

## **Mineral exploration**

### **(a) Incorporation of exploration and evaluation expenses as assets:**

The classification seems logical and feasible to estimate in any country with mining production. However, in Chile, we have not been able to measure the amount in exploration and evaluation, although studies are being carried out by specialized entities to permit a preliminary estimate.

One issue that seems to be disputable is when to book the depreciation (or amortization) of the asset "mineral exploration." There are periods of time when there is a great deal of exploration, but this is not immediately followed by production. We believe that in such cases, depreciation does not begin until actual production of the discovered asset. However, while unsuccessful explorations should be booked as capital formation, it might be a more accurate reflection of reality to book them immediately as a capital loss. All this on the assumption that it is possible to establish what percentage of the exploration is successful and what percentage is unsuccessful.

In addition, there are technological advances that increase reserves that it would be economically feasible to produce. While this is explicitly research and development (R&D) and therefore a current expenditure, it could be difficult to differentiate from specific expenditures on exploration.

### **(b) Valuation of subsoil assets and how they relate to exploration:**

The value of subsoil assets depends on the expected price of the resource and on the production costs, with exploration considered a separate asset. However, in the event of a change in technology (for example, bacterial lixiviation) production cost is reduced and deposits that previously were not economically feasible become economically feasible.

Such changes in the level of subsoil economic reserves are not easy to measure in practice, since they are not reflected in mining company accounting.

### **(c) Recording payments to the owner.**

In Chile, all subsoil assets are owned by the State. In theory, all payments by producers should be booked as property income. There are two types of payments by Chilean mining companies to the State, one is a mining patent that pertains to the production of the deposit regardless of the level; the other is on company profits, in the form of an income tax.

At this time, there is also legislation being considered by the Congress to approve a royalty that would be a payment based on the level of production. While booking this entry would not imply a change in earnings, the transfer from income tax on property could be problematic.