Economic Migration and Capital Flows: Designing Policies for Global Inequality Reduction

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Motivation

Inequality is widely considered to hinder economic growth and can potentially trigger social unrest. Historical records show that inequality varies largely over time and across countries, and ongoing trends are a source of growing concern. In this research, we aim to enhance the understanding of the driving forces of inequality, and propose market policies able to reduce international inequality. We do this by developing a network model that consolidates the intertwined effects of migration and foreign direct investment on the consumption distribution. Based on the theoretical framework, we aim to design regulatory responses that maintain high levels of economic welfare while reducing inequality.

Relevance

- We contribute to a better understanding of inequality dynamics and deal simultaneously with multiple countries/regions and the interaction between labor and capital flows.
- We present a theoretical model that considers economic migration and foreign direct investment as the main driving forces of the inequality dynamics. The regulatory constraints on the movement of labor and capital are an integral part of the model.
- We provide a tool to test the effect of regulations on economic welfare and welfare distribution. The model is useful for the design of a regulatory framework.

Network dynamics

- Labor dynamics are driven by population growth, population shocks, and wage differentials
- Capital dynamics are driven by saving and depreciation rate, investment, and capital interest rate differentials
- Regulations apply to the openness of the labor and capital markets, and affect the magnitude of network flows

\[ L_i(t) = n_i L_i(t) + \sum_{j \in E} (F_{ij}(t)L_i(t) - F_{ji}(t)L_j(t)) + D_i(t) \]

\[ K_i(t) = s_i Y_i(t) - d_i K_i(t) + \sum_{j \in E} (F_{ij}(t)K_i(t) - F_{ji}(t)K_j(t)) + D_i(t) \]

Feedback between network layers through wages and capital interest rates

Sensitivity analysis

- What are the policies that are successful in increasing welfare and reducing inequality?
- We study the sensitivity of social welfare and inequality in a three-country network with respect to the openness of the labor market.

Labor and Capital Flows

- Parameter values: \( n = [0.02, 0.03, 0.04] \) and \( s = [0.05, 0.06, 0.07] \)
- Highest values of social welfare correspond with lowest values of inequality

Dynamic Optimization

The labor and capital dynamics are integrated into a decision model to optimize economic welfare, represented by a social welfare function

\[ w_{WE}(c_1, \ldots, c_n) = \sum_{i=1}^{n} L_i \ln c_i \]

with \( c_i = (1 - s_i)Y_i/L_i \)

or inequality, represented by the standard deviation of the consumption per capita.

As an example, we optimize the social welfare with respect to the openness of the labor market. Different policies unfold for the different countries in the network.

Conclusions

- In view of the public concern about the economic impact of migration, the proposed model can provide policy support and inform decision makers about the consequences of labor and capital market regulations on economic welfare and inequality.
- Welfare and inequality are very sensitive to changes in the parameter space. Therefore, policy design requires a precise knowledge of the relevant determinants related to population growth, saving rates, and regulatory limitations.

Outlook

The current modeling framework can further be applied to answer the following questions:
- The framework is valuable to study the process of market liberalization and enables us to make an informed assessment of the effects of economic integration processes.
- The scenario in which countries cooperate, addressed in the section on dynamic optimization, can be complemented with a scenario where decision-making is distributed across the countries of the network. Under the assumption of non-cooperative countries, it is important to understand the impact of national policies on the economic welfare and welfare distribution.