

How wage sensitive is the German labour market? A sensitivity analysis using the German input-output model INFORGE

Topic: Policy Analysis with Interindustry Models

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This paper analysis the wage mechanism and its impact on employment. Basically, two forces can be observed: the cost effect and the income effect. Both effects coincide and may weaken or inforce the primary impact which depends mostly on the strength of price elasticity on the cost and on the demand side. A sector specific analysis is vital as price elasticities vary across different branches. This complexity of interaction is hardly to be solved by qualitative analysis but requires a quantitative and sector specific approach.

This paper examines sector specific wage reactivity by occupations by applying a macroeconomic input-output model. The applied model is an INFORUM-type of model with features such as bottom-up and total integration. As used herein, INFORGE is a national model only and is not linked to other models of the INFORUM family. INFORGE solves simultaneously and is dynamic over time. Parameters and their elasticity values are estimated econometrically. Input-output tables and national accounts are the two main datasets and allow to capture direct, indirect and induced transmission mechanisms. The labour market in this version of INFORGE has been extended with detailed data on employment and wages by sectors and occupations. Labour demand and supply are linked on occupational level. Wages are estimated on occupational level determined not only by sector specific productivity changes but also by occupation specific labour scarcity.

The sensitivity analysis assumes a 1% additional wage impact on sector specific wages by occupation. Separately and consecutively, the 1% impact is added on 116 sector specific wages by occupation. By using four different indicators (radius of impact on macro level, Hoover-distribution on occupational level, Herfindahl concentration on sectoral level, Low-qualification-quotient), the impact on employment are evaluated.

The results confirm basically the dominance of the negative impact on employment of wage increases in all occupations. However, the decrease is in all cases are lower than the primary impact suggest. However, the direct negative impact are overcompensated in some occupations with a large number of employees due to the raise in income: employment increase can be observed in other sectors.