

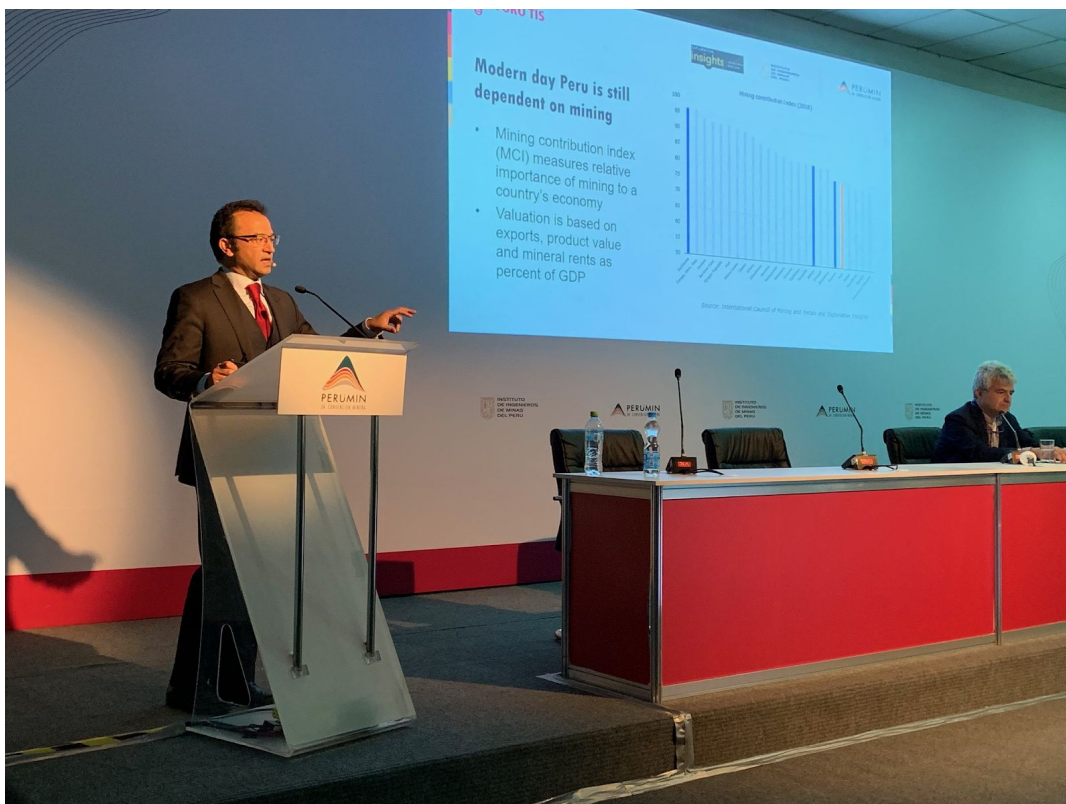
October 2, 2019

So how was Peru?

by Joe Mazumdar, Editor/Analyst, Exploration Insights

A couple of weeks ago, I attended the 34th edition of the biennial PeruMin Convention in Arequipa, Peru and provided attendees with my 10,000-foot look at investing in the Andean nation's mining sector. It was a short trip but I managed to get in a couple of pisco sours before heading back to the airport.

The convention definitely leaned heavily towards companies that were supplying goods and services to the industry, but the importance of the sector to the nation's economy was underpinned by a visit from the interim President Vizcarra, who came to power in March 2018 when his predecessor resigned after being caught in a web of scandal associated with Brazilian construction giant Odebrecht.

