HAIOPOLICY

The impact of COVID-19 on heterogeneous households and businesses, and implied optimal policies

PROJECT DESCRIPTION

Context, general objectives and underlying research questions

On top of a tragic global health crisis, with close to 6 million official deaths and 400 million infections, the COVID-19 pandemic has caused the largest decline in aggregate supply and demand since World War II. GDP in most Western countries fell between 5 and 10% in 2020. Belgian GDP declined with 6.1%. The economic impact of COVID-19 in Belgium was three times larger than the financial crisis in 2008-2009. In the aftermath of the COVID-19 pandemic, inflation is reaching mid-1980 levels and EU member states face sharp increases in government debts and deficits.

This project aims to understand the socio-economic impact of COVID-19 and other similar future shocks on vulnerable groups and inequality in Belgium, and how to make our economy more resilient in response to such shocks**. First, missing evidence on the impact of COVID-19 on vulnerable groups (businesses and households) for Belgium will be provided. Second, we will identify the causal impact of COVID-19 on output, employment, wages, productivity, income, and consumption patterns by region, occupation, demographics, education, and gender. Third, an integrated framework that allows for spillovers between production and consumption will be developed.** Shocks to both production and consumption affect inequality, in ways not studied before. On the consumption side, we build on recent insights on poor and wealthy hand-to-mouth consumers. On the production side, we focus on the propagations of shocks through supply chains. The crucial innovation is integrating the role of households as both consumers and suppliers of inputs to the production process. **Fourth, within this integrated framework, optimal policies, such as industrial and social policies will be analyzed.**

Methodology

We exploit **state-of-the-art methods from the econometrics of program evaluation to identify the causal effects of COVID-19 and short-term policies on outcomes for enterprises and households**. These methods allow to estimate treatment effects compared to a suitably chosen control group. These treatment effects are then used **as inputs for counterfactual analysis at a meso (sectoral) and macro (regional and federal) level.** Our methodological approach allows to exploit detailed firm- and household-level information to construct "what if" questions at an aggregate level with complex interactions. While the micro program evaluation methods identify average effects of units within groups, they cannot account for spillover or general equilibrium effects through interconnected production or consumption channels. To understand the convoluted effects of these shocks, **we will develop a structural general equilibrium framework**. **The key and novel component in this framework is that households are not only consumers facing a given budget constraint, but also potential workers in the production economy, receiving wages from labor and rents from investments. Incomes become therefore partly endogenous**. Building on our own recent work, we extend classical input-output models, relaxing some of its restricting assumptions (perfect competition, no substitutability etc.), to develop more realistic macro multipliers. These multipliers allow to simulate the impact of the relaunch programs and their effects. Finally, the quantitative framework allows for the analysis of detailed policy questions, while considering the complex interactions through the production and consumption side.

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Impact and expected results

This research project will generate **new scientific insights** on how vulnerable groups are affected through large and complex shocks such as COVID-19. The project will provide a near complete and detailed picture of the Belgian economy. The structural model allows to quantify through which channels vulnerable groups are affected and to detect what can be done to protect them. The model also provides a quantitative framework to think about social and industrial policies to support the relaunch, future growth, and resilience of Belgium. It can be used for both, ex post evaluation of rescue policies and ex ante simulation of suggested relaunch and growth policies. Finally, the integrated framework will provide a significant scientific contribution in terms of connecting households and production sides of the economy in one structural model.

The setup of the model ties **topical policy issues** together, such as income inequality, supply chain disruptions, inflation, and automatic wage indexation. The main team members have ongoing collaborations with government and public institutions and have been commissioned to perform evidence-based policy research in the context of COVID-19 and its economic fallout. This project will provide the context to continue this conversation among researchers and policy makers. We will also contribute to knowledge diffusion in several government institutions on state-of-the-art methods (both empirics and theory) that can be used to perform program evaluation and ex ante simulations.

We will communicate the main insights generated by this research project through a project website destined at a **general public**. We can thus contribute to a broader understanding on the network effects of adverse economic shocks and increasing societal support for targeted policies that may not directly benefit the majority of the population.

CONTACT INFORMATION

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LINKS

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