Discussion of *Wage-Price Spirals* by Lorenzoni and Werning

Ayşegül Şahin
UT Austin

Brookings Panel on *Economic Activity*
September 29, 2023
Washington D.C.
**Focus:** Examine the drivers and the timing of price and wage inflation dynamics through the lens of the NK framework.

Recent inflation dynamics characterized as:

- Production uses labor $L$ and a non-labor input $X$ (flex price, inelastic supply).
- Price of non-labor input $X$ rises as demand increases.
- This scarcity reduces MPL (low substitutability between $X$ and $L$).
- Non-core inflation increases.
- Distributional tension between workers and firms.

Key Takeaway: The fact that nominal wage growth is currently exceeding price inflation can be given an optimistic interpretation, as a sign of real wages going back to trend, and not necessarily as a concern of an ongoing spiral.
Lorenzoni and Werning (2023)

**Focus:** Examine the drivers and the timing of price and wage inflation dynamics through the lens of the NK framework

Recent inflation dynamics characterized as:
- Production uses labor L and a non-labor input X (flex price, inelastic supply)
- Price of non-labor input X ↑ as demand ↑
- This scarcity reduces MPL (low substitutability between X and L)
- Non-core inflation increases
- Distributional tension between workers and firms → wage-price spiral
- Real wages go down initially as price inflation picks up

Key Takeaway:
The fact that nominal wage growth is currently exceeding price inflation can be given an optimistic interpretation, as a sign of real wages going back to trend, and not necessarily as a concern of an ongoing spiral.
Focus: Examine the drivers and the timing of price and wage inflation dynamics through the lens of the NK framework

Recent inflation dynamics characterized as:
- Production uses labor L and a non-labor input X (flex price, inelastic supply)
- Price of non-labor input X ↑ as demand ↑
- This scarcity reduces MPL (low substitutability between X and L)
- Non-core inflation increases
- Distributional tension between workers and firms → wage-price spiral
- Real wages go down initially as price inflation picks up

Key Takeaway: The fact that nominal wage growth is currently exceeding price inflation can be given an optimistic interpretation, as a sign of real wages going back to trend, and not necessarily as a concern of an ongoing spiral.
1. **Role of X in accounting for inflation**
   - Key assumptions
   - Goods vs. services

2. **Wages**
   - Labor turnover and wage rigidity
   - Workers’ and Firms’ Aspirations
     - Reservation wages
     - Posted wages

3. **A quick look at the post-pandemic labor market**
   - An alternative view on wage dynamics without conflict
   - Workers’ aspirations for non-wage amenities

4. **Takeaways**
What is X?
Proposition 2: In response to a monetary shock that leads to a transitory increase in employment, real wages fall on impact if and only if

$$\Lambda_p \frac{S_X}{\epsilon} > \Lambda_w (\sigma s_L + \eta)$$

Key assumptions:

- $X$: inelastically supplied with flexible price
- $X$: high share ($s_X$) and complement to labor (low $\epsilon$)
- Wages more rigid than prices ($\Lambda_w < \Lambda_p$)
Elasticity of substitution and relative rigidity of wages and prices important for wage-price dynamics:

- **Goods:** high $s_X$ and low $\epsilon$
  
  $\rightarrow$ literature finds complementarity between intermediates
  
  Atalay, 2017; Boehm, Flaaen, and Pandalai-Nayar, 2019

- **Services:** high $s_L$ and high $\epsilon$
  
  $\rightarrow$ higher labor turnover limits wage rigidity

**Important point:** With $\epsilon = 1$, wage and price inflation dynamics are very similar.
Rise in price of industrial supplies and materials coincided with goods inflation.
Services inflation followed a different timing

Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

fred.stlouisfed.org
Nominal wages and prices in the goods sector

Similar to wage-price inflation dynamics in Lorenzoni and Werning (2023): shocks that produce high prices in the goods market only gradually lead to higher wage demands in the labor market.
Different timing in the services sector

Wage-price inflation dynamics remains puzzling in the services sector.
Wage rigidity likely not the answer

Rise in labor turnover as measured by quits and hires, especially in the services.
Increase in reservation wages more pronounced for workers with less education.

Survey of Consumer Expectations (SCE)
Rise in posted wages at the firm/position level for low wage workers.

Crump, Eusepi, Giannoni, and Şahin (2022)
Beyoncé’s new song is an anthem for the Great Resignation.
Workers willing to accept pay cuts of 10% on average in exchange for 2 workdays a week of WFH.

US: Is a Soft Landing Possible? What the Beveridge Curve Reveals

The Beveridge Curve (job openings rate vs. unemployment rate), seasonally adjusted
Click and drag within the chart to zoom in on time periods

47% of Employees Say They’ll Quit if Employer Orders Return to Office Full Time, According to Integrated Benefits Institute Analysis
Equilibrium model of on-the job search with amenities: *shift in workers’ preferences*
Equilibrium model of on-the job search with amenities: **shift in workers’ preferences**

- **Quits** ↑↑
  
  → Great Resignation in search for more flexible job opportunities
Equilibrium model of on-the job search with amenities: **shift in workers’ preferences**

- Quits ↑↑
  → Great Resignation in search for more flexible job opportunities
- Vacancies ↑↑
  → partly due to hard-to-fill low-amenity vacancies
Equilibrium model of on-the job search with amenities: **shift in workers’ preferences**

- **Quits ↑↑**
  → Great Resignation in search for more flexible job opportunities

- **Vacancies ↑↑**
  → partly due to hard-to-fill low-amenity vacancies

- **Job-filling rate ↓↓**
  → due to a shift in worker preferences to more flexible jobs
Equilibrium model of on-the job search with amenities: **shift in workers’ preferences**

- **Quits ↑↑**
  → Great Resignation in search for more flexible job opportunities

- **Vacancies ↑↑**
  → partly due to hard-to-fill low-amenity vacancies

- **Job-filling rate ↓↓**
  → due to a shift in worker preferences to more flexible jobs

- **Wage growth ↑↑ at the bottom of the distribution**
  → Wage Compression

Bagga, Mann, Şahin, Violante (2023)
Alternative view on wage dynamics

The shift in worker preferences coupled with a rapid recovery triggered an increase in quits in search for more flexible job opportunities and put downward pressure on wages in high amenity jobs.

**Going forward:**

- Real wages imperfect proxy for inflationary pressures as non-wage amenities become more important for workers
- Wage aspirations imperfect proxy for workers’ aspirations
- Non-wage amenities and high turnover increase labor costs and might also affect pass-through
- As reallocation from low to high amenity jobs subsides, job-to-job transitions could be more inflationary
Takeaways from Lorenzoni and Werning (2023)

- timely paper on an important topic
- focuses on *conflict* inflation as a key driver
- emphasizes the important role for recent supply chain disruptions
  Amiti et al. 2023, Comin et al. 2023, di Giovanni et al. 2022, 2023
- argues that the behavior of real wages not so informative
- important reference applicable to future (?) inflationary episodes!

**Wish list:** more sophisticated labor market and multiple sectors to confront the data with full force.