

## In case you missed it: There may be trouble ahead

The global economy may have passed the peak of the Covid-19 crisis but the road to recovery will be long and arduous. The Federal Reserve says the risks to the US outlook are 'considerable', eurozone unemployment is set to surge, and the UK needs more urgent help

### In this bundle



#### June Economic Update: Hope returns despite the huge challenge ahead

The worst may be over for the global economy, but the recovery looks set to be slow and turbulent

By Carsten Brzeski, Chris Turner and 6 others



#### FX | United States

#### Federal Reserve: Loose for longer

The Federal Reserve has left monetary policy unchanged and continues to warn of major downside risks to growth. With officials signalling policy will...

By James Knightley, Chris Turner and Padhraic Garvey, CFA

#### United Kingdom | Video

#### Watch: The UK economy needs more urgent help

ING's James Smith reflects on the latest dire economic figures on the UK economy and says we can expect a lot more from the Bank of England in the...

By James Smith



#### Short-time work schemes in the eurozone: flattening the curve

Unemployment in the eurozone has barely increased so far, mainly due to the massive take-up of short-time work schemes. This smooths out the unemployment...

By Bert Colijn



## Listen: Why Southern Europe will struggle to recover from Covid-19

More severe lockdowns, weaker safety nets, smaller emergency spending programmes and structural challenges pose grave risks to the economic recovery in...

By Bert Colijn and Rebecca Byrne



## Eurozone: Debt monetisation by stealth

While the ECB is not allowed to monetise debt formally in the wake of the Covid-19 crisis, there seems to be some scope to do so, without fear of...

By Peter Vanden Houte



## Stagflation is not the logical consequence of this pandemic

Interrupted supply, a recovery in demand, cheap money and lots and lots of debt. Sounds like a recipe for stagflation, and this is certainly the theme of...

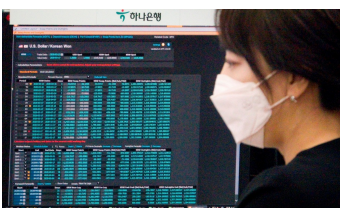
By Robert Carnell



## Asia Ex-China - still slowing

The release of May Purchasing managers indices provides a helpful snapshot of where Asian economies stand following the sharp declines in April, which...

By Robert Carnell



FX

## QE in emerging markets: The unconventional risks

Central banks typically engage in bond buying as a last resort, when the official rate has hit zero. Not in emerging markets. Here, some central banks...

By Padhraic Garvey, CFA



## 'Hand me the mop', the ECB tackles the supply tsunami

The ECB underscored its willingness to be the Eurozone's lender of last resort last week - as the €1.35tn PEPP envelope removed all lingering...

By Benjamin Schroeder



---

Report | 11 June 2020

# June Economic Update: Hope returns despite the huge challenge ahead

The worst may be over for the global economy, but the recovery looks set to be slow and turbulent



Source: Shutterstock

'I know that I know nothing' is a saying attributed to the Greek philosopher Socrates by his most famous student, Plato.

Some 2500 years later, this paradox continues to resonate deeply, especially in economic forecasting during the Covid-19 crisis. There is a lot that we have learned in recent weeks but also a lot that we still don't know.

Let's start with what we know and have learned about the global economy over the last four weeks. GDP data for the first quarter showed that even just two weeks of lockdown was enough to bring most Western economies to their knees, recording contractions last seen during the financial crisis. More recently, with the first hard data for April coming in, the risk of further downward revisions to growth for the second quarter has increased. The fact that German industry was down by some 30% in April compared to the first quarter made us shudder. We try not to imagine what the GDP figures for the second quarter would look like without any rebound in May and June but they would surely exceed even the most negative expectations.

---

*GDP data for the first quarter showed that even just two weeks of lockdown was enough to bring most Western economies to their knees*

---

Luckily, there is increasing evidence that all economies have been gaining momentum as lockdown measures have eased. In early June, some European economies have already returned to far more than 80% of their activity levels seen in February, while some Asian economies, like South Korea, are already back to 100%. At the same time, the US is lagging behind somewhat. The European countries with the strictest lockdown measures have returned to some 70% of their January activity levels. Adding to these hopes are available confidence indicators, which all rebounded in May. But let's not be carried away. Judge for yourself but my very subjective observations of everyday life show that many aspects of social distancing remain in place. Shopping streets, restaurants and transportation are all still running significantly below full capacity.

What we also know is that Europe has seen remarkable breakthroughs in recent weeks, including a proposal for a European recovery fund, supported by France and Germany, another impressive fiscal stimulus package in Germany and additional stimulus from the European Central Bank. It looks as if Europe has finally got its act together. To me, the most remarkable breakthrough is the change of heart on fiscal policy within the German government. Who, at the start of the year, would have imagined that the austerity champion of Europe would morph into such a big spender? This new German approach to fiscal policy, both at the national and European level, should not be underestimated.

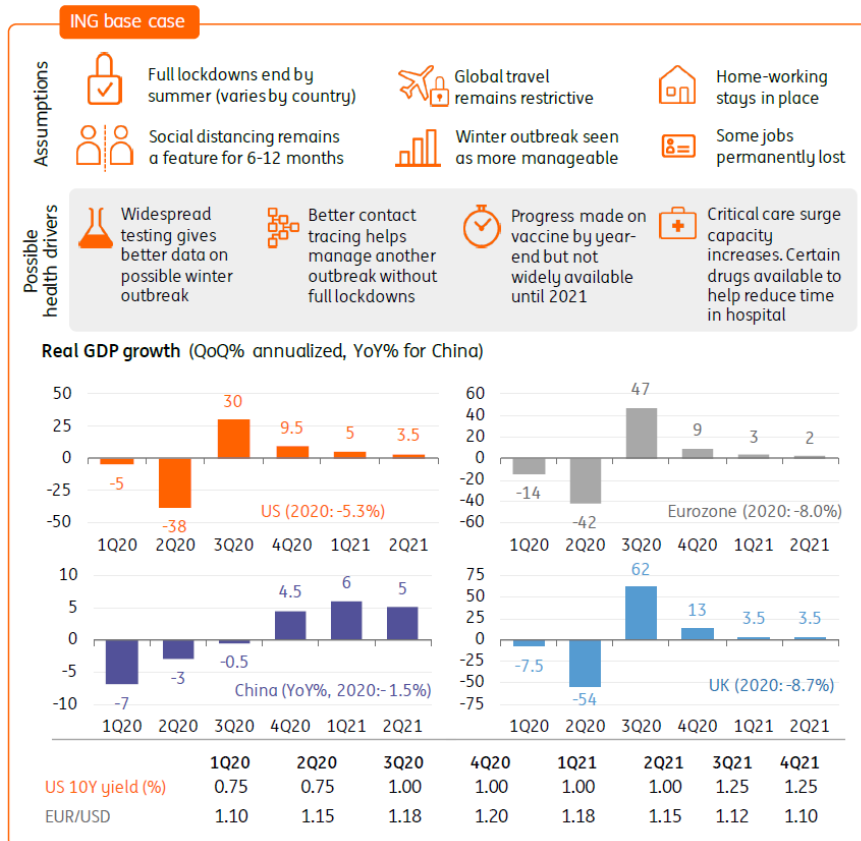
---

*It seems as if Europe has finally got its act together. The most remarkable breakthrough is the change of heart on fiscal policy within the German government*

---

Admittedly, there is also a lot that we still don't know. We don't know how strong the rebound in economic activity will actually be in May and June. And, even more important, we don't know how long this rebound will last or how severe the permanent damage caused by the crisis will be. We also don't know whether our winter lockdown scenario, which sees the virus return later in the year, will materialise. The latest super-spreader events illustrate how difficult it will be to sustain a longer period of social distancing.

Most of the things that we still don't know could easily shatter our current tentative optimism but the things that we do know give us hope that, at least, the worse may be behind us.



Source: ING

## Authors

### **Carsten Brzeski**

Global Head of Macro

[carsten.brzeski@ing.de](mailto:carsten.brzeski@ing.de)

### **Chris Turner**

Global Head of Markets and Regional Head of Research for UK & CEE

[chris.turner@ing.com](mailto:chris.turner@ing.com)

### **Peter Vanden Houte**

Chief Economist, Belgium, Luxembourg, Eurozone

[peter.vandenhoute@ing.com](mailto:peter.vandenhoute@ing.com)

### **Robert Carnell**

Regional Head of Research, Asia-Pacific

[robert.carnell@asia.ing.com](mailto:robert.carnell@asia.ing.com)

### **Padhraic Garvey, CFA**

Regional Head of Research, Americas

[padhraic.garvey@ing.com](mailto:padhraic.garvey@ing.com)

### **James Knightley**

Chief International Economist

[james.knightley@ing.com](mailto:james.knightley@ing.com)

### **James Smith**

Developed Markets Economist

[james.smith@ing.com](mailto:james.smith@ing.com)

### **Bert Colijn**

Senior Economist, Eurozone

[bert.colijn@ing.com](mailto:bert.colijn@ing.com)



# Federal Reserve: Loose for longer

The Federal Reserve has left monetary policy unchanged and continues to warn of major downside risks to growth. With officials signalling policy will...



