

# Exploration and Venture Capital: What the Mining Industry is Missing in Chile

By Cecilia Jamasmie

Despite [Chile's geological potential](#), the country may be losing ground in the fierce competition to attract exploration investment. This situation, according to the Academic Director of the [Mineral Economics Program](#) at the [University of Chile](#), Christian Moscoso, can become a major problem if Chile doesn't solve the market failure that has historically affected mineral prices in the country, especially that of copper.

"Not only is there a breach in perception between the financial and mining sectors, but there is also no adequate appreciation of the risk associated with a mining project by possible investors," says Moscoso.

In Chile, the expert adds, exploration remains largely in the hands of large mining companies such as [BHP Billiton](#), [Anglo American](#) and state-owned [Codelco](#). Rather than looking for new projects, these majors normally explore at their existing mine sites to replace or expand reserves. [Xstrata](#), for example, invested US\$29 million in exploration in Chile in 2007, financing efforts that went into boosting reserves at existing mines such as [Collahuasi](#) and [Lomas Bayas](#) and its advanced [El Morro project](#).

If Chile wants its [mining industry](#) to [continue to grow](#) at the same rate as it has in the past, it will need to do more to encourage juniors, says Moscoso. The success and dominance of large-scale mining, however, has meant that the government and the law pay little attention to this small but dynamic sector, he argues.

Medium-sized mining projects are mostly financed by their own resources and debt. These companies do not have enough resources to do exploration in a proper way, which would allow them to get the information they need to attract investors, explains Moscoso.

"Normally they have verified reserves for a maximum of six months of operations, which is not enough to justify big investments. That is why small and medium-sized companies explore and produce at the same time, which in turn stops them from taking advantage of economies of scale," Moscoso says.

## The Road Ahead

In order to improve the situation of [junior companies](#) in Chile, Moscoso says that there are three major changes needed.

First, it would be necessary to build a [venture capital industry](#) specializing in funding mining exploration. "Establishing a risk capital industry would make it possible," says Moscoso, "to increase the knowledge related to financial classification of risks related to exploration prospectuses."

The second step would be to promote alliances among small and medium mining companies, particularly between those who own concessions in bordering geographic zones, so that together they can achieve what they are unable to do alone. A good example



**Christian Moscoso, Academic Director of the Mineral Economics Program at the University of Chile**

of this model, says Moscoso, is the case of [The Super Pit](#), the biggest gold open pit mine in Australia, based in [Kalgoorlie](#).

The Super Pit started up as an alliance of 50 small mining companies and nowadays produces up to 850,000 ounces of gold every year, outweighing any other mining centre in Australia.

Last, but not least, Moscoso insists on the importance of creating a [basic geological database](#) available to anybody who needs it.

"A high percentage of the geological information on our territory is available only at scales lower than 1:1,000,000. From the point of view of the [viability of a mining project](#), this is a serious problem because it means that small companies must carry out their own studies and, in the end, they may find nothing."

Moscoso adds that there is some information available, but it is not appropriate because it belongs to the State.

"Chile is still behind countries like Australia and the U.S. in generating the basic geological data used by mining companies to define the best places to scout for reserves," confirms Waldo Vivallo, head of economic geology at the [National Geology and Mining Service](#) (SERNAGEOMIN). A mere 30% of Chile's territory has been geologically mapped to the 1:100,000 scale preferred by exploration firms, a proportion that rises only slightly in the north where most of the mining industry is based. The situation is even worse for other forms of geological data, explains Vivallo.

Practically nothing is being done to expand geochemical understanding, adds Moscoso. The last major geophysical study in the north of the country was carried out in the 1980s, but, since then, the technology has advanced significantly. Moreover, most of the five thousand or so documents that make up Chile's national geological archive are only available in paper form at SERNAGEOMIN's public library in Santiago. The service has been working for over a decade to make the data available online, as it is in other countries, but it will be another three years before this happens. "The idea is to have it operating by 2011 with at least a significant chunk of information on the north of the country," Vivallo says.

