But even with this, the rise in CPI should be moderate.

**China CPI and PPI divergence**

Source: CEIC, ING

## Revision of forecasts

As inflation is not a concern, the economic recovery should continue. Even if there are some bond defaults, the market should have already priced in these events. The People's Bank of China could also adjust liquidity via daily liquidity operations to stabilise interest rates and calm fears of a sharp increase in market risk.

We revise our forecast from a 0.5 percentage point broad-based required reserve ratio cut to no change in the RRR or policy interest rates in 2021.

The USD/CNY forecast is revised from 6.7 to 6.4 by the end of 2021 because of the revised forecast in the RRR and strong portfolio inflows from foreign demand for onshore assets, despite recent real estate events.

# FX: Picking off the doves

**Chris Turner**
Global Head of Markets and Regional Head of Research, UK & CEE
chris.turner@ing.com

**Volatility is rising across FX markets as investors re-price central bank policy. Outperforming currencies have been those where die-hard dovish central banks have been called out for untenable policy settings – such as in Australia. A dovish Fed looks to be called out, too, over coming quarters and is a good reason why the dollar should stay supported**

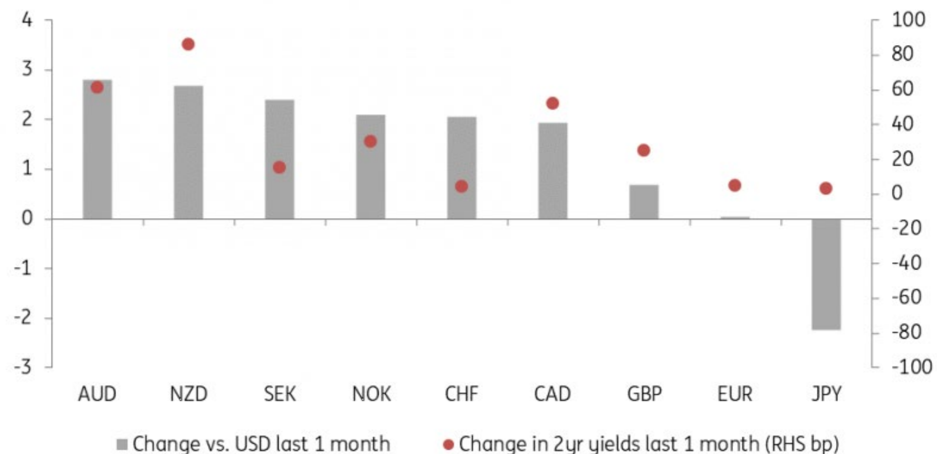
United States Federal Reserve Bank building on Constitution Avenue. Washington, DC, USA

## When doves cry

A core theme across international FX and rate markets has been the re-pricing of monetary policy in response to rising inflation around the world. This has come at a difficult time for the most dovish central banks which have tried to hold onto extreme forms of forward guidance. In the Reserve Bank of Australia's (RBA) case, forward guidance had been backed by a commitment to target the April 2024 government bond at a yield of 0.10%. This week, the RBA abandoned that target with the yield on that bond above 0.70%. The re-pricing of the RBA cycle has surely helped the Australian dollar outperform over the last month.

And it has been a little surprising to see currencies like the Swedish krona and the Swiss franc perform so well recently. It looks again that investors are keen to stress-test the Riksbank's forecast of keeping the repo rate unchanged until 3Q24 and also the Swiss National Bank's commitment to resist Swiss franc strength with FX intervention. On that subject, the Israeli shekel is one of the top performing emerging market currencies over the last month as the Bank of Israel has stepped back from FX intervention after buying US$30b this year.

**FX changes vs. dollar compared to change in 2yr bond yield**




Source: Refinitiv, ING

## Backing the dollar

If there is a core central bank to be called out on its dovish policy, we think it is the US Federal Reserve. An economy back to pre-pandemic levels, strong momentum into 2022 and headline inflation set to hit 6% suggest there is more re-pricing of the Fed trajectory to be done. That could come through in a more truncated tapering cycle or the Fed formally acknowledging a sharper tightening cycle.

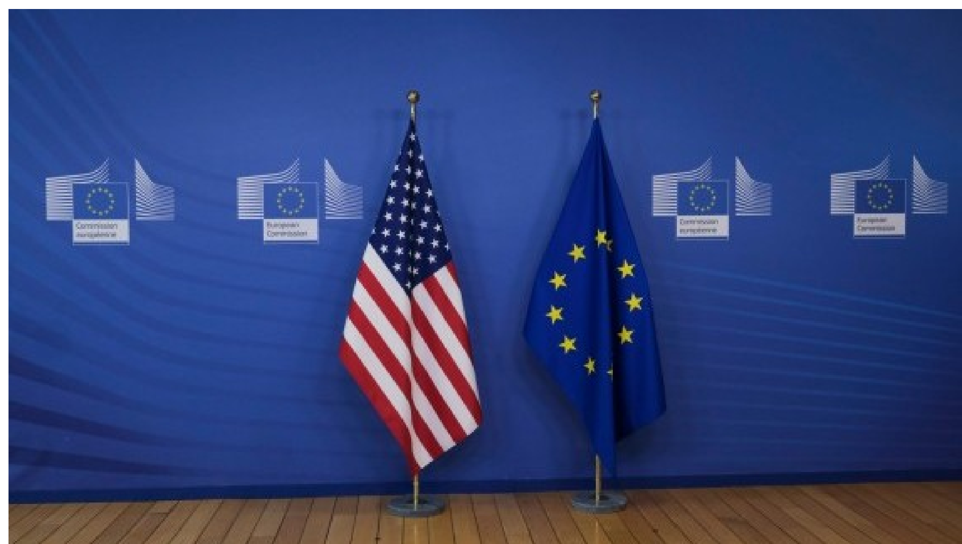
Seasonally, the dollar tends (no guarantee!) to perform well in November and soften in December. We think that may have something to do with financial institutions securing dollar funding in November to meet capital standard requirements such as the Liquidity Coverage Ratio. That could imply that if EUR/USD is to break below major support at 1.15 this year, the best chance of that happening is in November.

Yet even if the dollar does soften in December on seasonal trends – e.g. EUR/USD back to 1.17 – we suspect that many corporates needing to source dollars (especially to pay energy bills) will keep the dollar supported on dips. We retain a 1.10 end 2022 target for EUR/USD.

**Padhraic Garvey**
Head of Global Debt and Rates Strategy/
Regional Head of Research, Americas
padhraic.garvey@ing.com

# Rates: Terminal levels for the US and eurozone

**At the beginning of every rate hiking cycle there are two key questions, when will it start and how high will rates go. We use the forwards to help formulate terminal rate estimates, and the 2yr to help decide on timing. We find that the timing is far from imminent, but the forwards suggest there is quite a hiking job to get done in the years ahead**



## Rate hikes galore, but what about the US and eurozone

It's been a remarkable few months as markets have collectively re-calibrated rate hike expectations higher, pushed there mostly by a persistence to inflation. Central banks spanning Norway to New Zealand have already hiked rates, as have a series of Latam ones, and in central Europe the likes of Hungary and Poland, having been on an official rate downtrend over the past decade have succumbed to the need to hike. And there are many others, including the likes of Czech, while the UK remains close to pulling the trigger.

*"The "when do we start" and the "how much in total" are key issues"*

But what about the US and eurozone? There's certainly been a build in rate hike expectations. But the "when do we start" and the "how much in total" are key issues. We have views on both questions, but there is also a market discount that can present some answers, too. A starting point is what the forwards are discounting. Forwards are backed out of the shape of the current curve in the form of break-evens. These then represent unbiased predictions of how high rates are expected to go.

## Market terminal rate for the US is 2%, and 70bp in the eurozone

There is a keen focus on the US, given how pivotal the Federal Reserve is. Here we find that the 5yr to 10yr part of the curve plateaus at around the 2% area in the forward space (chart below). The 5yr tends to get there 5yrs forward and the 10yr gets there at around 3yrs forward. There is then a flatlining at around 2%, practically no matter how far we go forward. This is as good a measure as any, of the terminal rate for the Fed funds rate.

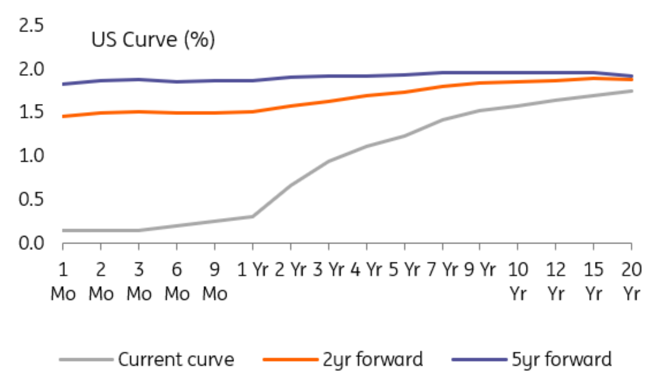
> “The EUR curve is telling us that 70bp is a terminal rate discount for the ECB’s refi rate.”

