The nuclear option

92 – 24 May 2021

Key points

- The recovery in domestic demand is extending to the Euro area, but with this comes with more signs of supply-side constraints. China can fill the gap, with some thorny consequences for international relations.
- We look at the net zero scenario produced by the International Energy Agency (IEA) last week. Comments focused on the fossil fuel trajectory, but we think the IEA's line on nuclear power is at least as interesting.

The strong rebound in the Euro area's Purchasing Managers Index (PMI) survey in the services for April signals that the region is at last starting to plug the gap with the US, although there are still many miles to cover. As is now customary in this unusual recovery, the improvement in business confidence is marred by accumulating signs of supply-side constraints very early in the process – this was the "other message" in the PMIs.

If supply in the West is having difficulties responding to demand, is there enough capacity elsewhere to fill the gap? We think China can provide the much-needed supply. Chinese authorities have refused to support household income, which contributes to the persistent weakness in consumption there. This leaves some spare capacity to respond to foreign demand. Chinese producers also face constraints, but surveys suggest that pressure is much less acute than in the West. This creates an interesting twist in international relations: The West needs China's supply even more than usual. Symmetrically, to deal with self-imposed frugality on the policy side, Beijing needs foreign demand. Still, this makes it even more necessary to monitor closely the geopolitical tension between Beijing and the West. Another source of fragility from this reliance on Chinese supply is the fact that the vaccination programme there is still lagging. More fundamentally, the market's dominant narrative focusing on reopening, the emergence of bottlenecks and inflationary pressure could still be very easily thwarted by the pandemic newsflow. While we finally had some good news with some re-acceleration in vaccinations in the US, questions around the "Indian variant" in the UK abound.

China may have the capacity to provide the right volume of supply to the rest of the world, but it is still facing some cost pressure, essentially via commodity prices. The price of oil is elevated, suggesting demand for the product remains strong. This puts the net zero report published by the International Energy Agency (IEA) last week in a particular light, since its scenario consistent with keeping global warming below 1.5°C relies on a drastic decline in oil production. Still, what we found at least equally interesting in the report is its assumption of a near doubling in nuclear power capacity in 20 years. The IEA's scenario is only one possible combination of parameters, but it makes the point that removing nuclear energy from the equation makes the fight against climate change much more difficult. This comes at a critical time in the debate on the inclusion of this energy source on the "taxonomy", the EU's list of environmentally sustainable activities

Reopening pressure

The latest dataflow is pointing to a brighter outlook in the Euro area, with the flash Purchasing Managers Index (PMI) for May rising to 55.1 in the services sector, markedly up from 50.5 in April and beating expectations (52.5). This suggests Europe is at last starting to plug its gap with the US: while manufacturing was already doing well across the globe, the US had so far been the only major economy where the services sector had started recovering at a quick pace. This is obviously a reflection of the ongoing reopening in most EU countries. The catching up process has still way to go though. When looking at "alternative data" such as Google's mobility reports, the picture has not changed much from the last time we took a look at them in Macrocast three weeks ago: activity around retail and recreation centres in the big European countries is still around 40% below its normal level, while the gap in the US is now negligible. Interestingly, and again without any change relative to three weeks ago, mobility around workplaces has not recovered on either side of the Atlantic. Working from home seems to take root (Exhibits 1 and 2).

Exhibit 1 - Legend

Exhibit 2 - Legend

With the global reopening continuing and expanding to Europe, production bottlenecks will remain in focus, and evidence is accumulating it is an area of concern. The qualitative comments accompanying the release of the latest PMI data are quite clear. For France, this made it to the first paragraph: *"new business rose at the fastest rate since January 2018, resulting in the strongest growth in backlogs in over three years"* and this later in the release: *"The latest survey also suggested that firms were struggling to recruit enough extra staff to keep on top of workloads"*. The message from Germany is even more alarming since there the manufacturing component fell on the month - albeit from a very elevated level – which Markit attributes to supply restrictions: *"the survey pointed to a further loss of momentum in the manufacturing sector, as record supply delays caused disruption to production at an increasing number of businesses".*

Pressure may be more acute in Germany than in France because of the larger share of the car industry in the overall index in the former – car production is specifically hampered by the global shortage in microchips. Still, the emergence of hiring difficulties so early in the recovery suggests supply-side constraints are wide-ranging.

