VU university amsterdam

PhD position Economic Flood Damage Modeling f/m

For 1.0 fte

Vacancy number: 1.2010.00144

The applicant will be based in the Department of Environmental Economics at the Institute for Environmental Studies (IVM). This department is an international research group of about 25 researchers, faculty members and PhD students. The department has a leading role in the economic assessment of environmental change, in particular economic resource modeling, economic valuation of ecosystem services and market based instruments. The group works on a variety of research topics, including adaptation to climate change, renewable energy, behavioral choice experiments, biodiversity conservation, risk and uncertainty, water pricing, mapping and modeling of ecosystem services, and environmental management and poverty alleviation. The group aims at publishing high-quality interdisciplinary research in peer-reviewed journals and works together with the other departments in IVM on ecology and governance**.**

Tasks

How do flood risks impact behavior of firms and households and regional economic development? Indirect effects are expected to be substantial and include long-term damage to firm supply chains, migration of households and firms, real estate prices and labour markets. Computable General Equilibrium (CGE) models are one way to capture the effects of business interruption. However, the equilibrium approach typically employed in CGE-models is in need of further investigation to handle the uncertainty, disruption and discontinuities related to flood events. Impacts on real estate values, changing behavior of investors and public recovery plans may structurally impact sectoral and regional development paths.

Central research questions of the PhD study are:

- What are the impacts of a flood event and flood risk on adaptive behavior of firms and households?
- How do regions recover from flood events?
- How do adaptive behavior and learning affect the economic impacts of future flood risks?
- What is the role of governmental policy in economic recovery of the flooded region?
- How can the direct and indirect impacts of a flood event and flood risk be modeled so as to advise government policy?

The approach will be to combine the RAEM E3 CGE-model with modeling approaches based on evolutionary economic concepts such as multi agent modeling to arrive at an integrated model framework for pre-flood and post-flood behavior of economic agents. This will provide a basis for the evaluation of future flood risks. Three steps are foreseen to arrive at an integrated modeling framework. The first step is dedicated to a better understanding of the economic effects of floods at the regional level and their modeling within a CGE modeling framework. The second step entails a study of the changes in adaptive behavior of households and firms as a reaction to a flood event (learning) and future flood risk. The focus of this part is on the evolutionary dynamics of economic recovery and development in the context of climate change and flood risks. This includes adaptive behavior and technology investment decisions of heterogeneous groups affected by flood risks. Furthermore the possible roles government can play during recovery is assessed. In this second step an evolutionary economics based modeling framework will be developed. The third step aims to link the previous two approaches and findings within an extended integrated modeling framework, including an extended version of the RAEM-E3 model to assess the wider economic impacts of flood risk policy scenarios.

Requirements

The candidate should have a MSc degree in economics or econometrics, and experience with data work and modelling. You have good mathematical and programming skills. You are familiar with statistical and modelling software such as GAMS, MATLAB and STATA. You have good communication skills, and are able to operate independently and resourcefully. You also need excellent (English) writing and presentation skills. Previous experience with CGE or multi-agent modeling and water and/or flood-related issues is an advantage**.**

Further particulars

The candidate will work both in Amsterdam and Delft. The PhD candidate is supervised by Prof. dr. Roy Brouwer (Institute for Environmental Studies, VU University Amsterdam), Prof. dr. Piet Rietveld (VU University Amsterdam), and Dr. Olga Ivanova (TNO Innovation & Environment, Delft).

The initial appointment will be for a period of 1 year. After satisfactory evaluation of the initial appointment, it can be extended for a total duration of 4 years. You can find information about our excellent fringe benefits of employment at www.workingatvu.nl

Salary

The salary will be in accordance with university regulations for academic personnel, and range from € 2.042,- gross per month in the first year up to € 2.612,- gross per month in the fourth year, based on a fulltime employment.

Information

For additional information please contact: prof. dr. ir. R. Brouwer
Phone number + 31 20 59 85608
E-mail: roy.brouwer@ivm.vu.nl
More information about the department can be found at: www.ivm.vu.nl.

Application

Applicants are requested to write a letter in which they describe their abilities and motivation, accompanied by a curriculum vitae and one or two references. Written applications should be sent before June 15 2010 to: the VU University Amsterdam, Faculty of Earth and Life Sciences, attn. Dr. J.M.R.M. Neutelings, managing director, De Boelelaan 1085, 1081 HV Amsterdam,The Netherlands. It is also possible to apply by e-mail to: falw-vacatures@falw.vu.nl.
Please mention the vacancy number in the e-mail header or at the top of your letter and on the envelope.

Any other correspondence in response to this advertisement will not be dealt with.