

CURRICULUM VITAE

NAME : JUSTIN JOHNSON KAKEU KENGNE

ADDRESS : 6225 Place Northcrest, #401, Montreal QC H3S 2T5, Canada

Phone numbers : +1-514-775-3030 (mobile)
+1-514-343-6111 #3629 (office)

Fax : +1-514-343-7221

E-Mail : justin.johnson.kakeu.kengne@umontreal.ca

CITIZENSHIPS : Cameroonian, Permanent resident of Canada

FIELDS OF SPECIALIZATION : Environmental and Natural Resource Economics, Industrial Organization

Ph.D. THESIS Title : Essays on Environmental and Natural Resource Economics under Uncertainty
Thesis supervisor : Gérard Gaudet
Date of completion : Summer 2010

EDUCATION 2010 (expected) : Ph.D. in Economics, Université de Montréal, Canada
2002 : Master's in Statistics and Economics, ENSEA, Abidjan, Ivory Coast
1999 : Master's in Applied Mathematics and Mechanics, University of Dschang, Cameroon
1997 : Bachelor's in Mathematics, University of Dschang, Cameroon

PROFESSIONAL ACTIVITIES

Fall 2009 : Lecturer, Principles of Economics, Université de Montréal
Fall 2008 : Lecturer, Principles of Economics, Université de Montréal
Winter 2008 : Lecturer, Principles of Economics, Université de Montréal
Winter 2009 : Teaching assistant, Quantitative Methods for Business Management, HEC Montréal
Fall 2008 : Teaching assistant, Differential and Integral Calculus, ETS Montréal
2002-2005 : Lecturer, Inferential Statistics, University of Douala, Cameroon
Economist, Department of Economic Forecasts, Cameroon
1998 : Teaching Assistant, Mathematical Analysis, University of Dschang, Cameroon

FELLOWSHIPS 2009-2010 : Ph.D. Fellowship, Fonds québécois de recherche sur la société la culture (FQRSC)
Ph.D. Fellowship, Faculté des études supérieures, Université de Montréal (desisted)
2007-2009 : Ph.D. Fellowship, Banque Laurentienne
2005-2007 : Ph.D. Fellowship, Department of Economics, Université de Montréal
2001 : Master's Fellowship, Ministry of Foreign Affairs, France
1998 : Master's Fellowship, Ministry of Higher Education, Cameroon

PAPERS

«The Quest for Hegemony Among Countries and Global Pollution» (with Gérard Gaudet) [**JOB MARKET PAPER**].
«Estimation of the Hotelling Rule under Stochastic Investments Opportunities».
«News and the Management of Natural Resources Assets».

WORK IN PROGRESS

«Open Access Fisheries, Property Rights, and Piracy in the Gulf of Aden» (with Octave Keutiben).
«Implications of Habit formation for the Hotelling Rule» (with Gérard Gaudet).
«Including Ecosystem Considerations in the Great Fish War» (with Bruno Nkuiya).

PRESENTATIONS AT CONFERENCES :

“Quest for Hegemony Among countries and Global Pollution” :

- Montreal Natural Resource and Environmental Economics Workshop, February 2009.
- Conference of the Canadian Economic Association, Toronto, May 2009.
- Congrès de la Société canadienne de science économique, Sainte-Adèle, May 2009.
- Conference of the European Association of Environmental and Resource Economists, Amsterdam, June 2009.
- Workshop on Game Theory in Energy, Resources and Environment, GERAD - HEC Montréal, November 2009.

“Estimation of the Hotelling Rule under Stochastic Investments Opportunities” :

- Montreal Natural Resource and Environmental Economics Workshop, January 2009.
- CIREQ Ph.D. Student Conference's, McGill University, Montreal, May 2009
- Canadian Resource and Environmental Economics Study Group, October 2009.

“Hotelling Rule with Stochastic Differential Utility and Habit Formation” :

- Third Annual Student's Conference on Business Research, HEC Montréal, April 2009.

RESEARCH INTERESTS

Environment and Natural Resources, Industrial Organization, Applied Econometrics, Asset Pricing.

REFERENCES

Gérard Gaudet : Université de Montréal +1-514-343-7908gerard.gaudet@umontreal.ca
Benoit Perron : Université de Montréal +1-514-343-2126 benoit.perron@umontreal.ca
Sidartha Gordon : Université de Montréal +1-514-343-2399 sidartha.gordon@umontreal.ca

SUMMARY OF MY THESIS

My thesis is composed of three essays on environmental and natural resource economics under uncertainty. The first essay proposes a differential game analysis of the quest for hegemony among countries as a generator of global pollution. The second essay uses stock market data on market capitalization to estimate a stochastic version of the Hotelling rule of exhaustible resource exploitation and uses it to infer on the riskiness of investment in nonrenewable resources and its effect on the resource price paths. The third essay shows how news about the future modifies the Hotelling rule in a context of risk diversification.

The first essay builds on the assumption that countries behaves in such a way as to improve, via their economic strength, the probability that it will attain the hegemonic position on the world stage. The quest for hegemony is modeled as a game, with countries being differentiated initially only by some endowment which yields a pollution free flow of income. A country's level of pollution is assumed directly related to its economic strength, as measured by its level of production. Two types of countries are distinguished: richly-endowed countries, for whom the return on their endowment is greater than the return they can expect from winning the hegemony race, and poorly-endowed countries, who can expect a greater return from winning the race than from their endowment. We show that in a symmetric world of poorly-endowed countries the equilibrium level of emissions is larger than in a symmetric world of richly-endowed countries: the former, being less well endowed to begin with, try harder to win the race. In the asymmetric world composed of both types of countries, the poorly-endowed countries will be polluting more than the richly endowed countries. Numerical simulations show that if the number of richly-endowed countries is increased keeping the total number of countries constant, the equilibrium level of global emissions will decrease; if the lot of the poorly-endowed countries is increased by increasing their initial endowment keeping that of the richly-endowed countries constant, global pollution will decrease; increasing the endowments of each type of countries in the same proportion, and hence increasing the average endowment in that proportion, will decrease global pollution; redistributing from the richly-endowed in favor of the poorly-endowed while keeping the average endowment constant will in general result in an increase in the equilibrium level of global pollution.

The second essay is an empirical study that uses stock market data on the market capitalization of mining companies to estimate a stochastic version of the Hotelling rule of nonrenewable natural resources for oil and gas and for coal. The econometric approach relies on methods for estimating continuous time diffusion processes found in the recent financial literature and on methods for the construction of confidence intervals for parameter ratios. The resulting estimates are used to obtain estimates of beta coefficients for the various resources. These provide a measure of the riskiness of holding in situ stocks of the resource. The results suggest that although holding in situ stocks of those resources can play an insurance role in the short run, there is no empirical evidence that they can be used systematically to sustain a long run hedging strategy against market risk.

In the third essay, I show how news (good or bad) about the future that changes expectations concerning present and future economic conditions affects the optimal rule of management of a non renewable natural resource stock in a context of risk diversification. Using the stochastic differential utility approach of Duffie and Epstein (1992) in the natural resource model of Gaudet and Khadr (1991), I derive a general formulation of the Hotelling rule which includes three factors: an insurance factor as in Gaudet and Khadr (1991), a factor related to news (good or bad) about the future, and an endogenous discount factor. Some implications for the decision to invest in natural resource stocks are discussed.