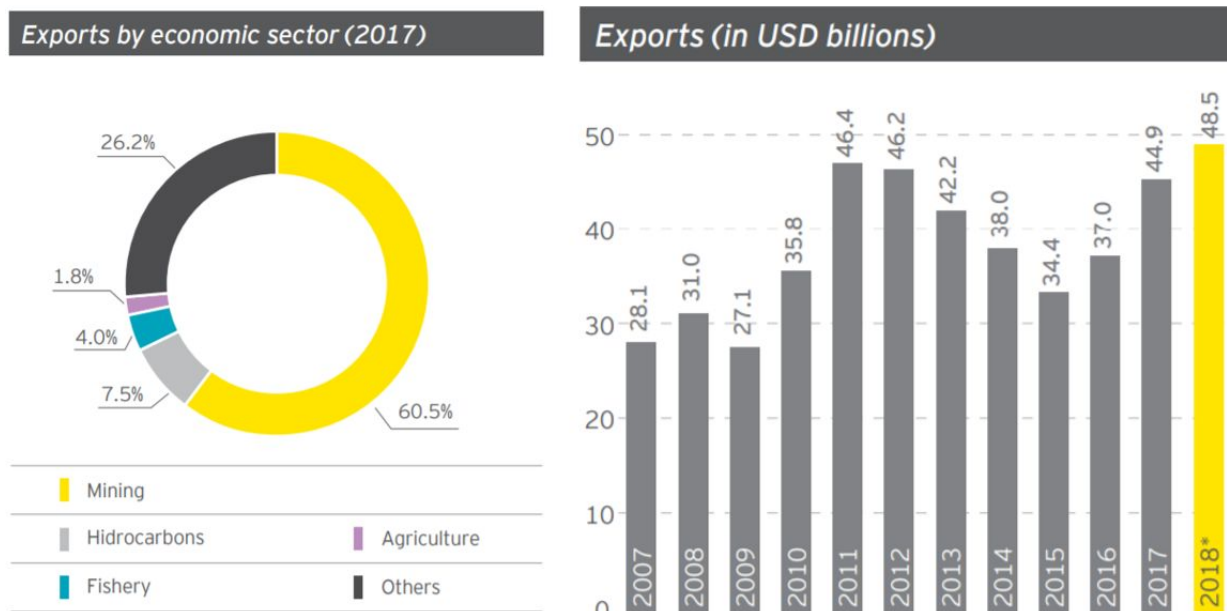


(Not pointing fingers. Source: *Kallpa Securities*)

Mining an integral part of Peru's social fabric

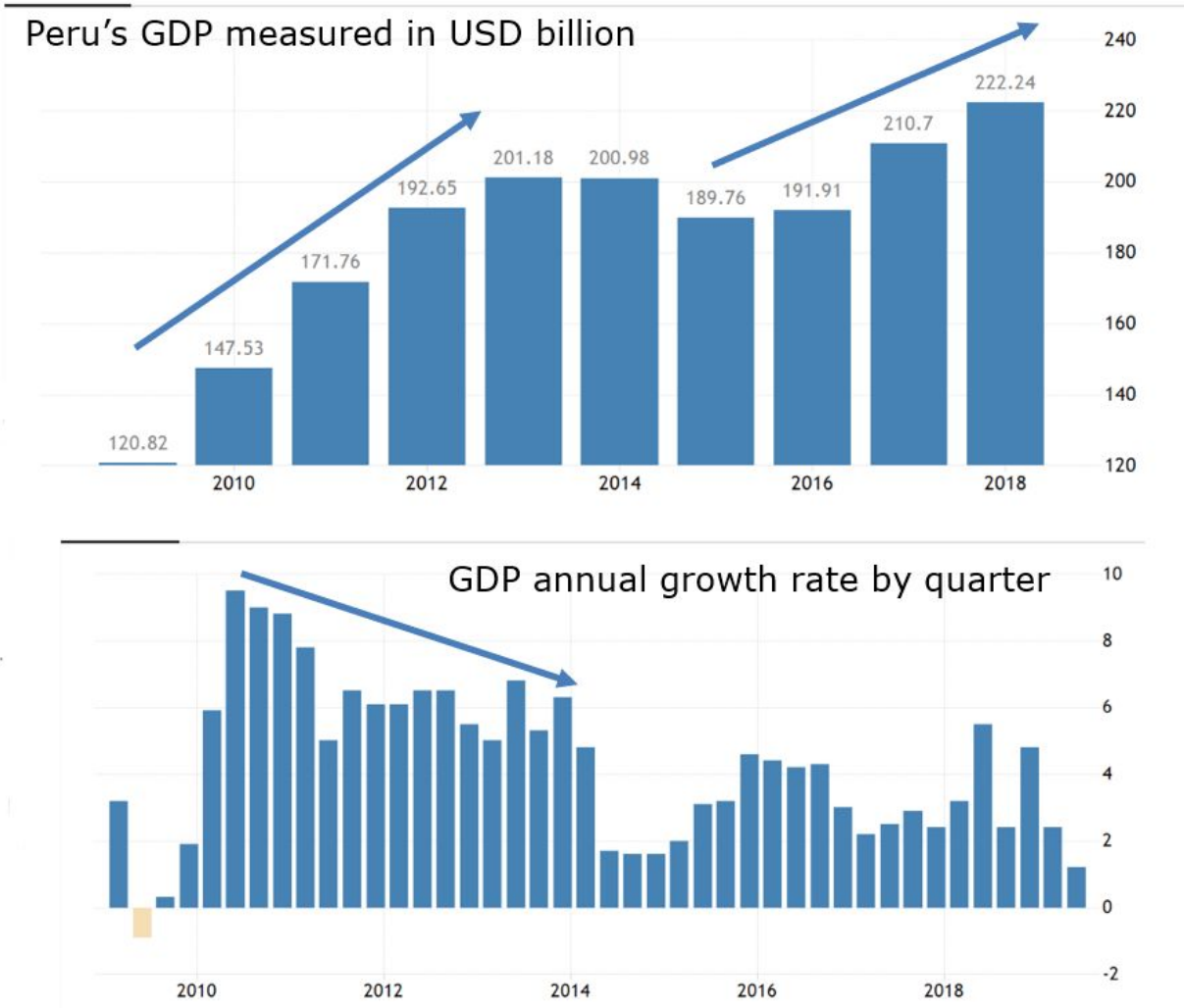
Mining has been an integral part of the South American nation's history and culture for over three millennia. High amounts of mercury in lake-sediments dates back to ~1400 BC, with another peak in 1150 AD at the beginning of the Inca Empire, which was related to metals extraction.

