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REALTIME ECONOMIC ISSUES WATCH

The inflation story differs across major economies

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Image credit: REUTERS/Cathal McNaughton

The return of inflation has touched off an unusual public debate among policymakers around the world, but there are important differences in inflation across economies that call for radically different policy responses. Inflation may be caused by a reduction in an economy's ability to supply goods and services, an increase in the demand for goods and services, or both. Reductions in supply appear to be widespread, but increases in demand are limited mainly to the United States and the United Kingdom.

Policies to increase supply are often hard to implement, but releasing oil and grain from official reserves can be a useful temporary measure. Tighter monetary and fiscal policies are needed to restrain demand, notably in the United States and the United Kingdom. So far, Japan has been the exception to the global pattern, with declines in demand and inflation. Continued easy monetary and fiscal policies are needed there.

DEMAND AND SUPPLY FACTORS DRIVING INFLATION HIGHER

The supply factors behind higher inflation include

reduced labor supply owing to fears of COVID-19, early retirement, reduced immigration, and school closures, which may reduce labor force participation, raise the natural rate of unemployment, or both;

forced closures of workplaces in response to COVID-19 outbreaks;

knock-on effects of COVID-19 shutdowns through supply chains as well as COVID-related disruptions to shipping and border crossing;

Brexit-related costs and trade disruptions in the United Kingdom and, to a much lesser extent, in the euro area;

surging commodity prices, especially after the Russian invasion of Ukraine;

the rotation of consumer demand from in-person services to goods, which ran up against capacity constraints and contributed to higher commodity prices and supply chain disruptions; and

a reduction in anti-inflation credibility of some central banks, particularly in emerging markets where the transition to ultra-low inflation has been short-lived or incomplete. This causes firms to raise prices and/or supply less output at a given price.[1]

The demand factors behind higher inflation include

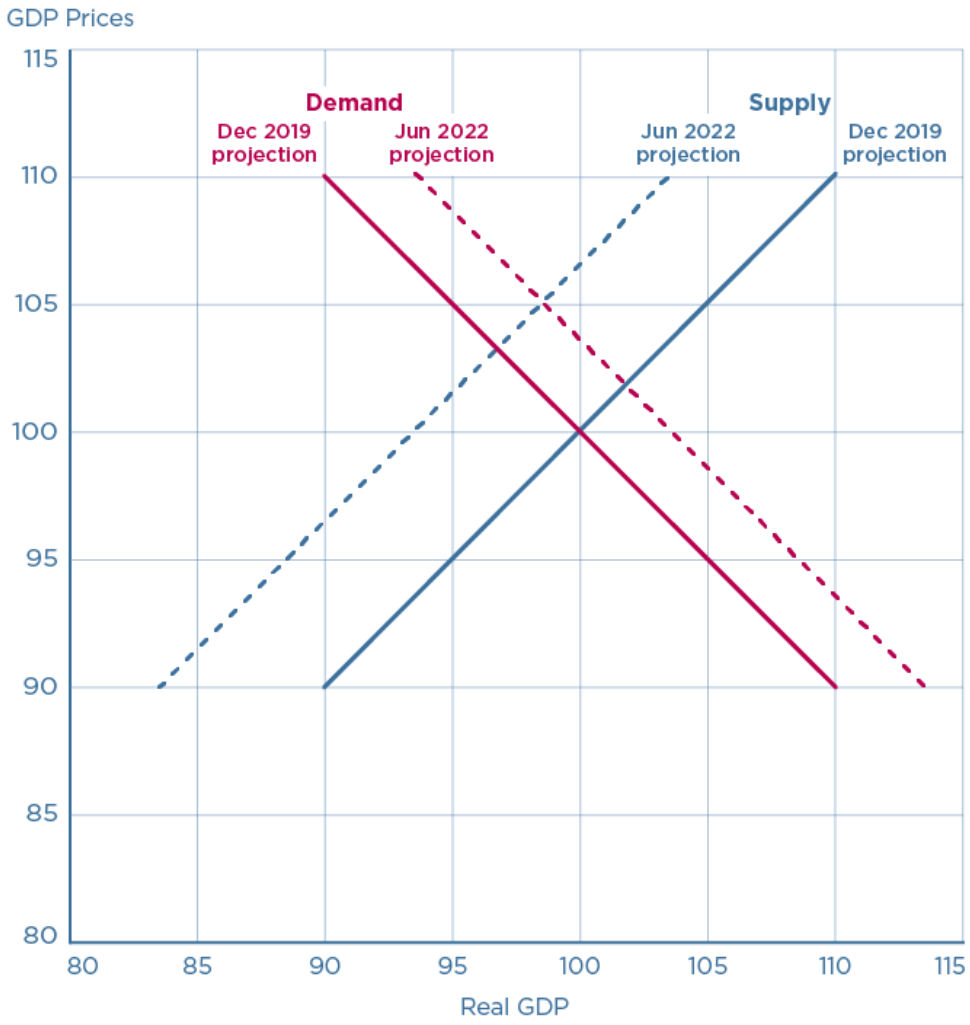
expansionary fiscal policy aimed at supporting households and businesses in 2020 and 2021; and

