GMV – Supply chain disruptions continue to build

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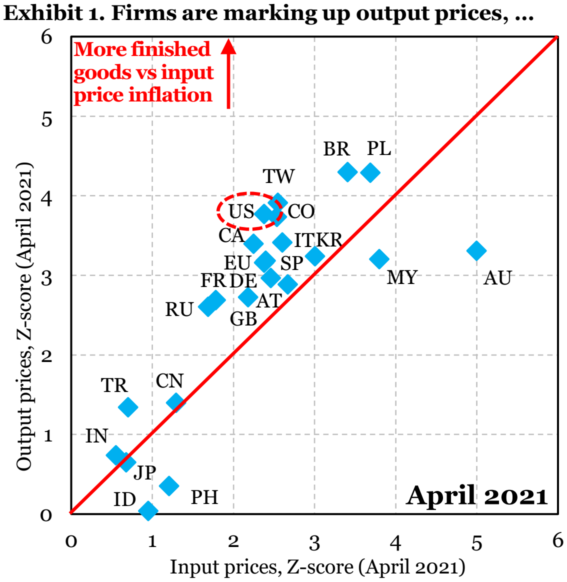
- We recently concluded a series of pieces on supply chain disruptions, …
- looking at their fall-out on the Fed's preferred core PCE inflation metric.
- We think core PCE inflation is likely to be 2.6 percent y/y in Q4 2021, …
- above the Fed forecast of 2.2 percent in its March set of projections, …
- with our number having upside risk due to global spread of disruptions.
- We've had many requests for regular updates since we did our series, …
- which this ***Global Macro Views*** does for recent manufacturing PMIs.
- More and more countries are seeing companies mark up their prices, …
- due to long delivery times and the rising cost of inputs into production.
- Upside risk to our US inflation forecast is therefore building.

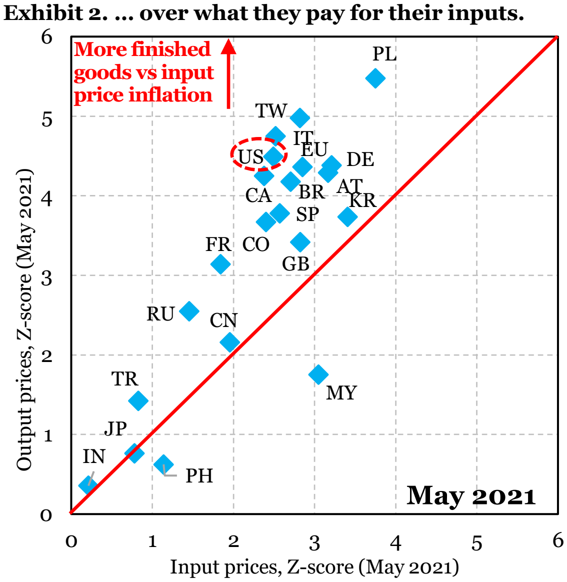
Earlier this year we published a series that examined in detail growing supply chain disruptions in global manufacturing, using components from the manufacturing PMIs to examine supplier delivery times, input prices for things like commodities and the output prices firms ultimately charge customers. We found that there is a tight link for the US between output prices in manufacturing and core PPI inflation, with a lesser link from output prices to core PCE inflation. We found that stretched supplier delivery times and elevated output prices point to core PCE inflation of 2.6 percent y/y in Q4 2021, above the Fed's March Statement of Economic Projections forecast of 2.2 percent. Our forecast is subject to upside risk, as the world has never seen the kind of global supply disruptions we are seeing now, which means that there may be more passthrough into core inflation than historical mappings capture. Since the global spread of disruptions is so important, this ***Global Macro Views*** provides an update from the latest manufacturing PMIs for May. It suggests that upside risk to our inflation forecast continues to build.

Exhibit 1. Firms are marking up output prices, …



Source: Haver, IIF

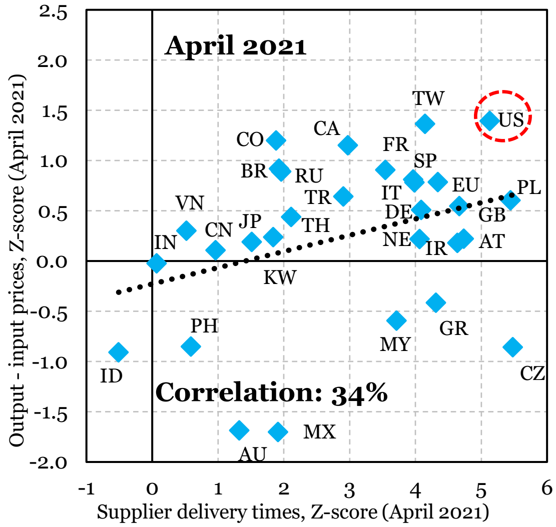
Exhibit 2. … over what they pay for their inputs.