Nowadays, the mining sector contributes ~60% of the country's ~US\$48-billion-worth annual exports, mainly as copper and gold, (Fig. 2).



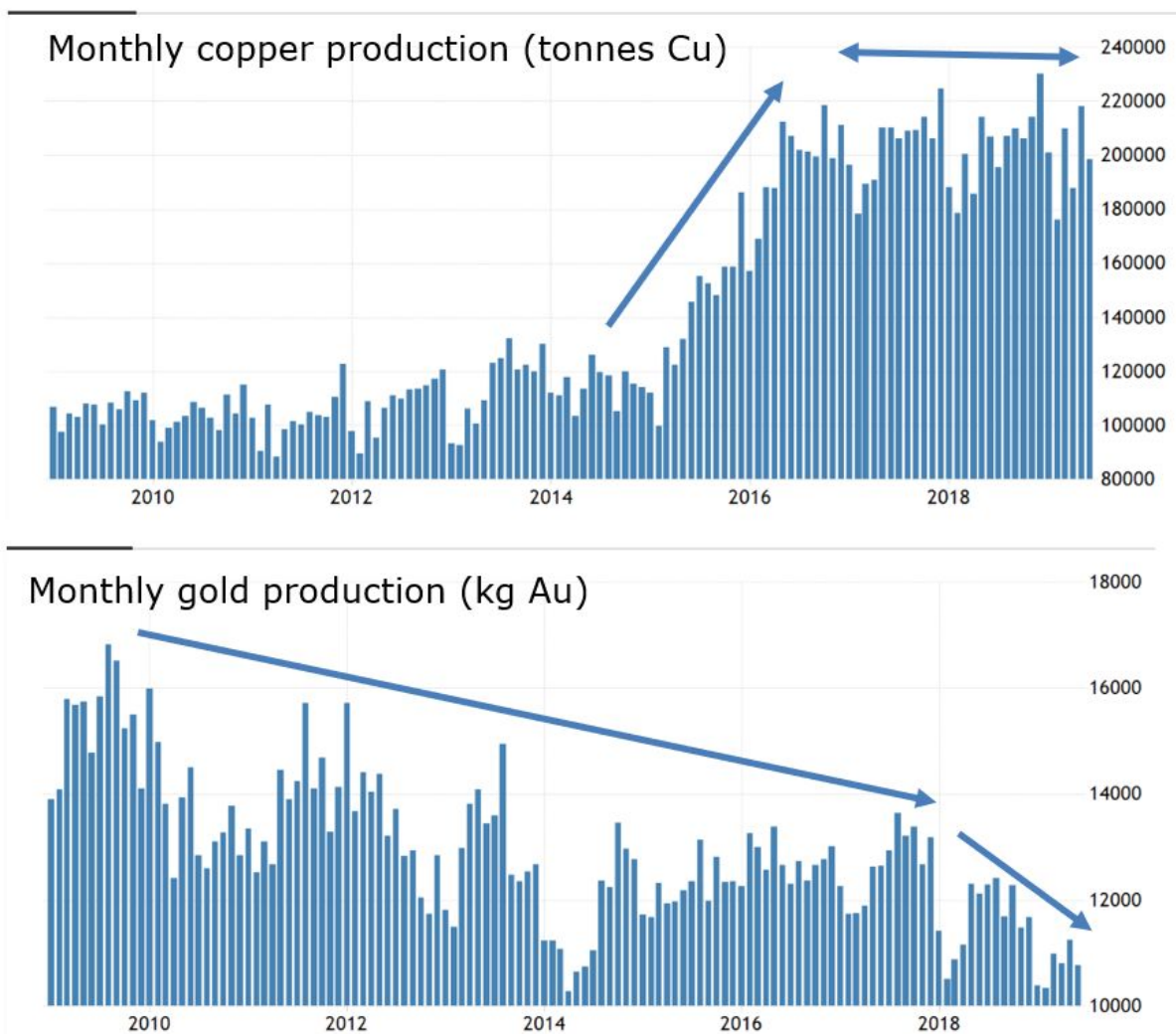
(Figure 2: [Left] Exports by sector in 2017 and [Right] exports in US dollars since 2007. Source: *Peru's mining & metals investment guide 2019/2020*, Ernst & Young)

