

Economic Evaluation of the Rahmenplan 2009 -2014

Executive Summary

1. Introduction

The ÖBB-Infrastruktur AG have implemented in 2006 and 2007 a standardised cost-benefit-analyses to evaluate all economic effects – within a company, in the economy and the environment.

The standardized cost-benefit-analyses has its focus on the investment period – design and construction – and the 30 year operating period. This model gives us the possibility to evaluate the economic effects of all projects using the same method.

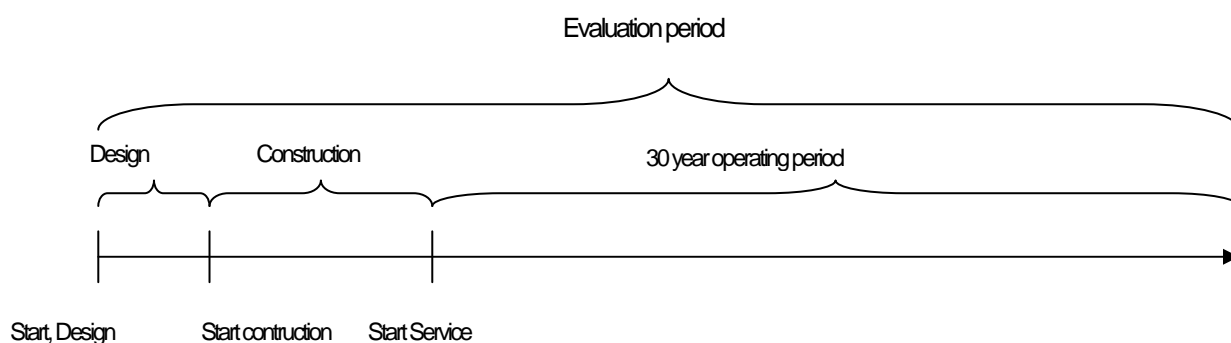


Figure 1: operating period

This study focused only on the projects contained in the Rahmenplan 2009 – 2014.

2. Evaluation of the Design and Construction period

In part 1 the effects of the design and construction period are evaluated. Our partner are WIFO and Joanneum Research, both are Austrian economic institutes.

2.1. Method

MultiREG integrates two model types, econometric models and input-output models, at the multiregional scale; a first and preliminary version has just been completed and is now undergoing extensive testing. The aim of building an integrated model is to benefit from the advantages of either model type and remedy their respective shortcomings. Integrating econometric and input-output models draws its motivation both from theoretical as well as practical aspects (Rey, 2000): for instance, instead of applying the linear production technology assumption of the standard input-output model, more flexible production functions

may be estimated and included in integrated models. Similarly, instead of assuming final demand to be exogenous as is often the case in a pure input-output framework a more theoretically sound treatment of private consumption, investment etc. can be achieved when an econometric modelling approach is applied. A high degree of industrial disaggregation (MultiREG comprises 32 industries, see also the Appendix), on the other hand, is often put forward as one of the main advantages of input-output models; this becomes especially important when the model is to be applied for impact analysis.

While the single-region models for Styria and Upper Austria were built very much in the tradition of Conway's integrated regional econometric input-output model (Conway, 1990), the modelling approach taken in MultiREG is closer to the one implemented in MULTIMAC (Kratena, 1994; Kratena and Zakarias, 2001), which in turn was developed along the lines of the INFORUM model family (Almon, 1991) and the European multiregional model E3ME (Barker et al., 1999). This implies that compared to its predecessors MultiREG not only replaces the single-region framework with a multiregional setting but relies to a much greater extent on functional forms consistent with microeconomic theory instead of pure statistically-driven variable relationships.

MultiREG's model structure is illustrated in Figure 2 simple description of the model's solution algorithm may start out with total final demand, which is composed of private and public consumption, investment, and regional and foreign exports. This demand can be met either by importing commodities from other regions or abroad or by commodities produced by regional firms. While foreign imports (and exports) are still exogenously determined in the first version of the model but will later be modelled separately, regional imports (and exports) are established in the interregional trade block. Regional production is simulated in the output block, where output prices and factor demand are derived based on cost functions. Factor demand consists of intermediate inputs (which feed back to total regional demand) and labour. By generating income, labour influences final demand. Another feedback channel will operate via output prices, since changing relative prices lead to changes in the demand for foreign exports (and foreign imports). Finally, changing regional production patterns also lead to changes in regional trade patterns.