Source: Haver, IIF

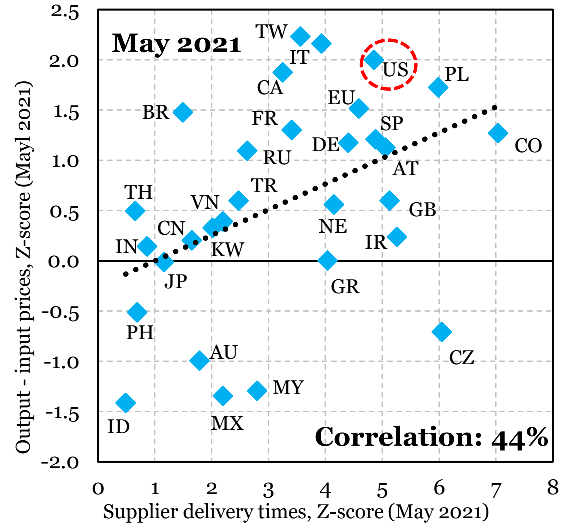
We examine data on supplier delivery times for all major economies from the manufacturing PMIs, in addition to input and output prices. Input prices are things like commodities that go into production, while output prices are what firms charge customers. All these data are balance-of-opinion measures, which we transform into Z-scores, i.e. we subtract the mean and divide by the standard deviation, so that deviations from zero are measured in standard deviations. Positive deviations above two are statistically significant and indicate material delivery delays or elevated input and output prices. A key question here is whether supply chain disruptions are a significant force to push inflation higher or are merely a short-lived blip. We compare output versus input prices in April 2021 (Exhibit 1) and May 2021 (Exhibit 2), which shows that the mark-ups firms are charging are building across countries, with more and more countries registering Z-scores for output prices that are substantially above input prices. Digging deeper, it looks like these mark-ups link to supplier delivery delays, which suggests they may persist over the medium term. Exhibit 3 correlates the difference between output and input price Z-scores on the vertical axis with the Z-scores for supplier delivery times on the horizontal axis for April data. The correlation of the two metrics at that point was 34 percent and looks to have built in May (Exhibit 4). It therefore looks like mark-ups are increasingly global and likely to persist into 2022, as the global economy progressively reopens.

Exhibit 3. Mark-ups on output over input prices, ...



Source: Haver, IIF

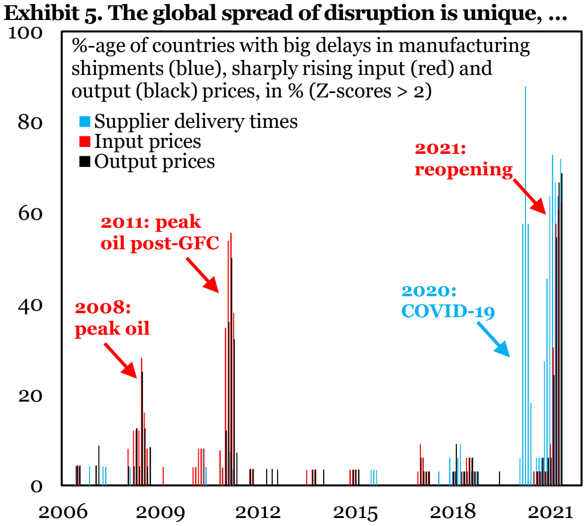
Exhibit 4. ... are correlated with supplier delivery delays.



Source: Haver, IIF

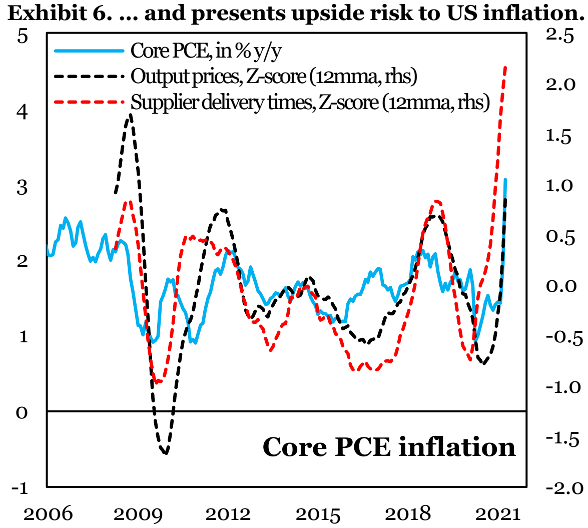
What is unique about this episode is the global spread of supply disruptions. Exhibit 5 shows the share of countries that have Z-scores for supplier delivery times (blue), input prices (red) and output prices (black) greater than two, indicating statistically significant disruptions. What is happening now exceeds anything seen in recent history. That presents upside risk to our core PCE forecast of 2.6 percent y/y in Q4 2021 (Exhibit 6), given that the historical mapping from output prices and supplier delivery delays into core PCE inflation has never had to contend with a similarly global scale to disruptions.

Exhibit 5. The global spread of disruption is unique, ...



Source: Haver, IIF

Exhibit 6. ... and presents upside risk to US inflation.



Source: Haver, IIF

