Job Polarization and the Flattening of the Price Phillips Curve

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Abstract
This paper shows that the change in the occupational composition of the labor market in favor of non-routine jobs, i.e., job polarization, flattens the price Phillips Curve (PC). Using data from the European Monetary Union and exploiting the fact that job polarization accelerates during recessions, we obtain two results. First, countries experiencing a bigger shift in the occupational structure during a downturn exhibit a flatter PC afterward. Second, the occupational shifts experienced during the Great Recession and the Sovereign Debt Crisis (SDC) explain up to a forth of the flattening of the curve in the 2002-2018 period. We reconcile this evidence through a New Keynesian model with unemployment and search and matching friction. Heterogeneity in the fluidity across segments of the labor market, i.e., differences in the separation and hiring rate across jobs, is the source of PC flattening.

1 Empirical Facts for the EMU
The Price Phillips Curve has Flattened

The Share of Routine Jobs have Declined

2 Identification
As explained in Jaimovich and Siu (2020) for the US:
- the decline of routine employment follows a long-run trend
- the business cycle operates on the trend through shifts
We show that these properties hold also for the EMU. Hence, for each EMU country and recession—either the Great Recession (GR) or Sovereign Debt Crisis (SDC)—we build a measure of occupational shift as follows:

\[ \text{Share}_t = \frac{\text{Share}_t^{\text{GR}}}{\text{Share}_t^{\text{SDC}}} \]

where \( \text{Share}_t^{\text{GR}} \) and \( \text{Share}_t^{\text{SDC}} \) are respectively the return on vacancy posting, matching efficiency, the price markup, the Calvo factor, and steady-state employment.

In light of this, it can be proved that:
- if \( \delta \) increases, steady state hiring rate \( \alpha \) increases (but less than proportionally) \( \rightarrow \) higher fluidity
- if \( \delta \) decreases, the slope of the Phillips Curve becomes smaller

3 Theory and Micro-foundation
The Model
We use a New Keynesian model a la Blanchard and Galí (2010) with:
- sticky prices
- search and matching frictions
- real rigidities
- unemployment

and show that the slope of the price Phillips Curve can ultimately be written as a function of the structural parameter \( \delta \) (i.e., the separation rate):

\[ \frac{1}{\delta} = \frac{\alpha}{\bar{v}} \left( \frac{\alpha + 1}{1 - \alpha} \right) \]

where \( \alpha, \bar{v}, \lambda, \) and \( N \) are respectively the return on vacancy posting, matching efficiency, the price markup, the Calvo factor, and steady-state employment.

In light of this, we conclude that employment composition and occupational heterogeneity matter for the slope of the Phillips Curve. Further investigation on the role of labor market characteristics and regulation is needed for a deeper understanding of the relationship between prices and unemployment.

4 Conclusions
This paper shows that:
1. in the last twenty years, the composition of the labor market shifted away from routine occupations (job polarization)
2. the process of routine job destruction mostly occurred during recessions
3. countries that destroyed more routine jobs during a downturn experienced a flatter Phillips Curve afterward
4. the remaining jobs are more fluid, i.e., the market of non-routine occupations is more dynamic with more hirings and firings
5. in a standard New Keynesian Model with unemployment, higher fluidity leads to a flatter Phillips Curve.

5 References