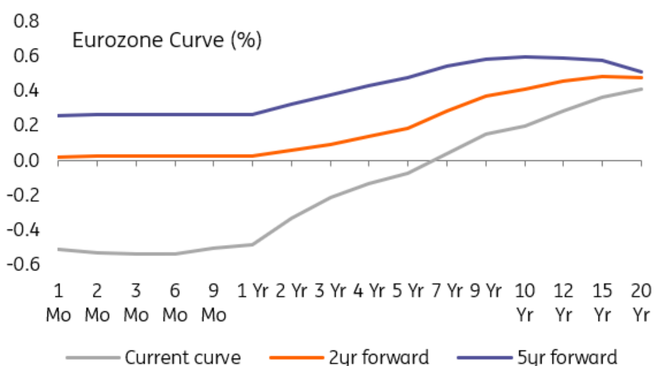
Performing the same analysis on the EUR curve shows that we need to go further out in the forward space to get to a flatline, and the implied terminal rate from that plateau is in the 60bp to 75bp range in the forward space (chart below). The 10yr in fact never gets much above 60bp, and the 5yr hits just north of 70bp when pushed 10yrs forward. Without getting too bogged down in specifics, it seems that the EUR curve is telling us that 70bp is a terminal rate discount for the ECB’s refi rate.

These are not far off our own predictions, where we see the Fed settling in the 1.75% to 2.0% area, while the ECB gets up to 75bp (both slightly above the implied market discount).

### Current curves versus some forward ones

**The US and eurozone compared**




Source: Macrobond, ING estimates

### Why the 2yr rate is a good guide on what's really discounted

And what about the timing? Here we look at the 2yr rate. Why the 2yr rate? It is long enough to incorporate a robust view of where rates are heading to, without being too long where things can get quite fuzzy (the further we go into the future). In the eurozone, the 2yr swap rate is at -30bp. Even the 2yr rate set 5yrs forward is at just 30bp. If rates are really heading higher in the next few years, these valuations would need to be higher.

In the US, the rate hike discount is more pronounced, but still not dramatic. The 2yr USD swap rate is at 65bp. The 2yr forward rate is 100bp higher, at 1.65%. And we need to go to 5yrs forward to get to the 2% area. While there is a non-linear relationship between the level of rates and the shape of the curve, it does seem to us that the absolute level of front end rates remains low relative to where they could be, given where terminal rates are pitched at.

> Bottom line, the market discount is one where terminal rates of 2% and 70bp are operable for the US and the eurozone respectively. But the front end casts doubt on these, as front ends are not discounting an imminent increase in rates, and the longer it takes, the more fuzzy the outlook becomes in terms of hitting those terminal rates.

**Carsten Brzeski**
Global Head of Macro and Chief Economist, Eurozone, Germany, Austria
carsten.brzeski@ing.de

# ECB slowly joins the tapering bandwagon

**With inflation being notoriously higher than the European Central Bank's own forecasts, the risk of being behind the curve has increased, triggering the beginning of tapering soon**

European Central Bank, Frankfurt, Germany - 26 Oct 2021

It took a while but the ECB finally shifted its official communication on inflation from the broad denial of the summer months towards a much more balanced assessment and a good in-depth analysis of the factors currently driving inflation. Even though the ECB admitted that its previous forecast on when inflation would come down again, had been too optimistic, the overall view that the current inflation spur is temporary remains in place. 'Temporary' or 'transitory' has just become a bit longer. However, the risk remains that as much as the ECB frequently overestimated inflation dynamics during the last decade, it could now structurally underestimate inflation.

In our view, the ECB will not quickly change the new more balanced assessment of inflation. Even if energy prices were to stay high or move even higher, the definition of 'transitory' could be stretched out even further. This means that it would require a sharp acceleration in underlying inflation or services inflation, to start another rethink at the ECB. In this regard, wage developments will be key. However, similar to the Federal Reserve's approach, we expect the ECB to tolerate at least one bout of second-round effects on wages, labelling them as welcome compensation for the 2020 drop in real disposable incomes.

*"As long as the ECB sees higher inflation as being transitory, there won't be any drastic change in monetary policy"*

As long as the ECB sees higher inflation as being transitory, there won't be any drastic change in monetary policy. Indeed, there is very little the ECB can actively do to stop the current inflation surge. No one can seriously believe that ECB action will move containers faster from Asia to Europe or increase global oil and microchip production. To some extent, an inflationary supply shock is actually deflationary. However, the current economic backdrop of a still improving economy and too high actual inflation, increasingly argues in favour of withdrawing some monetary policy stimulus.

The ECB's previous assessment that the costs of being behind the curve are smaller than the costs of premature tightening, might need a rethink. The ECB does not really want to end up in a situation in which it has to admit that it was wrong on inflation being transitory and then having to react swiftly and with full force, potentially causing a recession. Consequently, we expect the ECB to make a clear distinction between reducing and stopping the current emergency measures on the one hand, and actively hiking interest rates on the other. It will be like taking the foot off the accelerator gradually but not hitting the brakes.

### What we expect the ECB to decide in the coming months

In our view, the following will happen at the December meeting and in the months after:

- The Pandemic Emergency Purchase Programme will be gradually reduced starting in January 2022 and brought to an end in March;
- A new asset purchase programme (call it the Pandemic Transition Purchase Programme) will be introduced to deal with the 'cliff edge' effect and to maintain the flexibility of PEPP (mainly to continue purchasing Greek bonds). This programme will have an envelope of around €300b and will last at least until 3Q 2022. Alternatively, the ECB might decide to make the 'old' asset purchase programme (APP) more flexible and tackle the cliff edge problem only with this;
- The 'old' asset purchase programme will continue to run at €20b per month and at least until 2Q 2023;
- The favourable conditions of the Targeted Longer-Term Refinancing Operations (TLTRO) will not be extended beyond the end of this year. If TLTROs are stopped entirely, the current tiering system could become more favourable for banks;
- Against all of the above, a first rate hike will not be on the cards before the second half of 2023.

All of this means that the ECB is slowly joining the central bank bandwagon of tapering, even if it is in no rush to actually tighten monetary policy.

# When will supply chain frictions and input shortages abate?

**Expect disruptions to last well into 2022, which will result in higher trending goods inflation and production hiccups dampening the recovery in production**

**Bert Colijn**
Senior Economist, Eurozone
bert.colijn@ing.com

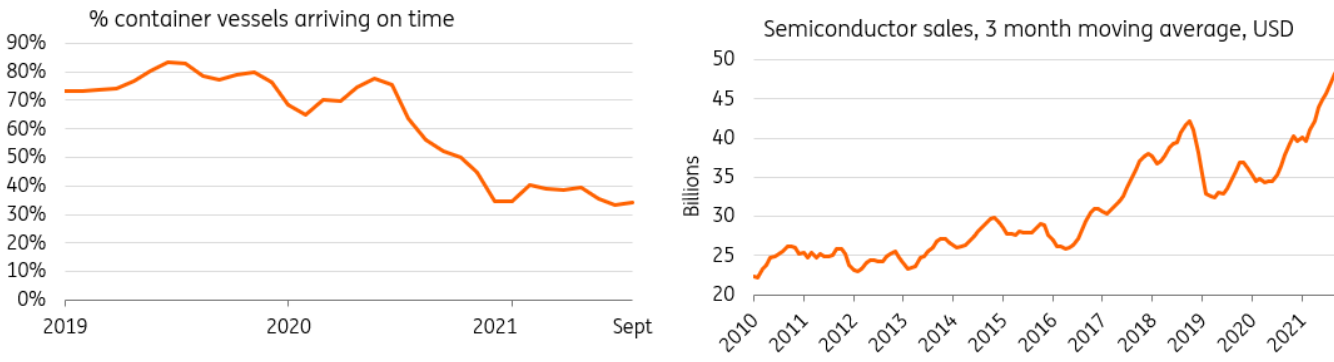
**Inga Fechner**
Economist, Germany, Austria
inga.fechner@ing.de

Hong Kong's Container Ports Remain Busy Despite Supply Chain Woes, China - Sep 2021

The root of the input shortages and supply chain problems lies in the first wave of the coronavirus crisis. The imposition of global lockdowns in the first quarter of 2020 was expected to cause a recession worse than that seen in 2008. The economy took years to recover from the global financial crisis and it forced businesses to reduce production capacity. However, history did not repeat and instead, the opposite happened. Massive fiscal stimulus stabilised incomes and spending preferences shifted from services, like hospitality and tourism, to durable goods. This quickly put pressure on the global supply chain, which was also accentuated by weather disruptions like those seen in Texas and Taiwan and of course, the Suez Canal blockage. Supply chain frictions were first visible in sea transport and semiconductor shortages but quickly spread to commodities and now also to labour and energy.

