



Employ America Research Report

Signs of Slowing: Measuring Wages in Core Non-Housing Services

Preston Mui
Senior Economist,
Employ America

Since November, the Fed has been talking about inflation as the story of three categories: goods, housing, and non-housing services (NHS). The latter category, core NHS, comprises around half of core PCE expenditures.

“Finally, we come to core services other than housing. This spending category covers a wide range of services from health care and education to haircuts and hospitality. This is the largest of our three categories, constituting more than half of the core PCE index. Thus, this may be the most important category for understanding the future evolution of core inflation. Because wages make up the largest cost in delivering these services, the labor market holds the key to understanding inflation in this category.”

— Jerome Powell, November 30th, 2022

In February, the Council of Economic Advisors released a measure of average hourly earnings (AHE) in core NHS industries. We have replicated their series and used their methodology to create analogous wage series for other components of consumption (core goods, core PCE, and overall PCE), which we collectively call the “fixed-weight AHE series” In this post, we walk through the construction of that series, compare it to other wage series, and the implications of recent trends for Fed policy.

Our fixed-weight AHE series are available to Employ America premium donors. To learn more about becoming a premium donor, fill out our contact form.

How the Fixed-weight AHE Series is Constructed

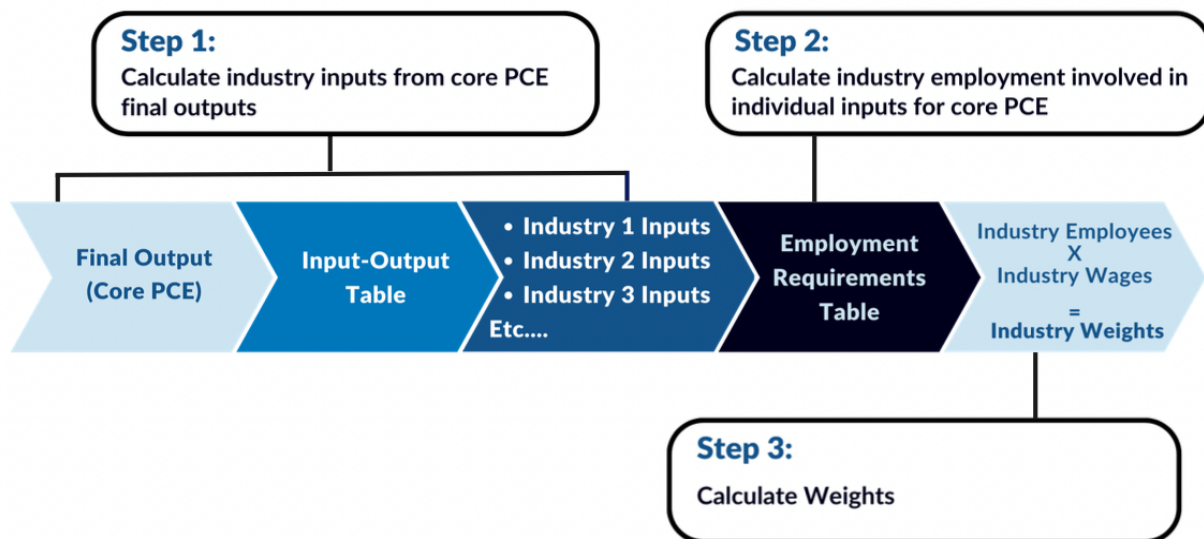
At its essence, the fixed-weight AHE series is a fixed-weight average of industry-level average hourly earnings. The BLS reports employment data using the NAICS industry coding system, which does not map cleanly to the PCE

categories. For example, “Office of dentists” can be easily considered part of core services, but “management of companies and enterprises” likely includes labor that feeds into a wide variety of outputs, including goods, services, and non-PCE outputs.

To resolve this concordance issue, we turn to two input-output tables published by the Bureau of Labor Statistics (BLS). The first table is the BLS Inter-industry relationships table, which shows the nominal dollar value of industry inputs by output category. The second table is the BLS Employment and Total Requirements Matrix, which report the required employment in other industries to create output in a given industry.

