CURRICULUM VITAE

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CITIZENSHIP : Cameroonian, Permanent resident in Canada

LANGUAGES : French (native), English (fluent), Bamileké (Native)

FIELDS OF SPECIALIZATION : Natural Resources and Environmental Economics, Industrial Organization, Contract Theory, Mechanism design

Ph.D. THESIS

Title : "Essays on Management of the Forest Resource and the Environment"
Thesis supervisor : Gérard Gaudet
Date of completion : August 2009

EDUCATION

2004-present : Ph.D. in Economics, Université de Montréal, Canada
2001-2004 : Master's in Statistics and Economics, ENSEA, Abidjan, Ivory Coast
1999-2001 : Master's in Mathematics, University of Yaoundé 1, Cameroon
1995-1999 : Bachelor's in Mathematics, University of Yaoundé 1, Cameroon

PROFESSIONAL ACTIVITIES

Winter 2008 : Teaching Assistant, graduate microeconomics, Université de Montréal
Fall 2007 : Lecturer, Mathematics for Economic Analysis II, Université de Montréal
Spring 2007 : Organizer 3rd CIREQ Ph.D. Students' Conference
Fall 2006 : Lecturer, Mathematics for Economic Analysis II, Université de Montréal
Fall 2006 : Research Assistant, Professor Gérard Gaudet, Université de Montréal
Fall 2005 : Teaching assistant, Mathematics for Economic Analysis I, Université de Montréal
Summer 2003 : Internship, ENSEA, Abidjan, Ivory Coast

FELLOWSHIPS

2008-2009 : Ph.D. Fellowship, Fonds québécois de recherche sur la société et la culture
2004-2008 : Ph.D. Fellowship, Université de Montréal, Canada
2006-2007 : Fellowship, Ministry of Higher Education of Cameroon, Université de Montréal
2003-2004 : Fellowship,Capacity Building for Economic Management Project (CAMERCAP), ENSEA, Abidjan, Ivory Coast
2002-2003 : Fellowship, Ministry of Higher Education of Cameroon, ENSEA, Abidjan, Ivory Coast

RESEARCH PAPERS

- "Optimal Forestry Contracts under Asymmetry of Information". [***JOB MARKET PAPER***]
- "The Impact of Paper Recycling on the Stock of Trees" (with Gérard Gaudet), working paper.
- "A Model of Transportation Choice to Commute to the Central Business District" (with Éric Bahel), work in progress.
- "Optimal Forestry Contracts with Interdependent Values" (with Samuel Njiki), work in progress.
- "The Impact of Bioenergy on a Small Open Economy" (with Samuel Njiki), work in progress.
- "Dynamic Forestry Contacts" (with Bruno Nkuiya), work in progress.
- "Impact de la Crise du 19 septembre 2002 sur la Ville de Bassam, Côte d'Ivoire", M.Sc. thesis.

COMMUNICATIONS

"Optimal Forestry Contracts under Asymmetry of Information"

- Accepted in EAERE, Amsterdam, Netherlands, June 2009.
- Canadian Resource and Environmental Economics Study Group, Ryerson University, October 2008.
- Canadian Economic Association Conference, Vancouver, June 2008.
- Montreal Natural Resources and Environmental Economics Workshop, Winter 2006.
- Montreal Natural Resources and Environmental Economics Workshop, Winter 2007.

“The Impact of Paper Recycling on the Stock of Trees”

- CIREQ Ph.D. Students' Conference, May 2008.
- Montreal Natural Resources and Environmental Economics Workshop, Winter 2008.

RESEARCH INTERESTS

In my research agenda, I focus on management of natural resources, Microeconomic theory, contract theory in natural resources, resource allocation, and Mechanism design. I am also interested in industrial organisation and environmental economics.

REFERENCES

• Gérard Gaudet	:	Université de Montréal	1 514-343-7908	gerard.gaudet@umontreal.ca
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• Michel Poitevin	:	Université de Montréal	1.514-343-6539	michel.poitevin@umontreal.ca
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TATOUTCHOUP, DIDIER

SUMMARY OF MY THESIS

My thesis consists of three independent studies. The first chapter analyzes optimal royalty contracts between a forest owner and the exploiting firm when the firm has private information on the harvesting cost. The second chapter studies the impact of paper recycling on the long-run stock of trees. The third chapter is an Environmental Economics paper that examines transportation choice to commute to the downtown area.

The management of forest resources often involves the delegation of the harvesting operation by the forest owner to a harvesting firm. This delegation takes the form of a concession contract in which the forest owner leases logging rights to companies specialized in planting and harvesting, in return for preestablished royalty payments. To set the royalty schedule, the government ideally needs to know the costs of the firm, namely the harvesting and planting costs. In practice however the exact costs are known only to the harvesting firm, although the owner may be aware of their distribution. This information asymmetry creates a situation where adverse selection may occur and the optimal royalty must therefore take into account informational constraints. This paper characterizes the optimal royalty and the optimal rotation period under those conditions. It is shown that the optimal rotation will satisfy a modified version of the Faustmann rule which holds under symmetric information, the modification being necessary in order to induce cost revelation on the part of the harvesting firm. As a result, the optimal rotation period will be longer in the asymmetric information case than in the symmetric information case. I also show how the cut-off cost can be endogenized, thus increasing the owner's expected profit by making sure that unprofitable forests are not exploited. I finally provide a comparison of the royalty in the symmetric and asymmetric information cases. Because forest contracts are in practice typically linear in the volume harvested. I derive the optimal royalty under the constraint that it be a linear function of the volume harvested and characterize the loss in expected welfare from using a linear contract instead of the theoretically more general nonlinear contract.

A major argument in favor of encouraging paper recycling is that it saves trees, the goal being to end up with a larger stock of trees than in the absence of recycling. The argument for wanting to increase the stock of trees is that it generates externalities: it procures direct amenities, it protects against soil erosion and it serves as a carbon sink. To the extent that positive externalities are involved, market equilibrium would result in an insufficient stock of trees, which may justify policies meant to increase it. The purpose of the second chapter is to consider to what extent the promotion of paper recycling is an appropriate instrument to attain such a goal. More precisely, how does recycling affect the long run equilibrium quantity of forest land and cutting age of the forest? To study the question, we develop a dynamic model of optimal land allocation between forestry activities and alternative uses, such as agriculture. We show, paradoxically, that significant recycling of paper can in fact reduce the steady-state area of land allocated to forestry and hence the steady-state stock of trees. The effect on the optimal period of rotation, and hence on the volume of wood standing, depends on the rate of recycling and on whether the return to agriculture is decreasing or not.

The third chapter presents a simple model explaining how workers choose their mean of transportation to commute to the downtown area. We consider a circular city with a continuum of individuals commuting to the central business district (CBD). Each worker chooses either to use his own car or to use public transportation. Depending on the number of cars commuting to the downtown area, all drivers incur a negative externality (congestion, noise…). We derive the social optimum in terms of the number of cars that should optimally commute to the CBD. Without regulation, we show that the Nash equilibrium yields much more cars commuting to the CBD than is socially needed. Finally, we determine the optimal tax that should be levied on cars commuting to the downtown area in order to restore efficiency.