

## PERSONALIA

Name: Christophe Heyndrickx  
Date of birth and location: 14/12/1983 Wilrijk (Belgium)  
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## ACADEMIC RECORD

Master in advanced economics, graduated 2007, K.U. Leuven  
Thesis: Gasoline taxes and capacity choice in the median voter model”  
Promotor: Prof. Dr. Stef Proost

Master in bio-engineering, agricultural and environmental economics, graduated 2006, K.U. Leuven  
Thesis: Economic assessment of a small project involving sugarcane in Ecuador.  
Promotor: Prof. Dr. Ir. Eric Tollens

## CURRENT STATUS AND AFFILIATION

Current work situation: junior researcher at Transport & Mobility Leuven since 01/07/2007

Transport & Mobility Leuven (TML) specializes in quantitative research of problems in transport, mobility, regional development and environment. We are composed of 15 motivated young researchers having training in engineering, transport economics, environmental evaluation and transport modelling. Most of our research is project based on request of EU or national governments. [www.tmleuven.be](http://www.tmleuven.be)

## SCIENTIFIC CV

My past and current projects were largely focussed on research and model development. The main themes are spatial equilibrium modelling, econometrics (also spatial econometrics) and sustainability indicators.

### *Research reports*

- Heyndrickx C., Van Steenberg A., Mayeres I., Hamaide B., Eraly T., Witlox F. and Ivanova O. (2009), Development of an Integrated Spatio-Economic-Ecological Model methodology for the analysis of sustainability policy, Final report of the ISEEM project

### *Conference papers*

- GTAP conference in Helsinki (2008), The new European Model for the Assessment of Environmental, Economic and Social effects of Sustainability Policies (EDIP): application on the Eurovignette scheme
- ERSA conference in Lodz (2009), A charge for freight transport, an application of the Integrated Spatial-Economic Ecological Model (ISEEM) for Belgium

### ***Contribution to EU project deliverables***

- REFIT D 4.2 (2008), Assessing transport policy impacts on transport safety, on equity and on income distribution
- REFIT D 6.2 (2008), Strategic Sustainability Assessment of European Transport policies
- REFIT D 6.3 (2008), Sensitivity analysis
- SUSTRUS D 1.2 (2009), Spatial - economic - ecological model for the assessment of sustainability policies of the Russian Federation

## **PAST RESEARCH PROJECTS**

### **RAEM 3.0 and ISEEM models (2007- Feb. 2009)**

These models are spatial equilibrium models for the Netherlands and Belgium. Both models have a similar basis, where ISEEM is an extended version of the old RAEM model to evaluate sustainability policies.

The RAEM model was originally developed by the Dutch research company TNO. The work was continued (version 3.0) by Transport & Mobility Leuven. My involvement in the model construction was limited, however I was responsible for estimating the regional elasticity of substitution. The construction of the ISEEM model took place in a federally funded programme (Federal Science Policy of Belgium). I was closely involved in the construction of the ISEEM model and corresponding code. In the second half of its running time, I became coordinator of the project.

### **REFIT framework programme (2007-2008)**

This project involved the sustainability of the transport sector and transport policy in the entire EU. The results of several models were linked (TRANSTOOLS, TREMOVE, CGEurope) and a new computable general equilibrium model was constructed (EDIP). Also set of sustainability indicators concerning transport were developed during the project. I was involved in the construction of EDIP, which was the responsibility of our company. Also I developed and worked out the results of a set of social and economic indicators.

## **CURRENT RESEARCH PROJECTS**

### **SUSTRUS model (2009-2011)**

This project involves the construction of a spatial equilibrium model for Russia, involving economic, social and environmental levels for the analysis of sustainability policies. I am responsible for the economic sub module, which will be based on current state-of-the art techniques and our earlier work on RAEM and ISEEM.

### **TIGER model (2010 -2011)**

The TIGER model will be a spatial general equilibrium model for the Netherlands, Belgium, Germany (partial) and Luxemburg. It will be focussing on transport, infrastructure and mobility problems. When it is finished, it should be one of the most extensive spatial equilibrium models in transport for the entire region.

## **CAREER PLANS**

My current working situation offers plenty of opportunities for research based work. Our close link to universities (KU Leuven), to the EU commission and to research institutes (like TNO) enables me to enhance my experience as a researcher. I would like to continue in the same way, combining applied and academical research work and improving my skills in applied economic modelling.

## MOTIVATION LETTER

Dear Sir/Madam,

The ERSA summer school is a great opportunity for a young researcher to improve his or her skills. It also offers an excellent place to get comments and input from other researchers on my current and past research. The combination of learning, application of the materials and presenting your work is something which I like a lot about the ERSA summer school. It is a short but very intensive training in the field, which fills your head with ideas for the years to come.

The broad range of application and themes especially with direct relevance to my own work, would present a value added for me personally and will also be beneficial for the projects I am involved in. The topics on productivity, road pricing, spatial equilibrium and financing of regional infrastructure fit perfectly in my current modelling efforts. I will be able to apply knowledge directly in my own work as well as disseminate it through our research company TML and via our link to the university. Every month we hold seminars to present our work to a small network of researchers.

The ERSA summer school is also a nice place to make contacts with other researchers, providing a basis for joint research efforts and cooperation between different fields of research. An exchange of ideas with people in similar situations as your own (and with similar problems) can be very refreshing and useful.

For these and other reason I would like to express my sincere motivation to participate in the ERSA summer school and make it a big success.

Kind regards,  
Christophe Heyndrickx

## CONTACT ADRESSES OF RESEARCHERS

Prof. Dr. Stef Proost  
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## TITLE AND ABSTRACT OF PRESENTATION

### **The TIGER Model: Application of detailed passenger and freight transport in a regional CGE setting**

The present paper describes the construction and first empirical application of the TIGER model (TIGER is an abbreviation of “Transport and Infrastructure General Equilibrium model for Regions”). The TIGER model belongs to the group of regional CGE models, applying a mix of conventional modelling techniques used in standard computable general equilibrium models and New Economic Geography elements. The TIGER model can be used to evaluate transport policies on economic and environmental effects. Innovative features of the TIGER model are the detailed modelling of the transport sector and modelling of commuting and migration decisions. The approach of the TIGER model is to model cross-border related transport policies on a disaggregate level, with freight and passenger transport flows, allowing for different transport modes (road, water, rail), distinguishing between public and private transport, and for different transport motives. Commuting trips will be modelled in detail, by a location-attraction function, jointly determining area of residence and place of work.

The TIGER model is constructed as a regional model on the NUTS-3 level for Belgium, the Netherlands, Luxemburg and a part of Germany, where regions are linked by interregional trade flows, transport trips and migration. In a similar way the model can be extended to all NUTS-3 regions in Europe. This paper will relate on the construction of the database for the model and the addition of innovative elements in the model, necessary to model transnational passenger and freight flows. The construction of the model is based on the available data in the TRANSTOOLS database.

The detail offered by the TIGER model allows for a quantitative evaluation of effects of several transport policies with a transnational dimension in the Benelux and Germany. We will present results of the TIGER model based on a current project in the Benelux.