The steps to construct the industry weights for a given PCE series (e.g. core NHS) are as follows:

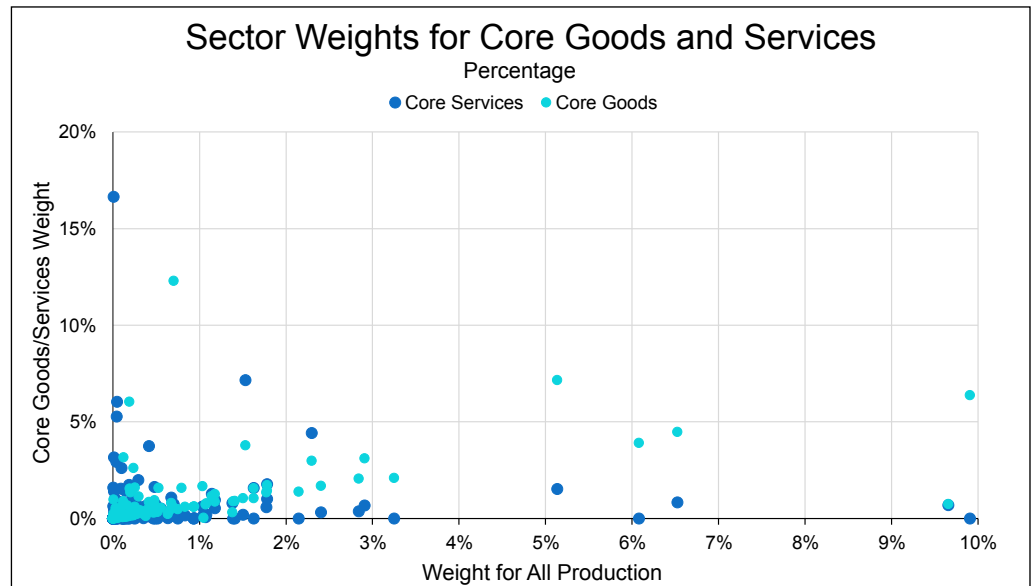
1. Calculate the nominal dollar value of industry inputs into the PCE category using the BLS inter-industry relationships table.
2. Calculate the required employment across industries required to create those industry inputs using the Employment and Total Requirements Matrix.
3. Calculate the implied weekly aggregate payroll, by industry, required to create those industry inputs, using Current Employment Statistics data.



The resulting weights use the weekly aggregate payroll, by industry, required to create outputs in a given PCE category. We (and the White House) use 2019 annual data and input-output matrices to construct the weights.

Which Industry Wages Matter for Core Goods and Services?

As one would expect, different industry wages matter for core goods and core services PCE. Below, we plot the weight that is given to industry wages for core NHS and core goods against each industry's weight for wages used in all production (where all output, not just PCE, is used to construct the weights used in the methodology above). However, the division isn't clean; some industries, such as "management of companies and enterprises" matter for both core NHS and core goods.



Source: Bureau of Labor Statistics, Bureau of Economic Analysis, Author's Calculations

Top 10 sectors for Core NHS

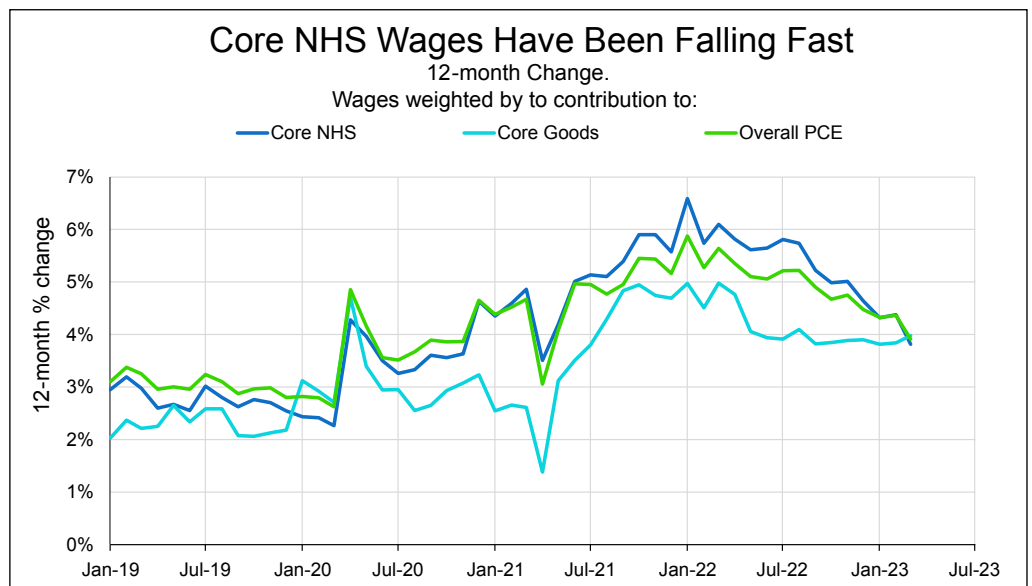
| Sector | Weight | Increase 2022-2023 |
|---|--------|--------------------|
| Educational Services | 16.8% | 2.8% |
| Hospitals; private | 9.9% | 4.5% |
| Food services and drinking places | 6.5% | 7.3% |
| Offices of physicians | 6.1% | 4.1% |
| Nursing and residential care facilities | 3.2% | 4.8% |
| Monetary authorities, credit intermediation, etc. | 2.9% | 2.0% |
| Insurance carriers | 2.8% | 7.2% |
| Securities, commodity contracts, etc. | 2.4% | 4.3% |
| Management of companies and enterprises | 2.3% | 4.8% |
| Individual and family services | 2.1% | 4.9% |

