Market Intelligence
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Quickonomics

December 5, 2022

The pass-through effect

Inflation globally has become a sticky point for policymakers over the last year: the dominant narrative behind rising inflation has been a surge in input prices, arising from supply chain constraints that emerged with pandemic-induced restrictions, followed by the Russia-Ukraine war.

Surging input prices show up in retail inflation, as producers 'pass-through' these increases. Precisely to identify the extent of input price pressures faced by producers, and further understand the pace of pass-through to end-consumers, we have segregated the wholesale price index (WPI) into input and output WPI. We use the WPI as it captures prices of goods used as inputs for producers, as well as those of finished goods sold in the wholesale market, unlike the consumer price index (CPI), which only measures output prices in the retail market.

Our analysis of the disaggregated WPI shows that while input prices have climbed down from their highs of earlier in the fiscal, output prices have remained sticky in comparison.

Movements in wholesale input and output prices since the pandemic

The ratio of input to output WPI as constructed by us, is indicative of cost pressures faced by producers. A ratio greater than 1 would mean input prices are above output prices, and vice versa.

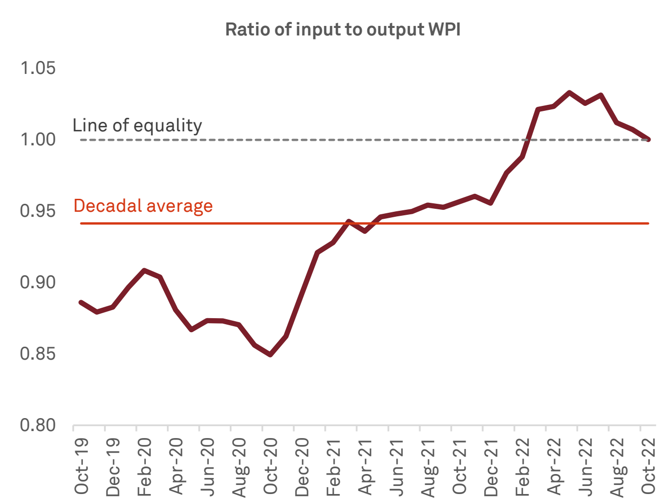
In the early stages of the pandemic, domestic input prices decreased on-year owing to low global commodity prices as demand collapsed. However, as global demand started to recover, commodity prices (and via imports, domestic input prices), rose sharply in the backdrop of broken supply chains. This is reflected in the input to output WPI ratio rising sharply from October 2020, and remaining elevated till end-2021, above the decadal average of ~0.94.

The input WPI surged further in early 2022 as commodity prices (crude oil, fertilisers, wheat, metals) ballooned because of the Russia-Ukraine war.

In fact, input WPI was higher than output WPI (ratio of over 1) between March and September 2022, peaking in May.

The margin pressure on producers was also evident in subdued corporate earnings results: though revenue increased 15% on-year in the second quarter of this fiscal, profitability declined 300 basis points (bps), largely because of high input costs and a delay in passing those on to consumers (CRISIL MI&A Research, October 2022).

Ratio of input to output WPI remains much above decadal average, indicating elevated input prices



Source: Office of the Economic Adviser, CRISIL MI&A Research

Over the past few months, however, as global commodity prices have climbed down from their 2022 highs, domestic input prices have also been inching down.

Surveys of manufacturing and services companies too, attest to this -S&P Global's Manufacturing PMI survey showed input cost inflation softened considerably in November, having risen the least in 28 months.

Yet, the output WPI has been relatively steady, indicating producers may still take some time to pass on lower input prices. Indeed, the input to output WPI ratio, though declining, was still at 1 in October 2022 and remains above the decadal average.

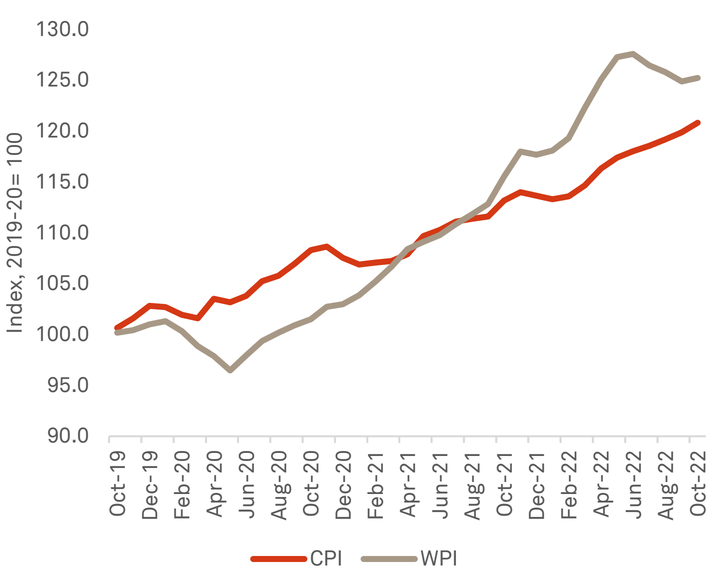
What this means for consumer prices

What matters for policy, ultimately, is the impact on CPI inflation- since it is the measure of inflation target for the central bank. Although overall wholesale price levels have come down, consumer prices have not- despite what moderation in headline CPI inflation would suggest (CPI inflation recently moderated in October to 6.77% on-year, largely on base effect). Core CPI inflation has remained sticky at ~6.0% this fiscal, partly because of rising services costs and producers passing on input costs to consumers as demand recovers.

As the process of pass-through occurs with a lag, monitoring the pace of input WPI and its corresponding impact on output WPI would be useful in understanding the pass-through to CPI[1].

Overall, while upside risks to CPI inflation from food and fuel seem to be moderating, it would be too soon to uncork the bubbly.

Wholesale prices have come down, but consumer prices have not



Note: CPI and WPI have been rebased to 2019-20=100 for comparison
Source: MoSPI, Office of the Economic Adviser, CRISIL MI&A Research

Segregating WPI into input and output indices – note on methodology

Constructing the two sub-indices of input and output WPI requires an understanding of which components of WPI are mostly used as inputs, and which can be considered as output. The use balance table provided by the MoSPI for fiscal 2016 gives the commodity x industry use, categorised as 'intermediate input' and 'final use'. We calculate the ratio of intermediate input use as a proportion of total use for each commodity (= input intensity) and perform a concordance between the use balance table and WPI. Finally, we classify the WPI components into input or output based on the corresponding input intensity. We estimate that ~58% of WPI can be categorised as inputs, with major components including metals, energy, and chemicals. Output WPI largely consists of items corresponding to manufactured food and beverages, machinery and appliances, and transport equipment.

[1]We find that our constructed output WPI inflation correlates well with CPI inflation (0.8). In fact, output WPI inflation Granger causes core CPI inflation, implying that there is information in output WPI inflation specifically, which can help forecast core CPI inflation

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