

## The Effects of Tariffs on the Components of Inflation

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Tariffs are usually applied to imported goods—but in an interconnected economy, their effects can be felt in the prices of other goods and services. Estimates using data across multiple advanced economies show that inflation declines right after tariffs are imposed. This initial decline reflects decreased demand, visible in declining prices for energy such as oil, a primary commodity typically exempt from tariffs. After the initial tariff shock, inflation gradually picks up, driven first by goods and later by services, one of the more persistent categories of inflation.

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The United States announced a wide range of import tariffs on its trading partners in early 2025. Since then, considerable uncertainty has surrounded their overall impact on the economy.

In our earlier work (Halbersleben, Jordà, and Nechio 2025), we relied on 40 years of international data for a group of advanced economies to show that, immediately following an increase in tariff rates, the unemployment rate tends to increase and inflation tends to fall—the hallmark of a negative demand shock. In such a scenario, consumers spend less and the economy slows down, but inflation also declines. Over time, the economy recovers, but inflation rises above what it would have been if there had been no change in tariffs.

In this *Economic Letter*, we return to our earlier empirical analysis using similar data for a group of advanced economies. This time, we focus on the effects of tariffs on different categories of inflation. Analyzing how prices of different components of inflation, such as energy, goods and services inflation, respond to tariffs provides a window into the overall response of inflation over time. Understanding such a dynamic pattern is important for calibrating policy, as there is a complicated dance between the lags of monetary policy and the implications of trade policy for inflation.

Our estimates show that, in response to an increase in tariffs, energy prices initially decline before gradually returning to their historical average. This initial decline suggests a general contraction of domestic and international economic activity, that is, a contraction in demand. In response to the same tariff increase, goods inflation remains largely unchanged initially, but then it increases relative to a scenario with no change in tariffs. Services inflation responds even more slowly and by a smaller amount, and it also tends to decline more slowly—this is consistent with the behavior of services inflation in general, which is one of the more persistent categories of inflation.

## **An international perspective on global trade barriers**

U.S. trade policy in early 2025 sharply reversed a historical worldwide decline in tariffs. As of November 17, 2025, the Budget Lab at Yale University calculated the average tariff rate to be 16.8% in the United States, a considerable jump from the less than 2% average from 2000 to 2024.

Average tariff rates across various countries differ substantially over time, a variation that can be useful for our analysis. Our analysis is based on data from Australia, Belgium, Denmark, Finland, France, Germany, Italy, Japan, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, and the United States. These data are observed yearly and are primarily sourced from the World Bank, with two exceptions: First, we update the average world tariff rate data from Feenstra and Taylor (2014), and second, we obtain the short-term interest rate from both Jordà et al. (2019) and the Organisation for Economic Co-operation and Development. The sample generally starts in the 1980s and ends in 2022.

Analyzing the effects of tariffs on the components of inflation requires accounting for alternative explanations of why inflation fluctuates. To do this, we follow a two-pronged approach. First, we account for past values of the unemployment rate, inflation, real exchange rates, short-term interest rates, equity returns, the trade balance relative to GDP, and past changes in productivity. By including these different predictors of inflation, we hope to eliminate alternative explanations for why inflation fluctuates. Second, we account for factors that we cannot directly observe, such as fixed, country-specific characteristics and an overall trend in tariffs, which could also be influencing inflation in ways that may pollute our measurement of the effects of tariffs on inflation.

### **Tariffs and the components of inflation**

We focus on a measure of inflation based on the consumer price index (CPI). We examine four individual components of the CPI, namely energy inflation, goods inflation, and services inflation, as well as core inflation that removes the volatile food and energy components from headline inflation. We use CPI inflation rather than the personal consumption expenditures price index (PCEPI) inflation due to data limitations.

We construct a statistical experiment to study how a given component of inflation evolves after an increase in tariffs versus the scenario in which tariffs remain unchanged. We use a tariff increase of 10% because it is close to estimates of the effective tariff rate in 2025. This is the same experiment that we conducted in Halbersleben et al. (2025) for headline inflation and the unemployment rate.

Our previous work showed that a 10% increase in tariffs would lower headline inflation by 1 percentage point in the first year. After that, inflation rises modestly in years 2 and 3, and the effect gradually wanes by year 4. Figure 1 replicates that headline inflation response (red line) and compares it to the response of core CPI inflation (blue line). The figure shows that headline and core inflation respond substantially differently at the onset, or impact, of the tariff. However, in the years afterward, the two responses look virtually identical.

