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## DETAILED POLICY IMPACT MODEL

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### OBJECTIVE

This report provides a detailed description of the economic model that has been developed for estimating the likely impacts of certain policy prescriptions arising from research results of earlier work packages. The specific model construct chosen is the GMR (Geographic Macro and Regional) modelling approach that has been applied earlier for Cohesion policy and EU Framework Program impact analyses at the levels of European regions, the European Union and Hungary. The particular country chosen for impact analysis is Turkey. This choice is motivated by practical reasons: availability and reliability of data for modelling. The objective of this report is to introduce GMR-Turkey. Its applications in actual policy analyses will be reported in working papers and in other deliverables.

The GMR framework is developed and extended in order to test as many policy suggestions generated in earlier work packages of SEARCH as possible. Instruments implemented in GMR-Turkey reflecting SEARCH policy suggestions are categorized into the following classes: (i) general *macroeconomic* (space-neutral) policy instruments (such as policies promoting increasing trade with EU countries, incentives for more intense FDI activity, policies supporting temporary migration, specific government tax and expenditure regulations to foster research activities and innovation collaborations); (ii) r*egional/local* (place-based) interventions (such as investment support of SMEs, research subsidies, promotion of more intense local knowledge flows and international scientific networking, physical infrastructure construction, promotion of human capital development by supporting education, place-specific incentives for attracting FDI).

### MAIN RESULTS AND POLICY IMPLICATIONS

This report provides only a detailed description of the model system and its estimation/calibration procedure. The main result is therefore an integrated geographic-macroeconomic model system fit for the specific features of the Turkish economy. The report provides some sensitivity analysis with respect to changes in the macroeconomic conditions. In brief, these analyses show that the effect of development policy interventions (under one specific specification for these interventions) is lower when the economy is hit by a positive shock to external

demand, generally higher when the expenditure structure of the government is shifted in favor of investments, higher when the overall productivity growth is higher, and also higher if the economy's steady state growth path is higher.

As indicated previously, the aim of this report is to provide a description of the estimated model system and its internal working mechanisms. In the light of this aim, the report has an indirect policy value-added by providing a policy simulation framework for Turkey. This framework will be directly used for policy impact analysis in a further deliverable of the project, contributing to direct policy value-added.