At this point, industry is dealing with widespread supply chain frictions and shortages at a global scale. This, in turn, is causing frontloading by worried businesses, which is exacerbating the problem across supply chains and resulting in large increases in backlogs, production hiccups and even shutdowns, as well as large price pressures. The most significant problems still stem from 1) transportation problems and 2) semiconductors, with the container crisis causing larger disruptions in the US, while semiconductor shortages are have a bigger impact in Europe.

**The share of container vessels arriving on time has continued to drop while semiconductor sales still surge**




Source: Sea Intelligence, SIA, Macrobond, ING Research

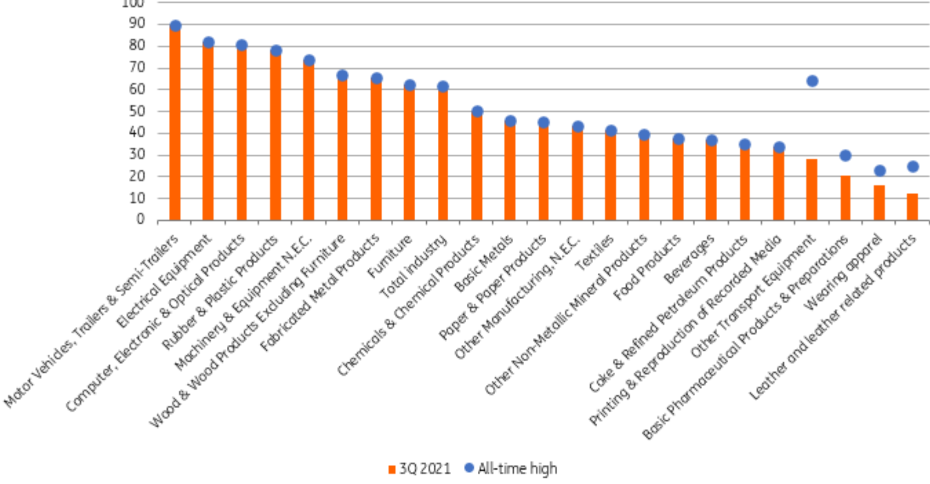
## 1 Transportation problems

Current data tracking international manufacturers' trade by sea shows some improvement in the container throughput in September, but hides large regional differences. While container throughput dropped significantly in Chinese ports, it rose strongly in European countries like France, Belgium, the Netherlands and Germany. Overall, however, the index remains highly volatile with ongoing logistical disturbances continuing to dampen trade. In addition, schedule reliability, a measure of the actual on-time performance of individual vessel arrivals in ports around the world calculated by Sea-Intelligence, remains at an extremely low level. Throughout the year, schedule reliability hovered between 30% and 40%, leading to 12.5% of the global deployed liner capacity being unavailable in August due to disrupted sailing schedules, delays at ports, and empty container ships waiting longer to be loaded at congested terminals. In normal times, schedule reliability stands at around 70% to 80%.

## 2 Semiconductors

Next to sea transport problems, the semiconductor problem is key because of the large dependency in certain sectors. The most significant declines in production have been seen in the auto sector, which is also reflected by the amount of businesses reporting input shortages as a factor hindering production. It is now closely followed by other sectors also dependent on computer chips. The problem is even more widespread than that though, with most manufacturing sectors now showing all-time highs in reported labour and equipment shortages hindering production.

**Eurozone supply side shortages are at all-time highs for most shortages**




Note: sum of % of businesses reporting labour and equipment as factor hindering production
Source: European Commission, ING Research

## Why we do not expect any relief until well into 2022

The question for the broader economy is whether inflationary pressures will persist longer than expected, and how much growth will be affected. To answer these questions, it is important to get an idea of how long the disruption will last.

Although most economic indicators have come off their historically high levels over the last couple of weeks, global demand for goods remains strong and is adding to already enormous backlogs for industry. What's more, with some of the busiest shopping days of the year coming up (Black Friday, Cyber Monday and Single's Day in November, followed by the Christmas season and Chinese New Year in February), the pressure will remain on. Furthermore, shortages are causing hoarding behaviour among businesses and consumers, leading to excess demand and further supply chain pressures.

Factors arguing in favour of easing in the short-term are still limited. Extending operating times up to 24/7 to ease cargo congestion, as done in the US, helps to a certain extent, but with problems along supply lines, such as missing truck drivers, this won't untie the many knots hampering smooth world trade. Although we might have hit a peak of upward momentum in trade as indicated by the latest WTO goods barometer - with the forward-looking new export orders index slowing from 114.8 to 109.3 - the gradual normalisation of international transportation will take months not days, explaining why supply frictions will last well into 2022.

With demand remaining high from the numerous festivities, culminating in the Chinese New Year (February 1 to February 7, 2022), and bottlenecks unlikely to be solved on short notice, we expect some relief to set in from early February. During the Chinese New Year, all factories will shut down eventually so goods supply coming from China will be limited, meaning that orders around the world can be processed without even more supply coming from China. Shipping logistics can at least partially catch up with supply during this period.

In terms of specific shortages, semiconductor shortages are set to remain problematic for quite some time. Setting up new production facilities takes years, while demand continues to be high. This leads us to believe that very tight semiconductor markets will remain in place until 2023. Shortages of chemicals needed for plastics or paint, for example, are also expected to last well into 2022, with many petrochemical plants in the Gulf Region still shuttered for the moment and shipping problems exacerbating current issues. Besides that, a lot of the input shortages are currently exacerbated by the shipping problems, which means that those pressures will persist until shipping issues abate in mid-2022.

## Beware of the turning point: Will we suddenly face overcapacity?

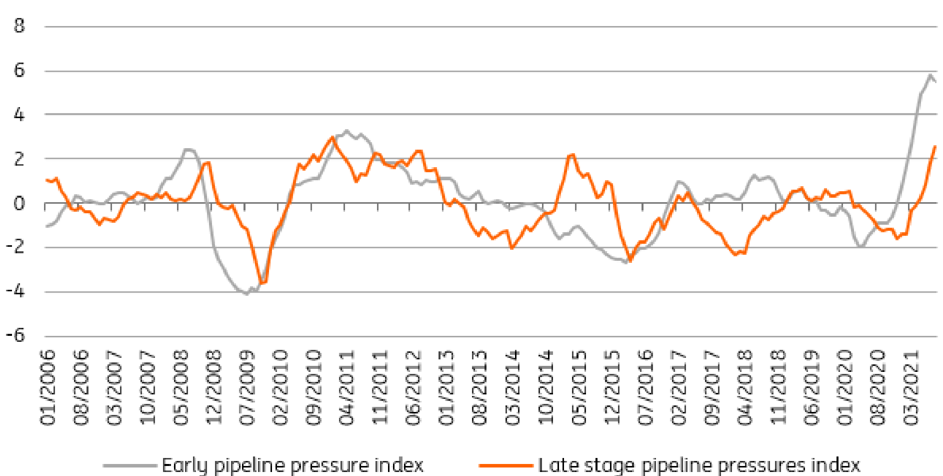
What if the current situation reverses and we are faced with overcapacity, either because of a drop in economic activity or because of an oversupply in ships? To react to recent capacity bottlenecks, carrier ship orders surged strongly. However, lead times to build new vessels are long, meaning that the ships now being manufactured will only become available to a large extent in 2023. Therefore, it's unlikely to be a pressing issue before this date. In addition, with demand expected to remain robust overall, the container flow will remain solid and bottlenecks are set to continue for some time. Even if there were a sudden drop of economic activity, clearing existing orders will take months as it will take time for things to return to normal all along the supply chain. However, from 2023 the risk of excess capacity drops as catch-up goods demand retreats, fleets are expanded and investment into production capacity for products now facing shortages results in increased capacity.

Goods inflation pressure to persist in 2022, but what about 2023?

The impact on inflation is evident. Pipeline pressures for goods inflation have mounted to historic highs and have started to translate into higher consumer prices. The extent to which this will ultimately be priced through depends not only on higher input costs, but also on whether businesses prefer to squeeze margins to maintain volumes. The latter is less of an option the longer the disruptions continue, which means that we expect goods inflation to further increase over the coming months and to remain elevated throughout the first half of the year as pipeline pressures remain fierce. Drawing on Koester et al. (ECB bulletin 5/2021), we have created two indices that show underlying trends in early and late pipeline pressures for non-energy industrial goods inflation in the eurozone. The chart below shows that early pipeline pressures are just off historic highs, but that late pipeline pressures are only getting close to record readings. This delay suggests that elevated goods inflation is still to be expected for the months ahead.