an easing of monetary policy in 2020 in some countries.[2]

A key difference between supply and demand factors is that supply factors reduce economic growth whereas demand factors increase economic growth.[3] The figure below is a classic supply-demand diagram applied to the entire economy (GDP). The price level (and thus inflation) is measured on the vertical axis and real GDP (and thus growth) is measured on the horizontal axis. The demand curve slopes downward because lower prices encourage greater spending while higher prices reduce spending. The supply curve slopes upward because higher prices elicit more production while lower prices discourage production.

2022 US prices are higher and GDP is lower than anticipated as demand grew and supply shrank

Projections of 2022 US supply and demand



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Note: The solid lines display 2022 supply and demand as anticipated in December 2019, with the intersection normalized at 100. The dashed lines display the June 2022 projections of 2022 supply and demand.

Source: Author's illustration based on the December 2019 and June 2022 forecasts of the Organization for Economic Cooperation and Development.

The solid lines denote the anticipated 2022 demand and supply curves as of December 2019, with the intersection normalized at prices and real GDP of 100. The dashed lines denote the latest (June 2022) projection of 2022 demand and supply curves for the United States.[4] Relative to what was anticipated in late 2019, US prices are 5.0 percent higher and US real GDP is 1.4 percent lower (the intersection of the dashed lines). If the demand and supply curves have the slopes shown in the figure (+/– 45 degrees),[5] then demand must be 3.6 percent greater than anticipated and supply must be 6.5 percent smaller.

(These are the distances the curves shifted when measured on the horizontal axis.)

The first row of the table below displays the cumulative surprises in growth and inflation in the United States between late 2019 and June 2022, as well as the implied demand and supply shifts responsible for those surprises. The other rows display similar breakdowns for the other major advanced economies from the same OECD projections.[6] None of these economies has fully recovered from the pandemic recession in terms of real GDP, but the United States has come the closest. Inflation has proved higher than expected in every economy except Japan. GDP prices are 5.9 percent higher than their pre-pandemic trend in the United Kingdom, with somewhat smaller increases in the United States and the euro area. GDP prices are 2.5 percent below their pre-pandemic trend in Japan, though they are expected to start rising in 2022.

2020-22 cumulative deviations from December 2019 projections (percent)

Economy	Real GDP	GDP prices	Demand	Supply
United States	-1.4	5	3.6	-6.5
Euro area	-2.4	3.8	1.4	-6.2
Japan	-3.3	-2.5	-5.8	-0.9
United Kingdom	-2.4	5.9	3.6	-8.3

Sources: Organization for Economic Cooperation and Development, *Economic Outlook* databases (December 2019 and June 2022) and author's calculations.