Although the gross domestic product (GDP) growth rate has been declining due to a fall in foreign direct investment (FDI) since a peak in 2010, the mining sector’s contribution was up 30% from 2014 to 2018 due in part to the lagged impact of FDI, (Fig, 3).



(Figure 3: Annual gross domestic product in US billion dollars [GDP, top] and quarterly growth rate [percentage, bottom] since 2009. Source: *TradingEconomics.com, World Bank and Exploration Insights*)

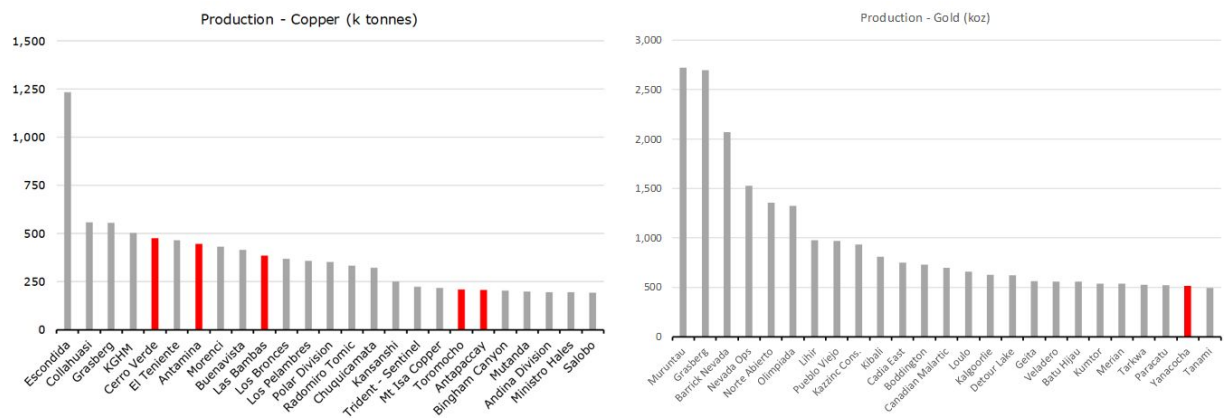
As mentioned above, metal production in Peru, specifically copper and gold, is a significant part of mining-related contributions to the local economy, (Fig. 4). On the one hand, monthly copper production peaked in December 2018 (230 kt), more than double its 2015 levels, whereas monthly gold production has been in decline and is currently at less than half (~11,000 kg or ~350 koz) of a 2005 peak of 22,604 kg (720-730 koz).



