

# Employment Composition Matters for the slope of the Phillips Curve



By Daniele Siena and Riccardo Zago\*

*Keywords: Phillips curve, job polarization, occupational composition, monetary policy, labor market fluidity.*

*The occupational composition of the labor market is important for the relationship between prices and unemployment, i.e. the Phillips Curve (PC). The decline of the share of routine jobs can explain 1/4 of the recent flattening of the PC in the European Monetary Union (EMU).*

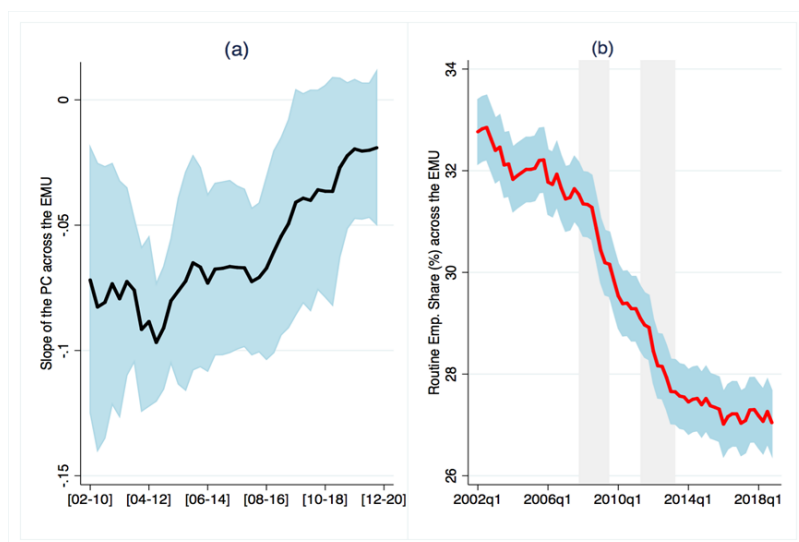
## **The Flattening of the Phillips Curve and the Disappearance of Routine Jobs**

There is an ongoing debate since the 1970's on whether or not the Phillips curve (PC) – the negative relationship between inflation with unemployment – is still alive or dead (see [Berson et al, 2018](#)). We argue that in the EMU the PC is still alive but it has weakened (Figure 1.a). The literature has put forward two explanations for why this might have happened. The first relates to the anchoring of inflation expectations and the stronger commitment of central banks to keep inflation low (see Blanchard (2016)). The second refers to structural changes in economic fundamentals due, for example, to digitalization, ageing population, globalization, and labor market dynamics. This policy brief, based on [Siena and Zago \(2021\)](#), focuses on the latter and shows that transformations in the occupational composition of the labor market matter for the flattening of the price PC.

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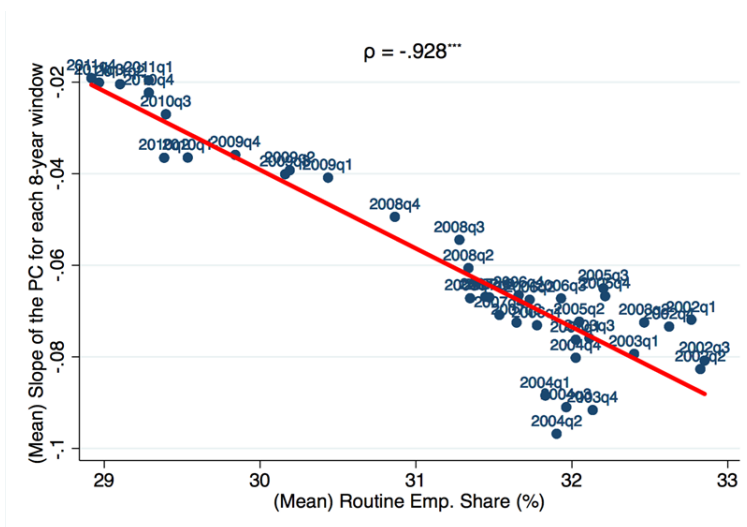
**Figure 1: The Slope of the Phillips Curve and Job Polarization**



Note: The Figure plots the slope of the price PC (1.a) and the routine employment share (1.b) across the EMU. Grey areas represent recessions, blue areas are the 95% confidence interval.