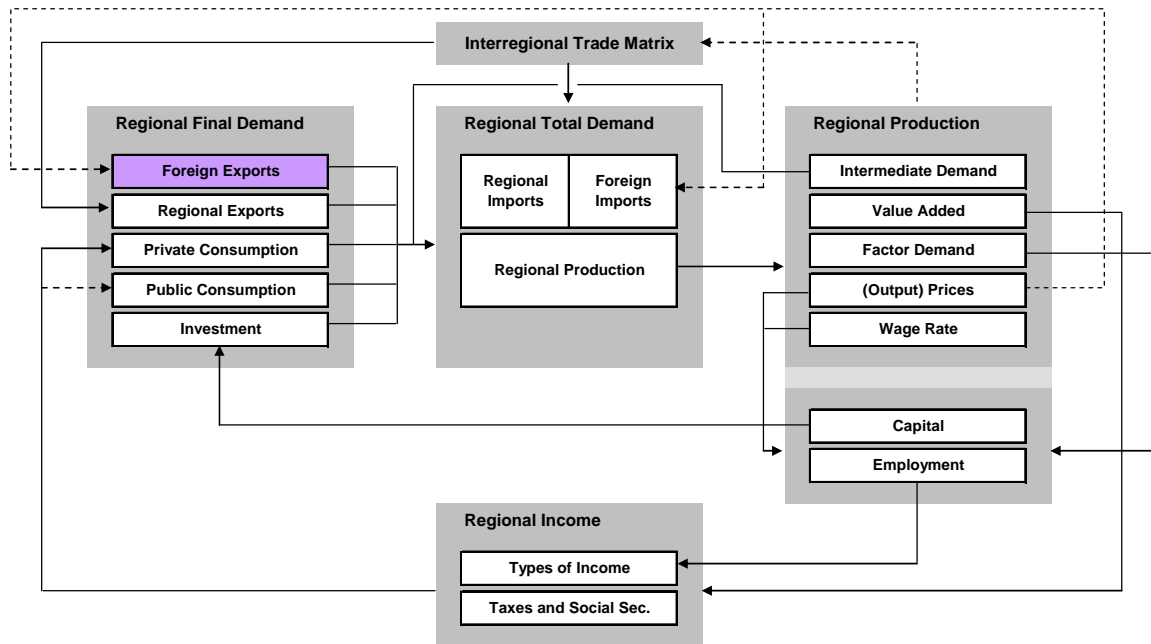


Figure 2: The structure of MultiREG

3. Evaluation of the operating period

In part 2 the effects of the operating period are evaluated. This part was edited by IHS (Institute for Advanced Studies) an Austrian economic institute.

3.1. Method

Figure 3 summarizes the structure of the EAR (economic accessibility and regional) model. Regional growth is a function of infrastructure, regional structure, integration of regions, and traffic related accessibility.