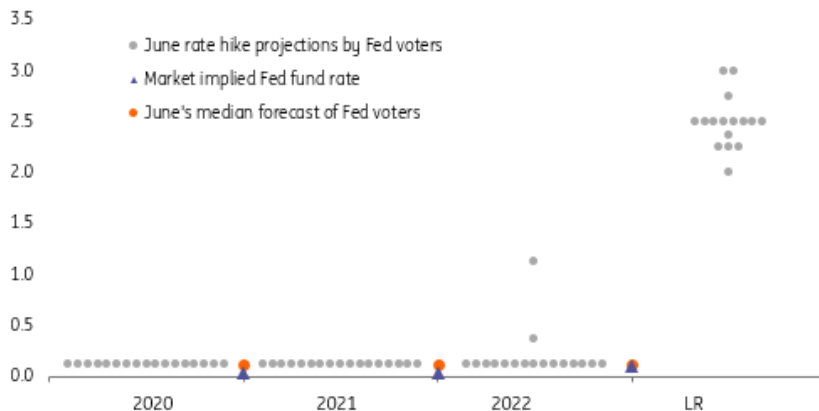
Source: Shutterstock

## Key points from Fed decision

- No change to policy rates or QE – purchases to be maintained “at least at the current pace”
- Reiterated that the 0-0.25% fed funds rate range would be maintained until FOMC members are “confident that the economy has weathered recent events and is on track to achieve its maximum employment and price stability goals”
- “Dot Plot” median forecast has no rate hike before end-2022 with just two out of 17 FOMC members looking for higher interest rates in 2022
- No-one is forecasting negative rates
- Long run expectation for Fed funds rate left at 2.5%



## Fed "dot plot" forecast for the path of interest rates



Source: Federal Reserve, ING, Bloomberg

## No relaxation as worries linger

The Federal Reserve policy meeting and accompanying statement were largely as expected. There were no policy changes with the Fed funds target rate left at the 0-0.25% range. It will stay there until the Fed is confident the economy is on the mend. "Over the coming months" they will maintain QE purchases of Treasuries and MBS "at least at the current pace". There were no dissenters.

The language elsewhere is left unchanged with minor tweaks to reflect better functioning of financial markets. The Fed continues to emphasise the "considerable risks" to the outlook and the obvious point that the pandemic will "weigh heavily".

The forecasts contain the more interesting aspects and there is near unanimity that rates will not be increased anytime soon – just two out of 17 FOMC members expect to see a rate rise before the end of 2022. Nonetheless, the Fed did not lower its long-term assessment for the Fed funds target rate from 2.5%, which was a bit of a surprise given the potential for the pandemic to potentially have a long-term structural impact on the economy and key industries such as travel, commercial real estate, etc.

The Fed are more pessimistic on growth this year than we are, expecting the 4Q year-on-year growth rate to be -6.5%, but they consequently see sharper growth in subsequent years. They also are of the view that there will be long-term implications for the labour market with the unemployment rate seemingly slow to fall. Nonetheless, there is a huge range of expectations within members and no-one is going to have particular confidence in their predictions given the current situation.

## Federal Reserve forecasts versus ING

Variable*	2020	2021	2022	Longer run
<b>Federal funds rate</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>2.5</b>
ING Forecast	0.1	0.1	0.4	2.0
<b>GDP growth</b>	<b>-6.5</b>	<b>5.0</b>	<b>3.5</b>	<b>1.8</b>
ING Forecast	-4.3	3.8	2.8	2.1
<b>Unemployment rate</b>	<b>9.3</b>	<b>6.5</b>	<b>5.5</b>	<b>4.1</b>
ING Forecast	9.0	5.5	4.8	4.2
<b>PCE inflation</b>	<b>0.8</b>	<b>1.6</b>	<b>1.7</b>	<b>2.0</b>
ING Forecast	0.7	1.6	2.0	2.0
<b>Core PCE inflation</b>	<b>1.0</b>	<b>1.5</b>	<b>1.7</b>	<b>-</b>
ING Forecast	1.0	1.6	2.0	2.0

\* GDP, PCE and Core PCE are 4Q YoY% change. Unemployment is 4Q average rate

Source: Federal Reserve, ING

## The long road to recovery

The outlook for policy remains highly uncertain. While equity market and other risk assets are seemingly pricing a V-shaped recovery, the Treasury and interest rate futures markets are much more wary. We think caution is warranted and see little prospect of the Fed moving towards tightening monetary policy anytime soon. Instead we see a greater chance of more stimulus.

Firstly, we simply do not know what path the virus will take. States that have started to re-open early have seen some evidence of a pick-up in cases versus those that have stayed under lockdown. Should the number of cases increase this could see calls for containment measures to be reinstated. Moreover, we remain concerned about a potential for the virus to regain a foothold as we head into winter and conditions are more conducive to transmission. With little to indicate a vaccine is imminent it is far too soon to relax about the potential health and economic costs.

Then there is the general social distancing, consumer caution and travel restrictions that will prevent a return to pre-Covid-19 economic “normality” while even after last week’s shock payrolls report, we have to remember employment is still 19.5 million lower than in February. Throw in the threat of corporate defaults given rising debts and falling revenues and profits, the potential for trade tariffs, plus social and political tensions having a negative feedback on the economy and it is clear there are many obstacles for the economy to navigate.

We don’t see negative interest rates as being realistic given zero enthusiasm from Fed officials (it hasn’t worked in Europe or Japan and could actually be detrimental to credit availability. More QE that is specifically targeted at capping borrowing costs, so called Yield Curve Control, is possible. However, with Treasury yields looking well anchored right now there is no urgency. It would more likely come about if rising Treasury issuance was leading to indigestion in the bond market and pushing yields higher, leading to tighter financing conditions more broadly in the US.

### Market implications

Treasuries:

The 2yr has been anchored in recent weeks in the 20bp area. That has in turn been supported by the forward guidance provided by the Fed, and the break back below 20bp has

been the key immediate outcome. Some steepening from the front end has been the consequence, and some more of that is likely ahead to the extent that risk assets maintain a positive tilt. We maintain our view, however, that the structure of the curve is not one that looks like a bear market for bonds, and the belly is too rich versus the wing. In fact, the rates market maintains a significantly less cheery outlook compared with risk assets. Should risk-on be sustained, reversion of the 10yr towards 1% is a likely path of least resistance, eventually. From the Fed though there is a clear message that rates should remain contained for the foreseeable, which will limit any upside test. Bottom line expect the curve to remain directional (anchored by the front end).

FX:

Dollar sell-off gains momentum

After an initial wobble, perhaps on the view that the Fed did not deliver any fireworks on the QE front, the FX market has resumed its recent love affair with risk assets and taken the dollar lower.

The broad trade weighted dollar is within a whisker of return to the mid-March lows, right before the USD funding markets seized up and the dollar hoarding story developed. No doubt investors are jumping on the view that the FOMC median expectation was for unchanged Fed rates right through 2022, maintaining demand for higher yielding assets – including EM.

EUR/USD has now traded through 1.14 and we have a near term target in the 1.15/16 area. Adding weight to the broadening dollar bear trend is the fact that the JPY has rallied as hard as the EUR today against the dollar. Up until recently the JPY had been underperforming on a steeper US yield curve and the global reflation trade. Over the last few days price action in USD/JPY now suggests that investors are sinking their teeth into a cleaner FX story – one of a broad-based dollar decline.

## Authors

### James Knightley

Chief International Economist

[james.knightley@ing.com](mailto:james.knightley@ing.com)

### Chris Turner

Global Head of Markets and Regional Head of Research for UK & CEE

[chris.turner@ing.com](mailto:chris.turner@ing.com)

### Padhraic Garvey, CFA

Regional Head of Research, Americas

[padhraic.garvey@ing.com](mailto:padhraic.garvey@ing.com)

# Watch: The UK economy needs more urgent help

ING's James Smith reflects on the latest dire economic figures on the UK economy and says we can expect a lot more from the Bank of England in the...



## Prepare for a significant QE increase in the UK

The UK economy has shrunk by 25% in two months thanks to the coronavirus pandemic. And while things might well improve in the third quarter, meaningful recovery isn't likely to happen until 2022 or even later. And Brexit might also cause more difficulties.