The main difference in the two responses comes from energy prices, which are included in headline inflation but not in core inflation. Energy prices are not directly exposed to tariffs. Figure 2 thus examines the response of energy prices to a 10% increase in tariffs. Energy inflation declines considerably on impact before settling back down, consistent with the patterns in Figure 1.

Oil, a major component of energy, is an internationally traded commodity. A decline in energy prices therefore is more likely to reflect a shortfall of demand relative to supply due to a slowdown in economic activity. The origins of this shortfall could be domestic as well as international. But both are symptomatic of a slowdown in economic activity, which is consistent with the initial increase in the unemployment rate that we reported in our previous work (Halbersleben et al. 2025) and with recent work by Barnichon and Singh (2026).

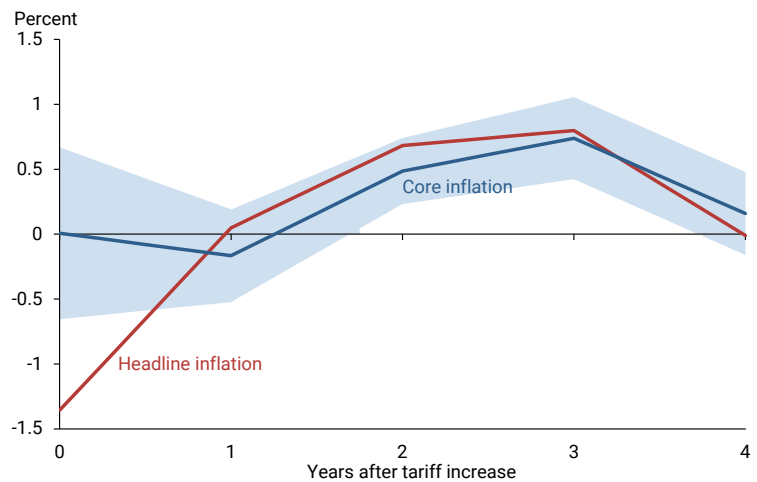
### The slow burn of goods and services inflation

Next, we investigate what is behind the adjustments to headline and core inflation over time. We do this by analyzing the responses of goods and services excluding energy, shown in the two panels of Figure 3.

Tariffs are typically levied on goods rather than on services. Nevertheless, services are not perfectly insulated because tariffed goods can raise input prices. For example, tariffs on furniture make it more costly to furnish a medical clinic.

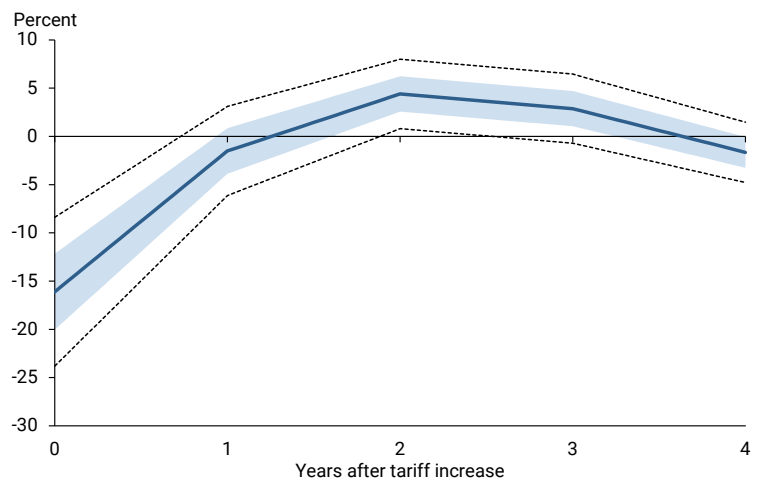
We first consider the average behavior of goods inflation across our international sample, shown in panel A of Figure 3. Initially, there is not much evidence of a pickup in inflation, suggesting that the negative effects of tariffs on demand offset the increase in the cost of imported goods. However, goods prices peak at year 2, increasing 1.2 percentage point on average, and remain elevated by year 3 for each 10% increase in tariffs.