DEMAND SHOCKS ARE MUCH LARGER IN THE US AND UK

The demand shocks are notably large in the United States and the United Kingdom, mildly positive in the euro area, and notably negative in Japan. The supply shock is negative in all economies, ranging from -0.9 percent in Japan to -8.3 percent in the United Kingdom.

The larger demand shocks in the United States and the United Kingdom are consistent with the pronounced easing of US and UK monetary policy in 2020, whereas monetary policy in the euro area and Japan changed little.[7] All of these economies had large fiscal packages to ease pandemic hardships, but the US packages had larger direct transfers to households, who seemed eager to spend them. In Japan, households appear to have cut back spending during the pandemic, a difference in response that deserves further investigation.

On the supply side, my colleague Adam S. Posen argues that Brexit is slowing growth and

raising inflation in the United Kingdom via greater restrictions and costs of trade, consistent with the relatively large supply shock shown for the United Kingdom.

Because monetary and fiscal policies mainly operate on aggregate demand, their job is often viewed as one of countering demand shocks and not supply shocks, thus stabilizing nominal GDP.[8] Only in the United States and the United Kingdom is nominal GDP significantly above its pre-pandemic path and the need for tighter monetary and fiscal policies is greatest there. A modestly tighter monetary stance may be appropriate for the euro area. For Japan, no tightening of monetary or fiscal policy is required. The recent sharp depreciation of the yen may provide useful stimulus through net exports and help to return inflation from zero to its 2 percent target.

NOTES

1. A recent study of advanced economies finds that economies with higher inflation rates in the four years before the pandemic had the largest increases in inflation as of March 2022, suggesting that credibility may be an issue even among advanced economies.

2. Exchange rate movements, which may be caused by monetary policy, are in a special category because they affect both supply and demand. A depreciation increases demand for domestic products but it makes imported inputs more expensive and thus reduces supply. Exchange rate effects are exactly offsetting across countries as one country's appreciation is another country's depreciation.

3. A recent study that looks at differences in growth and inflation at the industry level to identify demand and supply contributions to overall inflation in the United States finds similar results to those reported here, namely that both demand and supply are important with a moderately greater role for supply.

4. The differences between the dashed and solid lines are thus the differences between the sum of logarithmic growth rates for 2020, 2021, and 2022 in the June 2022 projections and those in the December 2019 projections from the Organization for Economic Cooperation and Development (OECD). The December 2019 projections do not extend to 2022, but they were very similar for 2020 and 2021 and have been extrapolated to 2022 at the 2021

rate.

5. There is not widespread agreement on the actual slopes. However, the demand curve slope of 45 degrees has the appealing property that households and firms have a fixed nominal spending budget, so that each percentage point reduction in price induces a percentage point more of real GDP. A shock to the demand curve is equated with a shock to overall spending or nominal GDP. The supply curve is generally thought of as flatter than 45 degrees, reflecting very flat Phillips curves estimates in recent years. However, there are reasons to expect a much steeper slope when economies operate near or above their long-run potential levels or when inflation rises above 3 percent or so. The supply shock is calculated as $\Delta Q - [(90\text{-slope})/\text{slope}]\Delta P$, where ΔQ is the surprise in real GDP, ΔP is the surprise in GDP prices, and "slope" is the slope of the supply curve, which is assumed to be 45 degrees in the table and figure.

6. Broadly similar results are obtained using the October 2019 projections of the International Monetary Fund (which do include 2022) in place of the December 2019 OECD projections.

7. My colleague Jason Furman recently argued that a much larger fraction of inflation derives from import prices, especially for energy, in the euro area compared to the United States. Furman looks at consumer prices, which include imports, whereas this post looks at prices of domestic production only. As shown in the table, domestic prices have risen less in the euro area than in the United States.

8. This is the prescription of the market monetarist school and it can be viewed as a variant of dual mandate policies that stabilize a weighted average of growth and inflation.

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