China filling the gap

If supply in the West is having difficulties responding to demand, is there enough capacity elsewhere to fill the gap? China may be able to fill that role, at least for now. Bilateral deficits vis-à-vis China rose significantly at the height of the first pandemic wave last year (Exhibit 3), partly because China was at the time the only major supplier of items urgently needed to deal with sanitary aspects of the crisis, e.g., Personal Protective Equipment (PPE), with some spare capacity. Moreover, China had exited the worst of the restrictions to mobility earlier than the West. Unsurprisingly, the bilateral deficits almost normalized as the West re-opened towards the end of last spring. The very latest developments are more intriguing: the deficits rose again in the three Western countries on which we focus here, this time amid a gradual reopening of their economy.

Exhibit 3 – Trade gap with China rises again

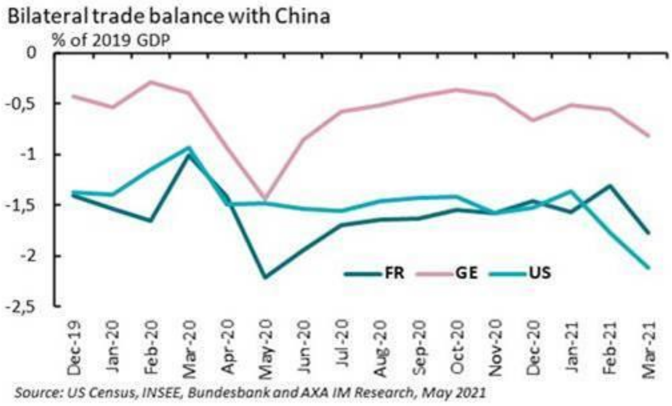
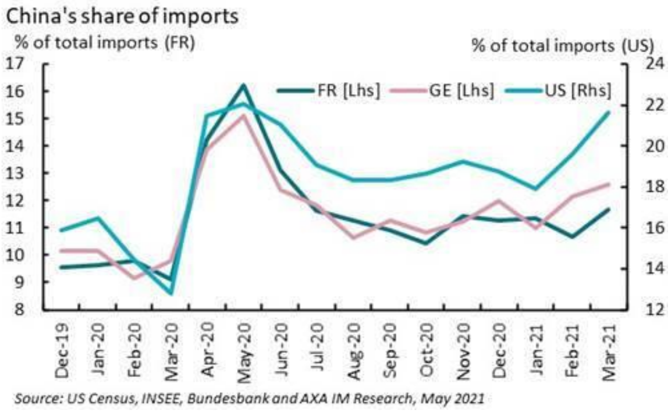


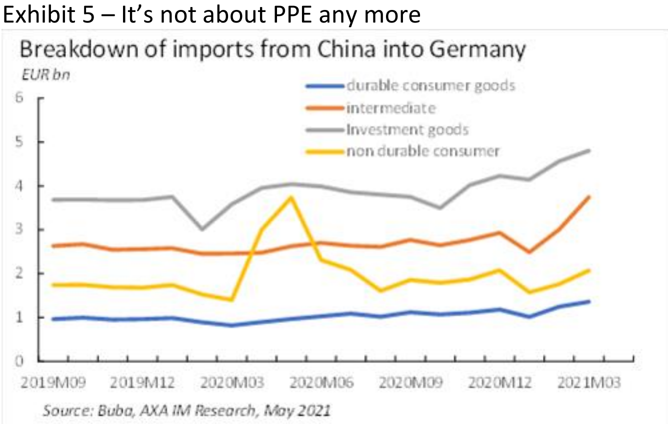
Exhibit 4 – China winning market share



Interpreting changes in bilateral deficits as proof that China is filling a gap in Western output is cumbersome since obviously balances are also affected by changes in Chinese demand for Western products. Looking at the share of shipments from China into total Western imports (Exhibit 4) may provide more conclusive evidence. **China's market share in the West has increased relative to its pre-pandemic level**, **and rose further in the first quarter of 2021**, when the Western manufacturing sector was back in full swing.

