Has Monetary Policy caused Differential Inflation?

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This study aims to analyze the effects of monetary policy on inflation and differential price increases between 1970 and 2022. While these policies may work, they are not perfect, and they can have adverse effects. As prices increase at different rates, consumers of different products are impacted differently, leading to necessary economic adjustments. This study looks at variation across measures of inflation and then at whether monetary policy has caused these differences. The methodology will mainly be measuring the variation in measures of inflation.

Impacts of Differential Inflation on consumers

A recent global economic decline attributed to the COVID-19 pandemic has challenged policy makers in how monetary policy is being handled. In the United States, inflation has been fairly low in the last thirty years until recently. In the first quarter of 2022, inflation rates spiked to 7.5% from 1.23% in 2020. . This causes consumer prices to increase which is a huge problem for the average people. Factors that affect these prices mainly include monetary policies specifically stimulus checks and pardons on rent, an increase in domestic demand for certain foods, and a sharp decline in the supply of certain goods and services. This caused an increase in the money supply within the economy which increased inflation.

Hypothesis:

When monetary policy is applied in an economy, differential inflation will increase.

Method:

The variables considered are: GDP by Industry Data (value added) from the U.S. Bureau of Economic Analysis (BEA) and Producer Price Indices (PPI) from the U.S. Bureau of Labor Statistics (BLS) at the three-digit level of the North American Industrial Classification System (NAICS) to calculate the Differential Inflation Index (DII). DII is calculated by the standard deviation of the weighted components of the PPI and then multiply by the number of industries for which data are reported for that quarter using Times series method.

Economic Adjustment:

- When consumer prices fluctuate, consumers are forced to find alternatives. In this case compliments and substitutes are very beneficial for consumers during inflationary times.
- Customers also switch to substitute goods. These are goods which can be used in place of each other for the same purpose.
- Therefore, customers adjust to new prices by changing their shopping habits and choosing cheaper alternatives.
- Flight of money also happens where investment shifts to foreign countries in the form of offshore accounts.