[Watch video](#)

### Author

**James Smith**

Developed Markets Economist

[james.smith@ing.com](mailto:james.smith@ing.com)

Article | 12 June 2020

# Short-time work schemes in the eurozone: flattening the curve

Unemployment in the eurozone has barely increased so far, mainly due to the massive take-up of short-time work schemes. This smooths out the unemployment...











## Short-time work schemes to the rescue

The mother of all labour market shocks has had an extremely varied effect on unemployment across advanced economies so far. In the US, the number of people that have filed for unemployment since the start of the lockdowns has surpassed 40 million and the unemployment rate reached 14.7% in April (before declining to 13.3% in May). In the eurozone, April unemployment was just 0.1% higher than in February, at 7.3%. While in the US this is the highest unemployment rate ever recorded, the current eurozone unemployment rate is the second lowest ever seen. There are several reasons for the large difference. One is that eurozone labour markets are, in general, more rigid due to stricter hiring and firing regulations, another is that inactivity is going up as people stop looking for work, but the most important factor is that government support through short-time work schemes is suppressing the unemployment rate massively at the moment.

Soon after the lockdowns were implemented, short-time work became a staple of fiscal emergency packages across the zone. This followed the German example of the Great Financial Crisis, when the scheme was considered to be a large success. The schemes incentivise employers to keep

workers on the payroll by subsidising their pay for a pre-determined amount of time. In this crisis, the tool seems particularly fit for purpose as it helps companies bridge a limited period without revenues or with lower revenues, and supports it in the recovery phase.

### Short-time work schemes across Europe: where are we?

								
% of employment on ST work	16%	48%	29%	19%	24%	19%	32%	5%
% of employees on ST work	17%	55%	38%	22%	28%	23%	32%	5%
% of salary subsidized by ST work	60-87%*	70%**	80%	70%*	90%	70%	80-90%*	67%
Duration of ST work in months	12	12	12	6	7	6	6	6

Source: ING estimates on [national](#) data, ETUI Policy Brief No7/2020.

Note: latest available data differs per country; in some countries estimates of short-time workers reflect total number of applications; \*% of net as opposed to gross salary; \*\*min 85% of net salary & 100% of net salary for those receiving minimum wage

By country, the schemes are rather similar, but they differ in length and percentage of salary that is subsidised. More generous schemes pay up to 90% of wages, like in the Netherlands and Austria, while in Portugal, the payout is only two-thirds of the total salary. The length of the scheme differs substantially as well with Germany, France and Italy offering support for 12 months and other large eurozone countries just half a year. In France, there are discussions on lengthening the scheme to 24 months, while in Italy concerns about funding raise doubts about whether the 12 months of support can be achieved. Here, support through the EU's new SURE programme could help, as this is specifically designed for countries to borrow cheaply to fund short-time work programmes.

The take-up on the measures is huge. In most larger member states, the schemes cover between 15 and 30% of workers and in France, short-time work has been applied to more than half of all employees (with the caveat that this is not the actual number of employees currently being subsidised yet). It is evident that this makes a massive difference to the number of unemployed. This does not mean that all of these people would be otherwise unemployed though, there are many people on the schemes as precautionary measures so the counterfactual unemployment rate would be far lower than simply adding up the number of unemployed and the number of people on short-time work.

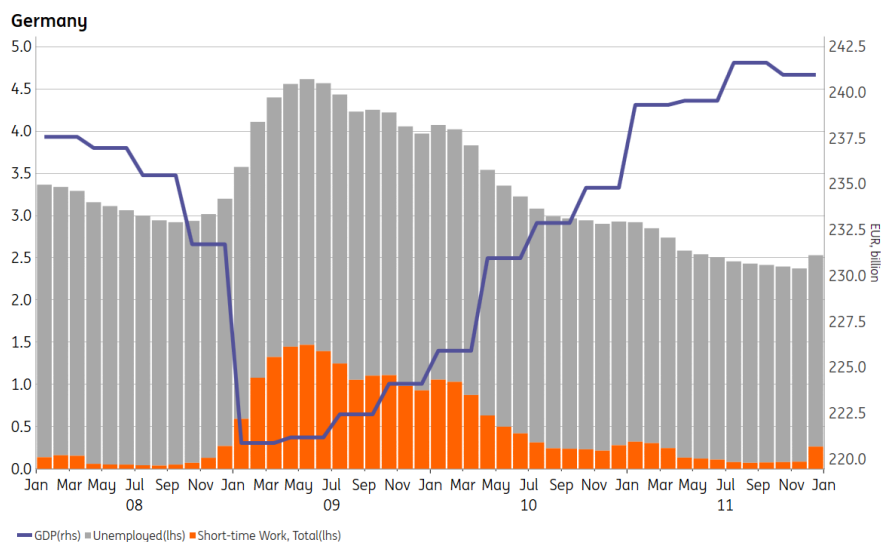
Still, the current unemployment rate is absolutely no reflection of the current state of the eurozone economy. The downsides to the measures are that they increase public debt and reduce restructuring among companies that could boost the longer run productivity of the economy. On the other hand, it is beneficial to the economy in the recovery phase. For one, consumers retain their income, which is helpful as lockdowns are gradually lifted and people can go out and consume again. Moreover, businesses can retain their workers through the period of economic fallout, meaning that the knowledge about production remains in house for when orders return. Both of those factors should speed up the recovery phase, but don't expect any miracles either.

## Lacking a V-shaped recovery, short-time work cannot prevent unemployment from rising

It is hard to extrapolate the small impact of the coronavirus crisis on unemployment right now as the recovery path is highly uncertain and the impact of the schemes clouds the expected unemployment picture as well. Looking back at the success of Germany's short-time work scheme in the aftermath of the 2008 recession, we note that the increase in unemployment was relatively mild during the crisis, with short-time work absorbing a significant part of the labour market impact from the downturn. Even though unemployment increased from 7.6 to 8.3% and took close to two years to recover, that can be considered a success given the severity of the recession. This was mainly related to the surprisingly quick recovery of the German economy and the duration of the scheme, which was long enough to cover both the downturn and the recovery phase. The German experience from 2008/9 also shows that short-time work schemes are a powerful tool to bridge a short period with weak demand when the economy doesn't really suffer from any structural weakness. The fact that Asian economies were barely hit by the financial crisis and returned quickly to growth boosted German exports. Arguably, short-time work schemes would not have had the same positive impact in Spain or Greece, which went through a longer period of structural adjustment.

## Short-time work absorbed a lot of the labour market impact during the Great Financial Crisis

Source: ING Research, Macrobond



Looking at the current economic crisis, we see that the downturn is even deeper than in 2008. After a 3.6% decline in 1Q, we expect the eurozone economy to contract by 14% in the second quarter, making the decline just over 17% in total. This means that even though the take-up of the schemes is massive, we can still expect an increase in the unemployment rate in the coming months. What's more, we don't expect a recovery to the pre-corona level of economic output until 2023. It took Germany just three years to fully recover from the 2008 crisis. According to our expectations, the period in which output is lower than at the start of the crisis will be more than a



year longer. With most countries currently having short-time work schemes in place for either six or 12 months, there will be years of substantially lower output than before the crisis without excess employees being subsidised.

All of this indicates that while short-time work has benefits in times of a severe and short labour market shock, it will not prevent unemployment from rising substantially over the course of the downturn and recovery. While the US unemployment rate is already coming down from record high levels, unemployment in the eurozone has only just started to rise and will likely do so for some time to come, with surges likely as the schemes expire. Where the two regions end up depends largely on the speed of the recovery, but with a V-shaped move out of the question now, the eurozone's jobless rate will be substantially above the current rate of 7.3%.

## Author

### **Bert Colijn**

Senior Economist, Eurozone

[bert.colijn@ing.com](mailto:bert.colijn@ing.com)

Podcast | 11 June 2020

# Listen: Why Southern Europe will struggle to recover from Covid-19

More severe lockdowns, weaker safety nets, smaller emergency spending programmes and structural challenges pose grave risks to the economic recovery in...



In this podcast, ING's Senior Eurozone Economist Bert Colijn tells Senior Editor Rebecca Byrne why the periphery could face a more prolonged slump than the 'core' member states.

## Authors

### Bert Colijn

Senior Economist, Eurozone

[bert.colijn@ing.com](mailto:bert.colijn@ing.com)

### Rebecca Byrne

Senior Editor/Supervisory Analyst

[rebecca.byrne@ing.com](mailto:rebecca.byrne@ing.com)

---

Article | 11 June 2020

## Eurozone: Debt monetisation by stealth

While the ECB is not allowed to monetise debt formally in the wake of the Covid-19 crisis, there seems to be some scope to do so, without fear of...