In the last twenty years, the EMU labor market has changed, including its occupational composition. As shown in Figure 1.b, the share of routine jobs has declined consistently, and this phenomenon temporarily accelerated during the Great Recession (GR) and the Sovereign Debt Crisis (SDC) – grey shadowed areas. This goes under the name of *job polarization* and describes the long-run decline of the share of clerical and production occupation (routine jobs) in favor of managerial, professional, service and sales jobs (abstract jobs). As explained in [Acemoglu and Autor \(2011\)](#), this long-run trend is mostly due to automation, i.e. the progressive substitution of routine workers with highly-performing machines and technologies. But it is not only about long-run dynamics. Polarization follows also the cycle: routine jobs are destructed faster during downturns (see [Jaimovich and Siu \(2020\)](#)). In light of this, we exploit these properties of job polarization to show that employment composition matters for the flattening of the PC. First, we show that, at any point in time, countries whose share of routine jobs is relatively high exhibit a stronger relationship between inflation and unemployment. On the contrary, when a country’s share of routine employment is relatively low, the slope of the PC is flatter. Second, over time, this relationship changes with the change in job polarization (see Figure 2).

**Figure 2: The Slope of the Phillips Curve and Job Polarization across the EMU**



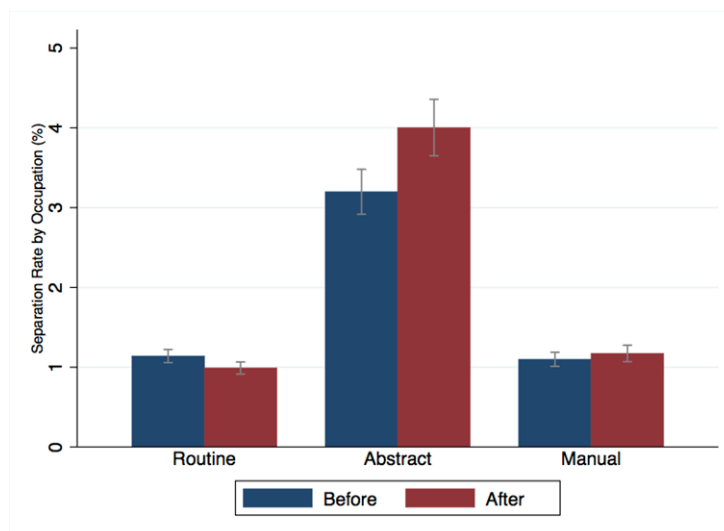
Note: The Figure plots the mean slope of the price PC on the mean routine employment share across the EMU. Each slope is estimated on a forward-looking 8-year rolling window.

Beyond these simple correlations there is a causality that goes in one direction: exogenous change in the composition of the job ladder leads to a flattening of the PC and not vice versa. We use the cross-country heterogeneity in routine job destruction – as exogenously induced by each recession – to show that each time the employment composition of the labor market changes in favor of non-routine jobs, the slope of the PC flattens afterward. Quantifying the effects, we are able to assess that the shift in the employment composition matured during the Great Recession and Sovereign Debt Crisis can explain up to 25% of the flattening of the PC in the EMU.

### The Importance of Labor Market Fluidity

Why does job polarization flatten the PC? The answer may lie in differences across occupations. On the one hand, the market of non-routine jobs (labelled *abstract jobs*, based on their task-content) is more *fluid*, i.e. it exhibits higher separation and hiring rates. Conversely, the market of routine job is less *fluid*, i.e. it exhibits lower separation and hiring rates (Figure 3). We use the theoretical framework of [Blanchard and Gali \(2010\)](#) to show that this occupational heterogeneity is indeed important for the slope of the New Keynesian Phillips Curve. In particular, higher labor market *fluidity* flattens the PC. Therefore, employment relocation from less to more fluid jobs – from routine to non-routine occupations – weakens the relation between inflation and unemployment.

**Figure 3: Mean Separation Rate across jobs**



Note: The Figure plots the mean separation rate (along with the 95% confidence interval) across three job categories before the Great Recession (blue bars) and after the Sovereign Debt Crisis (red bars).

### What to Expect from the Covid-19 Recession?

To conclude, the occupational composition of the labor market matters for the structural relationship between prices and unemployment. Knowledge of this is important for monetary policy makers, particularly in light of the current crisis. In fact, the Covid-19 pandemic has affected some occupations more than others. For example, the first confinements severely hurt non-routine (service, accommodation) occupations rather than routine ones. On the other hand, the policies put in place to mitigate the damages of pandemic – such as the Next Generation EU – will probably affect the labor market in the opposite direction, through bigger support to digital and green jobs. Therefore, it is hard to say what the net impact will be on employment composition and how the PC will behave in the near future. ■

## About the authors

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