CHARTS OF THE WEEK

Energy prices continue to explode

SEPTEMBER 2, 2022

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This week's charts cover the electricity-price surge besieging Europe, the low stocks of natural gas on the continent as winter approaches, a German trade balance that's turned negative as energy import costs soar, the baby bust that might halve South Korea's population, Russia's sliding imports amid Western sanctions, dwindling emerging market currency reserves as policymakers fight King Dollar, volatile conditions making US inflation trickier to predict, more economic data dispelling the US recession thesis, and the difference between Europe's supply-shock inflation and the demand-led phenomenon in the US.

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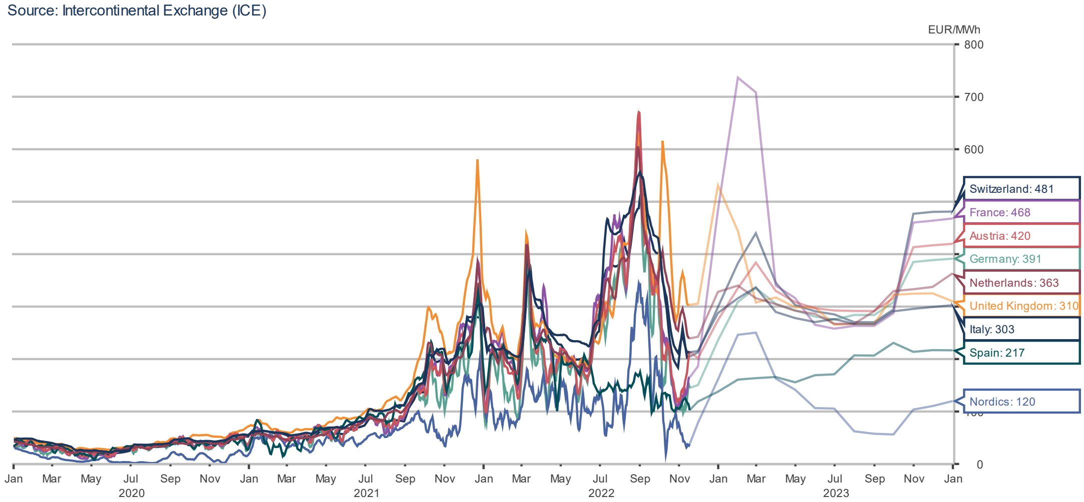
The European electricity market is breaking down

Electricity prices in Europe have only one way to go -- and that's up. Prices in Germany, France, and the UK are exceeding EUR500/MWh, about ten times 2020 levels. While the surge is driven by rapidly rising gas prices due to the war in Ukraine, it also stems from problems with nuclear generation in France, where many power plants are offline for technical reasons.

Even more concerning, electricity futures suggest the surge is far from over: prices are set to head above EUR1,000/MWh this winter, only retreating to current levels by spring, as our chart shows.

Many small businesses and energy-intensive companies would go bust if current power prices continue. And with no income-support or subsidy program in sight, consumers are reining in spending as the situation adds to an unprecedented cost-of-living crisis. It's no wonder that the EU is signaling its intent to intervene in power markets.

A tough winter ahead for all of Europe, but the toughest for France?
Source: Intercontinental Exchange (ICE)



Note: UK, Switzerland, Italy and Netherlands historical prices based on the first position futures prices
All historical prices are 1 week moving average

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Gas inventories are low in Europe as winter approaches

The first chart compares the current "fill level" for natural gas storage in various European economies with their recent monthly usage patterns. In Germany and Italy, one month's gas consumption in winter would use more than half of the entire national gas stock. The shades of red highlight nations where the issue is most acute: some would be on track to consume more gas in a month than they have in storage.

Obviously, there is a constant inflow of new gas (although less than usual, given supplies from Russia have plummeted – as our second chart shows). But it's worth keeping in mind that gas stocks are insufficient for winter without continuous replenishing.