Given the current investment in capacity and likely moderation in demand over time, it is likely that this will result in more weakening inflationary or even deflationary pressures emerging from the supply chain over the course of 2023 though.

**Pipeline pressures for goods inflation in the eurozone are very elevated**




Note: index of early pipeline pressures includes Industrial Raw Materials Index, Brent oil in euro, domestic PPI, intermediate goods import prices, and world PPI. The index of later stage pipeline pressures includes the consumer goods PPI, import prices for consumer goods and the nominal effective exchange rate.
Source: ING Research

## Downside risks for growth in 1H 2022

From a growth perspective, continued disruption for most of 2022 remains a key downside risk to the outlook. Bottlenecks and production shutdowns are set to weigh on GDP growth in most markets, but some more than others. Goods demand is key though, as this has not yet abated despite lead times for orders increasing dramatically in some markets. With new orders still high, expectations are that a continued recovery in GDP is more likely than stagnation. In Germany, for example, we expect growth to improve in 2022 compared to 2021. The main downside risk is around more drastic production cuts when shortages morph into real bottlenecks. That could lead to more significant output shocks and put the growth recovery at risk. With services still recovering at a fast pace though, there is a solid base under the global growth recovery at the moment, making the supply chain problems more of a fly in the ointment for the outlook right now.

# Global labour shortages: Just how bad can it get?

**Carsten Brzeski**
Global Head of Macro and Chief Economist, Eurozone, Germany, Austria
carsten.brzeski@ing.de

**James Knightley**
Chief International Economist, Americas
james.knightley@ing.com

**James Smith**
Economist, Developed Markets
james.smith@ing.com

**Bert Colijn**
Senior Economist, Eurozone
bert.colijn@ing.com

**The lack of skilled workers is not only just another symptom of post-lockdown economics but also the result of more fundamental developments in the US, the eurozone and the UK**

Shortages of all kinds have dominated economic headlines this year. After supply chain frictions, the end of lockdowns across the developed world has led to labour shortages in the US, the UK and the eurozone. We're going to look at the cyclical and more fundamental drivers of those shortages and examine the similarities and differences across the globe.

**194,000** US jobs added
September

↓ Worse than expected

## US - A productivity boom that comes at a cost

The US economy has fully regained all of the lost economic output brought about by the pandemic yet employment remains 5 million below February 2020's level, which should, on the face of it, come at a major social cost. Yet, this isn't due to a lack of worker demand. There are more than ten million job vacancies right now spread across all sectors with a record proportion of companies raising pay to try to attract staff. Instead, it is a problem with the supply of workers, which is both holding back output and increasing inflation pressures in the economy.

The conventional narrative is that we shouldn't be too concerned because workers are set to flood back now that schools have returned to in-person tuition thereby giving parents greater flexibility to find a job. At the same time Covid vaccinations are making the workplace safer and extended and uprated unemployment benefits, which may have diminished the financial attractiveness of work, have now ended.

### Where are the workers?

The problem is that in the US September jobs report the labour force participation rate actually fell, while employment, as a proportion of people of working age, is on a par only with the levels we saw in the depths of the Global Financial Crisis.

Admittedly it is early days – the September jobs numbers are calculated the week of the 12th so the October report may be a better time to make an assessment - but remember that half of all states ended the Federal unemployment benefits in July. For no improvement in worker participation by September is a concern.

### Back for the holidays?

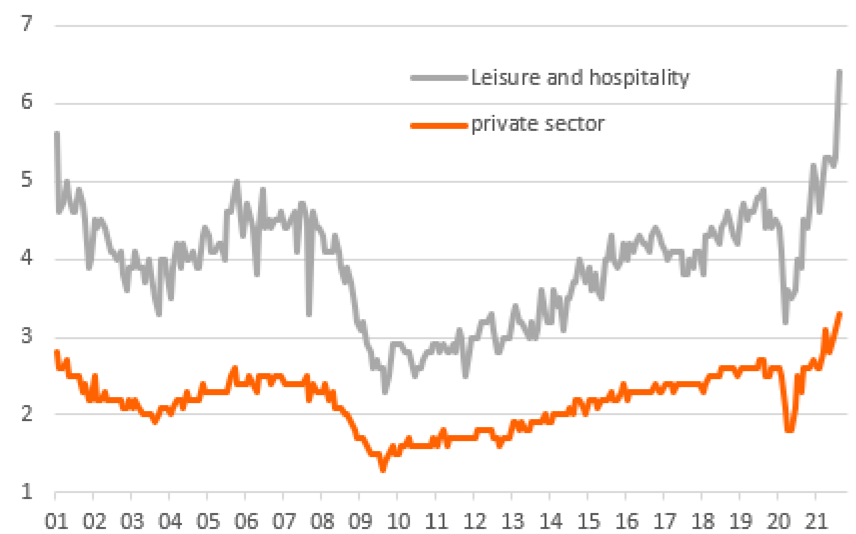
One possible explanation for this is that households have built up savings buffers and don't have any urgency to return to work – cash, checking and time savings deposits have increased by $3.5tn since the end of 2019. We are coming up to the holiday season which will add to household expenses and that could incentivise more people to seek work, but we won't know for sure for at least another couple of months.

### But it could be more structural

We believe there is a more permanent loss of workers driven by a large number of older workers taking early retirement. The thought of returning to the office and the daily commute may seem unpalatable for many people and with surging equity markets having boosted 401k pension plans, early retirement may seem a very attractive option. On top of this, border closures will have hurt immigration and slower birth rates mean fewer young workers are now entering the workplace.

If correct, labour market shortages could persist for a good deal longer than the Federal Reserve expects, which will mean companies increasingly bidding up pay to attract staff. Not only that, but elevated quit rates suggest that companies may also have to raise pay to retain the staff they currently have given the high costs of worker turnover on moral, training and customer satisfaction. This points to more inflation pressures for the Fed to respond to with interest rates rising sooner and faster than currently priced by financial markets.

**Proportion of US workers quitting their job to move to a new employer each month (%)**




Source: Macrobond, ING

# 7.5% Eurozone unemployment rate

Close to all-time lows

## Eurozone - a transitory problem with a permanent edge

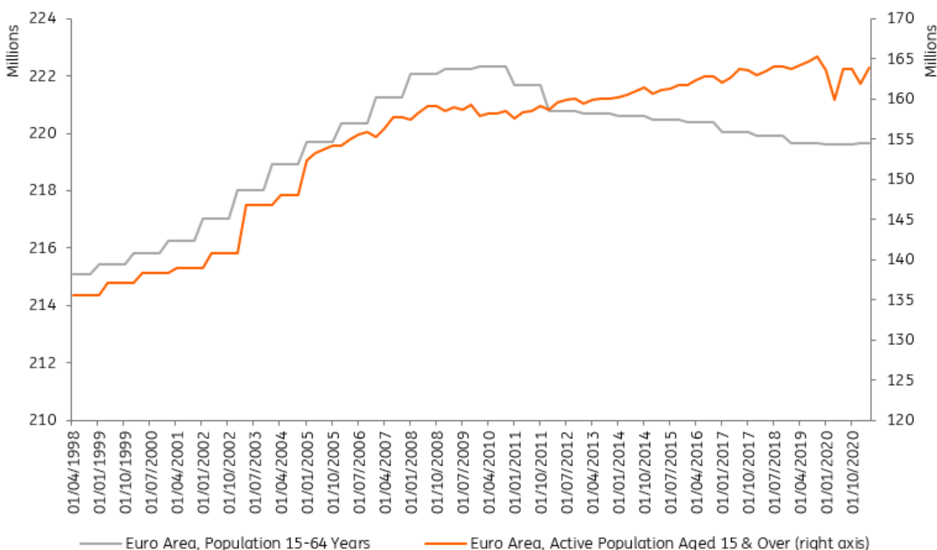
The eurozone labour market has seen furlough schemes used in the pandemic at an unprecedented scale. This has made the labour market impact from the GDP shock seen in 2020 and 2021 as measured by the increase in unemployment unusually subdued. At 7.5%, the unemployment rate is now just 0.4 ppts away from its all-time low, reached in March last year. While concerns about labour shortages have started later than in the US and are less pressing than in the UK, they are increasingly mentioned as a concern for businesses. More than ever, businesses in industry report labour as a factor limiting production, in services this number is still below historical highs.

### Transitory or more fundamental?

Some of the burden faced by businesses now is transitory, but the jury is still out on exactly how much of the problem will fade over the course of 2022. Arguments in favour of the transitional nature are continued slack in the labour market, ie untapped sources from the labour force, and still a sizeable number of employees in furlough schemes. On the other hand, many eurozone economies already experienced a lack of skilled workers pre-pandemic on the back of ageing and qualification mismatches. The current situation could simply be a return to the trends seen pre-pandemic once temporary mismatches fade.

