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**REAL OPTIONS TO VALUE A MINING PROJECT UNDER 2 UNCERTAINTIES
A QUANTITATIVE MODEL FOR REVENUE SHARE AND MINING FISCALITY**

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This poster comes a paper published by Ndiaye and Armstrong [1] that addresses the question of evaluating how much the different stakeholders stand to gain from a mining project. The purpose is to contribute, by a quantitative approach, to the actual trends of maximizing States' revenues from mining activities. Low income and developing countries, with economies mostly based on mining revenues - from taxes and royalties - face problems to fairly assess the value of a mining project and adjust their fiscal taxation policy to many aspects of the project's profitability framework like geological and financial uncertainties.

By carefully analyzing the breakdown of the cash-flows generated, we were able to estimate the amounts received by the local community and by the national community (outside the mining area), the taxes and royalties received by the government and the profits made by the mining company.

A real options framework was used to take account of the inherent uncertainty on the commodity price and the reserves, and the operating flexibility (that is, the possibility for the company to stop mining if the commodity price drops and/or the reserves prove to be lower than that had been envisaged). A synthetic case-study of a gold mine in West Africa was used to illustrate how this procedure could be applied in practice.

By using the real option framework we were able to envisage scenarios for developing an extension to a deposit as a function of future values of the commodity price. The procedure proposed should provide governments and NGOs with more objective data for making policy decisions.

[1] Ndiaye A. A., Armstrong M. (2013) Resources Policy 38: 113 - 122.