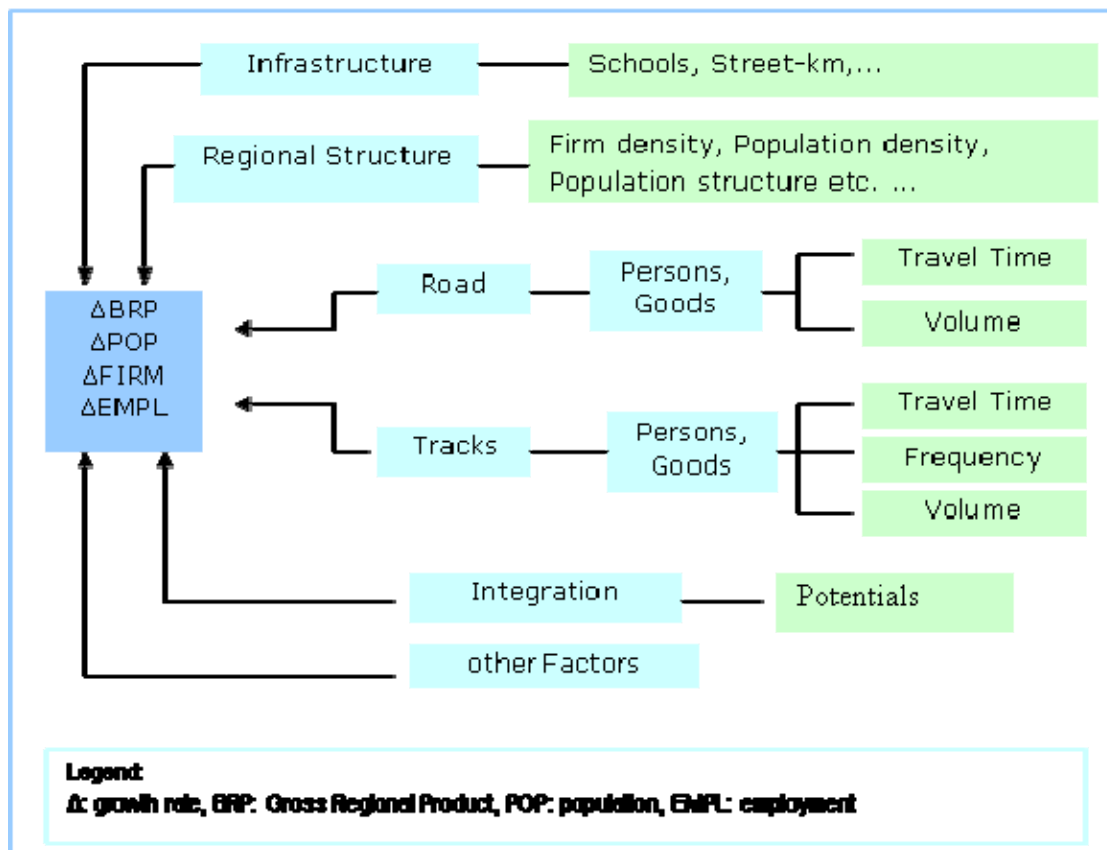


Figure 3: Structure of the EAR model

Infrastructure is an important factor for economic growth and development of a region. A well-developed infrastructure ensures mobility of production factors within and across economies and should lead to a more efficient allocation and utilization of resources.

Demographic structures are an important determinant for regional developments, as e.g. in regions with an older population we cannot expect a high population growth. Another feature of the regional structure is the firm and population density. On average the prices of land in a region that is more densely populated will be higher. As a consequence the costs of establishing a firm will be higher in more densely populated areas.

As the role of accessibility was discussed in the previous section it will not be described further here.

4. Results

39 Mrd Euro (real 34 Mrd Euro) are invested in 87 single and general projects in the period 1995 – 2025. You can find the economic effects in chart 1.

Chart 1: Economic effects of the Rahmenplans 2009

Economic Effects of the Rahmenplan 2009 - 2014									
investment 1995 - 2008 (in Mio Euro):	11.463,70								
planned investment (in Mio Euro):	22.561,00								
	2009	2010	2011	2012	2013	2009-2013	2009-2018	2009-2023	2009-2028
Investment (in Mio Euro)	2.217,22	2.091,29	2.051,56	1.867,51	1.677,99	9.905,56	17.938,66	21.572,64	22.561,00
added value (in Mio Euro)...	2.700,00	2.600,00	2.600,00	2.400,00	2.300,00	12.800,00	26.600,00	30.000,00	31.000,00
employment	41.500,00	40.800,00	41.000,00	38.700,00	36.700,00	39.700,00	38.000,00	32.000,00	26.000,00
Added value in the operation periode									
added value (in Mio Euro)	26.700,00								
employment	48.500,00								

The estimated impacts on the Austrian economy include an improvement of the gross domestic product (GDP) of 52 Mrd Euro (cumulated to 2030) and 750.000 labor years are saved and created. The generated tax is estimated to be 12 Mrd Euro, 2/3 are for the federal system, 16% goes to the local governments and to the communities and further 10 Mrd. Euro are social charges.

