

# STICKER SHOCKS: USING VAT CHANGES TO ESTIMATE UPPER-LEVEL ELASTICITIES OF SUBSTITUTION

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## **Abstract**

We estimate the upper-level elasticity of substitution between goods and services of a nested aggregate CES preference specification. We show how this elasticity can be derived from the long-run response of the relative price of a good to a change in its VAT rate. We estimate this elasticity using new data on changes in VAT rates across 74 goods and services for 25 E.U. countries from 1996 through 2015. Depending on the level of aggregation, we find a VAT pass-through rate between 0.4 and 0.7. This implies an upper-level elasticity of 3, at the lowest level of aggregation with 74 categories, and 1 (Cobb-Douglas preferences) at a high level of aggregation that distinguishes 10 categories of goods and services. (JEL: E19, E21, D12)

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