**Figure 1**  
Headline, core CPI responses to 10% tariff increase



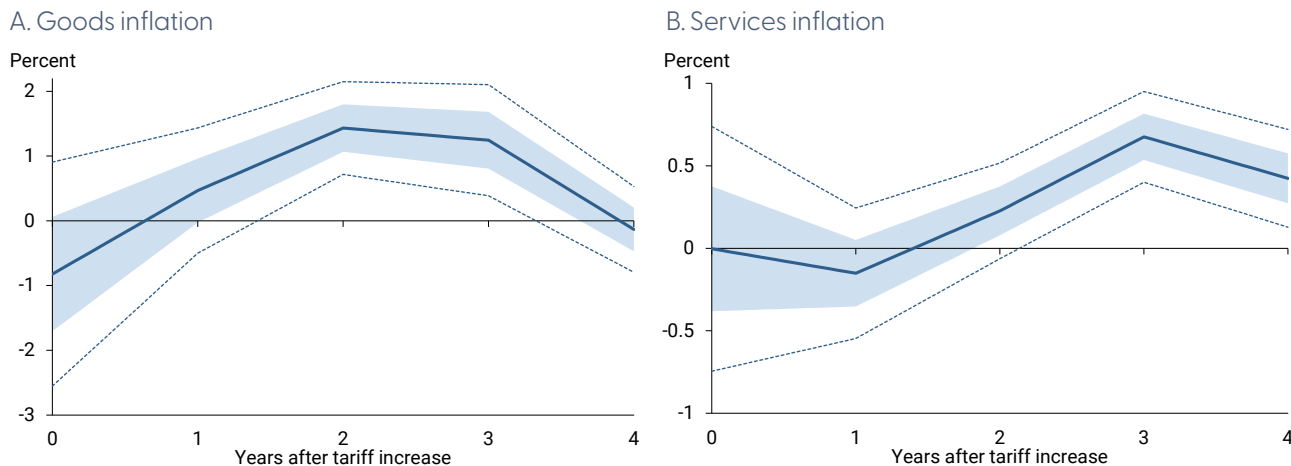
Note: Response to a 10% unexpected increase in tariffs for each year after initial increase; blue shading is 95% confidence band around core CPI results.

**Figure 2**  
Energy price inflation response to 10% tariff increase



Note: Shading reflects one standard deviation, and dashed lines reflect 95% confidence bands.

**Figure 3**  
**Goods, services price inflation responses to 10% tariff increase**



Note: Shading reflects one standard deviation and dashed lines reflect 95% confidence bands around the average response.

Although services are not directly exposed to tariffs, part of the tariff increase still passes through gradually to services inflation. Panel B shows that a 10% increase in tariffs generates a peak increase of about 0.6 percentage point for services inflation in year 3 rather than in year 2. By year 4, services inflation remains about 0.5 percentage point higher than before the tariff increase.

### Implications for the U.S. economy

U.S. inflation continued to edge down in 2025, despite initial concerns by some that the introduction of tariffs would, at least temporarily, boost inflation. It is hard to determine how inflation would have behaved otherwise. Our analysis suggests that, all else being equal, tariffs were associated with a reduction in U.S. economic activity, perhaps due to the rearrangement of supply chains and a wait-and-see attitude among many investors and consumers. The behavior of energy prices and the delayed effects on goods and services inflation seem to align with this perspective. By the end of 2025, the economy showed signs of resilience as other factors, such as investments in new data centers to support advancements in artificial intelligence, pulled the economy forward.

Importantly, our analysis also suggests that the inflationary effects of tariffs could show up with some delay, especially for services. Services inflation corresponds to about 60% of the U.S. CPI basket of goods and services. Thus, although the effects on services are about half the size of the effects on goods, they could have a relevant impact on overall inflation. Moreover, because services inflation is usually the stickier component of inflation, those effects may linger. It will be important to be particularly vigilant to these delayed developments.

As a final note, our estimates should be interpreted with a great deal of caution. The tariffs enacted since 2025 are unprecedented in magnitude and scope. Their introduction and future are surrounded by a great deal of

uncertainty. In addition, the international sample that we used for our analysis is based on evidence from 1980 through 2022. Over this period, typical changes in tariffs were much smaller in magnitude than the ones we have experienced since 2025.

## Conclusion

Textbook theory usually predicts that tariffs are associated with a temporary increase in inflation. In practice, economies are more complex, and the introduction of tariffs also injects substantial uncertainty into the economy. Initially, investors and consumers could take a wait-and-see posture until uncertainty dissipates and businesses rearrange their supply chains. Then, adapting to a new reality can take many forms that blunt the initial impact of tariffs. Our research in this *Letter* suggests that these dynamics of inflation on average play out in such a manner across a sample of advanced economies. The effects on core inflation are slow to burn, eventually showing up mostly through goods inflation. Services inflation responds to a lesser degree and with greater delay, but it may also tend to linger beyond other components of inflation.

Overall, albeit subject to considerable uncertainty, our analysis suggests that the responses of the different components of inflation to tariff changes can reduce inflation by depressing demand in the short run. Over time, however, our findings suggest that tariff increases will be gradually passed through, raising inflation.

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