(Figure 4: Monthly production of copper in tonnes [Top] and gold in kilograms [Bottom] since 2009. Source: *TradingEconomics.com, Central Reserve Bank of Peru, INEI and Exploration Insights*)

Peru’s strong growth in copper production, supported by five operations that fall within the top 25 of producing mines globally, (Fig. 5, left), has entrenched it in second place next to Chile with respect to annual production (2.4 Mt).

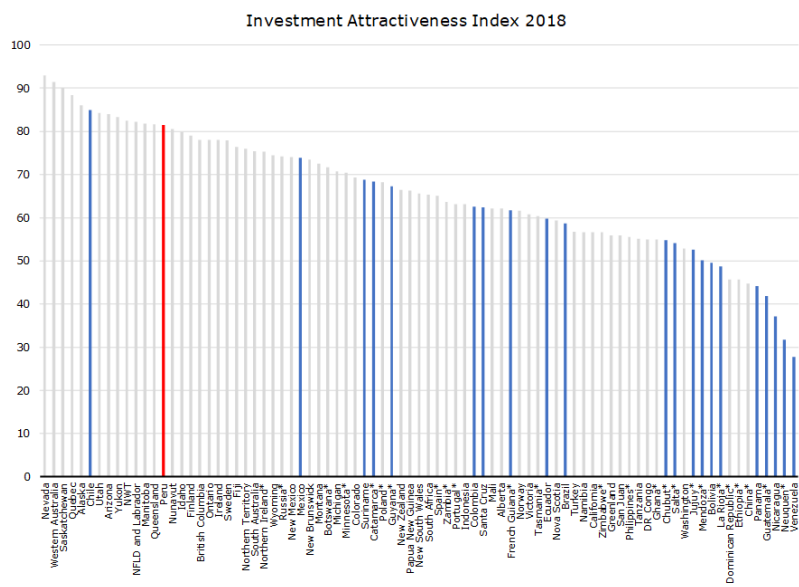
But the results from the gold sector is mixed. While, at just over 150 tonnes (~5 Moz) of annual production in 2018, the country is one of the top 10 producers globally, it has only one gold mine (Yanacocha) that falls within the top 25, (Fig. 5, Right).



(Figure 5: 2018 global copper production by asset illustrating the five major Peruvian copper mines [red, left] and the same scenario for gold showing the position of Yanacocha as the only asset that falls within the top 25 producers [red, right]. Source: S&P Global Market)

Peru’s attraction supported by its mineral endowment

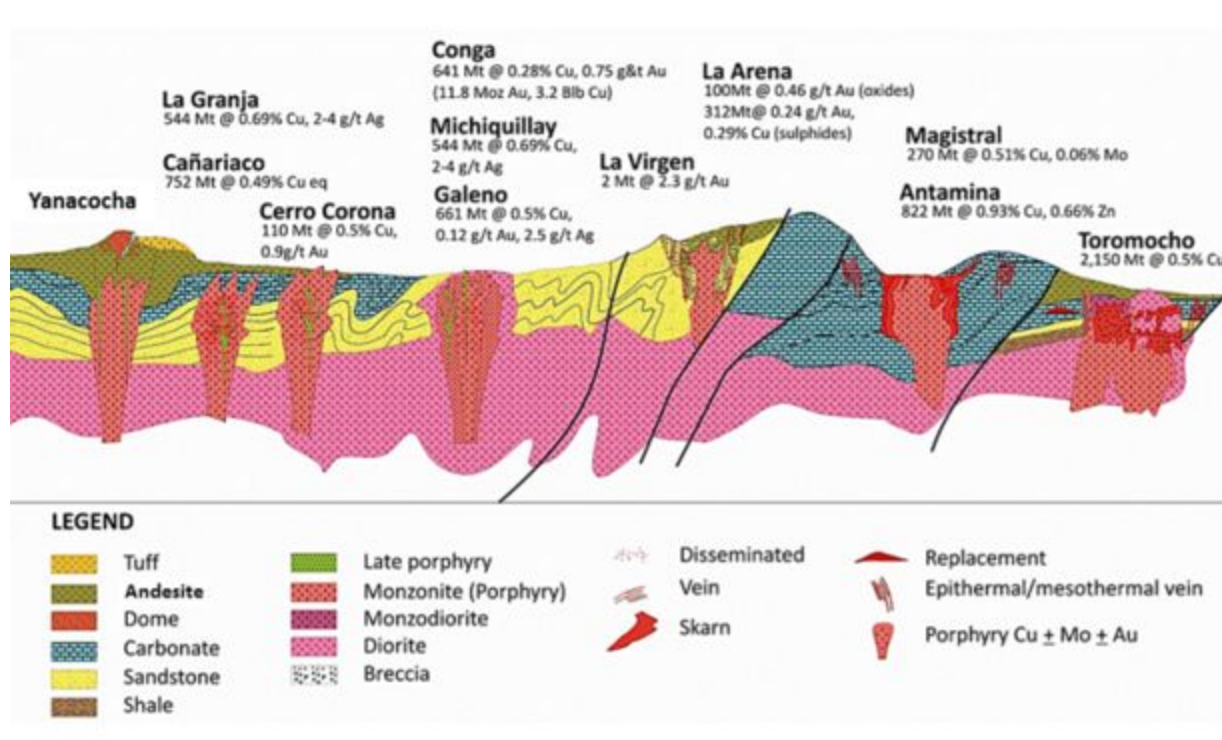
According to the Fraser Institute’s annual mining Investment Attractiveness Index, Peru falls within the upper quartile, (Fig. 6), second only to Chile among the Latin American cohort.