Source: Shutterstock

### Monetary financing of government debt

I never thought one day I would actually be discussing something a “serious economist” (an oxymoron?) would turn away from in horror.

Mention Weimar Germany and Zimbabwe in the same sentence and you know what I am talking about: monetary financing of government debt.

For people not familiar with the concept this is when a central bank prints new money and basically hands it over to the government to spend, without the obligation to pay it back one day. Plenty of proposals have been floating around over the past few years and not all of them are actually feasible or permitted by the European Treaties.

Nevertheless, it is still worth looking at some of the alternatives and discussing the pros and cons in the wake of the Covid-19 health crisis that has hit the eurozone. With debt levels already very high in most member states lack the fiscal capacity to tackle this new deflationary shock. So why not create the means through the printing press?

## Perpetuating debt holdings

The easiest proposals focus on the part of sovereign bonds currently held by the European Central Bank (for simplicity we will use the terms ECB and Eurosystem as substitutes).

Why not just eliminate this debt by replacing these bonds with a zero-coupon perpetual? This would give member states some breathing space and the capacity to spend more. But not so fast. The central bank is actually owned by the government (though there are a few cases where the ownership is mixed). And within the Monetary Union, governments receive dividends from their national banks, who in turn receive their share of the ECB's profits.

A central bank's profit derives from the difference in interest income on the assets it holds and the interest it pays on its liabilities. Banknotes by nature don't carry an interest rate. The profit the central bank makes on this is called seigniorage. In normal times, a positive interest rate is paid on commercial bank reserves, which are a large part of the central bank's liabilities. But now the ECB actually charges a negative interest rate on a big chunk of bank reserves. Therefore, they also contribute to net interest income. If the ECB exchanges interest-bearing debt on the asset side of its balance sheet with a zero-coupon perpetual, then, of course, bank profits will decline, which will result in lower dividends for the governments in the future. For most central banks in the Eurosystem, the dividends and taxes paid to the state are now around 0.1% to 0.3% of GDP.

---

*What most people don't realise is that there is already some mild form of debt monetisation.*

---

As a matter of fact, in the current public sector purchase programme, bonds on the ECB's balance sheet that come to maturity are replaced with new bonds. As in practice, the ECB will buy the new bonds that the governments are raising to reimburse the central bank, it is pretty much as if the central bank is holding the debt permanently on its balance sheet. What's more, the interest they pay to the central bank is, at the end of the day, partially given back as a dividend. This is, of course, the case as long as the interest paid on central bank liabilities is zero or lower.

So, in a nutshell, as long as the central bank rolls over its stock of sovereign bonds, there is nearly no difference with the situation where it replaces these bonds with a zero-coupon perpetual: this part of the debt is not reimbursed and comes at close to no interest cost.

Admittedly, for the time being, there is no commitment to keep them indefinitely on its balance sheet.

## Further expand the balance sheet

Of course, the ECB could continue to expand its balance sheet by further buying sovereign bonds and refinancing these bond holdings forever. Actually, that is pretty much what happened during and after the Second World War. Major central banks substantially increased their balance sheets by purchasing government debt and while the balance sheets were mostly reduced afterwards in terms of GDP, they hardly ever did in nominal terms, as [is explained here](#). In that way, it is believed that the Federal Reserve's printing press financed about 15% of the war expenditures.

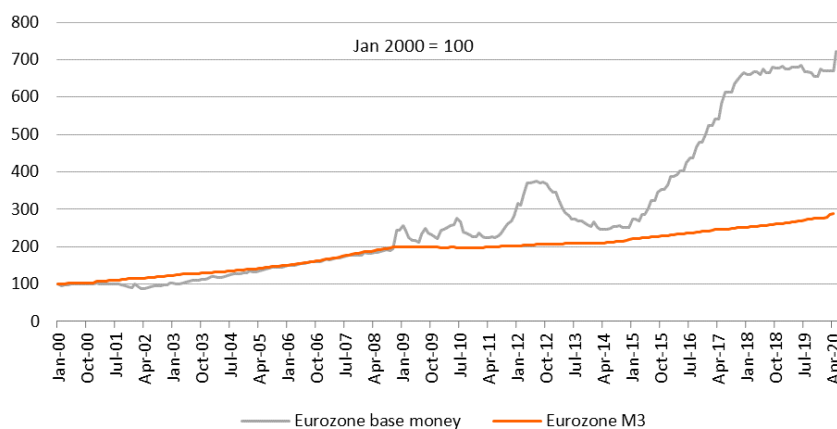
*It is important that debt financing by the ECB is believed to be genuine in practice, but non-existent in theory*

As the French President Emmanuel Macron compared the current Covid-19 crisis to a war-like situation, a case could be made for a permanent increase in the ECB's balance sheet. The trouble is that monetary financing isn't actually allowed under the EU treaties. Therefore, the ECB can use its balance sheet for monetary purposes, but can never commit to keeping government debt on its books indefinitely. The recent ruling of the German constitutional court is likely to draw even more scrutiny to the central bank's policy in this regard. Of course, the ECB could do this by stealth. It doesn't have to say overtly that it will continue to refinance government debt, but in practice, it could do so.

The only trouble here, a problem signalled by [Adair Turner](#), is that the central bank might be too credible in its denial of monetary financing. In other words, the general public could believe that the debt in the hands of the ECB will have to be repaid someday, implying higher taxes in the future. That could lead to higher savings, and consequently less growth now (a phenomenon called Ricardian equivalence, if you want to impress your friends). So it is important that debt financing by the ECB is believed to be genuine in practice but non-existent in theory.

### Central bank balance sheets: Expansion and Reduction since 1990

## The money multiplier collapsed



Source: Refinitiv Datastream

## The hyperinflation sirens

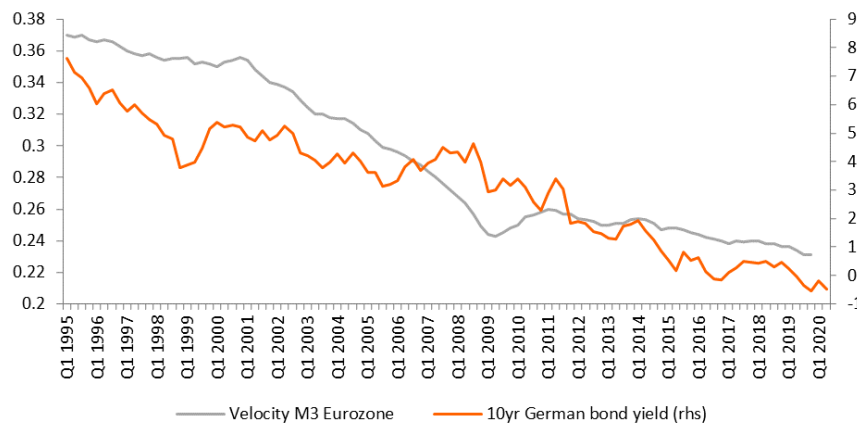
But wouldn't this further increase in the size of the balance sheet lead to more inflation?

We already had a strong increase in the size of the balance sheet in previous years, not only in Europe but also in the US and Japan. The argument goes that more of this would push inflation through the roof. The reasoning behind this is to be found in the quantitative theory of money: the more money in circulation, the more inflation. What is lost in this reasoning, is that there is a difference between the money created by the central bank (base money, which equals notes in

circulation and bank reserves) and broad money in the hands of the general public.

The money multiplier, which is the ratio of broad money to base money has actually collapsed. This is because quantitative easing directly creates broad money and bank reserves in similar amounts, but there is no extra money creation involved through bank credits in the process ([see here for a detailed explanation](#)). On top of that, the velocity of money, which measures the number of times the stock of money is used to do purchases during a certain time period, has also strongly declined. The latter is logical. As interest rates on alternative assets are very low, people hold a larger chunk of their wealth in the form of money, without actually using it to do transactions. To illustrate these points you only have to look at what happened in Japan over the last few decades. Since 1997, base money has increased by a whopping 970%, while consumer prices over the same period have basically remained unchanged. In other words, the increase in the ECB's balance sheet through the purchase of additional government bonds doesn't need to lead to significantly higher inflation, though of course the amount of government bond purchases without causing higher inflation, is not limitless either.

