

Below you find a summary of our GTAP-related activities last year and our projects for this year. In general our activities can be distinguished in three broad categories: scenarios, climate-change policies and trade and integrations see also our website <http://www.cpb.nl/eng/general/org/afdelingen/iea/>

Scenarios (projects in progress)

The Future of Europe

Early 2003 we will publish a broad study of long-run trends and scenarios with a clear emphasis on the European economies. This study will pay special attention to pressure on European welfare states and to the problem of subsidiarity in four areas (Stability Pact, migration, fiscal harmonization and Social Europe). The Future of Europe develops four elaborate stories that sketch possible future worlds. Using our applied general-equilibrium model WorldScan we will quantify various aspects of these four scenarios, ranging from growth rates to trade patterns and from real interest rates to migration flows.

International scenarios for energy and climate

This project is another spin-off of our current work on scenarios and long-run trends. It will focus on different aspects of energy use: climate change policies; autonomous improvements in energy efficiency; liberalization of the European electricity market; greenhouse gas emissions. In this project we collaborate with the RIVM.

Climate change policies

Mocking at MACs. (in progress)

An assessment of marginal abatement curves from WorldScan

Marginal abatement curves (MACs) relate efforts to reduce the emission of greenhouse gases to (marginal) reduction costs. As such, MACs can be seen as a reduced-form relation of a full-fledged Applied General Equilibrium (AGE) model. MACs provide a quick and easy tool for the analysis of climate change policies. MACs derived from our AGE model WorldScan will be implemented in the FAIR model of the RIVM. The focus of this paper is to document regional MACs, derived from WorldScan. Furthermore, we assess the advantages and disadvantages of using MACs. We investigate the robustness of the MACs and derive "rules-of-thumb" that relate the direct abatement costs derived from MACs with the macro welfare losses.

REDEM2025

Definition of Greenhouse Gas Reduction Targets in the UNFCCC post-Kyoto Process up to 2025. The goal of this project is to support EU DG Environment in addressing the following questions:

1. What is the global reduction effort needed to meet the EU's long term climate objective?
2. How may this gap be shared in terms of emission allowances for all countries of the world?

3. How to assess alternative allowances in a perspective that combines economic effectiveness and international equity?

This study is carried out by an international consortium consisting of

- Institute of Energy Policy and Economics (IEPE-CNSR, France),
- the National Institute for Public Health and Environment (RIVM, the Netherlands),
- the ICCS-NTUA Economics-Energy-Environment Modeling Lab (Greece),
- Centre for Economic Studies of the KU Leuven (CES-KUL, Belgium).

In close collaboration with the RIVM, CPB will implement the REDEM baseline in WorldScan and analyze the economic implications of (a limited set of) burden sharing options.

Climate policy and European competitiveness (in Dutch)

Trade and Economic integration

The EU internal market in services (in progress)

EU commission published a report which made clear that the common market in services has not been very successful so far. Market integration in services is hampered by myriads of technical and legal barriers. This project analyses the sectoral and macro-economic consequences of lower and less barriers using WorldScan.

Trade liberalization, credit constraints and human capital investment

Trade barriers not only give rise to a static loss, but may also discourage investment in human capital when there are capital market imperfections. Low-skilled workers in developed countries might be trapped in low-wage jobs, as they cannot borrow to finance schooling. Trade liberalization, especially in agriculture, may affect credit-constrained schooling decisions in several ways. First, trade liberalization in agriculture will allow developing countries to ask higher prices for their products, raising the income of the low-skilled workers in this sector. On the other hand, also consumer prices will increase, especially in developing countries where food is still an important part of total expenditure, depressing real income. Hence, the overall income effect is ambiguous. In addition, there is a counteracting substitution effect. Trade liberalization is often believed to raise the skill premium in the developed countries, while lowering it in developing countries, decreasing the return to schooling in the latter group. This paper develops a theoretical model with two sectors, agriculture and manufacturing, and endogenous credit-constrained human capital investment. The theoretical model is confronted with empirical data. The empirical results show that trade barriers have a negative impact on human capital, especially barriers in agriculture. Also, a more unequal income distribution and the presence of credit constraints lower investment in human capital.

Turkish delight: assessing the economic benefits of Turkey's accession to the EU

This paper explores the economic consequences of the enlargement of the European Union with Turkey. Following Lejour et al., we adopt a gravity approach to estimate existing trade barriers

between the EU and Turkey. We then adopt a CGE model for the world economy, called WorldScan, to explore the economic implications of removing these trade barriers. This reflects the Turkish accession to the internal market. In this way, the economic implications for fifteen industries in several European countries are assessed. We also elaborate on the implications of immigration flows from Turkey for European labor markets.

Other activities

- Organization GTAP6 conference together with LEI and Tinbergen Institute.
- Improving bilateral trade data for the Netherlands by eliminating re-export flows. We have done this for our scenario study for a 16 sector version. It is the idea to do this for all GTAP sectors for the year 2001 and to provide this information to Mark Gelhar.
- Improvement for IO table for the Netherlands. We have done this for our scenario study for a 16 sector version. We want to continue this work for all GTAP sectors.