Natural gas inventory in Europe

Month by month - the current stock level would cover the historical consumption

	Current fill level	10/2021	11/2021	12/2021	1/2022	2/2022	3/2022	4/2022	5/2022	6/2022	7/2022	8/2022	9/2022	10/2022	Natural gas consumption the last year (TWh)
Germany	99.9	2.62	3.45	51.1	53.3	43.5	41.5	30.6	18.9	15.3	16.1	13.2	20.3		927
Italy	95	2.19	2.8	56	56.1	44.2	45.9	30.4	24.2	24.4	25.6	22	23.3		786
France	99.1	0.808	1.19	47.9	51.8	38.6	36.1	27.5	17.6	15	15	13.7	17.1		462
Spain	96	5.36	5.89	114	124	103	101	79.8	77.4	86.6	92.3	84.3	84		391
Netherlands	91.7	25.1	35.7	32.2	32.6	26.2	24.9	20.5	16.2	14.8	13.4	12.7	13.2		324
Poland	98.5	29.9	40.4	74.1	67.2	58	58	49.8	36.2	31.7	29.5	26.3	27.3		204
Belgium	100	8.18	11	238	261	198	181	149	119	108	106	113	117		177
Romania	98.2	10.2	12.9	51.2	52.9	42	41.4	24.2	19.1	15.1	12.2	11.4	13.6		114
Hungary	87	2.58	3.05	28.2	26.7	22.5	21.8	15.4	7.8	7.52	7.31	6.29	7.8		113
Austria	95.4	13.6	20.3	13.8	13.6	11.4	11.8	8.3	5.5	4.4	4.1	3.75	5.55		94.1
Czech Rep	97.6	58.9	80.8	28.2	28	22.3	22.6	17.3	9.84	8.55	7.79	7.79	10.1		87.4
Portugal	98.3	33.9	57.3	133	154	129	139	119	130	140	144	137	131		64.2
Slovakia	93.9	10.1	13.4	20.2	22	16.4	25.4	9.8	6.94	6.25	7.41	10.1	5.92		57.7
Bulgaria	93.7	7.51	10.5	72.1	76.3	62.9	69	40.3	40	36.2	38.2	27.3	28.9		32.3
Croatia	96.5	18.5	21.1	78.3	88.9	71.6	64.3	47.1	32.6	31.7	37.8	34.2	32.8		30
Denmark	99	73	109	37.2	33.7	29.2	29.9	23.2	17.9	15.7	12.8	13.2	15		27.2
Latvia	60.1	4.22	5.89	13.7	10.5	7.52	7.13	4.62	2.98	1.38	1.31	2.99	2.66		9.92

Source: Eurostat, Gas Infrastructure Europe (GIE)

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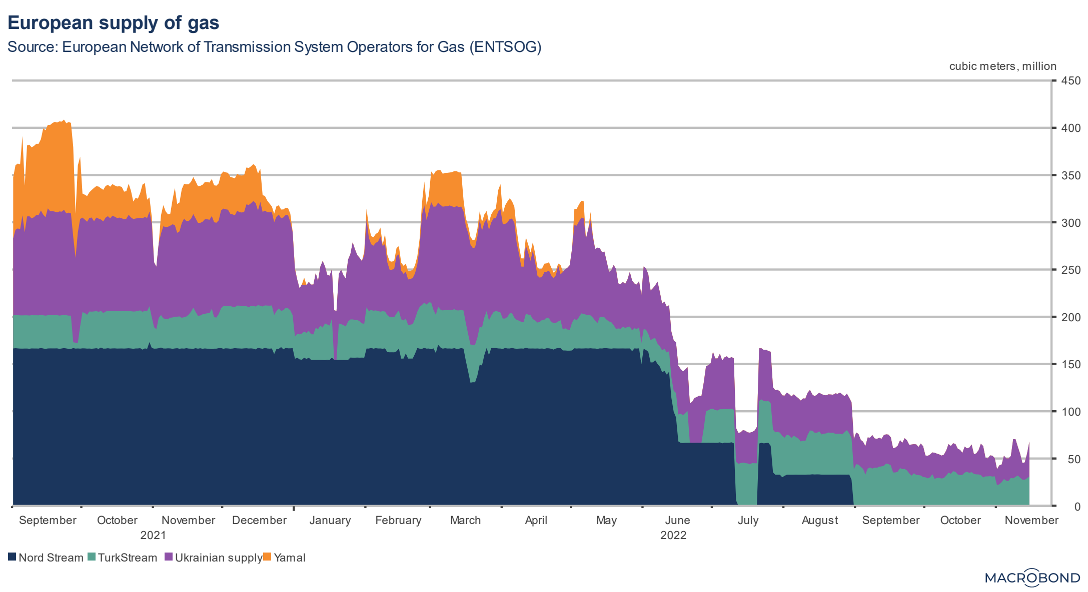