## Declining velocity



Source: Refinitiv Datastream

## Too low an inflation rate

You could even wonder if, at the end of the day, a little bit more inflation is not what the eurozone needs. Over the last 10 years, average inflation has been 1.3%, while average core inflation and the average GDP deflator came out at 1.1%. Nominal GDP growth, therefore, averaged a mere 2.5%. That is a worrying phenomenon since the real burden of large debt levels remains high, further depressing growth. With the current downturn creating a huge negative GDP output gap, some extra stimulus seems warranted, without immediately having to fear galloping inflation. And with short term interest rates already negative, the only tool the central bank has left to boost the economy further is balance sheet expansion. Since it is not obvious how to determine the exact amount of permanent balance sheet expansion, the central bank could announce a price level target in the future (see e.g. [Bernanke](#)), ideally one that allows for some correction of the inflation undershoot that we experienced over the last decade. The establishment and extension of the Pandemic Emergency Purchase Programme is already an important step in this regard, though at this moment the programme is still labelled as temporary.

## Monetary dominance

The final question is whether the ECB, by monetising part of the fiscal expansion, would become hostage to the fiscal authorities.

Fiscal authorities might want to prevent an interest rate increase because this would implicitly increase the cost on the debt held by the central bank (it would reduce the central bank's interest income and thereby the dividends paid out to the governments), while at the same time, new debt would also have to be issued at a higher interest rate. And if the fiscal expansion to fight Covid-19 is now accommodated by the central bank, why couldn't the same thing be done to finance the green agenda?

---

*Past experiences of the central bank's monetary policy being subordinated to fiscal policy did not end well*

---

In that way, fiscal policy would become dominant, a thesis advanced by the proponents of Modern Monetary Theory: governments can spend newly created money as long as there is no full employment. Only when the situation of full employment is reached do governments have to hit the (tax) brakes to avoid inflation. However, past experiences of the central bank's monetary policy being subordinated to fiscal policy did not end well.

A politician who needs to get re-elected is generally not the one who will "take away the punch bowl just as the party gets going". That is basically the reason why most industrial countries have opted for an independent central bank that has to maintain the purchasing power of money in the longer run. But even when maintaining the dominance of monetary policy over fiscal policy, we believe that today, there is some scope to accommodate fiscal expansion by a further increase in the ECB's balance sheet, without having to fear inflation going through the roof. At the end of the day, it might even be needed to bring inflation back to close to, but below 2%.

### Author

#### **Peter Vanden Houte**

Chief Economist, Belgium, Luxembourg, Eurozone

[peter.vandenhoute@ing.com](mailto:peter.vandenhoute@ing.com)



---

Article | 21 May 2020

# Stagflation is not the logical consequence of this pandemic

Interrupted supply, a recovery in demand, cheap money and lots and lots of debt. Sounds like a recipe for stagflation, and this is certainly the theme of...



Low growth and high inflation were common in the 1970s

## What is stagflation?

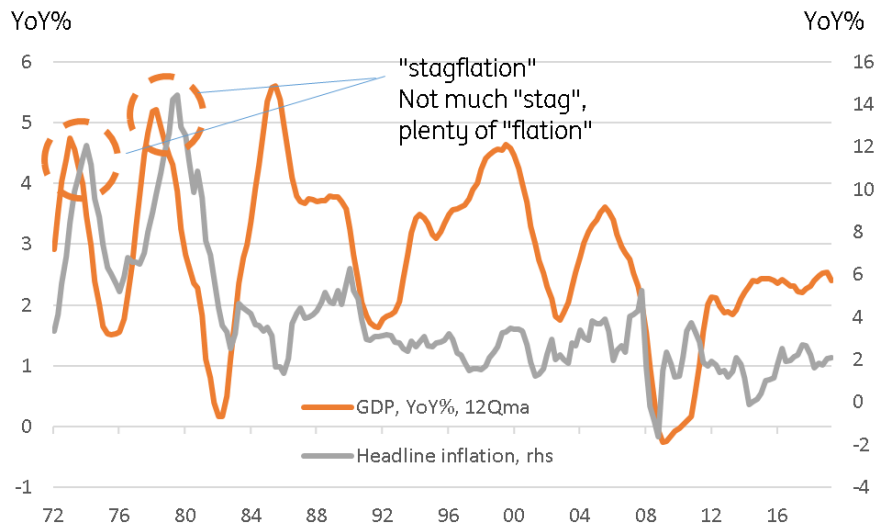
Stagflation is a combination of very weak or potentially even negative economic growth, coupled with rapidly and persistently rising prices. It was last seen in developed markets in the 1970s in conjunction with rising oil prices thanks to an OPEC-driven crude shortage and the accommodative stance of central banks.

At the time, it was regarded as a terrible outcome. Households saw the value of their savings reduced by high inflation - though this was typically measured in high single or low double digits - and not the hyperinflation of the 1930s. Using the United States as a benchmark (their experience was echoed in Europe), inflation hit peaks of about 12.5% in 1974 and then 15% in 1980.

What is most notable about growth in this period is that it was not particularly weak by today's standards. Though the eventual tightening that followed high inflation did lead to recessions in 1975 and between 1980 and 1982, as accommodation was eventually followed by restraint. The

inter-recessionary periods saw strong growth, often in excess of 6%. Smoothing the business cycle with 12-quarter moving averages, growth was clearly more volatile than it has been in recent years, but it was still closer to 3% on average outside the recessions than the modern-day equivalent, which is closer to 2.0%.

## It has been a long time since inflation responded to strong growth



Source: CEIC

Stagflation

## A little inflation would be great, if we could get it

You might argue therefore that a bit of 70s style stagflation might be a decent trade-off for what we have now. Growth will eventually recover from the Covid-19 outbreak and associated lockdowns, and with plentiful bottlenecks in supply, some price spikes are highly probable when this happens. What is needed then for stagflation is for wages to increase, leading to an upward spiral in prices, as firms raise prices again to maintain margins. It has even been suggested by some that letting inflation rise to 4% for a decade or so, could undo much of the debt build-up that is taking place during this pandemic.

And yes, a bit of higher inflation would certainly help deflate away this debt if it could be created. We might also note the recent pick up from very low levels of benchmark prices of crude oil at the behest of OPEC supply constraints. All the ingredients seem to be falling into place, don't they?

But just as a cake will not miraculously spring from a bowl of flour, sugar and eggs without some means to bake it, stagflation requires a mechanism to allow wages to push higher in the face of rising prices and embed them into accelerating prices. At its heart, stagflation requires a wage-cost push spiral to happen. For most of the world, the mechanisms that once allowed this to occur simply do not exist anymore and will probably never do so again.

## No mechanism = no stagflation - simple

There is no single factor here that is critical, but the following are all reasons why that wage-cost push mechanism is no longer in play, and unlikely to return in our lifetimes.

- Falling unionisation / collective bargaining
- Decreasing manufacturing/rise in the service sector
- A decrease in firm-specific skills
- Increase in labour alternatives (roboticisation/automation)

Could we see some bounce back in inflation from a reversal of globalisation? Prior to the pandemic, globalisation would also have been another factor in the list above.

And yes, post-Covid-19, some rethink of supply chains is likely. But we are probably talking about more redundancy being built into them, rather than an outright return to autarky. So the degree of the shift may be quite minor.

That said, we would certainly concede that the disinflationary impetus from ongoing globalisation might lessen or even reverse for a time. But on its own, it's not enough, and we would still be missing the mechanism that takes rising prices, say due to a supply bottleneck, and then embeds them in faster wages growth, resulting in a squeeze in margins, and a further increase in prices and so on.

This deglobalisation/supply chain story is, in our view, about the only conceivable scenario in which we might see prices rising for long enough, and on a broad enough front to become embedded in price-setting behaviour. And even then, it is hard to see this affecting wage setting, so ultimately, its main effect will be to weigh on real purchasing power and activity. More likely, pockets of higher inflation will spring up where supply constraints are greatest but be dominated by the much weaker demand environment elsewhere.

Indeed, the persistence of large output gaps in much of the developed world following the global financial crisis could be another reason to downplay inflation risks following the pandemic. That said, the link between inflation and economic activity seems particularly weak, and unless the impact is asymmetric (which is a plausible and interesting thesis, but one that is beyond the scope of this article), then for balance, we probably shouldn't make too much of this as an additional argument for inflation remaining low. We don't believe it's a necessary condition in any case.

## Stagflation - not quite the horror story that is suggested

Stagflation, despite the bad name it got in the 1970s, enabled my parents and many others to buy a house they couldn't really afford and to pay down its mortgage. Because even though they were paying high mortgage interest rates, they also saw their wages rise at percentages that meant that their stock of debt to incomes ratio quickly dwindled. Before long, that left more money for other things. At least, until the 1980s, where monetarism and wage restraint (often through the public sector) came into vogue, delivering recession as it cured the earlier inflation excesses.