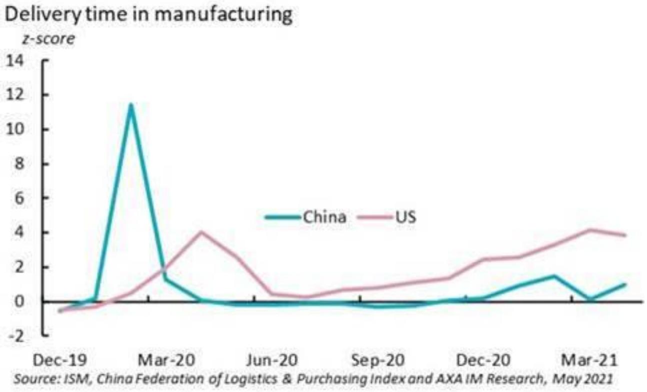
This is also reflected in the breakdown by products of imports from China into Germany (Exhibit 5). In the spring of 2020, the growth in Chinese shipments was led by non-durable consumer goods (where PPE items would be classified) which nearly doubled relative to their pre-pandemic level. Conversely, in the more recent period, imports are pulled by intermediate and to a lesser extent investment goods, to levels significantly exceeding those of 2019. **Chinese inputs are playing a key role in the German industrial recovery.**

Exhibit 5 – It's not about PPE any more



Of course, such a configuration is sustainable only if there is enough spare capacity in China itself, and the emergence of bottlenecks over there is also an area of concern. There is some room for manoeuvre left, however. In Exhibit 6, we look at the "delivery time" component of the US and Chinese ISM survey as a proxy for production constraints. In China, "delivery time" exploded to over 10 standard deviations above its long-term average at the beginning of 2020, reflecting the draconian approach over there on curbing activity to deal with the onset of the pandemic. During the first wave, this component rose to "only" 4 standard deviations in the US – understandably since the US never implemented restrictions with the same intensity as China or even Europe. The picture has inverted since then. **The US manufacturing sector has been experiencing a rebound in delivery time back to the level found during the first wave, while in China pressure is still much milder.**

Exhibit 6 – Some Chinese spare capacity left



Unlike in the West, so far in the pandemic crisis Chinese authorities have refused to provide much protection to household income, which may be contributing to the persistent weakness in consumer spending there. While products directed to export markets and those to domestic consumption are not necessarily the same, in aggregate this leaves **some spare capacity to China to plug a significant share of the global gap between demand and supply in the manufacturing sector.**

This creates an interesting configuration in terms of international relations. While regaining "sovereignty over supply chains" was all the rage in the West last year – with some practical consequences, such as the obligation to spend on US made products some of the transfers to local authorities in Biden's stimulus – **for the time being, the West needs China's supply**. Conversely, to deal with self-imposed frugality on the policy side, Beijing needs foreign demand to offset lacking domestic demand.

Yet, for now there is no sign of much de-escalation when it comes to the relationship between Washington DC and China, even if the rhetorics seem to have been dialled down. **The latest developments have been on the whole favourable to the US, at least on one crucial aspect: solidifying the transatlantic alliance against China.** Biden has been reducing the pressure on the EU on many trade conflicts, and Brussels has responded in kind. On May 16, the US and EU trade authorities released a joint statement concluding in a truce on retaliatory bilateral tariffs on steel and aluminium, but possibly more fundamentally agreeing to discuss *"steel and aluminium excess capacity and the deployment of effective solutions, including appropriate trade measures, to preserve our critical industries*", which implicitly targets China.

Beyond the improvement in the transatlantic relation, Beijing has scored some own goals with its retaliation against the EU after it sided with the US on human rights issues in China. The European parliament voted by an overwhelming majority transcending almost all political affiliations (599 for, 30 against, 58 abstentions) to block the ratification of the Comprehensive Investment Agreement (CAI) brokered between Brussels and Beijing, until China lifts the sanctions against EU lawmakers. The CAI would in a nutshell offer European companies more access to the Chine market than what is available to their US competitors, a strategy which would have created a wedge between Washington and Brussels.

Vaccine nudge needed?

Given the underlying level of tension with Beijing, reliance on supply from China does not put the West in a comfortable position. With more focus on the shortage in micro-chips, the security of Taiwan is taking even more prominence. **Beyond the geopolitical risks, reliance on China for global supply is also problematic given the country's approach to dealing with the pandemic.** So far, social distancing measures and efficient track and trace have been protecting the country against large-scale returns of the pandemic, but the vaccination programme has so far been slower than in the West. This is a source of fragility. Data on vaccination is not plentiful when it comes to China, but at least one metric can be compared with other countries: the total number of doses as a percentage of the population (first and second together) stood at 34.6% in China as of 22 May against 84.9% in the US, 54% in Germany and 47.7% in France.