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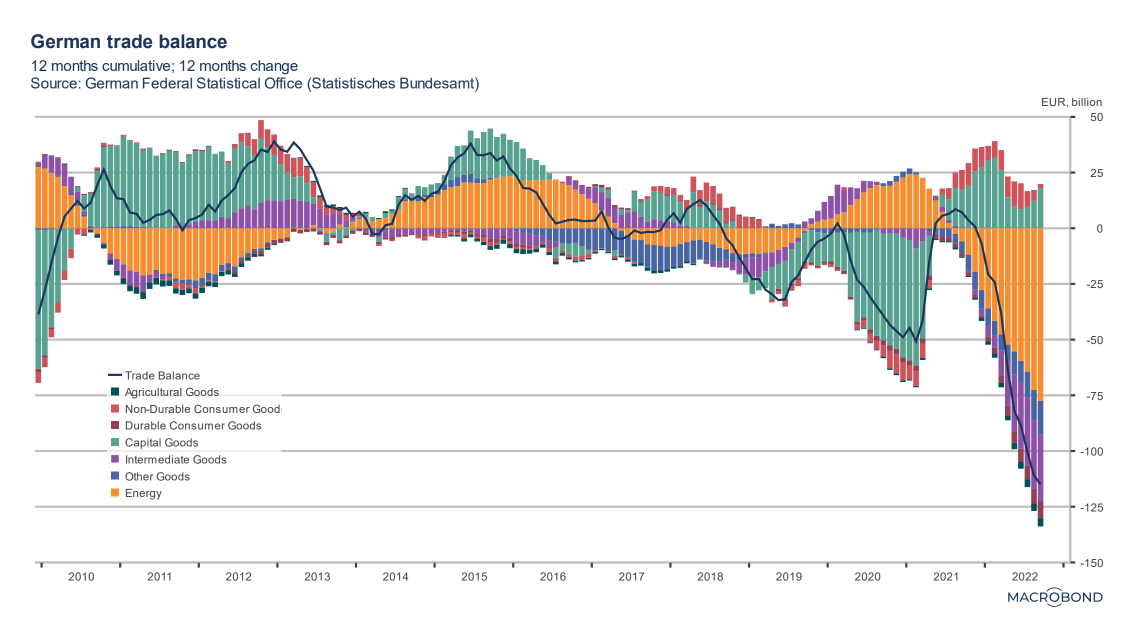
German trade balance deteriorating as commodity prices surge

Rising energy imports have been negative for Germany's trade balance – ending many years of continuous annual trade surpluses.

The chart below tracks the year-on-year change in the total trade balance and its various subcomponents. Watch out for that widening orange wedge: compared to the summer of 2021, the trade balance has declined by almost EUR90 billion, of which EUR50 billion is due to higher energy imports.