So when I read yet another article warning of the dangers of stagflation, ([for FT subscribers, this from Stephen Roach is a good example](#)) I'd like to remind the authors that in the current environment, with debt ratios hitting previously unimaginable highs, it could be an outcome to grab with both hands, not to recoil from in horror.

## Stagflation is not a "when?", it's a "how?"

And like the article that suggested running inflation at 4%, just like those that suggest central banks run economies "a little hot," the key unanswered question is a blisteringly simple

one, “how?”

These same central banks have presided over economies with unprecedentedly tight labour markets, running monetary policy in a more accommodative way than at any time in history. And still, they have mostly not even managed to get inflation to reach the mid-point of their inflation targets except for temporary oil-price induced flurries in the headline rate. Let’s be very clear, if they couldn’t get inflation to 2% then, they certainly aren’t going to be able to achieve 3% or 4% now.

Without the mechanisms to embed rising prices into a wage-cost-push inflation spiral, and with monetary policy impotent to create demand-pull inflation, this higher inflation, whether accompanied by low growth or not, simply isn’t going to happen. And all the navel-gazing and quasi-academic consternation about inflation expectations becoming “unanchored” count for nothing if inflation just cannot gain a toe hold in the modern economy.

## High debt is a problem, stagflation is not the obvious answer

I do tend to agree with some of the comments by those writing such articles that getting debt to “disappear” will be an important pre-requisite for re-invigorating growth following this pandemic. How to achieve this is a question that we have some years to debate. But it is unlikely to be by deflating it away.

### Author

**Robert Carnell**

Regional Head of Research, Asia-Pacific

[robert.carnell@asia.ing.com](mailto:robert.carnell@asia.ing.com)

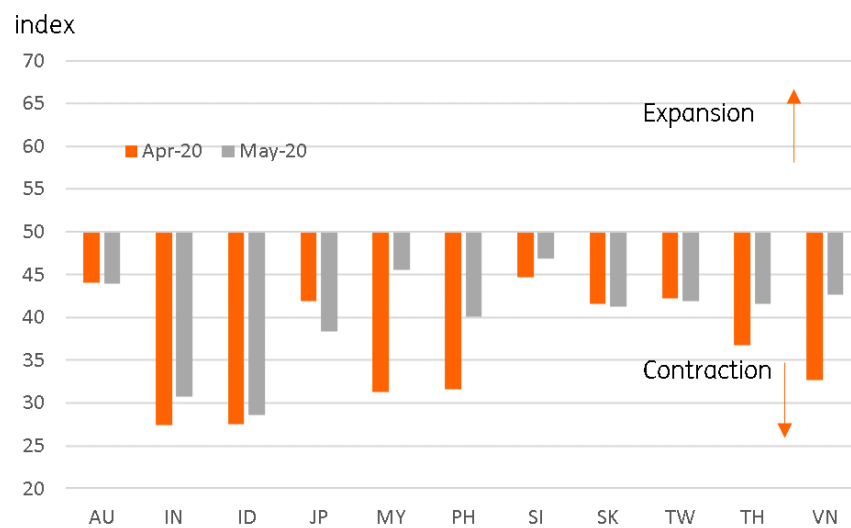
Article | 11 June 2020

## Asia Ex-China - still slowing

The release of May Purchasing managers indices provides a helpful snapshot of where Asian economies stand following the sharp declines in April, which...



### Asia Ex-China Purchasing Manager Indices



Source: Bloomberg, ING  
Mfg PMIs

## The fiscal packages keep on coming

There is still a tendency for governments across the region to allow fiscal policy to take the strain off the economy. Scope to do this rests on a number of factors – how fiscally secure an economy is, how much of a ratings buffer exists to burn in letting the deficit widen, and whether this is accompanied by a current account deficit too, in which case, the currency may come under pressure.

Japan can hardly be described as a paragon of fiscal virtue, with a debt-to-GDP ratio that will exceed 220% this year. But as a case in point, they recently announced a second supplementary budget to help lift the economy totalling a quite incredible 40% of GDP.

Like some other economies in the region (Malaysia for example, with its claimed 20% boost to the economy), Japan's headlines haven't attracted a great deal of market attention from cynical investors used to government smoke and mirror tactics (double-counting, soft loans, accrued spending etc). Indeed, it is unclear who the intended audience is for these announcements, as the general public must also be totally aware of the game being played. But there is also some genuine stimulus underlying all the fluff. Not enough, in our opinion, to make us want to revise any of our growth forecasts higher. But enough to improve the prospects for recovery post-Covid19 lockdowns.

Still, as first-mover China is showing clearly, while the end of lockdowns is a necessary condition for recovery, it doesn't guarantee much strength, especially for the more export focussed economies.

### Author

#### **Robert Carnell**

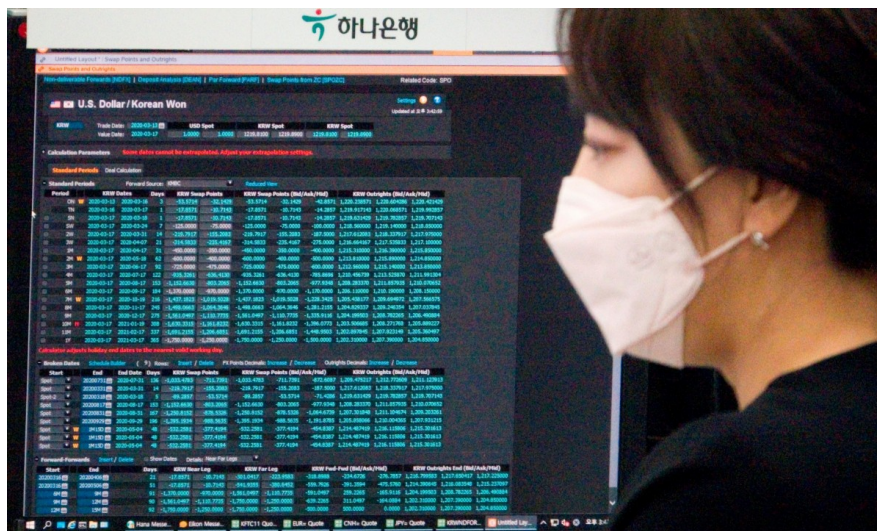
Regional Head of Research, Asia-Pacific

[robert.carnell@asia.ing.com](mailto:robert.carnell@asia.ing.com)



# QE in emerging markets: The unconventional risks

Central banks typically engage in bond buying as a last resort, when the official rate has hit zero. Not in emerging markets. Here, some central banks...



A currency dealer in South Korea

## Doing QE the EM way

Central banks typically engage in bond buying as a last resort – when the official rate has hit zero. Not in emerging markets. Here, some central banks have dived into QE programs with rates well above zero. The dominant rationale centres on a desire to stabilise markets as fiscal pressures build, typically pandemic-related. In many cases it is sterilised, or mopped up through bills issuance, but not always. In the end, additional money is being printed through central banks bond buying. We survey the risks. There are some. Some central banks have quite large programs, others are engaging in QE from an already vulnerable state. Then again others are small and reversible. One thing is sure; they need monitoring



## Quantitative Easing programs ongoing in Emerging Markets

These are our estimates of what EM central banks are doing in terms of QE size

% GDP	Poland	Croatia	Chile	Hungary	Turkey	S Africa	Romania	Indonesia	Colombia	Philippines
QE done	4.5	4.0	2.6	0.5	1.2	0.6	0.3	0.9	1.1	0.3
QE target	9.5	8.0	4.0	3.0	2.0	2.0	1.5	1.5	1.1	0.4

Source: ING estimates

## Emerging markets are different

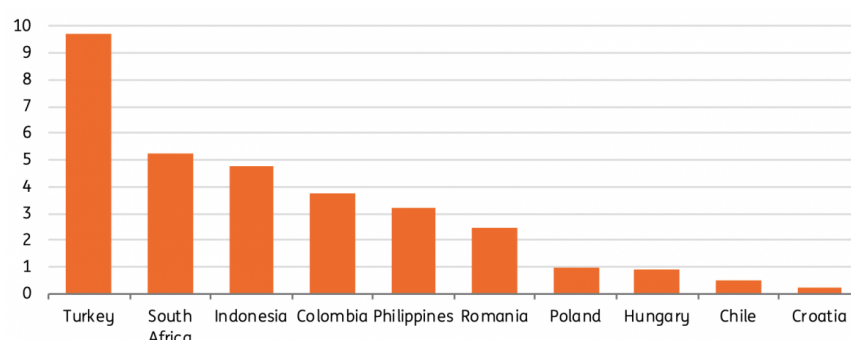
QE is the equivalent of printing currency. Printing more currency increases its supply, and should therefore lower its price. The US and other core central banks have managed to execute QE without a material adverse effect on FX, partly as their underlying currencies are underpinned by a muscle memory of relative macro stability. The USD is of importance here. It is the global reserve currency, and we find during times of crisis that there is excess demand for it. That's a luxury position from which to execute QE. The likes of the EUR and the JPY tend to trade as a stationary series around the USD on their respective crosses – big swings, but typically mean-reverting. And since they are all at QE there isn't much for them to depreciate against.

