GMV – Output Gaps for Italy and Spain

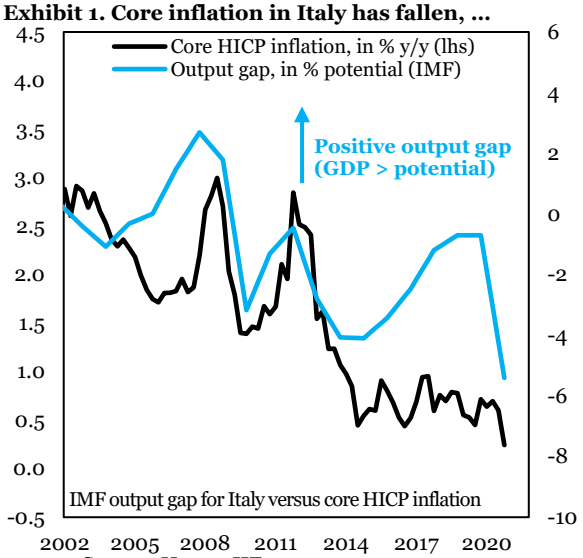
February 4, 2021

Robin Brooks, Managing Director & Chief Economist, rbrooks@iif.com, @RobinBrooksIIF
Jonathan Fortun, Economist, jfortun@iif.com, @EconChart

- The COVID-19 shock means that GDP is below potential almost everywhere.
- But there is big uncertainty how to estimate the output gap, especially in real time.
- We last week updated our inflation-consistent output gaps for the US and Euro zone, …
- using the Phillips curve to compare IMF output gap estimates to the level of core inflation.
- The robust level of core PCE inflation validated the IMF's relatively modest gap for the US, …
- while low Q4 core HICP inflation points to more Euro zone slack than IMF estimates suggest.
- This ***Global Macro Views*** extends our inflation-consistent gap estimates to Italy and Spain.
- We find evidence of substantial slack in Italy, while Spain is in line with IMF gap estimates.
- There is a large degree of uncertainty around our numbers, as with any gap estimate.

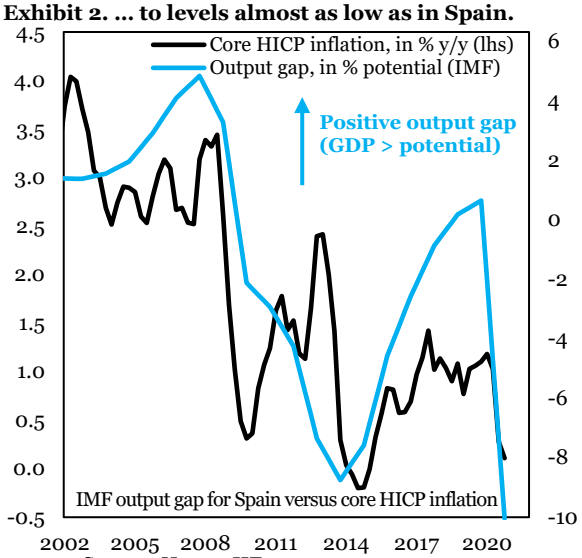
Output gaps are difficult to estimate, especially in real time when they matter most for policy. In 2019 we introduced inflation-consistent output gaps, where we used Phillips curve regressions to compare gap estimates from the OECD, IMF and European Commission to core inflation. If those regressions revealed systematic residuals towards the end of the sample – when output gaps are difficult to estimate – we used the size of the residuals and the Phillips curve slope coefficient to back out inflation-consistent output gaps. Last week's ***Global Macro Views*** used the economic dislocation due to COVID-19 to test this in real time. We compared IMF output gaps for the US and Euro zone to core inflation in 2020. Our analysis suggested that the Euro zone output gap is wider than the IMF estimate of -5.1 percent (GDP < potential) and – given depressed core HICP inflation – closer to -8.0 percent. In contrast, the IMF output gap of -3.2 percent for the United States was in line with relatively resilient core PCE inflation. We this week extend our analysis to Italy and Spain. It is for the former that economic slack looks to be substantially larger than the IMF output gap, while the low level of core inflation in Spain validates the IMF estimate.

Exhibit 1. Core inflation in Italy has fallen, …



Source: Haver, IIF

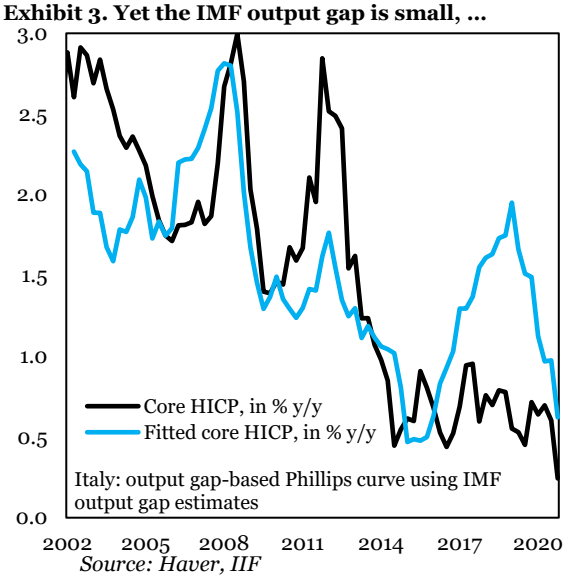
Exhibit 2. … to levels almost as low as in Spain.