Beyond the Chinese case, the market's dominant narrative focusing on reopening, the emergence of bottlenecks and inflationary pressure – possibly rekindled this week with the publication of the US core Personal Consumption Expenditure deflator, the Fed's favourite measure of inflation, for April, which is likely to hit a three-decade high – could still be very easily thwarted by the pandemic newsflow.

Let's start with the positives. **The most recent data on the pace of vaccination in the US brought some much needed, if tentative, relief.** We had been concerned by the deceleration in inoculations observed there since the end of April, but finally a re-acceleration has occurred in the seven days to 22 May. While at the peak in mid-April, hitting a rate of 75% of the population with at least one shot was doable by mid-July, this trajectory had slipped to mid-September when extrapolating from the pace observed in the first half of May. Based on last week's data, however, the 75% threshold could be hit in late August. This might be pure noise, but we find it interesting that this improvement is taking place while the US is experimenting with a new strategy: rewarding those who accept to be vaccinated.

Indeed, we came across an intriguing piece by Bank of America Merrill Lynch (BAML) which suggests that offering some sort of incentive can trigger a pick-up in vaccinations. They focused on three states offering a monetary incentive (Michigan, Ohio and West Virginia, either in the form of an actual cash transfer or the chance to participate to a lottery). All three states were among the minority (17 states) where vaccine take-up rose in the week following the implementation of the incentives. No statistical evidence worth betting your pension on, of course, but a first encouraging signal that at least some of the ideological opposition to vaccination can be drowned in monetary self-interest.

Yet, even in the UK, despite its advance on the vaccination programme, doubts remain on the possibility to press ahead with the scheduled reopening given the rapid growth of the circulation of the "Indian variant". The British Sunday press on the whole had a positive reading of the data published by Public Health England on the efficacy of the vaccines to fight the strain which was picked up in the UK in the second half of April. The BioNTech/Pfizer jab maintained an efficacy of 88% after two doses against 93% against the "British variant", falling to 66% and 60% respectively for Astra Zeneca, by far the dominant vaccine used in the UK. There was no data which we could find on the vaccines' efficacy against the severe cases which require hospitalizations – the main variable of interest in terms of public health – but these findings should act as a reminder that in the presence of variants which are potentially more transmissible than the "historical version", imperfect protection from vaccines and even a small proportion of "vaccine holdouts", we could evolve towards "endemic Covid" which would impair the lift-off of all mobility restrictions and hence put a ceiling on the economic recovery. We invite our readers to take a good look to the very thorough, if sobering, note produced on this issue by our colleagues David Page and Yilang Qin last week.

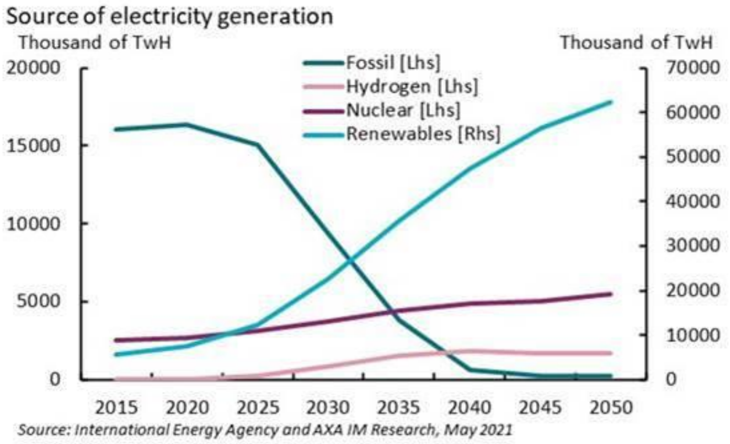
European governments are already faced with thorny decisions. A political agreement – which still needs to be formalized by the Parliament and the Council – was found last Thursday on the main features of a Covid pass allowing intra-EU mobility in time for this summer. However, member states continue to take different approaches when it comes to allowing non-EU citizens on their territory. Last week, Spain announced it would welcome British tourists without any restrictions from this Monday onward, while conversely Germany has toughened the rules, forcing travellers from the UK to quarantine for two weeks, due to the emergence of the "Indian variant". Given the intensity of intra-EU mobility in the summer, the absence of harmonization on how to deal with non-EU travellers would defeat the purpose of any nationally based restrictions (e.g., German tourists mixing with British ones in Spain).