But emerging markets are different. Here FX rates are trending, typically reflecting wider inflation differentials, on top of the tendency for capital flight when policy wobbles, which in turn produces echoes and overshoots. Now throw in a dose of QE and you have a further excuse for vulnerability. The question is, to what extent are risks being run.

## Jumping in at the deep end

For emerging markets (EM), the Quantitative Easing (QE) button has been pushed with rates well above zero in many cases (Figure 2). None of the central banks in question went in to QE with rates actually at zero, although Croatia and Chile were practically there, and Poland has gotten there belatedly.

## Policy rate obtained when QE was enacted (%)

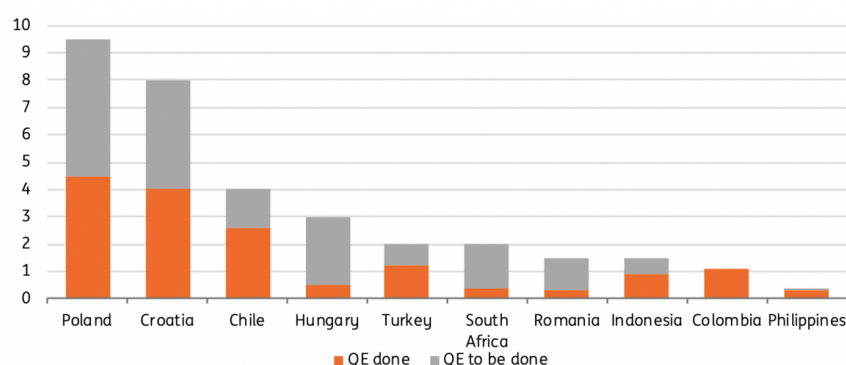


Source: ING estimates

## QE impact partly depends on the starting point

Emerging market central banks that have kicked off QE are a real mixture of players. Many of the central banks are not telling us how much they are doing, or indeed intend to do. Below is a combination of what is known plus estimates.

## Size of QE programs in EM (% GDP)



Source: ING estimates

## Country comparisons

At one extreme of the credit spectrum is **Poland**, and probably Israel. These central banks are buying government bonds and are unlikely to cause too much consternation for their markets, provided macro stability is maintained. That said, Poland, in particular, is not invulnerable by any means. It runs a risk by virtue that it is running the biggest QE program in EM space, potentially posing FX risks at some point in the future.

**Hungary** comes after that. Here policy here is aimed at financial market stability with a dose of yield curve control to aim fiscal management. A central goal is to be able to control the long-end of the yield curve, providing cheaper, less volatile funding for the Hungarian budget. It is not significant in size, but also far from insignificant.

Then comes **Chile**, which is largely providing bank support through loans; theoretically equivalent to bank bond-buying, but baby steps in QE terms. And **Colombia** which is buying corporate bonds (but just out to 3 years). Meanwhile, **Brazil** is paving the way to make QE possible, but there is no certainty they would employ it. It is tempting now as market rates have fallen, but more tempting should conditions re-deteriorate.

Then we have the likes of **The Philippines**, **Indonesia** and **South Africa**. They are all buying government bonds. The sizes here range from small to unspecified, with the largest vulnerability attached to the latter. The likes of South Africa buying bonds right along the yield curve for unspecified sizes is great for the short term as there is a big buyer in play but poses risks from a medium-term perspective. At the other end of the scale, the Philippines is only buying out to 6 months in maturity, just toe-dipping.

That said, even where QE is short-dated or small in size, it is also a starting point to potentially expand from. For more grandiose QE projects, statements are being made. **Romania** is one of those names that has re-established credibility in the past decade and has been rewarded with a return to investment grade. But it is now in a vulnerable phase, where there is a rating threat.

Apparent ability to control the currency helps, but a step too far into the temptation of QE runs risks. Should QE go on for a period of time without an FX reaction, that does not mean there will not be one. Reaction can still come in an exaggerated way at a moment of future vulnerability. The fact that this has not happened so far does not mean it won't happen; stuff like this tends to build until it gets to a "sit up and notice" moment.

Download our full report [here](#)

## Author

**Padhraic Garvey, CFA**

Regional Head of Research, Americas

[padhraic.garvey@ing.com](mailto:padhraic.garvey@ing.com)

---

Article | 8 June 2020

## ‘Hand me the mop’, the ECB tackles the supply tsunami

The ECB underscored its willingness to be the Eurozone’s lender of last resort last week - as the €1.35tn PEPP envelope removed all lingering...



Source: Shutterstock

(L-R) German Minister of Finance Olaf Scholz, President of European Central Bank Christine Lagarde, European Commissioner in charge of Economy Paolo Gentiloni and French Economy Minister Bruno Le Maire

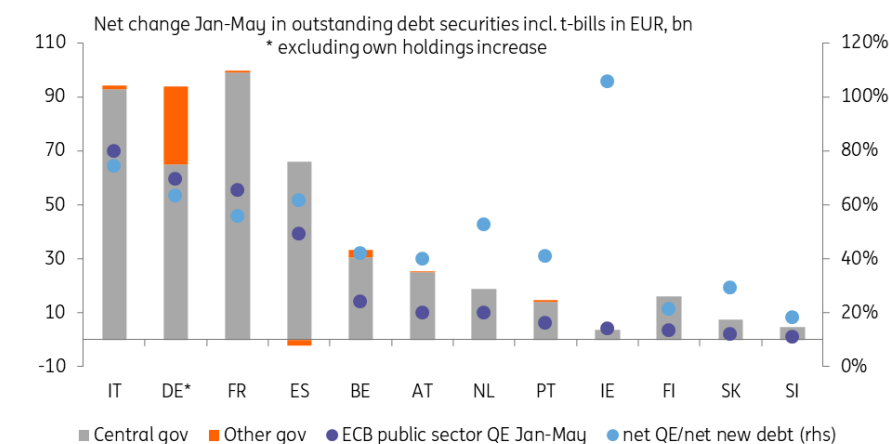
### The ECB to buy more than €1.8tn until mid-2021

The European central bank's [recent announcements](#) mean that the central bank's net asset purchases until mid-2021 will amount to over €1.8tn, assuming a constant €20bn/m asset purchase programme. A good part thereof will be conducted in public sector debt markets. If we assume a share of 80% as has been the case in recent months, that will add up to more than €1.4tn.

The latest pandemic emergency purchase programme (PEPP) and asset purchase programme details underscore the magnitude of the ECB purchases already conducted, especially if set against the backdrop of what has been issued by countries in bond and bills to date.

In Italy, the ECB buying amounts to 75% of the net debt increase. For Germany, it is still 63% taking into account that the regional states also increased their debt by a sizeable amount.

## The ECB already absorbed a good part of this year's sovereign issuance



## Governments aren't hiding the significance of this outsized support.

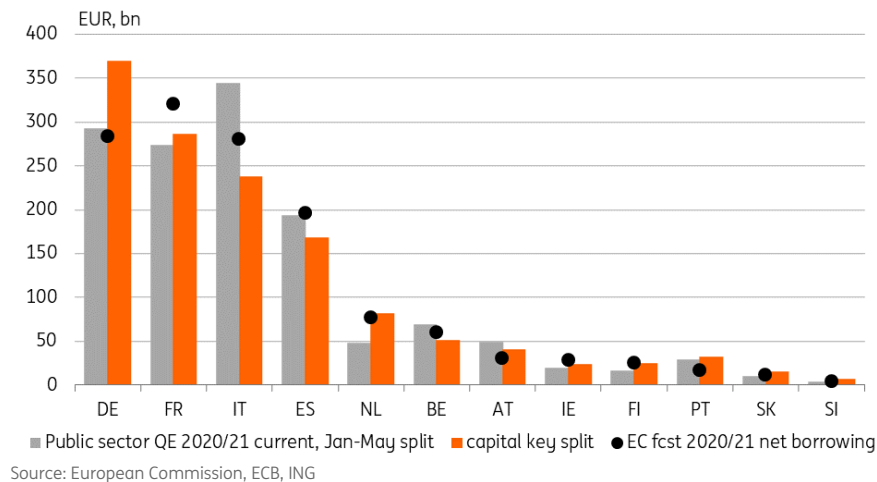
After the PEPP increase, Austria's debt agency head proclaimed that demand matched supply again. Recall that the ECB had estimated that the crisis would create €1.0-1.5tn in additional financing needs for eurozone governments. Given that the ECB's economic baseline scenario has moved closer to the initial worst-case scenario, we might be looking towards the upper end of that range.