An argument against a potential overheating of the eurozone labour market is the fact that the number of hours worked is still about 4% below pre-crisis levels, while employment is only 1.3% below. This productivity loss will have to be made up in the aftermath of the crisis, dampening further employment prospects. However, even if there are clear reasons to believe that the labour market has still sufficient untapped resources to avoid current tensions to quickly become permanent, some sectors of the labour market do see mismatches due to occupation changes or changes in economic activity.

**Demographics are adding to structural labour shortage concerns in the eurozone**




Source: Eurostat, ING Research

### Ageing will put more pressure on the labour market

In the longer run, however, demographics argue in favour of more structural pressure on the labour market. The working-age population has been shrinking since 2010 and the active population has only been able to grow due to measures taken for people to work longer (think of increased retirement ages and disincentivizing early retirement schemes). In the coming years, we do expect the labour force to start to decline more structurally.

### Higher wages in 2022 but not necessarily in all sectors

The rapid recovery of the labour market, the lack of skilled workers in certain sectors and the recent surge in inflation will in our view lead to higher wage growth in 2022. Mind you, the most recent data shows very low wage growth for 2020 and 2021, far below pre-crisis growth rates. However, this does not come as a surprise given the uncertainty, the economic slump and the increase in unemployment during the first lockdowns. Given the large sectoral differences, it could very well be that wage developments will also differ significantly across sectors and countries, making it harder to predict how overall eurozone wages will evolve. However, one way to fix the increasing mismatch between labour supply and labour demand could be wages, even if higher wages would not solve a qualifications mismatch.

2% Proportion of UK furloughed workers

September

## UK - Jobs mismatch offset by structural challenges for wage growth

Like the Eurozone, the UK is facing a mismatch in the jobs market – albeit perhaps a more severe one. Stories of lorry drivers and food preparation workers are a daily feature in the British press. Partly this is a function of a rapid rebound in hiring appetite. Job adverts in hospitality have stayed comfortably above pre-virus levels since the reopenings, while payroll-based measures of hiring have shown a rapid improvement in employment in these hard-hit areas.

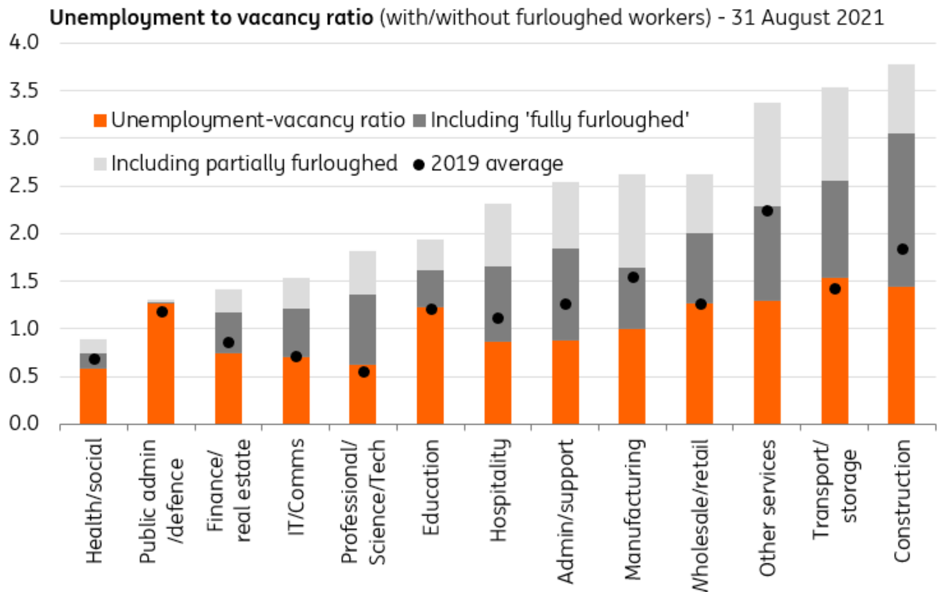
### Outward migration during the pandemic has amplified shortages

But shortages are also undoubtedly a function of the exodus of workers during the pandemic. ONS figures from the end of 2020 suggest there was a 7.4% fall in the number of EU nationals on UK payrolls, with declines particularly concentrated in the major cities. It's not clear how much of that has been reversed now travel restrictions have eased, but post-Brexit visa rules (which make it trickier to work in the UK in lower-paid roles) mean it will be permanently harder for UK companies to source staff from overseas. Recent temporary visa changes for specific roles, including lorry drivers, are unlikely to make a huge difference to that story.

### The ending of the furlough scheme will have increased slack

Still, while wage growth is pushing rapidly higher in these shortage areas, the situation is probably more balanced than headlines suggest. Around 2% of workers were still fully furloughed when the Job Retention scheme ended in September. And while we're not expecting a huge increase in unemployment now wage support has stopped, we expect numbers of those working fewer hours than they'd like to increase, as well as a possible increase in involuntary retirement. What's interesting is that furlough rates were still high over summer in a number of professions less obviously heavily affected by the pandemic.

**UK unemployed-to-vacancy ratio is higher when furloughed employees included in the figures**




Unemployment is based on the sector in which the worker was last employed
Source: ONS, HMRC, ING calculations

### The UK faces structural challenges too

We expect this mismatch to fade over the next year or so, and that in turn should reduce concerns that wage growth is going to stay sustained for longer. And like Europe, there are structural challenges too. The UK's demographics challenge is perhaps less acute than some other parts of the EU, but the working-age population growth is nevertheless set to slow over the next decade. Like the US that may amplify some of the current shortages, but it's also a structural drag on UK potential growth. On that note, the UK's productivity challenge seems likely to stay, partly because business investment was stagnant in the years between the 2016 Brexit referendum and the Covid-19 pandemic.

In short, the wage growth outlook is undoubtedly uncertain. The Bank of England looks poised to hike rates imminently, partly as a result of short-term pressures on wage growth. But the near-term cyclical challenges – linked to the furlough scheme – and medium-term structural ones – demographics and Brexit – suggest wage pressures are unlikely to justify the series of rate hikes markets now pricing in the UK.

