

Hotelling Meets Laffer: Taxation and the Discovery of Exhaustible Resources*

Alice Chiocchetti [†]

PRELIMINARY DRAFT

February 27, 2026

Abstract

This paper estimates the effects of taxes on mining exploration and production and derives revenue-maximizing tax rates in the mining sector. Using a comprehensive panel of firms' worldwide extraction and exploration expenses, I show that the response to taxation operates almost entirely at the extensive margin through a reduction in exploration expenses. I establish these results by exploiting both global tax variations and the four largest worldwide tax increases in the sector. To identify causal effects, I rely on event studies comparing both affected to non-affected firms and subsidiaries within affected firms. Based on my results, I then characterize the revenue-maximizing sales-based royalty and income tax rates. I find that the revenue-maximizing tax rates exceed currently observed rates, suggesting that mining countries could increase tax revenues from extractive activities.

*I thank Pierre Bachas, Denis Cogneau, Lucie Gadenne, Niels Johannesen, Sébastien Laffitte, David Margolis, Ninon Moreau-Kastler, Mathieu Parenti, Thomas Piketty, Nadine Riedel, Gabriel Zucman, and seminar participants at the Paris School of Economics for precious comments.

[†]Paris School of Economics, email: alice.chiocchetti@psemail.eu