The European Commission (EC) made its own forecast in early May, breaking it down onto the country level, although their underlying assumptions now look outdated and too optimistic. It forecasted a net new borrowing of €942bn in 2020 and €425bn in 2021 for general governments (i.e. including state and regional levels). The chart below sets the EC forecast for this year and next against the current ECB's buying trajectory, assuming that APP continues unchanged and 80% of QE purchases are directed at the public sector.

Here we also show two splits: one keeping in line with what has been observed this year and the other if the ECB were to strictly adhere to the capital key. In practice, the split will probably lie somewhere between the two.

Here, the takeaway already should be that the ECB now stands ready to entirely absorb the first year's extra funding of most countries, if not even already a part of next year's. But with current EC forecasts likely to be towards the lower end and also the envisaged issuance of €750bn for the new EU recovery fund not taken into account yet, it does not need to be the end of what the ECB is willing to do on the buying front.

## ECB public sector purchases versus anticipated government new borrowing 2020/2021



## Individual country funding plans - still playing catch up

The individual countries' funding plans for central governments are playing catchup with the financing needs arising from new measures announced to tackle the crisis. Of course, the issuance of new debt is spread over different instruments, thus also spreading the impact on government funding levels. Ramping up the issuance of Treasury bills has allowed debt management agencies to quickly cover the initial spike in funding needs for instance.

In the end, however, the heavy lifting will have to be done in the EUR government bond markets. And eventually, outstanding bills are likely to be termed out under the cover of the extended refinancing period of PEPP until at least the end of 2022.

Eurozone issuance estimates for 2020 versus last year (ex bills, €bn)

	2020			2019			Difference		
	Gross	Redem	Net	Gross	Redem	Net	Gross	Redem	Net
Germany	212	164	48	159	148	11	53	16	37
Netherlands	35	30	5	21	30	-8	14	0	14
Finland	14	13	1	9	5	4	5	8	-3
Luxembourg	3	2	1	2	0	2	1	2	-1
Austria	23	15	8	20	26	-6	3	-11	14
Belgium	45	19	26	30	24	5	15	-5	20
France	255	131	124	243	129	114	12	2	10
Slovenia	8	2	6	2	1	1	6	0	6
Slovakia	10	3	7	3	2	1	7	1	6
Ireland	22	17	5	14	13	1	8	4	4
Spain	186	84	102	113	92	21	73	-8	81
Portugal	23	8	15	15	8	7	8	0	8
Italy	320	202	118	238	199	39	82	4	78
Greece	8	1	7	10	9	1	-2	-7	6
<b>Total:</b>	<b>1163</b>	<b>691</b>	<b>473</b>	<b>878</b>	<b>685</b>	<b>193</b>	<b>285</b>	<b>5</b>	<b>280</b>

Source: Debt Agencies, ING

The current funding plans of debt agencies already show that gross bond issuance is on track to total €1.2tn which translates into a net issuance of close to €0.5tn. Compared to 2019 that is already €0.3tn higher. While the largest adjustments will likely have been made by now - Austria and Spain were the latest to announce their funding revisions - more are still in the pipeline potentially already in the coming weeks.

Germany is likely to accommodate the latest stimulus package in its upcoming Q3 funding plan. With the cost of the €130bn package calculated at €90bn at the federal level for this year, untapped appropriations of €60bn in the current budget imply that at least €30bn of extra funding will have to be pencilled in until the end of the year. The Netherlands recently extended its stimulus package for three months at a cost of €13bn, which should also find its way into the next quarterly funding plan update. France could also be in for another update after the finance minister announced that the deficit would be €50bn larger than forecast in April.

## The ECB will dampen the impact of higher debt on interest rates

We have written [on previous occasions](#) that we expected ECB intervention to be the dominant factor in setting the path for core interest rates.

We include in that category the yield on core government bonds such as Germany, France or the Netherlands, but also EUR swaps whether using Eonia, €STR or Euribor as underlying benchmarks. Now that we have more certainty as to both the path of ECB policy, we detailed the main implications in our [ECB wrap-up](#), and about borrowings needs, we can more easily quantify the impact on interest rates.

---

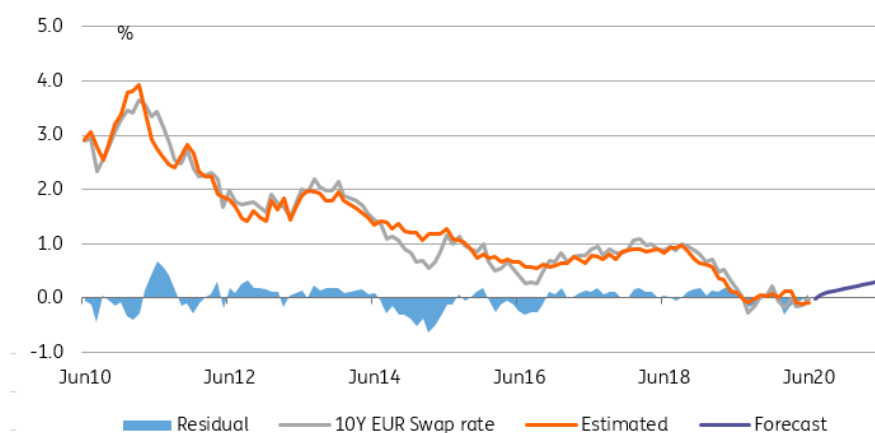
*Our model foresees only a modest rise in interest rates despite the debt tsunami that has to be financed over the coming years*

---

By and large, our intuition proved correct. Our model foresees only a modest rise in interest rates despite the debt tsunami that has to be financed over the coming years. Focusing here on EUR swaps against 6-month Euribor, we see 10-year rates rising to 0.15% by the end of 2020, and to 0.35% by end-2021.

A similar path can be inferred for other core interest rates in our view.

## EUR rates to rise only slowly



Source: Bloomberg, ING



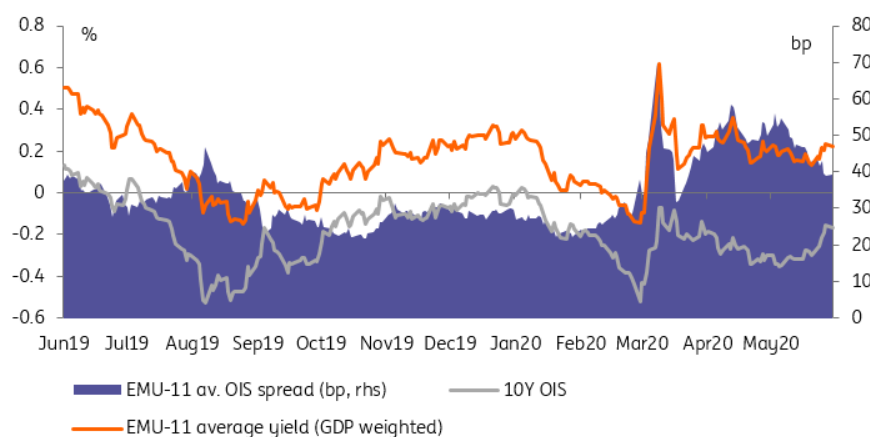
## Average EGB yields to rise but fragmentation to ease

Both Christine Lagarde and chief economist Philip Lane highlighted last week the average GDP-weighted yield on European government bonds as an indicator of tightening or easing financial conditions. This is probably too restrictive a criteria to be the be-all the end-all of monetary policy targets but it highlights how central the cost of government finances is to the ECB's decision. It also highlights its determination in keeping market interest rates low.

Our analysis suggests the measures taken last week should be successful in absorbing most government net supply, and in smoothing the path of interest rates.

We doubt it will prevent a rise altogether.

## Higher yields outright but lower relative to OIS



Source: Bloomberg, Eurostat, ING

An important distinction has to be made between average EGB yield and average yield spread to OIS. The former is a reflection of government borrowing costs, the latter is an indicator of financial fragmentation and a by-product of tighter sovereign spreads.

We think it will be very difficult for the ECB to achieve both lower average yields and average OIS spreads. Since the latter reflects an improvement in financial fragmentation, we expect the ECB would have to live with slightly higher yields, if they come with tighter sovereign spreads.

## Author

**Benjamin Schroeder**

Senior Rates Strategist

[benjamin.schroeder@ing.com](mailto:benjamin.schroeder@ing.com)

## 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 authorised by the Prudential Regulation Authority and is subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. 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 <http://www.ing.com>.