## ING global forecasts

| | 2021 | | | | | 2022 | | | | | 2023 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1Q21 | 2Q21 | 3Q21 | 4Q21 | FY | 1Q22 | 2Q22 | 3Q22 | 4Q22 | FY | 1Q23 | 2Q23 | 3Q23 | 4Q23 | FY |
| **United States** | | | | | | | | | | | | | | | |
| GDP (% QoQ, ann) | 6.3 | 6.7 | 2.0 | 6.8 | 5.6 | 5.1 | 4.3 | 3.8 | 2.9 | 4.7 | 2.7 | 2.9 | 2.8 | 2.8 | 3.0 |
| CPI headline (% YoY) | 1.9 | 4.8 | 5.3 | 5.9 | 4.5 | 5.9 | 4.5 | 3.5 | 3.1 | 4.2 | 2.7 | 2.6 | 2.5 | 2.5 | 2.6 |
| Federal funds (%, eop) | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.5 | 0.75 | 0.75 | 1 | 1.25 | 1.5 | 1.5 | 1.5 |
| 3-month interest rate (%, eop) | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.6 | 0.9 | 0.9 | 1.20 | 1.50 | 1.70 | 1.70 | 1.70 |
| 10-year interest rate (%, eop) | 1.74 | 1.47 | 1.50 | 1.75 | 1.75 | 2.00 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 |
| Fiscal balance (% of GDP) | | | | | -13.5 | | | | | -6.8 | | | | | -4.8 |
| Gross public debt / GDP | | | | | 104.8 | | | | | 102.8 | | | | | 102 |
| **Eurozone** | | | | | | | | | | | | | | | |
| GDP (% QoQ, ann) | -1.2 | 8.7 | 9.1 | 2.5 | 5.1 | 3.1 | 3.0 | 2.5 | 1.7 | 3.9 | 1.7 | 1.6 | 1.5 | 1.5 | 1.8 |
| CPI headline (% YoY) | 1.0 | 1.8 | 2.8 | 4 | 2.4 | 2.7 | 2 | 1.5 | 1.6 | 2 | 1.7 | 1.7 | 1.8 | 1.8 | 1.8 |
| Refi minimum bid rate (%, eop) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3-month interest rate (%, eop) | -0.55 | -0.55 | -0.55 | -0.55 | -0.50 | -0.55 | -0.55 | -0.55 | -0.50 | -0.50 | -0.50 | -0.40 | -0.20 | -0.10 | -0.10 |
| 10-year interest rate (%, eop) | -0.35 | -0.19 | -0.20 | -0.15 | -0.15 | -0.10 | 0.00 | 0.10 | 0.10 | 0.10 | 0.20 | 0.25 | 0.30 | 0.30 | 0.30 |
| Fiscal balance (% of GDP) | | | | | -8 | | | | | -3.8 | | | | | -2.6 |
| Gross public debt/GDP | | | | | 103.9 | | | | | 102 | | | | | 98.7 |
| **Japan** | | | | | | | | | | | | | | | |
| GDP (% QoQ, ann) | -4.2 | 1.9 | 2.7 | 2.8 | 2.4 | 1.8 | 1.0 | 1.1 | 1.8 | 1.8 | 1.2 | 1.2 | 1.2 | 1.2 | 1.3 |
| CPI headline (% YoY) | -0.4 | -0.1 | 0.4 | 1.2 | 0.3 | 1.1 | 1.3 | 0.7 | 0.6 | 0.9 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| Interest Rate on Excess Reserves (%) | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 |
| 3-month interest rate (%, eop) | -0.10 | -0.10 | -0.10 | -0.10 | -0.1 | -0.10 | -0.10 | -0.10 | -0.10 | -0.1 | -0.10 | -0.10 | -0.10 | -0.10 | -0.1 |
| 10-year interest rate (%, eop) | 0.10 | 0.10 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fiscal balance (% of GDP) | | | | | -9.6 | | | | | -8.7 | | | | | -7.5 |
| Gross public debt/GDP | | | | | 228.7 | | | | | 232.5 | | | | | 237.5 |
| **China** | | | | | | | | | | | | | | | |
| GDP (% YoY) | 18.3 | 7.9 | 4.9 | 4.3 | 8.9 | 4.0 | 5.0 | 6.0 | 6.5 | 5.375 | 7.0 | 5.5 | 5.5 | 6 | 6 |
| CPI headline (% YoY) | 0.0 | 1.1 | 0.8 | 2 | 0.975 | 2.5 | 2 | 2.4 | 2.5 | 2.4 | 1.8 | 2.6 | 1.9 | 1.8 | 2.0 |
| PBOC 7-day reverse repo rate (% eop) | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| 3M SHIBOR (% eop) | 2.64 | 2.46 | 2.43 | 2.50 | 2.50 | 2.40 | 2.30 | 2.30 | 2.50 | 2.50 | 2.30 | 2.30 | 2.30 | 2.60 | 2.60 |
| 10-year T-bond yield (%, eop) | 3.19 | 3.10 | 2.88 | 3.00 | 3.00 | 2.90 | 2.95 | 2.80 | 2.90 | 2.90 | 2.80 | 2.95 | 3.10 | 3.30 | 3.30 |
| Fiscal balance (% of GDP) | | | | | -7.0 | | | | | -7.0 | | | | | -6.0 |
| Public debt (% of GDP), incl. local govt. | | | | | 125.0 | | | | | 133.0 | | | | | 136.0 |
| **UK** | | | | | | | | | | | | | | | |
| GDP (% QoQ, ann) | -5.3 | 23.9 | 6.3 | 4.3 | 7.1 | 4.9 | 4.7 | 2.4 | 1.2 | 5.4 | 1.2 | 0.6 | 1 | 1.4 | 1.4 |
| CPI headline (% YoY) | 0.6 | 2.1 | 2.8 | 3.9 | 2.3 | 4.0 | 4.3 | 3.6 | 2.6 | 3.6 | 2.5 | 1.3 | 1.4 | 1.8 | 1.7 |
| BoE official bank rate (%, eop) | 0.1 | 0.1 | 0.1 | 0.25 | 0.25 | 0.25 | 0.5 | 0.5 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.72 |
| 3-month interest rate (%, eop) | 0.00 | 0.00 | 0.10 | 0.20 | 0.20 | 0.30 | 0.50 | 0.60 | 0.70 | 0.70 | 0.80 | 0.80 | 0.80 | 0.80 | 0.80 |
| 10-year interest rate (%, eop) | 0.80 | 0.70 | 1.00 | 1.10 | 1.10 | 1.30 | 1.40 | 1.40 | 1.40 | 1.30 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 |
| Fiscal balance (% of GDP) | | | | | -8.0 | | | | | -4.0 | | | | | -3.0 |
| Gross public debt/GDP | | | | | 110 | | | | | 109.0 | | | | | 107.0 |
| **EUR/USD (eop)** | 1.18 | 1.19 | 1.16 | 1.17 | 1.2 | 1.15 | 1.13 | 1.11 | 1.10 | 1.1 | 1.10 | 1.12 | 1.12 | 1.15 | 1.15 |
| **USD/JPY (eop)** | 108 | 111 | 111 | 113 | 113 | 114 | 115 | 118 | 120 | 120 | 121 | 122 | 123 | 125 | 125 |
| **USD/CNY (eop)** | 6.55 | 6.46 | 6.44 | 6.40 | 6.40 | 6.56 | 6.60 | 6.70 | 6.80 | 6.8 | 6.60 | 6.50 | 6.40 | 6.20 | 6.2 |
| **EUR/GBP (eop)** | 0.85 | 0.85 | 0.86 | 0.85 | 0.85 | 0.84 | 0.83 | 0.83 | 0.82 | 0.82 | 0.82 | 0.83 | 0.84 | 0.85 | 0.85 |
| **ICE Brent -US$/bbl (average)** | 61 | 67 | 73 | 77 | 70 | 70 | 68 | 73 | 70 | 70 | 70 | 75 | 78 | 75 | 75 |

GDP forecasts are rounded to the nearest whole/half number, given the large magnitude and uncertainty surrounding our estimates
Source: ING forecasts

