

# Ph.D. thesis investigates the effects of economic uncertainty in Europe

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In current turbulent times, people are concerned not only about their health, but also about their economic situation. While many research papers focus on the economy of the United States, the doctoral thesis defended recently at TalTech investigates the developments in European

economies.

At TalTech Department of Economics and Finance, Natalia Levenko defended her doctoral thesis "Uncertainty and Measurement in Macroeconomics," which focuses on the factors behind and the consequences of uncertainty that accompanies the economic downturns in Europe.

Natalia Levenko, lecturer at TalTech Department of Economics and Finance, says, "The thesis consists of three publications covering selected macroeconomic topics with a special focus on economic uncertainty and measurement. The overarching theme of the doctoral thesis was economic uncertainty and data quality, with a focus on the issues related to decomposition of economic growth, household saving, expectations and measurement of perceived uncertainty."

Publication I of the [doctoral thesis](#), "Total factor productivity growth in Central and Eastern Europe before, during and after the [global financial crisis](#)," studies the sources of economic growth in 11 Central and Eastern European (CEE) countries that joined the European Union in 2004 or later. New reliable underlying data were provided, computing also total factor productivity (TFP) figures for a set of CEE countries. It appeared that while TFP growth and capital deepening were the main contributors to output growth in the sample countries before the financial crisis in 2008. During the crisis, the patterns of growth decomposition were quite heterogeneous across CEE countries. Weak output growth after the crisis was paired with sluggish TFP growth in all of the sample countries.

Publication II, "Perceived uncertainty as a key driver of household saving," focuses on household saving behavior in the context of labor income uncertainty. The paper distinguishes between actual and perceived uncertainty. Actual uncertainty arises from the actual realization of an economic shock, perceived uncertainty can be thought

of as expectations about possible shocks in the future. The paper uses a dynamic panel of 22 European countries and applies system GMM on aggregate country-level data. The paper finds that the household saving rate is persistent and is mostly driven by potential income growth and labor income uncertainty. Credit availability, interest rates, and inflation have little or no effect on saving. The main findings of the paper are that consumer expectations matter for the saving behavior of households. This knowledge might be of importance for economic policy making of the countries during economic crisis.

Publication III, "Rounding bias in forecast uncertainty," examines a widely-used measure of forecast uncertainty, the mean individual variance of density forecasts, which shows in what range forecasts can vary. The paper shows that the mean individual variance of density forecasts, which is often referred to as a direct measure of uncertainty, is a noisy proxy for uncertainty and is a function of exogenous processes such as developments in the computer software market or improved professional training.

"The findings of all three publications are relevant for empirical studies, particularly in times of recessions, when it might be important to have a precise idea of the dynamics of growth and the movements of uncertainty. It appeared that not only the current state of the market but also the perceived future perspectives have a significant effect on the household saving rates. This can become a problem during an economic downturn, since household savings rate tends to increase more than is economically optimal due to discouraging future perspectives. However, consumers' expectations can be influenced, and through this economic growth can too," Levenko says.

**More information:** Thesis: [digikogu.taltech.ee/et/Item/53...5c-b476-3255c3388379](http://digikogu.taltech.ee/et/Item/53...5c-b476-3255c3388379)

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