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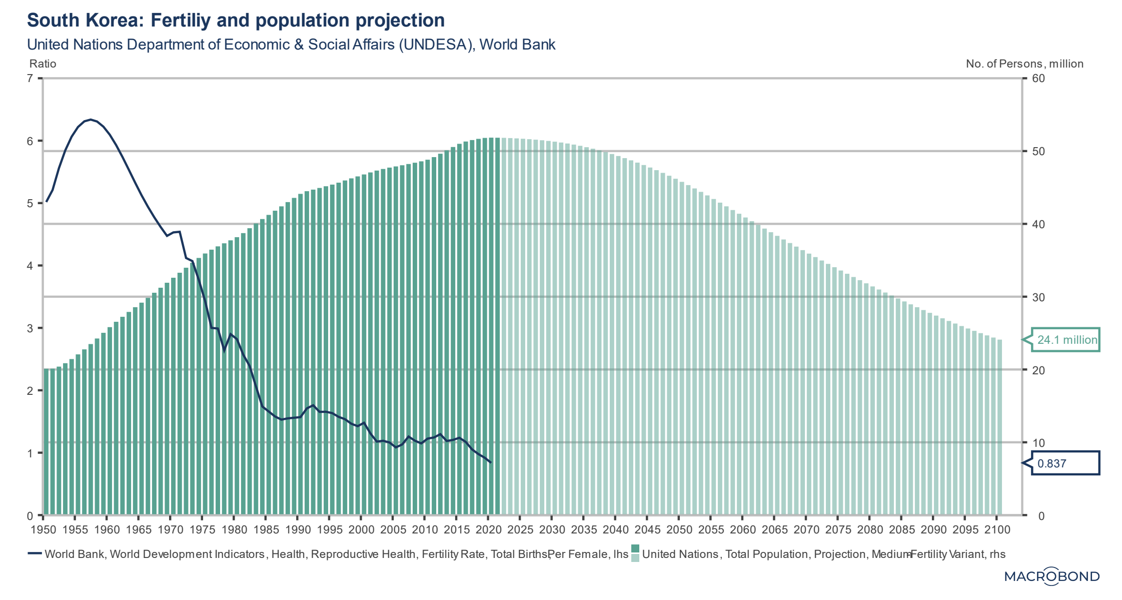
Dire demographics in South Korea

South Korea has long been known for having one of the lowest fertility rates in the world, but it recently hit another low. As our chart shows, the ratio of births per female is now solidly below 1. A fertility rate of approximately 2.1 is needed to keep a population constant (without net immigration).

World Bank projections now show that South Korea is facing a more dire demographic prospect than even Japan, its famously shrinking neighbour. South Korea's population is now expected to decline a stunning 50 percent by 2100, barring massive changes to migration policies.

Such a shrinkage has massive implications for economic growth, the country's housing market and the viability of its pension system. Many economists argue that adverse demographics are the key driver of secular stagnation in advanced economies.

Tip: The following chart allows for the change region function.



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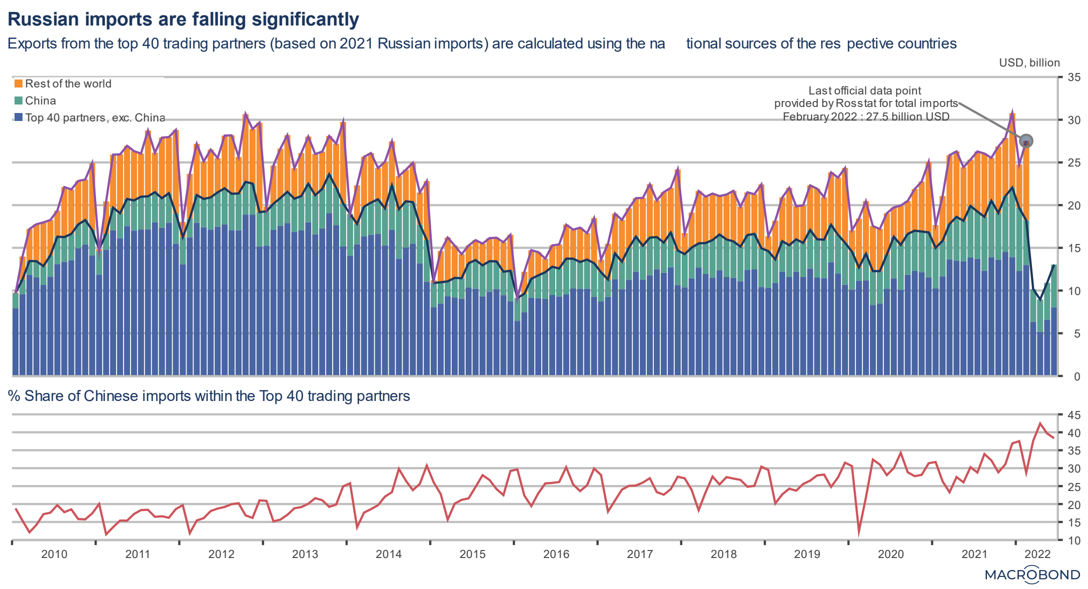
Russian imports slide on sanctions as China gains share

Russia might initially have seemed to shrug off economic repurcussions of the conflict in Ukraine, but western sanctions are starting to bite, as our chart shows.

