

Copper forecasting Chile (COFORCE) – methodology and design of a macro-econometric input-output model for the Chilean Economy

Topic: Modeling the Chilean Economy to Analyze the Future of its Mining Sector

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The research project –Development of sustainable strategies in the Chilean mining sector through a regionalized national model– will analyze the socio-economic impacts of copper on the Chilean economy. For this a regionalized national model will be developed from scratch. It is based on the modeling philosophy of the INFORUM group and characterized as a macro-econometric input-output-model.

The analysis of copper and mining sectors are a major issue in Chile. Many studies have focused on this research area, but mainly do ex-post analysis and use General Equilibrium Models. Different to these approaches, we built a dynamic input-output model for the Chilean economy where parameters are estimated and the model equations are solved iteratively over time and no equilibrium condition are met. That means for instance, that the labor market does not necessarily balance also in the long run. The main features of the model are bottom-up modeling on 73 industry levels, total integration of input-output tables and national accounts that considers not only inter-industry relations but also income distribution and use. Further characteristics are bounded rationality of economic actors, imperfect markets as well as price rigidities. Demand and supply are both treated equally. The projection horizon of the model is 2035. The data used are official datasets compiled and provided by the Chilean project partners.

This paper is a methodology report on the construction of the model. It introduces the general modeling concept, shows some of its regression functions and the estimated parameters and illustrates the results of the baseline scenario of major indicators of the total economy and its sectors.