(Figure 6: Global index of mining Investment Attractiveness for 2018 illustrating Peru’s location in the top quartile [red], with its Latin American peer group labeled in blue. Source: Fraser Institute Annual Survey of Mining Companies 2018 and Exploration Insights)

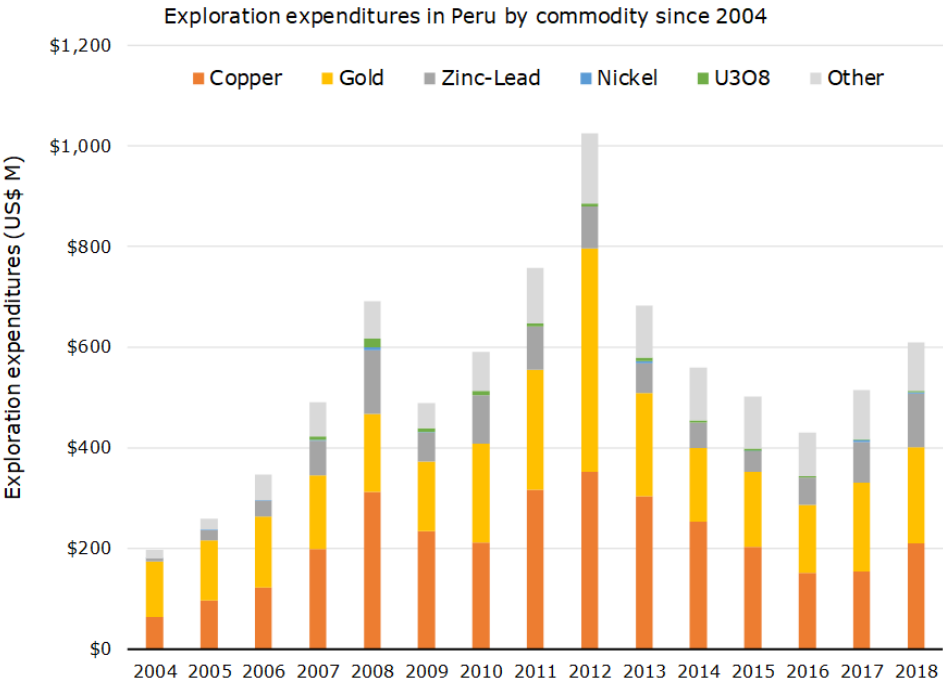
The interest of investors and mining companies in the country is primarily based on its geological prospectivity for a plethora of deposit styles including porphyry copper, skarns, iron oxide-copper-gold (IOCG), epithermal precious metal systems, and carbonate replacement for all the major metals, (Fig. 7).

Furthermore, several of its deposits like Yanacocha (epithermal gold), Cerro Verde (porphyry copper) and Antamina (skarn copper-zinc), are considered world-class.