Imports have fallen significantly since the beginning of the year. The last value for total imports published by the Russian Statistics office is for February 2022. However, it is easy to calculate an approximate figure since that time by simply summing up the total value of all exports from every country to Russia.

Two things stand out. First, the value of total imports has more than halved compared to the pre-war period. Second, a much larger share of total Russian imports is now coming from China, which has not joined the West in imposing sanctions.



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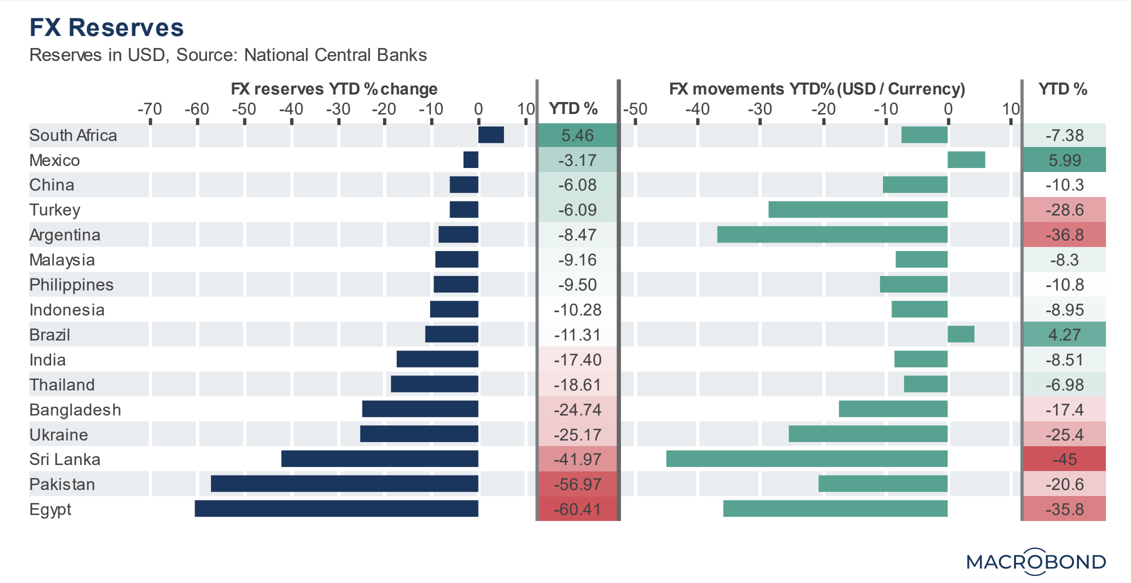
Emerging market FX reserves dwindle in classic currency crisis indicator

The current Fed tightening cycle is bad news for emerging markets. Many EMs have seen their currencies depreciate significantly vis-à-vis the dollar. As our chart shows, foreign-exchange reserves have fallen in tandem as EM central bankers draw on them to prevent further currency depreciation.

This, together with persistent current account deficits, are classic signs that currency crises may be ahead. With the Fed continuing to hike, there will be more pain for emerging markets this year.



