

[Economic Research Resources](#) ▼[Switch Products](#) ▼**ECONOMIC DATA** | ST. LOUIS FED

Search FRED ...

[Release Calendar](#)[FRED Tools](#) ▼[FRED News](#)[FRED Blog](#)[About FRED](#) ▼

Search FRED Blog

Recent Posts

- [Assets and liabilities of younger vs. older households](#)
- [Has US-China decoupling energized American manufacturing?](#)
- [Pie charts about pie on \$\pi\$ day](#)
- [The largest sources of imported goods](#)
- [Gimme shelter: The lag in inflation for living spaces](#)

The FRED® Blog

The differences among price indexes



Posted on March 27, 2023



CPI +3.2 % Chg. from Yr.
Ago on Feb 2024

Civ. Unemploy. Rate 3.9 % on Feb 2024

10-Yr. Treas. Rate 4.27 % on 2024-03-21

Real GDP +3.2 %, Comp.
Annual Rate of Chg.
on Q4 2023


IP +0.1 % Chg.
on Feb 2024

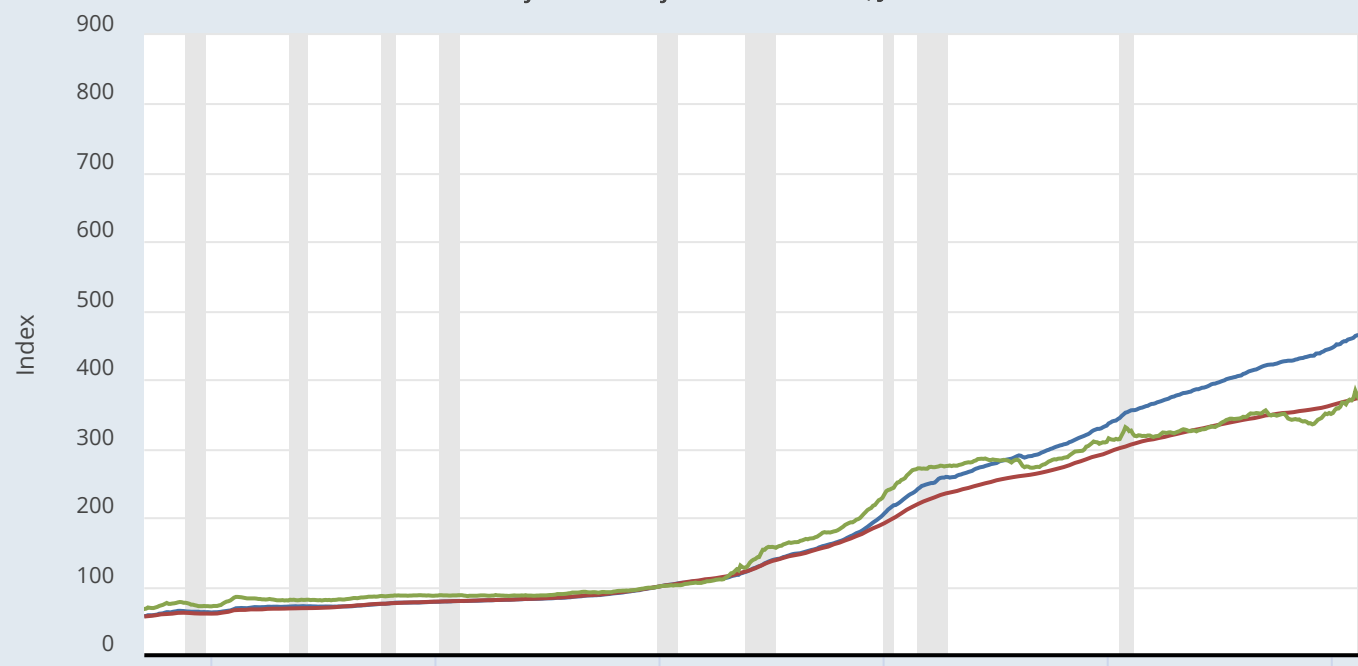
Payroll Employment +275 Chg., Thous. of
Persons on Feb 2024

... and 823,000+ more series in FRED

Recent St. Louis Fed research

- [What To Know About the Rise of Services](#)
- [Why Have a Strategic Petroleum Reserve?](#)
- [By the Generations: Location Patterns of Different Cohorts](#)

FRED  — Consumer Price Index for All Urban Consumers: All Items in U.S. City Average, Jan 1970=100
— Gross Domestic Product: Implicit Price Deflator, Q1 1970=100
— Producer Price Index by Commodity: All Commodities, Jan 1970=100



In our [previous blog post](#), we discussed how the interpretation of data can be strongly influenced by the price index you choose to deflate those data—that is, when you want *nominal* measurements in *real* terms.

The FRED graph above shows the three price indexes that were used in that previous post. When you look at them over several decades, you notice that they show stark differences. First, the consumer price index (CPI) has increased significantly more than the GDP deflator since the early 1970s, opening a gap of almost 30%. The producer price index (PPI) fluctuates strongly between the two, being generally closer to the GDP deflator.

Why these large differences? Well, they do measure different things...

- The CPI measures the evolution of the prices for a basket of goods a typical urban household would consume.
- The GDP deflator measures the overall price of all that is produced in the economy.

- [Accounting for the Effects of Fiscal Policy Shocks on Exchange Rates through Markup Dynamics](#)
- [Trade Risk and Food Security](#)

Archives

- [March 2024](#)
- [February 2024](#)
- [January 2024](#)
- [December 2023](#)
- [November 2023](#)
- [October 2023](#)
- [September 2023](#)
- [August 2023](#)
- [July 2023](#)
- [June 2023](#)
- [May 2023](#)
- [April 2023](#)
- [March 2023](#)
- [February 2023](#)
- [January 2023](#)
- [December 2022](#)
- [November 2022](#)
- [October 2022](#)
- [September 2022](#)
- [August 2022](#)
- [July 2022](#)
- [June 2022](#)
- [May 2022](#)
- [April 2022](#)
- [March 2022](#)
- [February 2022](#)
- [January 2022](#)
- [December 2021](#)
- [November 2021](#)
- [October 2021](#)
- [September 2021](#)

- The PPI measures the price that producers are getting for their wares.

At first glance, they seem to be measuring essentially the same things—all that is consumed, produced, and sold. A closer look reveals some important differences. The CPI, by definition, includes only *consumption* goods and services. So, it includes imports but not exports. The other two indexes include exports but not imports. The GDP deflator also includes *investment* goods and public expenses. The PPI covers goods but not services.

How the prices of these included or excluded categories have evolved over the decades since the 1970s can generate gaps. For example, there are now much more exports and imports than there were 50 years ago. Energy is much more expensive and factors-in differently for the three indexes. The proportion of services in consumption and output has increased a lot, too. And that's why this FRED graph looks the way it does.

How this graph was created: Search [FRED](#) for CPI, click on “Edit Graph,” open the “Add Line” tab, add “GDP deflator, then “PPI.” Choose units index 100 as of 1970-01-01, click “Apply to All,” and start the data on 1947-01-01.

Suggested by [Christian Zimmermann](#).
