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## "More on Food Inflation"

In early June 2022, we provided an Analysis Brief entitled, "To Be Forearmed." It discussed ongoing food inflation, why it was expected to continue, and how consumers might respond to it. This Analysis Brief considers food inflation on a deeper statistical level and derives our inflation expectation from more detailed analytical results.

We explore three US Department of Labor, Bureau of Labor Statistics' (BLS's) price indices: (1) An import price index (IPI) based on BEA (Bureau of Economic Analysis) End Use 00 for Agricultural foods, feeds and beverages, excluding distilled beverages; (2) a producer price index (PPI) based on commodity data for Farm products; and (3) a consumer price index (CPI) for Food and beverages reflecting prices faced by all urban consumers. Each of these three price indices is not seasonally adjusted, and we work with annual percent changes reflected by the monthly time series over the period September 1993 through May of 2022.[1]

We analyze the three indices because, while not necessarily true for agricultural products, the prices of imported goods (measured by IPIs) for an industry are often thought to affect the prices of domestically produced goods (measured by PPIs) in that industry, and the latter are viewed as affecting retail prices that consumer face (measured by CPIs) on products from that industry.

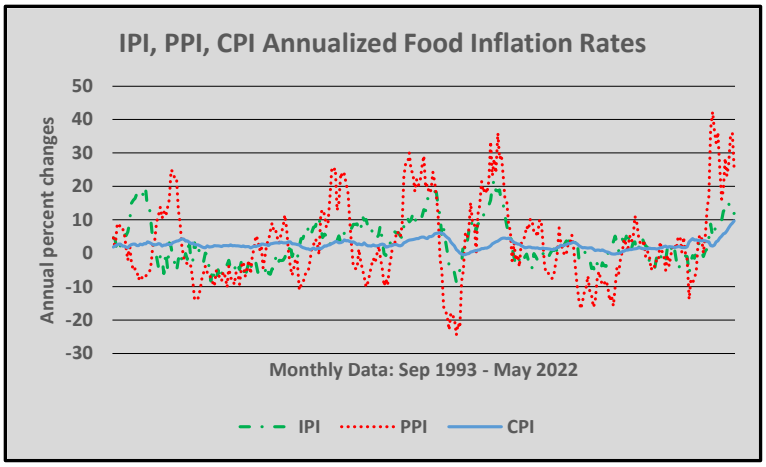


Figure 1: Source BLS statistics; BlackEconomics.org visualization.

[1] We begin with September 1993 because BLS began publishing the Food IPI in that month. Also, 1993 is well beyond the "great deflation" of the 1980s. These data are available from www.bls.gov.

Figure 1 (previous page) casts aside the previously described pattern of price effects and shows that the PPI for food appears to lead inflation volatility, followed by the IPI, and then the CPI. For a variety of reasons, the volatility in the PPI (variance 157.0) and IPI (variance 42.1) is much more pronounced than in the CPI (variance 2.0).[2]

However, despite the volatility in the three price indices, they reflect similar overall average (mean) inflation rates over the period under study: IPI 3.0%; PPI 3.3%; and CPI 2.5%.

The current surge in food inflation began as follows: IPI – November 2021 (now at 7 months); PPI – February 2021 (now at 16 months); and CPI – October 2021 (now at 8 months). Table 1 considers all but the most recent surge in food inflation, sheds light on how past inflation surges have unfolded, and may indicate how the current surge will evolve.

Table 1.—High Inflation Periods: Food IPI, PPI, and CPI

| | Food IPI | | Food PPI | | Food CPI | |
|---|---|---|---|---|---|---|
| Line No. | High Inflation Periods/ Months | Average Inflation Above 10% | High Inflation Periods/ Months | Average Inflation Above 10% | High Inflation Periods/ Months | Average Inflation Above 5% |
| 1 | Jul 94 - May 95 11 months | 6.3 | Oct 95 - Sep 96 12 months | 6.3 | Apr 08 - Jan 09 10 months | 0.6 |
| 2 | Feb 03 - Mar 03 2 months | 0.6 | Apr 03 - Jun 03 3 months | 2.2 | | |
| 3 | Jun 07 - Jul 07 2 months | 0.9 | Jul 03 - Jul 04 13 months | 10.8 | | |
| 4 | Sep 07 - Oct 08 14 months | 4.3 | Feb 07 - Sep 08 20 months | 12.2 | | |
| 5 | Oct 10 - Oct 11 13 months | 6.0 | Jul 10 - Sep 11 15 months | 12.5 | | |
| Averages | 8.4 months | 5.0 | 12.6 months | 10.4 | 10.0 months | 0.6 |

Source: BLS statistics; BlackEconomics.org computations.

For the food IPI and PPI, Table 1 shows surges of more than one month in duration when inflation exceeded 10% and it shows average inflation above 10% for each inflation spell.[3] Both the IPI and PPI experienced five such inflation spells averaging 8.4 months and 12.6 months in duration,

[2] While the CPI for food may be more volatile than certain other CPIs, it is much less volatile than the PPI and IPI for food. Retailers can present more stable prices to consumers because the former often form long-term contracts with primary producers (domestic and foreign) and wholesalers. Also, retailers have the flexibility to smooth out prices more so than primary producers and wholesalers.

[3] Based on the history of inflation surges for the IPI and PPI, we judgmentally selected 10% as the excessive inflation threshold. For the CPI, we judgmentally set the threshold at 5%.

respectively. The average inflation during those spells exceeded 10% by 5.0% and 10.4%, respectively. For the food CPI, there was only one spell of food inflation above 5% that was more than one month in duration. It was 10 months in duration, and inflation exceeded 5% by just 0.6% on average during that spell.

The current 7-month IPI food inflation surge is just below average in duration (average inflation is 3.1% above 10%); the current 16-month PPI surge is significantly above the average duration (average inflation is 18.3% above 10%); and the current 8-month CPI surge is shy of average duration (average inflation is 2.3% above 5.0%).

Although time series history does not necessarily predict current or future outcomes perfectly, we observe that food IPI, PPI, and CPI histories point toward excessive inflation (above 10% for the IPI and PPI, and above 5% for the CPI) for at least the next few months. Notably, average PPI and CPI inflation is running hotter now than during previous inflation surges. A bit of good news is that consumers are not likely to face the blistering inflation reflected in the food IPI and PPI.

However, we must caveat the foregoing statements with a reminder that the current food inflation surge results from a confluence of events (the COVID-19 Pandemic and the related economic stimulus, supply chain complications, the Russia-Ukraine War, and unfavorable weather due to Climate Change) unlike any combination of events that have affected food price inflation before. Consequently, we should also anticipate that inflation could persist longer and rise higher than the periods and levels suggested by time series history.

B Robinson
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