

Method for estimating the degressivity of unemployment benefits

The text below is based on an excerpt from Cronert (2021)

To my knowledge, no method has previously been devised to measure the degressivity of UBs in a comparative setting. In a first attempt to create such a measurement, I draw on a method developed by Haman (2017) for analyzing the degressive proportionality of parliamentary seat-share distributions, and propose an estimation technique where the degressivity of a UB system is a parameter (d) that can be determined by means of curve-fitting regression using the least square method with the following model:

$$\hat{R}_t = aM_t^{-d} \quad (1)$$

Here, \hat{R}_t is the net replacement rate of UBs at unemployment duration t and M_t is the unemployment duration in months at observation t . a and d are regression parameters, where d is the sought degression power parameter that ranges from 0 to 1.¹ For duration-invariant replacement rates, the model cannot be fit to the data and d is instead set to 0.

Using this method, I estimate a degressivity parameter pertaining to the net replacement rate for a single-household average wage earner over up to the first 36 months of unemployment, as observed in OECD's (2019) data on net replacement rates for unemployment spells of different lengths in 20 countries between 2001 and 2015. The estimation is conducted with Stata's `-curvefit-` command using observations for $t \in \{2,4,6,8,10,12,18,24,30,36\}$ months, for as long as the net replacement rate exceeds 0.

As discussed in the chapter, this parameter indicates an upward convergence especially towards the end of the period. The most substantial increase has occurred in Germany, first in 2005 and then again in 2011. Other observed increases include the Netherlands in 2007, Norway in 2008, and Denmark beginning in 2012. These changes are typically associated with a reduction in net replacement rates towards the end, but not in the beginning, of the 36-month period. Contrastingly, in the Anglo-Saxon countries, where replacement rates have remained duration-invariant, d has consistently remained at 0.

References

Cronert, A. (2021). "Unemployment Benefits in the 21st Century: New Dimensions of Retrenchment and the roles of Austerity and Populism." in B. Greve (ed.), *Handbook on Austerity, Populism and the Welfare State*, Cheltenham: Edward Elgar Publishing.

Haman, J. (2017). "The Concept of Degressive and Progressive Proportionality and Its Normative and Descriptive Applications." *Studies in Logic, Grammar and Rhetoric*, 50(1), 67-91.

OECD (2019). Net Replacement Rates in unemployment 2001–2018. Benefits and Wages. Retrieved October 29, 2019, from <https://www.oecd.org/els/soc/benefits-and-wages/data/>.

¹ By way of example, when the method is conducted on the average benefit profiles for 2001 and 2015 – plotted in Figure 3 in Cronert (2021) – the estimates of d are 0.16 and 0.21 respectively. Parameter a (estimated at 65.4 and 69.7, respectively) has no specific interpretation.