

Abstract

Nonparametric Evidence on Extent and Functional Form of Downward Nominal Rigidity in Germany: An Application of the Kernel-Location Approach

Christoph Knoppik, Thomas Beissinger and Barno Blaes

This paper is concerned with existence and extent of downward nominal wage rigidity (DNWR), which prevents the decline of nominal wages except when firms are under considerable financial strain. This type of wage rigidity changes the shape of the long-run Phillips curve, which for low inflation is no longer vertical but negatively sloped, as shown by Akerlof, Dickens und Perry (1996). If the chosen inflation target is too low, monetary policy is no longer neutral in its effect on long-run equilibrium unemployment, but leads to unemployment in excess of structural unemployment. Empirical evidence with respect to DNWR therefore is a necessary prerequisite for a cost-benefit analysis of low inflation targets adopted by many central banks.

This paper applies a novel approach to the analysis of DNWR in micro data, the so-called kernel-location approach. This approach, like other econometric approaches for the analysis of DNWR, has to solve the problem of how the distribution of desired wage changes (i.e. the counterfactual distribution) and the degree of nominal wage rigidity can be deduced from the observed wage change distribution (i.e. the factual distribution). The kernel-location approach combines kernel density estimation and the identifying principle of joint variation of location and shape of the distribution of percent annual nominal wage changes. It is a great advantage of the kernel-location approach over other approaches that it provides a quantitative estimate of the degree of DNWR without relying on assumptions with respect to either the functional form of the counterfactual distribution or the functional form of nominal wage rigidity.

Our paper applies the kernel-location approach to the regional file of the German IAB Employment Statistics (IABS-R) from 1975 up to 2001. Since Germany is the largest economy in the Euro area, the results are of some importance for the monetary policy of the European Central Bank. The IABS-R is a two percent random sample drawn from German social security records. The great advantage of the IABS is the high reliability of the earnings data due to plausibility checks that are performed by the social security institutions and legal sanctions for misreporting. Measurement error due to erroneous reporting is therefore not a problem in our analysis, in contrast to studies based on compensation data from household surveys.

The estimated degree of DNWR for salaried employees was found to be about 28 percent, i.e. over the sample period 28 percent of desired cuts in nominal earnings could not be enacted due to downward nominal wage rigidity. For workers the degree of DNWR is lower and amounts to 13 percent over the sample period. The estimated rigidity function suggests a uniform degree of DNWR for earnings reductions of different sizes and therefore supports the proportional model of DNWR used in Kahn (1997) and Knoppik und Beissinger (2003), rather than the threshold model of Altonji und Devereux (2000).

References

- Akerlof, G. A., W. T. Dickens und G. L. Perry** (1996) The Macroeconomics of Low Inflation [including comments by Gordon and Mankiw], *Brookings Papers on Economic Activity* (1), S. 1-59 [60-76].
- Altonji, J. G. und P. J. Devereux** (2000) Is there Nominal Wage Rigidity? Evidence from Panel Data, *Research in Labor Economics* **19**, S. 383-431.
- Kahn, S.** (1997) Evidence of Nominal Wage Stickiness from Microdata, *American Economic Review* **87** (5), S. 993-1008.
- Knoppik, C. und T. Beissinger** (2003) How Rigid are Nominal Wages? Evidence and Implications for Germany, *Scandinavian Journal of Economics* **105** (4), S. 619-641.