## Access to Property

Making more data available will be of little use if would-be prospectors cannot access promising ground. Mining property in Chile is tightly controlled by a relatively small number of large companies. As of end-2006, just ten companies controlled almost half of the exploration concessions issued in Chile, according to SERNAGEOMIN. Codelco alone controls more than 1.8 million hectares, or a fifth of the total.

This is a result of a mining law that allows companies to hold onto property through concessions - issued by the courts rather than by a government body - for an unlimited period of time. "All they have to do is pay a patent of just a few dollars per hectare," points out Moscoso. In other countries, mechanisms exist to ensure a more fluid market in mining property. In Perú, for instance, patents rise steeply after a number of years, giving companies a sharp incentive to shed claims in which they are no longer interested.

Other countries, such as Australia and Canada, require companies to invest a certain amount in exploration to hold onto the property. But tampering with Chile's concessions system would be difficult and controversial.

[Mining concessions](#) are specifically protected under the constitution and this strength of tenure is widely credited with attracting major foreign investment in Chile's mining sector just a decade after the nationalization of the copper industry in the early 1970s.

"The concessions system in Chile was very well designed and I would not make any changes to the mining law and the constitution," says Alfredo Ovalle, president of the National Mining Society ([SONAMI](#)), Chile's second-biggest mining association.

Instead, the government is hoping to persuade Codelco to make more of its huge portfolio of concessions available to third parties, either through sales or joint ventures.

In recent years, the company has formed alliances with a number of private companies, especially for precious metals deposits, which it considers outside its core business of large-scale copper mining. For instance, [Canada's Kinross Gold](#) is currently mining a Codelco concession to feed its [La Coipa](#) mill and, earlier this year, Codelco optioned a gold property to Toronto-listed junior [Fortune Valley Resources](#).

Direct sales of Codelco properties, however, are prohibited under the Chilean constitution. Instead, it can transfer unwanted concessions to the government's [Mining Development Agency \(ENAMI\)](#), which can then pass them on to third parties. [Mining Minister Santiago González](#) says that he will use his position as chairman of the giant copper company to push through more transfers in the coming years. "This is a policy we are promoting

and implementing in Codelco and we think it's the way to make more mining properties available," he says.

"With more mining properties on the market, Chile could begin to develop its own domestic mining finance market," suggests Moscoso, "allowing prospectors to raise capital locally and locals to invest in a high-risk but potentially lucrative industry."

The government recently took a first step in this direction through legislation to designate "competent persons" with the power to certify geological data, making it possible for mining companies to raise capital based on exploration results. But with most of the Chilean mining industry either in foreign hands or controlled by the state and only one copper producer listed on the [local stock exchange](#), banks and brokers, in general, have little understanding of mining.

This means that a capital market for mining projects in Santiago will inevitably take time to develop.

It is precisely time that is at a premium if, in the ever fiercer race for exploration dollars, Chile is not to lose its pole position. ■

## Links and References

- [Anglo American](#)
- [BHP Billiton](#)
- [Business Opportunities: Chilean Mining Industry](#)
- [Codelco](#)
- [Collahuasi](#)
- [Chile's Geological Heritage](#)
- [Chilean Junior Miners Seen Listing Shares Abroad](#)
- [Chile's Mining Industry Profile by MBendi](#)
- [El Morro Project](#)
- [ENAMI](#)
- [Fortune Valley Resources](#)
- [Junior Companies in Chile](#)
- [Kalgoorlie](#)
- [Kinross Gold](#)
- [La Coipa](#)
- [Lomas Bayas](#)
- [Mining Concessions Act \(Law 18097\)](#)
- [Mining in Chile](#)
- [Mining Minister Santiago González](#)
- [Mineral Economics Program at the University of Chile](#)
- [National Geology and Mining Service](#)
- [Overview of the Mining Industry in Chile](#)
- [Policies towards the Tradable Sector in Chile: Recent History and Current Debates](#)
- [Prospecting for Mining Companies](#)
- [Santiago Stock Exchange](#)
- [SONAMI](#)
- [The Super Pit](#)
- [University of Chile](#)
- [Venture Capital Industry](#)
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