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Economic consequences of climate change impacts on road transportation network in Atlantic Canada

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Climate change impacts such as an increase in mean temperature, change in precipitation patterns and sea level rise are affecting regional road transportation network in Atlantic Canada. Those impacts cause direct and indirect economic consequences for the network and regional economy. In our study, we constructed a dynamic Computable General Equilibrium Model (CGEM) to trace these consequences over time. Basic principles of the designed CGEM are discussed and the model's architecture is presented. The model's elements are estimated and the obtained CGEM is tested with exogenously imposed shocks. Dynamics of regional temperature, precipitation and sea level is analyzed on the basis of comprehensive time series analysis. This dynamics is imposed on the designed CGEM as external productivity shocks. Some preliminary cumulative economic consequences are evaluated in monetary terms to obtain benchmarks for the mitigation measures associated with future development of the regional road transportation network.

Biography

Yuri Yevdokimov is a Professor at the University of New Brunswick (Fredericton, Canada). He has completed his both degrees in Economics and Engineering. He holds a joint appointment in the Departments of Economics and Civil Engineering. He has acquired his degrees in three different countries: Former Soviet Union (MSc equivalent in Engineering and PhD equivalent in Economics), USA (MSc in Economics) and Canada (PhD in Economics). His research interests lie in the field of sustainable development particularly sustainable transportation and sustainable energy. His work has been published in academic journals and conference proceedings in USA, Canada, Spain, Croatia, Indonesia, France, Greece, Germany, India and former USSR, particularly in Russia and Ukraine. He has more than 20 publications to his credit; one monograph, thirteen refereed journal articles and nine chapters in books are among these publications. Since 1999, he has taught energy economics and transportation economics for graduate and undergraduate students at the University of New Brunswick in Canada.

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