## ING's forecasts under three different scenarios

| | 2021 | | | | | 2022 | | | | | 2023 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1Q | 2Q | 3Q | 4Q | FY | 1Q | 2Q | 3Q | 4Q | FY | 1Q | 2Q | 3Q | 4Q | FY |
| **Scenario 1: Optimistic scenario** | | | | | | | | | | | | | | | |
| **Real GDP growth (QoQ% annualised)** | | | | | | | | | | | | | | | |
| United States | 6.30 | 6.70 | 2.00 | 10.10 | 5.80 | 8.00 | 4.60 | 3.30 | 3.20 | 6.00 | 3.00 | 3.00 | 2.90 | 2.90 | 3.10 |
| Eurozone | -1.20 | 8.70 | 9.10 | 4.80 | 5.20 | 3.60 | 3.50 | 2.50 | 2.20 | 4.50 | 2.20 | 2.00 | 1.70 | 1.50 | 2.20 |
| China (YoY%) | 18.30 | 7.00 | 6.00 | 5.50 | 9.20 | 3.00 | 5.00 | 5.50 | 5.00 | 4.60 | 4.80 | 4.60 | 4.40 | 4.20 | 4.50 |
| Japan | -4.20 | 1.90 | 4.50 | 3.50 | 2.70 | 2.80 | 1.40 | 1.00 | 1.50 | 2.50 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 |
| United Kingdom | -5.30 | 23.90 | 7.90 | 9.40 | 7.60 | 8.10 | 5.90 | 3.90 | 2.70 | 7.90 | 1.70 | 1.10 | 1.00 | 1.40 | 2.20 |
| **Real GDP level (Indexed at 4Q19=100)** | | | | | | | | | | | | | | | |
| United States | 99.25 | 100.87 | 101.38 | 103.84 | - | 105.86 | 107.06 | 107.93 | 108.78 | - | 109.59 | 110.40 | 111.19 | 111.99 | - |
| Eurozone | 94.74 | 96.74 | 98.87 | 100.04 | - | 100.93 | 101.80 | 102.43 | 102.99 | - | 103.55 | 104.06 | 104.50 | 104.89 | - |
| Japan | 97.94 | 98.41 | 99.49 | 100.35 | - | 101.05 | 101.40 | 101.65 | 102.03 | - | 102.34 | 102.64 | 102.95 | 103.26 | - |
| United Kingdom | 91.69 | 96.73 | 98.59 | 100.83 | - | 102.81 | 104.29 | 105.30 | 106.00 | - | 106.45 | 106.74 | 107.00 | 107.38 | - |
| EUR/USD | 1.18 | 1.19 | 1.16 | 1.10 | - | 1.09 | 1.08 | 1.07 | 1.05 | - | 1.05 | 1.05 | 1.08 | 1.10 | - |
| US 10-year yield (%) | 1.74 | 1.47 | 1.50 | 2.25 | - | 2.75 | 3.00 | 3.00 | 3.25 | - | 3.25 | 3.50 | 3.50 | 3.50 | - |
| **Scenario 2: Base case** | | | | | | | | | | | | | | | |
| **Real GDP growth (QoQ% annualised)** | | | | | | | | | | | | | | | |
| United States | 6.30 | 6.70 | 2.00 | 6.80 | 5.60 | 5.10 | 4.30 | 3.80 | 2.90 | 4.70 | 2.70 | 2.90 | 2.80 | 2.80 | 3.00 |
| Eurozone | -1.20 | 8.70 | 9.10 | 2.50 | 5.10 | 3.10 | 3.00 | 2.50 | 1.70 | 3.90 | 1.70 | 1.60 | 1.50 | 1.50 | 1.80 |
| China (YoY%) | 18.30 | 7.90 | 4.90 | 4.30 | 8.90 | 4.00 | 5.00 | 6.00 | 6.50 | 5.40 | 7.00 | 5.50 | 5.50 | 6.00 | 6.00 |
| Japan | -4.20 | 1.90 | 2.70 | 2.80 | 2.40 | 1.80 | 1.00 | 1.10 | 1.80 | 1.80 | 1.20 | 1.20 | 1.20 | 1.20 | 1.30 |
| United Kingdom | -5.30 | 23.90 | 6.30 | 4.30 | 7.10 | 4.90 | 4.70 | 2.40 | 1.20 | 5.40 | 1.20 | 0.60 | 1.00 | 1.40 | 1.40 |
| **Real GDP level (Indexed at 4Q19=100)** | | | | | | | | | | | | | | | |
| United States | 99.25 | 100.87 | 101.38 | 103.06 | - | 104.35 | 105.45 | 106.44 | 107.20 | - | 107.92 | 108.69 | 109.44 | 110.20 | - |
| Eurozone | 94.74 | 96.74 | 98.87 | 99.48 | - | 100.25 | 100.99 | 101.61 | 102.04 | - | 102.47 | 102.88 | 103.27 | 103.65 | - |
| Japan | 97.94 | 98.41 | 99.06 | 99.75 | - | 100.19 | 100.44 | 100.72 | 101.17 | - | 101.47 | 101.77 | 102.08 | 102.38 | - |
| United Kingdom | 91.69 | 96.73 | 98.22 | 99.26 | - | 100.45 | 101.61 | 102.22 | 102.52 | - | 102.83 | 102.98 | 103.24 | 103.60 | - |
| EUR/USD | 1.18 | 1.19 | 1.16 | 1.17 | - | 1.15 | 1.13 | 1.11 | 1.10 | - | 1.10 | 1.12 | 1.12 | 1.15 | - |
| US 10-year yield (%) | 1.74 | 1.47 | 1.50 | 1.75 | - | 2.00 | 2.25 | 2.25 | 2.25 | - | 2.25 | 2.25 | 2.25 | 2.25 | - |
| **Scenario 3: Pessimistic scenario** | | | | | | | | | | | | | | | |
| **Real GDP growth (QoQ% annualised)** | | | | | | | | | | | | | | | |
| United States | 6.30 | 6.70 | 2.00 | -1.10 | 5.10 | -3.90 | 11.80 | 4.80 | 4.20 | 2.40 | 3.90 | 3.80 | 3.20 | 3.00 | 4.40 |
| Eurozone | -1.20 | 8.70 | 9.10 | 0.80 | 4.90 | -0.60 | 1.40 | 2.90 | 3.80 | 2.50 | 3.00 | 2.80 | 2.50 | 1.90 | 2.90 |
| China (YoY%) | 3.00 | 4.00 | 3.00 | 0.00 | 2.80 | 3.00 | 5.00 | 6.00 | 6.00 | 5.00 | 6.00 | 5.80 | 5.50 | 5.80 | 5.78 |
| Japan | -4.20 | 1.90 | 2.50 | -1.20 | 2.10 | 1.40 | 0.90 | 0.90 | 0.90 | 0.90 | 0.80 | 1.20 | 1.20 | 1.20 | 1.00 |
| United Kingdom | -5.30 | 23.90 | 2.30 | -5.90 | 5.80 | 4.90 | 8.00 | 3.90 | 2.20 | 3.80 | 1.60 | 0.30 | 0.70 | 1.00 | 2.00 |
| **Real GDP level (Indexed at 4Q19=100)** | | | | | | | | | | | | | | | |
| United States | 99.25 | 100.87 | 101.38 | 101.10 | - | 100.09 | 102.93 | 104.14 | 105.22 | - | 106.23 | 107.22 | 108.07 | 108.87 | - |
| Eurozone | 94.74 | 96.74 | 98.87 | 99.07 | - | 98.92 | 99.26 | 99.98 | 100.91 | - | 101.66 | 102.36 | 103.00 | 103.48 | - |
| Japan | 97.94 | 98.41 | 99.01 | 98.72 | - | 99.06 | 99.28 | 99.50 | 99.73 | - | 99.93 | 100.22 | 100.52 | 100.82 | - |
| United Kingdom | 91.69 | 96.73 | 97.28 | 95.82 | - | 96.97 | 98.85 | 99.80 | 100.35 | - | 100.75 | 100.82 | 101.00 | 101.25 | - |
| EUR/USD | 1.18 | 1.19 | 1.16 | 1.20 | - | 1.20 | 1.20 | 1.20 | 1.20 | - | 1.20 | 1.20 | 1.20 | 1.20 | - |
| US 10-year yield (%) | 1.74 | 1.47 | 1.50 | 0.75 | - | 1.00 | 1.00 | 1.25 | 1.50 | - | 1.50 | 1.50 | 1.50 | 1.50 | - |

Source: ING. Note most growth forecasts rounded to nearest whole or half number)
*Scenario two is our current base case for China

## GDP forecasts

| %YoY | 3Q21F | 4Q21F | 1Q22F | 2Q22F | 2021F | 2022F | 2023F |
|---|---|---|---|---|---|---|---|
| World (USD) | 5.1 | 4.4 | 4.3 | 5.3 | 6.2 | 4.6 | 4.0 |
| US | 4.9 | 5.4 | 5.1 | 4.5 | 5.6 | 4.7 | 3.0 |
| Japan | 2.9 | 0.8 | 2.3 | 2.1 | 2.4 | 1.9 | 1.3 |
| Germany | 0.5 | 2.3 | 4.9 | 5.3 | 2.5 | 4.5 | 2.2 |
| France | 3.3 | 4.5 | 5.0 | 4.3 | 6.8 | 4.0 | 2.0 |
| UK | 6.8 | 6.8 | 9.6 | 5.0 | 7.1 | 5.4 | 1.4 |
| Italy | 3.7 | 6.1 | 6.7 | 4.8 | 6.2 | 4.4 | 2.5 |
| Canada | 4.3 | 3.5 | 3.3 | 4.6 | 5.0 | 4.0 | 2.8 |
| Australia | 3.6 | 2.1 | 1.2 | 1.4 | 4.1 | 2.7 | 3.0 |
| | | | | | | | |
| Eurozone | 3.7 | 4.7 | 5.8 | 4.4 | 5.1 | 3.9 | 1.8 |
| Austria | 4.8 | 5.7 | 6.9 | 3.9 | 4.5 | 4.3 | 2.5 |
| Spain | 2.7 | 3.5 | 5.1 | 4.8 | 4.3 | 4.0 | 2.0 |
| Netherlands | 4.5 | 5.8 | 7.3 | 4.0 | 4.5 | 4.0 | 1.7 |
| Ireland | 4.7 | 5.4 | 4.6 | 3.3 | 6.0 | 3.0 | 1.8 |
| Belgium | 12.5 | 18.8 | 10.0 | 4.1 | 15.7 | 4.7 | 2.1 |
| Greece | 8.6 | 5.1 | 3.5 | 1.0 | 6.6 | 3.9 | 2.7 |
| Portugal | 4.2 | 5.5 | 10.0 | 6.0 | 4.6 | 5.4 | 2.0 |
| Switzerland | 2.8 | 3.9 | 4.9 | 3.4 | 3.4 | 3.0 | 1.5 |
| Sweden | 3.1 | 3.3 | 2.9 | 2.4 | 3.8 | 2.0 | 1.2 |
| Norway | 4.7 | 3.4 | 5.2 | 4.5 | 3.0 | 3.6 | 2.0 |
| | | | | | | | |
| Bulgaria | 5.7 | 3.9 | 2.6 | 2.9 | 4.0 | 3.8 | 3.2 |
| Croatia | 10.2 | 7.0 | 2.7 | 4.5 | 8.0 | 4.1 | 3.2 |
| Hungary | 7.6 | 7.5 | 7.4 | 5.2 | 7.7 | 5.2 | 3.7 |
| Poland | 5.0 | 6.3 | 5.4 | 5.3 | 5.4 | 5.0 | 5.3 |
| Romania | 9.5 | 6.3 | 4.7 | 4.1 | 7.5 | 4.5 | 4.5 |
| Turkey | 7.2 | 2.6 | 2.7 | 3.4 | 9.0 | 3.7 | 4.0 |
| Serbia | 7.4 | 6.1 | 5.0 | 5.2 | 7.0 | 5.0 | 5.0 |
| | | | | | | | |
| Russia | 4.5 | 3.0 | 2.5 | 1.5 | 4.3 | 2.2 | 3.0 |
| Kazakhstan | 4.5 | 4.3 | 3.5 | 3.7 | 3.6 | 3.7 | 4.0 |
| Azerbaijan | 6.5 | 5.5 | 3.0 | 3.4 | 4.1 | 3.4 | 2.5 |
| | | | | | | | |
| China | 4.9 | 4.3 | 4.0 | 5.0 | 8.9 | 5.4 | 6.0 |
| India | 11.9 | 4.9 | 3.0 | 17.1 | 8.7 | 7.8 | 8.0 |
| Indonesia | 3.6 | 5.0 | 4.6 | 3.9 | 3.8 | 4.3 | 5.0 |
| Korea | 4.0 | 3.3 | 2.3 | 2.8 | 3.8 | 2.6 | 2.9 |
| Philippines | 3.8 | 3.9 | 5.6 | 4.0 | 3.8 | 5.0 | 4.5 |
| Singapore | 6.5 | 2.5 | 1.5 | 3.0 | 5.8 | 3.2 | 3.5 |
| Taiwan | 3.8 | 3.5 | 2.0 | 4.0 | 6.0 | 4.0 | 5.3 |

