Richmond Fed

Economic Brief

May 10, 2023, No. 23-14

How Much Do Labor Costs Affect Prices in Recessions and in Expansions?

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Inflation had been quite low in the decade following the Great Recession but surged following the COVID-19 recession. Can labor costs explain this change in the dynamics of inflation? According to recent research, the relatively stable inflation in the last decade indicates a weaker pass-through of labor costs to wages, especially in the goods sector of the economy. The current inflationary episode, however, suggests that the wage-price pass-through may have regained its strength.

During the decade-long expansion following the Great Recession, U.S. inflation was persistently below the Fed's long-run target of 2 percent. Yet, inflation surged following the sharp COVID-19 recession, with CPI inflation reaching 9 percent and PCE inflation reaching 7 percent.

Several ideas have been proposed for the recent inflation surge. Some say the sudden change in inflation dynamics was caused by the large fiscal stimulus of 2020 and 2021 in combination with loose monetary policy. Others attribute the surge to supply constraints stemming from two main sources: labor market participation being lower than pre-pandemic levels, and continuing supply-chain bottlenecks caused by shutdowns in China and the war in Ukraine.

This article focuses on another factor in explaining the inflation surge: the rise in labor costs. Since early 2020, average hourly earnings have increased annually by about 5 percent, while they grew annually by about 2.5 percent in the decade prior. However, a faster rise in labor costs does not necessarily translate into a faster rise in goods prices if the connection between labor costs and goods prices is generally weak. Thus, to understand inflation dynamics, we need to understand how and to what extent labor costs "pass through" to prices.

Wage-Price Pass-Through

The 2021 paper "The Missing Inflation Puzzle: The Role of the Wage-Price Pass-Through" — which was written before the COVID-19 recession — fleshes out this argument in more detail. The authors first show that, starting in 1975, each recovery is associated with lower cumulative consumer price inflation compared to the previous recovery. For example, the cumulative inflation increase was 20 percent to 30 percent from peak unemployment to the pre-recession trough (defined as the year when employment

fully recovers) in the 1970s and the 1980s. In contrast, a full recovery in employment in the 1990s and beyond (especially after the Great Recession) was associated with a cumulative increase in inflation of less than 10 percent. This fact is also known as the flattening of the Phillips curve.

The authors establish that the overall inflation slowdown is associated with a slowdown in inflation over time of "core" goods, which exclude traditionally more volatile goods such as food and energy. While core goods prices rose about 20 percent as unemployment fell from peak to trough following the 1981-82 recession, they barely picked up after the 2001 and 2007-09 recessions. During the same time, the recovery of core services inflation has been roughly similar across expansions. Thus, the authors argue that the slower growth over time for goods inflation arises because the wage-price pass-through has been weakening over time in the core goods sector but is robustly strong in the core service sector.

In addition, they support their conclusion by examining and comparing different industries. For example, increases in wages in manufacturing passed through to prices up through 2003. Yet, the pass-through fell to essentially zero after 2003. In contrast, they estimate a high pass-through from labor costs to producer prices in the services sectors both prior to and after 2003.

The natural follow-up question is: What explains this weakening? The authors put forward two explanations. First, the U.S. manufacturing sector faced an increase in import competition, especially after China's World Trade Organization entry in 2001. The authors find that a larger increase in consumption of imported manufacturing goods significantly lowers pass-through in a given industry.

The second explanation is market concentration. Theoretically, when firms set high markups, they don't need to change their prices as much in response to input shocks, as the markups can absorb part of the shock.

Unfortunately, the authors cannot separate import competition and market concentration, as these events occurred at the same time: Foreign competition may have led to domestic firms exiting and, thus, rising market concentration.

COVID-19 Inflation

The subsequent 2023 working paper "Inflation Strikes Back: The Return of Wage-to-Price Pass-Through (2022)" extends this analysis and incorporates the inflation dynamics of the current expansion. Interestingly, core goods inflation has increased in the current expansion faster than in any other expansion. At the same time, inflation in services has risen about the same as in other expansions.

The new data based on the recent inflationary episode pose somewhat of a challenge to the argument that the pass-through of labor costs to prices in the goods sector has been weakening since 2003. As a result, the authors argue that higher labor costs *in conjunction* with higher cost of imported intermediate goods (due to, for example, supply bottlenecks) may imply a larger pass-through of wages to prices. When these shocks occur independently, firms can substitute between labor and intermediate inputs. But when they occur simultaneously, there is little room for substitution, and higher costs pass through to consumers.

Wage-Price Spirals

Up to this point, the analysis has focused on the effect of wages on prices. What about the other direction: Can wages be rising as a result of higher consumer prices, further increasing labor costs and consumer prices and leading to a wage-price spiral?

The 2023 working paper "Wage Price Spirals (PDF)" defines wage-price spirals through the lens of distributional conflicts. In a static setup, firms set real wages (that is, wages adjusted for inflation) equal to the marginal product of labor. If prices rise, nominal wages will be renegotiated to a higher level so that real wages remain intact.

In a dynamic framework though, workers and firms set prices having in mind a "desired" real wage. If workers have higher desired wages than firms, wages can spiral upward before eventually settling to a level between the desired levels of workers and firms. One take away from this theoretical model is the need to measure the expectations of workers and firms for the real wage payments, alongside inflation expectations.

Conclusions

In this article, we presented recent research analyzing the role of labor costs in determining the price level. Not counting the current episode, inflation has risen much more slowly during the expansions since 2000. This pattern is associated with a slowdown in core goods inflation, which may have slowed because higher wages do not pass through to higher prices as strongly as a few decades ago. The current inflationary episode, however, does feature a strong rise in core goods inflation, which suggests that the wage-price pass-through may have regained its strength.

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To cite this Economic Brief, please use the following format: Karabarbounis, Marios. (May 2023) "How Much Do Labor Costs Affect Prices in Recessions and in Expansions?" *Federal Reserve Bank of Richmond Economic Brief*, No. 23-14.
