Fifth CIREQ Ph.D. Students' Conference

Mai, 2009

- **Title of the presentation**

  - Bayesian Estimation of the Hotelling Rule under Increasing Average Extraction Cost

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Abstract

The Hotelling rule, the fundamental principle of nonrenewable resource economics, is limited by the discrepancy between the empirical evidence, showing steady or diminishing resource prices and the rule, forecasting increasing prices. One source of this disagreement will come from the fact that neither rent nor marginal cost is observable. This paper builds a framework of resource extraction with a market to estimate the in-situ and the flow prices under increasing average extraction costs. Using Bayesian approach to evaluate my market model with 5 non durable resources, I obtain three main results that strongly validate the Hotelling rule. Firstly, increasing average extraction costs characterize extraction processes better than constant average extraction costs. Secondly, market prices decrease while in-situ prices increase over time and exhibit a U-shape form when the stock effect is taken into account. Thirdly, it rises that market prices do not depend on more elusive quantities of each country.

Keywords: natural resource market, non durable exhaustible ores, in-situ and flow prices, panel data and bayesian analysis.