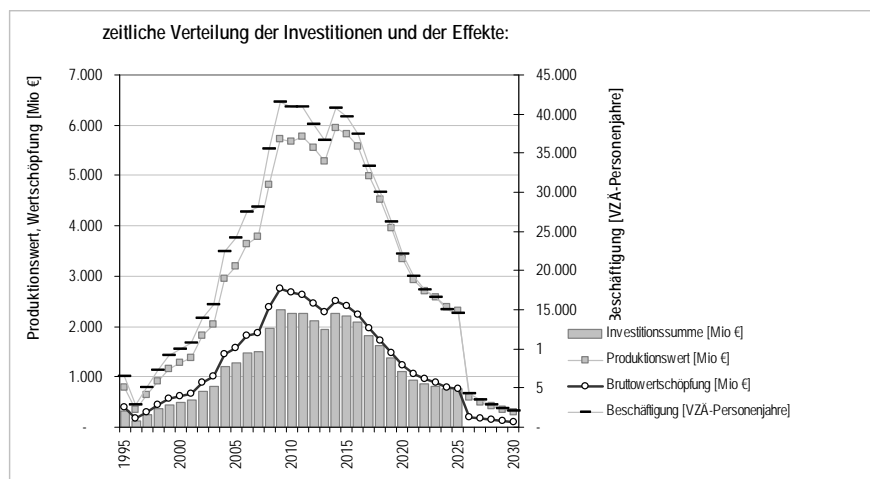


Figure 4: economic effects of the Rahmenplans 2009-2014 design and construction period (source: MultiReg-Modell WIFO/ Joanneum, 2009)

In the operating period the projects of the Rahmenplan 2009-2014 show a further potential growth of GDP of 26,7 Mrd Euro (real) and 48.500 labour years are created and saved. The generated tax shows a potential of 8,6 Mrd Euro, ca. 43% goes to federal government, further 43 % are social charges and 16% are for the local goverments and communities.

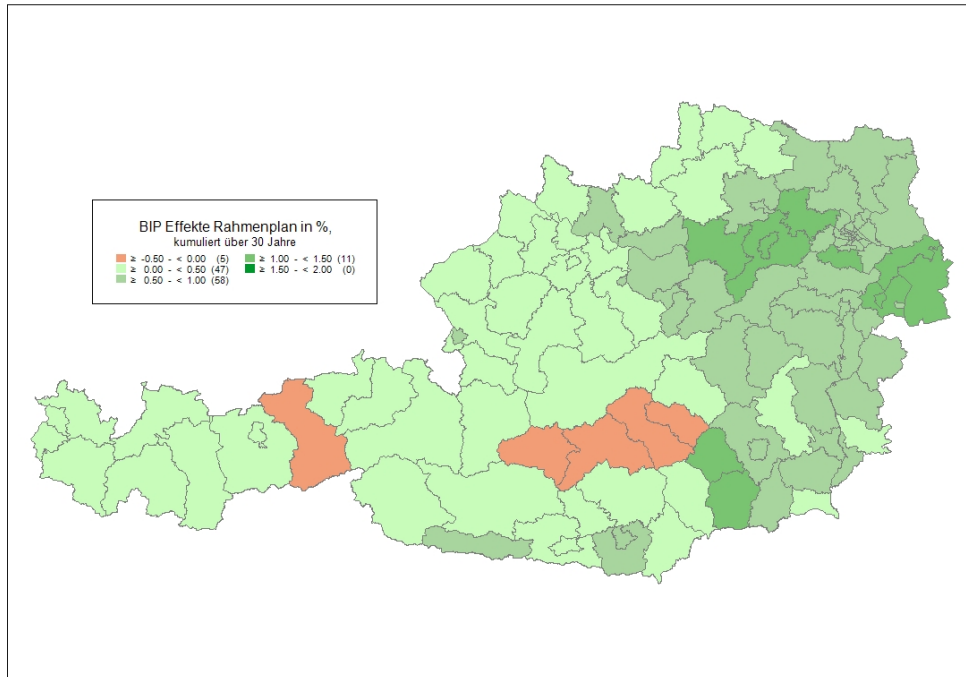


Figure 5: regional economic effects of the Rahmenplans 2009-2014 – real GDP cumulated over 30 years (source: IHS-EAR Modell, 2009)