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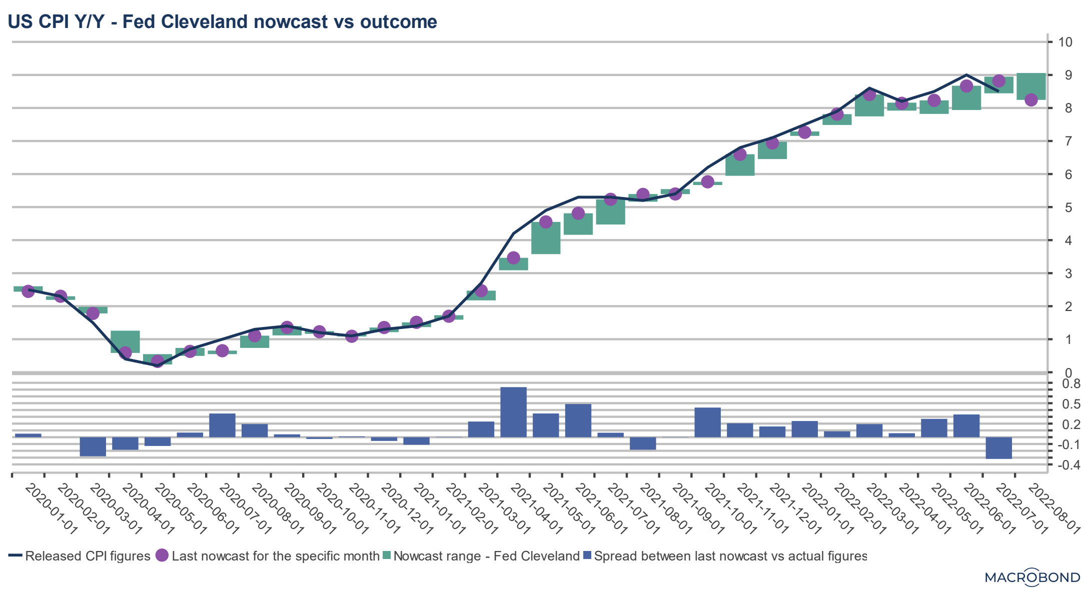
The Cleveland Fed has a more challenging task predicting inflation as it happens

The Cleveland Fed runs inflation Nowcast models for the consumer price index (CPI) and personal consumption expenditures (PCE). Nowcast models aim to "predict" the present, given there is a lag before data becomes available.

As our chart shows, such Nowcasting has become less precise as inflation has surged and become much more volatile than it was pre-pandemic.

For CPI, the Nowcast range (tracking the forecast's daily moves over the course of a month) and the Nowcast spread (the difference between the final Nowcast of a month and the actual CPI data subsequently released) have both increased.

Following the July decline in CPI, the August Nowcast signals further normalization. The year-over-year inflation rate is predicted to slowly decline, as month-on-month inflation has recently dropped to zero and is expected to remain low.



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The US GDP data controversy is almost but not quite resolved

As our previous charts have shown, the US economy was very likely not in recession during the first half despite two quarters of shrinking gross domestic product. The labour market continued to grow, other GDP measures did not show a contraction, and GDP data has a habit of being revised.

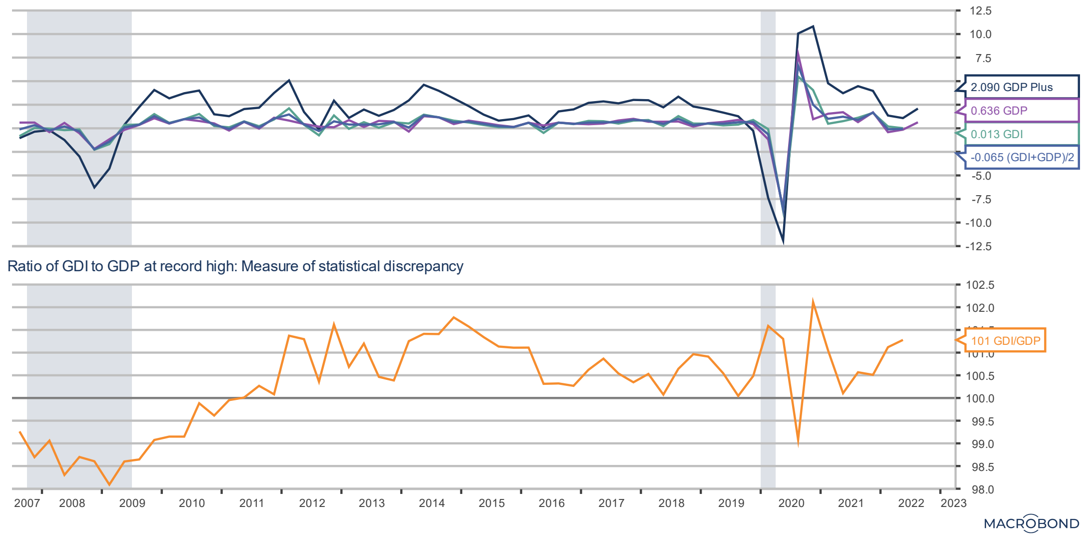
However, macroeconomic data is divergent enough to fuel conflicting narratives. Gross domestic income grew both in Q1 and Q2, and we are experiencing the largest gap between GDI and GDP ever recorded. The former is 4 percent higher than the latter, even though the two metrics are ostensibly recording the same thing. This statistical discrepancy will most likely dissipate.