Going nuclear

While the Chinese industry may provide a much-needed stopgap to the global economy in terms of volume of production, price pressure is rife there as well. Production prices were up 6.8%yoy in April, 3.5 years high. Commodity, and particularly energy prices, explain a lot of this push – the effect is magnified in China given the high energy-intensity of its economy. Oil prices have stabilized between USD60 and 70/barrels per day (bbl.) since March 2021, but it is still slightly higher than before the pandemic struck (USD57/bbl in January 2020).

The elevated price of oil is testament to the persistent demand for the product at a time the International Energy Agency (IEA) draws massive attention with the release of its [“Net Zero by 2050” report](). **Comments last week focused on the drastic reduction in the contribution of fossil fuel to the global energy mix between now and 2050 (from 80% to 20%, with a quasi-disappearance from electricity generation) in the agency’s Net Zero scenario (NZE), with the fall in oil output starting immediately. **What we find at least equally intriguing in the NZE is the near doubling in nuclear capacity over the next 30 years (Exhibit 7), since this comes at a crucial moment of the discussions around the treatment of the nuclear industry in the EU’s green framework.

Exhibit 7 – Nuclear steadily growing in the IEA’s net zero strategy



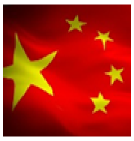
The IEA’s report provides simulations of the future energy mix under three sets of assumptions. The “starting point” is the Stated Policies Scenario (STEPS), which considers only specific policies that are in place or have been announced by governments. It would be woefully insufficient, since it would lead to a temperature rise of around 2.7°C by 2100 (with a 50% probability). According to the STEPS, nuclear energy would grow by 15% between 2020 and 2030, essentially thanks to planned massive capacity expansion in China. An “intermediate scenario” would be one consistent with the Announced Pledges Case (APC), which assumes that all announced national net zero pledges are achieved in full and on time, whether or not they are backed by explicit policies. This would not be enough to bring global warming below 2°C by 2100 (2.1°C with a 50% probability). In the APC, nuclear output would rise by 25% by 2030.

The NZE is one possible combination of policies which would go beyond current pledges and limit the global temperature rise to 1.5°C. In the NZE, renewable energy sources provide two-thirds of energy use by 2050 (bioenergy, wind, solar, hydroelectricity and geothermal), but there would also be a large increase in nuclear output, nearly doubling in 30 years. The crucial paragraph in the report is the following: *“Nuclear power also makes a significant contribution in the NZE, its output rising steadily by 40% to 2030 and doubling by 2050 (…). At its peak in the early 2030s, global nuclear capacity additions reach 30 GW per year, five-times the rate of the past decade. In advanced economies, lifetime extensions for existing reactors are pursued in many countries as they are one of the most cost-effective sources of low-carbon electricity, while new construction expands to about 4.5 GW per year on average from 2021 to 2035 (…). Two-thirds of new nuclear power capacity in the NZE is built in emerging market and developing economies”.*

Of course, the IEA’s NZE is only *one* possible strategy which is the quasi-miraculous product of about 400 parameters, and we expect observers to play with the variables according to their policy preferences, but it has the strong merit, in our view, to make plain a very simple point: **removing nuclear power from the net zero equation makes the fight against global warming more difficult** even when taking on board a very significant contribution from renewable energy as well as technologies which have yet to demonstrate their effectiveness (the NZE also counts on some contribution from hydrogen and swift progress on carbon capture).

Last April the European Commission chose to take the controversial issue of nuclear power out of the first version of its taxonomy – the list of environmentally sustainable activities – delaying the thorny political decision to the fourth quarter of this year. The Commission's scientific body, the Joint Research Centre (JRC) opined in a report on 2 April that nuclear should be included in the list. That nuclear power is a cost-efficient source of energy producing no greenhouse gas was obvious, the issue lies in the condition of not doing harm to other environment objectives, given the production of radioactive waste. The JRC concluded that "*there is broad scientific and technical consensus that disposal of high-level, long-lived radioactive waste in deep geologic formations is, at the state of today's knowledge, considered as an appropriate and safe means of isolating it from the biosphere for very long-time scales*". Quite shrewdly, the authors mentioned that the taxonomy already takes on board carbon capture technologies which are based on the long-term disposal of waste in deep geological formations.

The IEA report will in all likelihood add its weight in the debate ahead of the final decisions on the taxonomy. They will come at an interesting time politically. Indeed, judging by the current polls, there is a significant chance the Greens will for the first time participate to the government coalition in Germany after the September elections. While Germany's own exit from nuclear was a decision from a Christian Democratic Union (CDU) Chancellor, the discussions on the inclusion of nuclear power in the European taxonomy could be an interesting test for Green ministers. We note that it may be easier to have this debate after an electoral campaign rather than before...