Data: Results

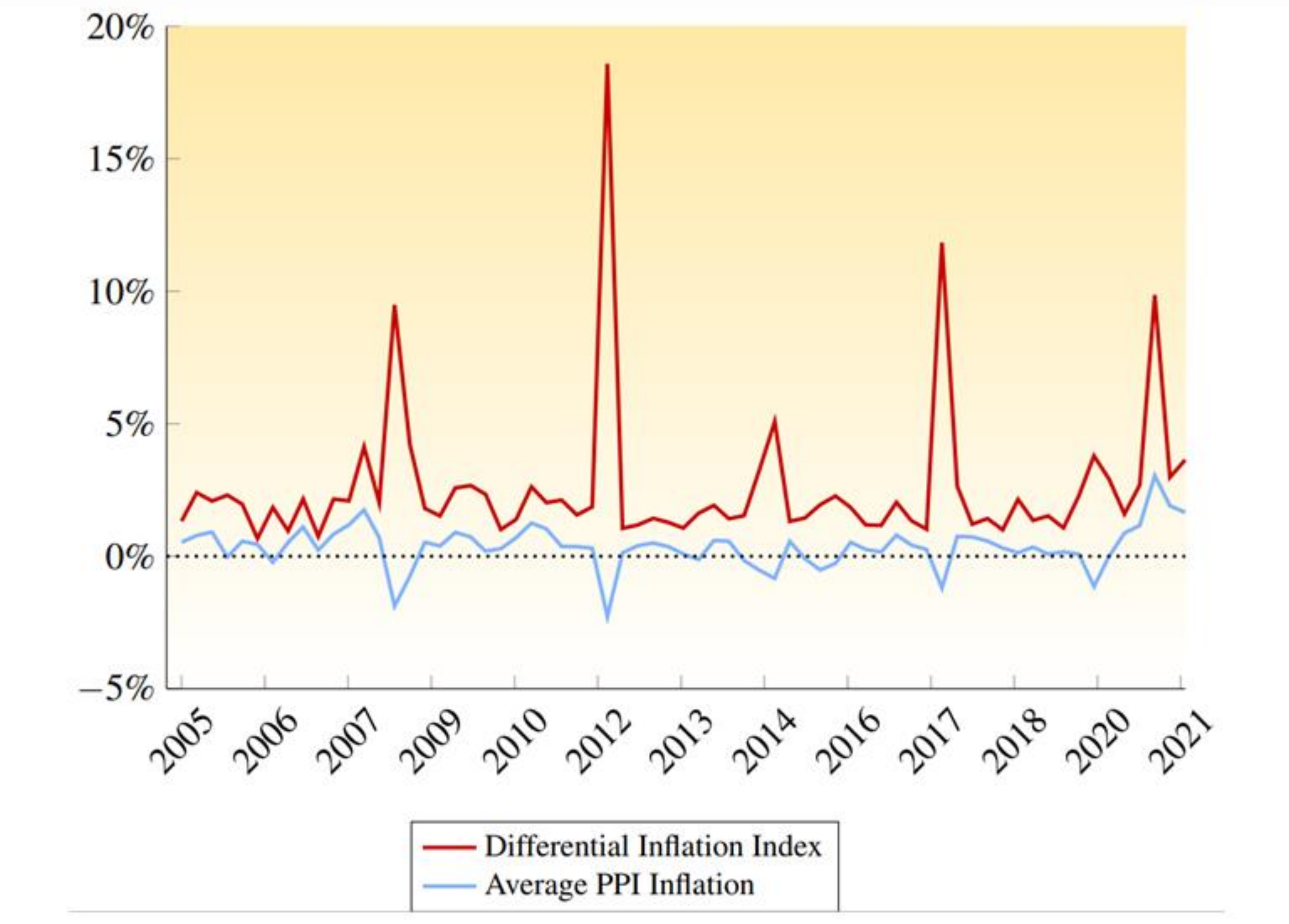

Figure 1: Differential Inflation Index, quarterly changes

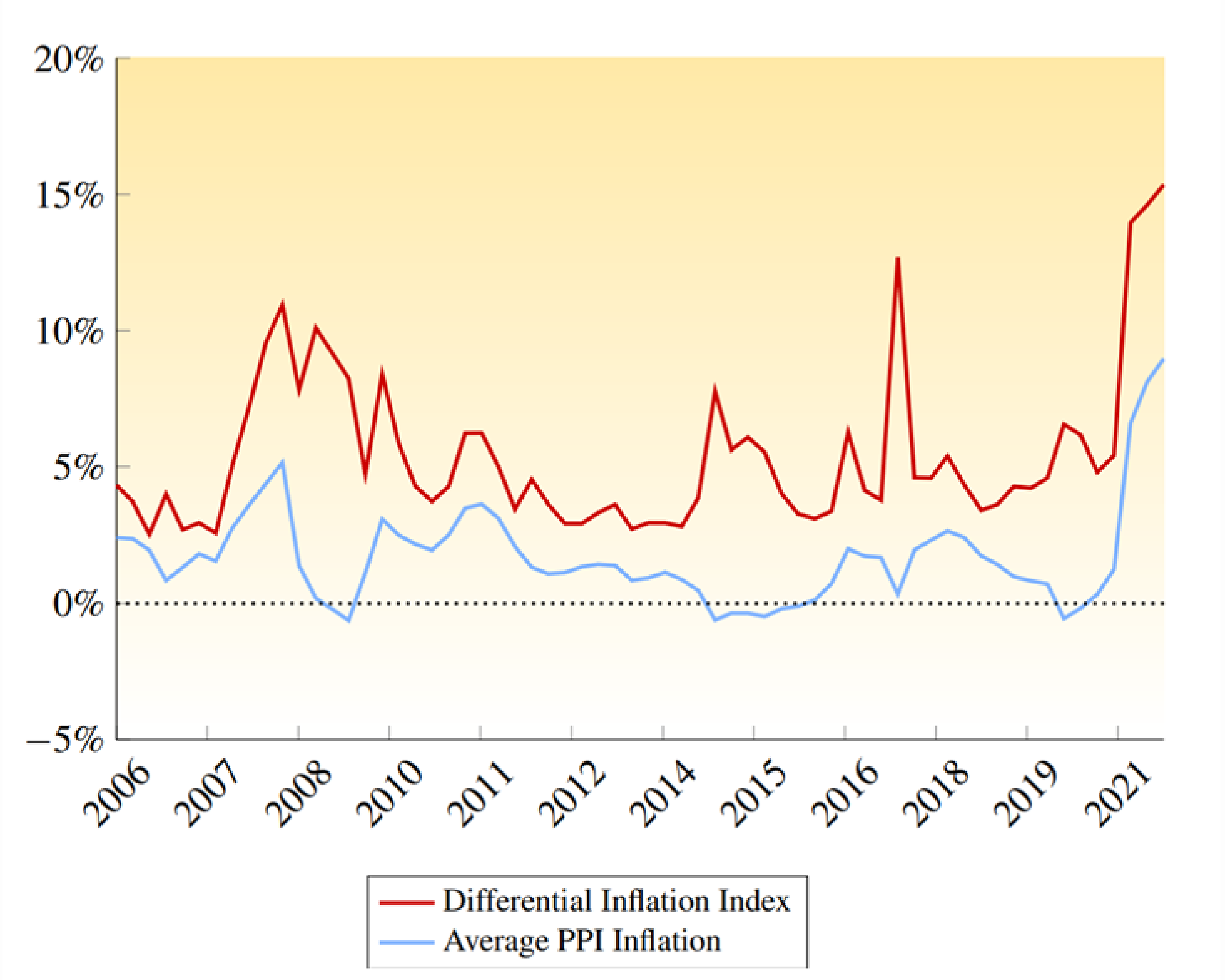

Figure 2: Differential Inflation Index, year-over-year changes

Comparing these two figures shows that high differential inflation is a very temporary phenomenon, never lasting more than one quarter. The year-over-year graph shows that effects can persist, but this is just the time it takes for subsequent adjustment, even if quarterly fluctuations subside. Most of the time, high differential inflation accompanies high inflation, deflation, or very sharp disinflation. Low average inflation that is neither sharply increasing nor sharply decreasing tends to be linked to stable prices across industries.

Conclusion:

- Estimation results show that fluctuations in producer prices in the long-run affect consumers.
- High differential inflation is a very temporary phenomenon. The results show that when prices are decreasing, the standard deviation is high. This implies that falling prices are not necessarily good for consumers.
- Price increases and general price stability seems to coincide with a lower standard deviation which shows that when there is not major upheaval in the economy, prices are steady and there is less panic among consumers.
- A higher standard deviation never lasts very long; typically, only a few months, even if the recession drags out. When prices are high at the beginning of a recession, customers panic, but after a while they adjust to the new prices.
- We are seeing inflation caused by monetary and fiscal policy now, with a high standard deviation and widespread price increases. The pain of inflation along with major upheaval can be seen throughout the economy. Therefore, monetary policy increases inflation which has adverse effects on consumer prices and the economy. Consumers seem to take a shorter time to adjust to new prices as they switch to substitute goods.