Source: ING estimates

## CPI Forecasts (pa)

| %YoY | 3Q21F | 4Q21F | 1Q22F | 2Q22F | 2021F | 2022F | 2023F |
|---|---|---|---|---|---|---|---|
| World | 3.7 | 4.4 | 4.2 | 3.1 | 2.5 | 3.6 | 2.8 |
| US | 5.3 | 5.9 | 5.9 | 4.5 | 4.5 | 4.2 | 2.6 |
| Japan | 0.4 | 1.2 | 1.1 | 1.3 | 0.3 | 0.9 | 0.6 |
| Germany | 3.7 | 5.1 | 2.8 | 2.4 | 3.2 | 2.3 | 1.9 |
| France | 2.2 | 2.6 | 2.7 | 1.8 | 1.9 | 1.7 | 1.5 |
| UK | 2.8 | 3.9 | 4.0 | 4.3 | 2.3 | 3.6 | 1.7 |
| Italy | 2.1 | 3.1 | 3.0 | 2.5 | 1.8 | 1.9 | 1.4 |
| Canada | 3.9 | 4.3 | 4.4 | 3.9 | 3.3 | 3.4 | 2.4 |
| Australia | 3.0 | 3.2 | 3.2 | 3.0 | 2.8 | 2.9 | 2.5 |
| Eurozone | 2.8 | 4.0 | 2.7 | 2.0 | 2.4 | 2.0 | 1.8 |
| Austria | 3.1 | 3.5 | 2.3 | 1.9 | 2.7 | 1.9 | 1.7 |
| Spain | 3.4 | 4.3 | 2.7 | 2.0 | 2.6 | 2.0 | 1.9 |
| Netherlands | 2.2 | 4.1 | 3.3 | 2.6 | 2.5 | 2.2 | 2.4 |
| Belgium | 2.6 | 3.9 | 3.3 | 2.1 | 2.1 | 2.3 | 1.8 |
| Ireland | 3.0 | 5.2 | 3.3 | 2.4 | 2.5 | 2.3 | 1.9 |
| Greece | 1.3 | 2.4 | 2.6 | 2.1 | 0.2 | 1.6 | 1.1 |
| Portugal | 1.2 | 1.5 | 1.8 | 1.6 | 0.7 | 1.6 | 1.7 |
| Switzerland | 0.8 | 1.1 | 0.3 | 0.7 | 0.5 | 0.7 | 0.6 |
| Sweden | 2.8 | 2.7 | 2.5 | 2.0 | 2.0 | 2.0 | 1.8 |
| Norway | 3.5 | 4.3 | 3.2 | 3.2 | 3.4 | 2.9 | 2.4 |
| Bulgaria | 3.8 | 4.8 | 4.9 | 4.1 | 2.7 | 4.1 | 3.5 |
| Croatia | 3.1 | 3.9 | 3.1 | 2.5 | 2.3 | 2.1 | 2.0 |
| Hungary | 5.0 | 6.1 | 5.4 | 4.7 | 4.9 | 4.5 | 3.0 |
| Poland | 5.5 | 7.6 | 7.1 | 6.1 | 4.9 | 5.4 | 4.0 |
| Romania | 5.5 | 7.6 | 6.6 | 6.2 | 5.0 | 5.5 | 3.5 |
| Turkey | 19.6 | 19.2 | 19.7 | 18.3 | 17.9 | 18.1 | 13.5 |
| Serbia | 4.4 | 6.4 | 6.7 | 5.8 | 3.8 | 5.0 | 3.0 |
| Russia | 7.4 | 8.0 | 7.6 | 7.0 | 6.6 | 6.7 | 4.7 |
| Kazakhstan | 8.9 | 9.3 | 9.4 | 7.8 | 8.1 | 7.9 | 6.3 |
| Azerbaijan | 8.5 | 10.0 | 8.5 | 8.1 | 6.4 | 7.1 | 3.9 |
| China | 1.6 | 2.0 | 2.5 | 2.0 | 1.2 | 2.4 | 2.0 |
| India | 4.3 | 5.0 | 4.7 | 3.6 | 4.9 | 4.5 | 4.7 |
| Indonesia | 1.6 | 2.2 | 3.1 | 3.3 | 1.8 | 3.3 | 3.2 |
| Korea | 2.5 | 3.4 | 2.4 | 2.7 | 2.4 | 2.3 | 1.8 |
| Philippines | 4.6 | 3.9 | 3.6 | 3.7 | 4.4 | 3.4 | 3.5 |
| Singapore | 1.1 | 1.3 | 1.3 | 1.2 | 1.0 | 1.2 | 1.1 |
| Taiwan | 1.7 | 1.4 | 1.1 | 1.3 | 1.4 | 1.5 | 2.0 |

Source: ING estimates

## Oil Forecasts (avg)

| ($/bbl) | 3Q21F | 4Q21F | 1Q22F | 2Q22F | 2021F | 2022F | 2023F |
|---|---|---|---|---|---|---|---|
| Brent | 73 | 77 | 70 | 68 | 70 | 70 | 75 |

Source: ING estimates

## Disclaimer

This publication has been prepared by the Economic and Financial Analysis Division of ING Bank N.V. (**"ING"**) solely for information purposes without regard to any particular user's investment objectives, financial situation, or means. ING forms part of ING Group (being for this purpose ING Group N.V. and its subsidiary and affiliated companies). The information in the publication is not an investment recommendation and it is not investment, legal or tax advice or an offer or solicitation to purchase or sell any financial instrument. Reasonable care has been taken to ensure that this publication is not untrue or misleading when published, but ING does not represent that it is accurate or complete. ING does not accept any liability for any direct, indirect or consequential loss arising from any use of this publication. Unless otherwise stated, any views, forecasts, or estimates are solely those of the author(s), as of the date of the publication and are subject to change without notice.

The distribution of this publication may be restricted by law or regulation in different jurisdictions and persons into whose possession this publication comes should inform themselves about, and observe, such restrictions.

Copyright and database rights protection exists in this report and it may not be reproduced, distributed or published by any person for any purpose without the prior express consent of ING. All rights are reserved. ING Bank N.V. is authorised by the Dutch Central Bank and supervised by the European Central Bank (ECB), the Dutch Central Bank (DNB) and the Dutch Authority for the Financial Markets (AFM). ING Bank N.V. is incorporated in the Netherlands (Trade Register no. 33031431 Amsterdam). In the United Kingdom this information is approved and/or communicated by ING Bank N.V., London Branch. ING Bank N.V., London Branch is deemed authorised by the Prudential Regulation Authority and is subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. The nature and extent of consumer protections may differ from those for firms based in the UK. Details of the Temporary Permissions Regime, which allows EEA-based firms to operate in the UK for a limited period while seeking full authorisation, are available on the Financial Conduct Authority's website. ING Bank N.V., London branch is registered in England (Registration number BR000341) at 8-10 Moorgate, London EC2 6DA. For US Investors: Any person wishing to discuss this report or effect transactions in any security discussed herein should contact ING Financial Markets LLC, which is a member of the NYSE, FINRA and SIPC and part of ING, and which has accepted responsibility for the distribution of this report in the United States under applicable requirements.

Additional information is available on request. For more information about ING Group, please visit https://www.ing.com.