Country/Region	What we focused on last week	What we will focus on in next weeks
	• FOMC minutes stated "a number" of participants might consider discussing tapering in upcoming meetings. Real yields rose. Also suggest IoER could rise in June • White House met Republicans on proposed infra deal, "encouraged" by meeting, but detail on WH financing increasingly fraying • Continuing claims posted nr 2-month high • Philly Fed (May) eased from high, still elevated	• PCE inflation Apr, 'core' measure expected to rise to 2.9%, nr 30-year high • Personal income and spending (Apr), expected to normalise (-15%, +0.4%) after stimulus boost in Mar • President Biden proposes Budget • Q1 GDP first revisions, initial 6.4% (saar) • Michigan 5-10y inflation expectations soared to 2011 high of 3.1% at first reading, watch revisions • Pending and new home sales complete Apr data
	• EZ PMIs (May, p) manufacturing stays firm at 62.8, services rise to 55.1 from 50.5 • EZ Q1 GDP unrevised at -0.6%qoq • EZ CPI inflation remained at 1.6%yoy (Apr) • EZ construction +2.7% (Apr) from -2.0% (Mar) • ECB Financial Stability Review • EU halts China Investment deal ratification • China Investment deal with China over sanctions	• EU Council meeting, focus on climate change (ETS and border adjustment) • European Commission surveys (May), expected to rise reflecting re-opening economies • National surveys, Ge IfO, Fr Insee, IT ISTAT • Fr CPI inflation (May, p), rise to 1.5% from 1.2% expected • Ge & Fr Q1 GDP (revisions)
	• Indian variant cases rise to 3.4k from 1.3k, second week with 150%+ growth • Retail sales surged by 9.2% in Apr, following 5.1% in Mar, underpins hopes for robust Q2 • CPI inflation rose to 1.5% Apr from 0.7% • Unemp in Mar dipped to 4.8% from 4.9%, employment up 84k on the quarter	• Wary of continued spread of Indian variant • Public finances (Apr) first of new fiscal year, but to remain elevated as furlough continues • Nationwide HPI (May), official measure at 10.2%yoy (Mar) and above Nationwide's 7.1% (April) • UK hosts virtual G7 finance ministers and central bankers meeting
	• Q1 GDP -1.3%, in line with our forecast. Surprise contraction in investment • Trade data buoyed by strong exports (38%yoy) demand inc chips to Ch and autos to US • Nationwide CPI (Apr) dipped to -0.4%yoy	• National CPI (Apr) expected to mirror fall in Tokyo, dip to -0.5%yoy from -0.2% in March • Preliminary PMIs for May • Unemployment (Apr) expected to post increase to 2.7% from 2.6% • Tokyo CPI (May) a prelude to next month's national measure
	• April data shows the uneven recovery continues, with exports and investment powering along, while consumer spending remains lacklustre	• Industry profit growth should have eased on a year-on-year basis, but remained solid on a sequential basis especially for upstream industries
	• Q1 GDP releases in Thailand Russia CEE Chile overall better than expected – upside risks for FY2021 forecasts • Korea 20D exports show recovery broadening • April CPI rebounds across the board • CB on hold in South Africa • S&P cut Colombia's rating to High Yield	• CB meeting: Indonesia (3.5%), Korea (0.5%), Hungary (0.6%) all expected on hold • Watch Mexico's Banxico minutes for reaction function to inflation pressures • April IP in Taiwan, Singapore, Poland, Russia

Upcoming events	US:	Tue: CS house price index (Mar), Conference Board cons confi (May); Thu: GDP (2nd estimate, Q1), Jobless Claims; Fri: Core PCE (Apr)
	Euro Area:	Mon: EC special meeting; Tue: Ge GDP (final, Q1); Wed: Fr Insee cons conf (May), Mfg conf (May); Thu: It ISTAT busi&cons conf (May); Fri: EA busi conf (May), Fr GDP (final, Q1), Fr HICP (prel., May)
	UK:	Tue: PSNB ex-banking (Apr), CBI Distributive Trades survey (May)
	Japan:	Wed: Leading index (final, Mar); Fri: Unemployment (Apr)
	china:	Thu: Industrial profits (Apr)

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