Top 10 sectors for Core Goods

| Sector | Weight | Increase 2022-2023 |
|---|--------|--------------------|
| Apparel, leather and allied product manufacturing | 16.7% | 2.4% |
| Wholesale trade | 7.2% | 5.1% |
| Other miscellaneous manufacturing | 6.0% | 6.9% |
| Pharmaceutical and medicine manufacturing | 5.3% | 0.0% |
| Management of companies and enterprises | 4.4% | 4.8% |
| Newspaper, periodical, book, and directory publishers, etc. | 3.8% | 5.0% |
| Household and institutional furniture and kitchen cabinet manufacturing | 3.2% | 7.8% |
| Textile mills and textile product mills | 2.9% | 6.9% |
| Motor vehicle parts manufacturing | 2.6% | 2.5% |
| Software publishers | 2.0% | 10.5% |

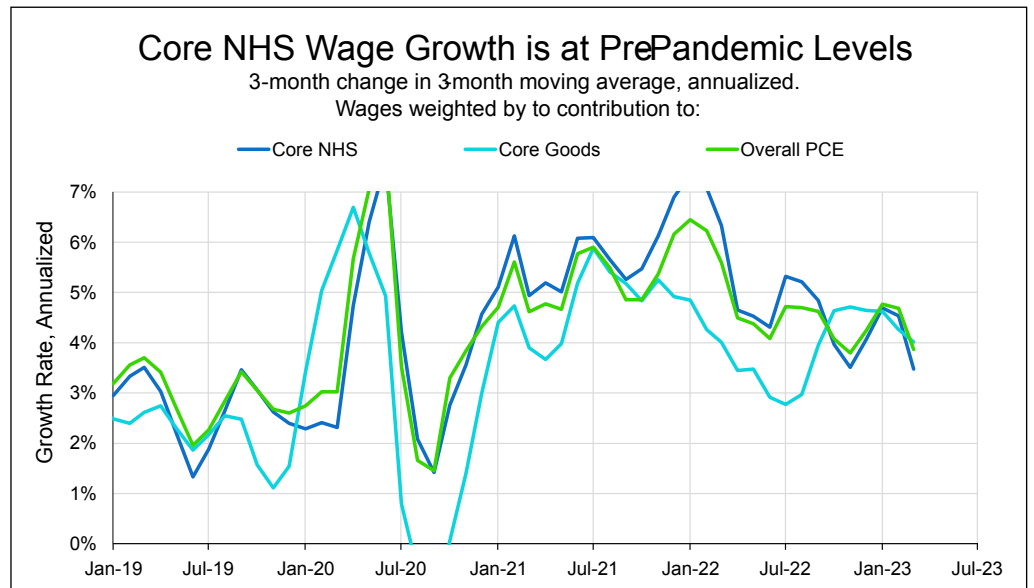
Core NHS Wages Have been Slowing Since 2022

Below, we plot the growth in the fixed-weight average hourly earnings series for wage inputs to core NHS, core goods, and overall PCE. While growth in the core NHS series was rapid during the recovery from the pandemic, and much higher than growth in the core goods series, the 12-month growth rate in core NHS wages has returned to 4%.



Source: Bureau of Labor Statistics, Bureau of Economic Analysis, Author's Calculations. Last month's data is preliminary and uses major industry wage growth to proxy for detailed industry.

Below, we examine more recent trends by plotting the 3-month growth rate in the 3-month moving average of each series. While growth in the core NHS wages index was faster than that of the core goods series for much of the pandemic, growth rates in the two categories have converged in the past few months. Importantly, the growth rate of wages for core NHS is within the range of pre-pandemic levels.



Source: Bureau of Labor Statistics, Bureau of Economic Analysis, Author's Calculations. Last month's data is preliminary and uses major industry wage growth to proxy for detailed industry.

As we've argued previously, the Fed's story is that price inflation in the core NHS category is driven by wage growth. If we take the Fed's story for granted, the Fed has reason to back off on their goal of weakening the labor market, since wage pressure in this category has been quickly dissipating and is no longer outside of historical norms.

Average Hourly Earnings Indices Data

The data for these fixed-weight average hourly earnings indices are available for our premium donors [here](#). This file includes the fixed-weight average hourly earnings series for the input industries into core non-housing services, core goods, core PCE, PCE, and all output. This file also includes the weights used for each series.