Research released by the Obama White House showed a simple average of GDP and GDI was more accurate than either measure on its own. Similarly, the Philadelphia Fed constructed a GDP Plus figure that uses a sophisticated error-correction approach to combine GDP and GDI. Both approaches indicate GDP growth was probably robust in the first half of 2022.

As our chart shows, given that GDP contracted but three other metrics did not, it's likely we will see upward revisions.

Different measures of GDP growth

Source: Federal Reserve Bank of Philadelphia, U.S. Bureau of Economic Analysis (BEA)



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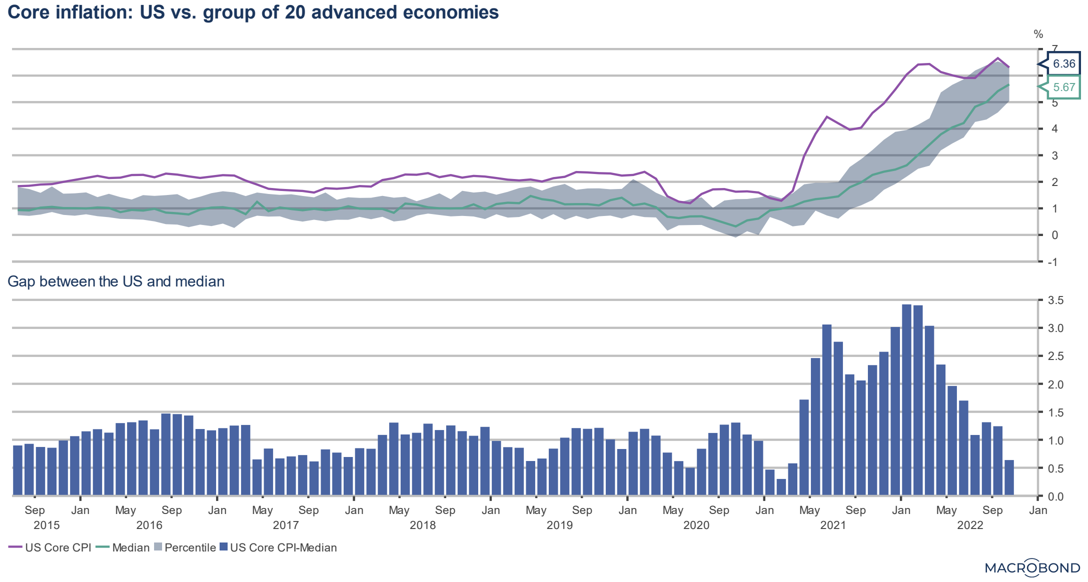
US inflation was far more demand driven than in Europe

Economists debate whether the current inflationary spike is due to global supply shocks (surging commodity and food prices, disrupted supply chains) or excessive demand-side policy. The answer surely varies by country.

Europe is enduring greater suffering from energy prices, so inflation seems mostly driven by supply-side factors. In the US, by contrast, fiscal measures and Fed policy were probably pushing the economy beyond full capacity in 2021, meaning some inflation is demand-driven. This thesis is backed up by recent research from the San Francisco Fed showing core inflation in the US was markedly higher than in other OECD economies.

Core inflation is the measure central banks target. It strips out food and energy prices and is thus a better measure for demand-side price pressures. As our chart shows, there was a record increase in US core inflation throughout 2020 and 2021, outpacing a group of 20 other advanced economies.

Core inflation: US vs. group of 20 advanced economies



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