Source: Haver, IIF

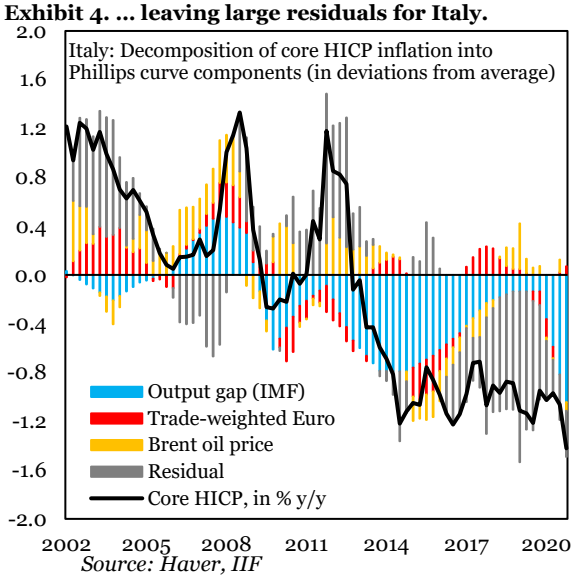
We compare IMF output gap estimates for 2020 to the level of core inflation in Italy (Exhibit 1) and Spain (Exhibit 2). The IMF has a gap of -5.4 percent (GDP < potential) for the former, while its gap is -10.0 percent for the latter. The Phillips curve is a framework that allows us to compare these gap estimates to core inflation, where we also control for oil prices and the trade-weighted Euro, given that both have seen big moves in recent years. We regress core inflation in year-over-year terms on the output gap and year-over-year changes in the Euro and oil prices. We include contemporaneous changes for the Euro and oil prices as well as one- and two-year lags. In both cases we use core HICP inflation. Italy's Phillips curve has an R^2 of 47 percent from 1999 to 2020, which is low and partly reflects right-hand-side measurement error in the output gap. The R^2 for Spain is 65 percent. Exhibit 3 shows that this simple model fails to explain much of the recent drop in Italy's core inflation, with the recent widening of the output gap (Exhibit 4, blue) not keeping up with the decline in core. Indeed, there are systematic residuals on the negative side (Exhibit 4, grey), which suggest that the IMF output gap has understated slack for some time.

Exhibit 3. Yet the IMF output gap is small, …



Source: Haver, IIF

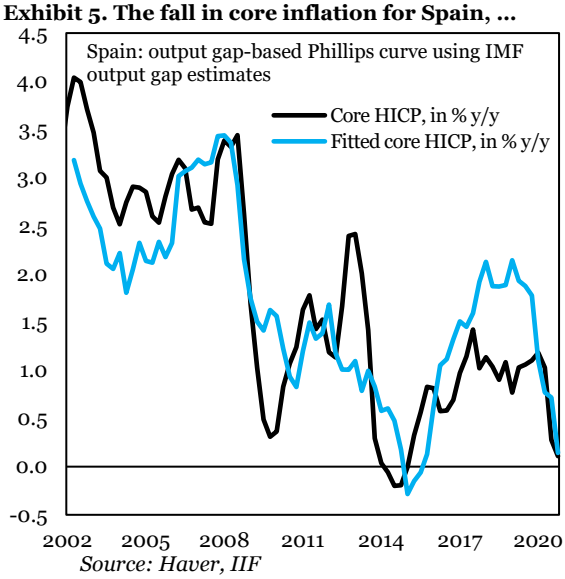
Exhibit 4. … leaving large residuals for Italy.



Source: Haver, IIF

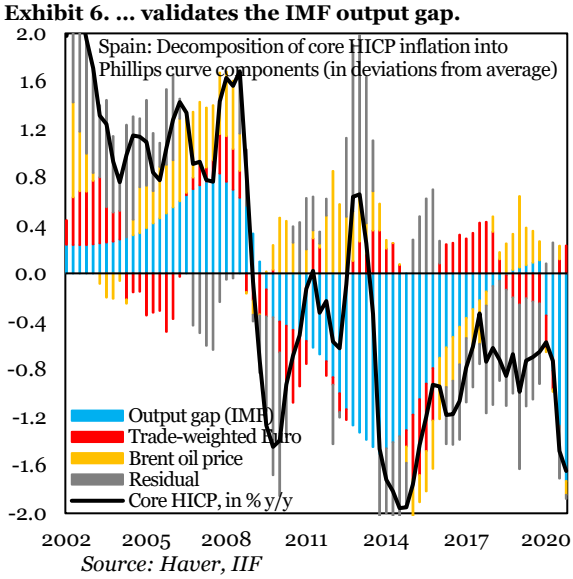
In contrast, the fall in Spain's core inflation is fully accounted for by our Phillips curve regression (Exhibit 5), leaving no negative residual for the first time in many years (Exhibit 6, blue). If we divide the residual in the regression by the Phillips curve slope coefficient on the output gap – which assumes that the residual is entirely related to output gap mis-measurement – this yields an output gap for Italy of -10.0 percent, close to double the IMF estimate. Meanwhile, the IMF's -10.0 percent output gap for Spain is in line with core inflation. The results validate European Commission gap estimates, which are around -10.0 percent for both Italy and Spain in 2020. Overall, our analysis points to large amounts of slack in the Euro zone, especially on the periphery in important countries like Italy and Spain.

Exhibit 5. The fall in core inflation for Spain, …



Source: Haver, IIF

Exhibit 6. … validates the IMF output gap.



Source: Haver, IIF