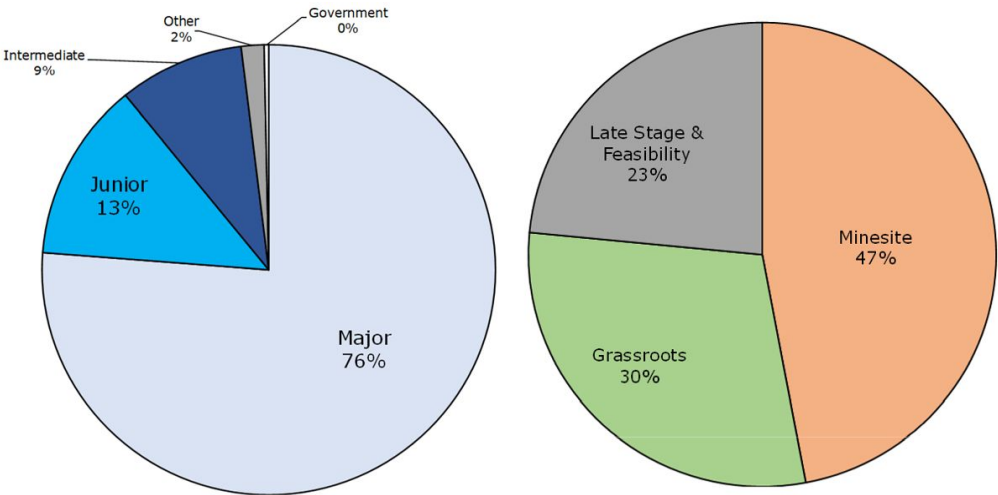
(Figure 7: Schematic geological cross-section through Peru illustrating the location of major polymetallic deposits. Source: SEG, Peruvian Geological Congress, ProExplos, Annual Reports compiled by Jorge Acosta, 2013)

The potential of finding another world-class deposit keeps mining companies spending dollars in the country. Exploration funds peaked in 2012 at over US\$1.0 billion, (Fig. 8), and were ~US\$600 million in 2018, ranking it at number four globally behind Canada, Australia, and the U.S., and number one in Latin America.



(Figure 8: Annual exploration expenditures in Peru by commodity. Source: *S&P Global Market Intelligence and Exploration Insights*)

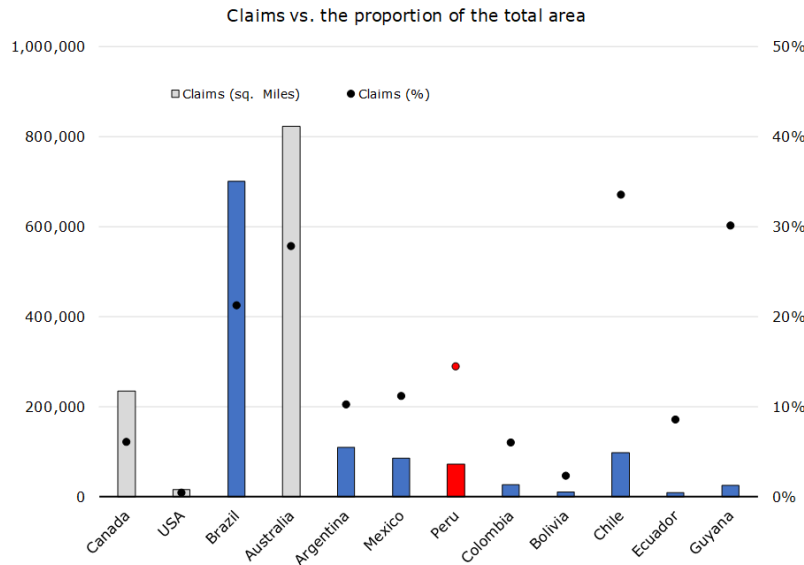
The majority of the funds spent by the 75-80 companies working in Peru were directed to the exploration of copper (~40%) and gold (~35%) deposits; however, last year, less than 15% of the total was directed to grassroots exploration, (Fig. 9), which explains the small number of junior explorers conducting early-stage programs in the country.



(Figure 9: Proportion of 2018 exploration expenditures in Peru [US\$610 M] by company size [left] and stage of development [right]. Source: *S&P Global Market Intelligence and Exploration Insights*)

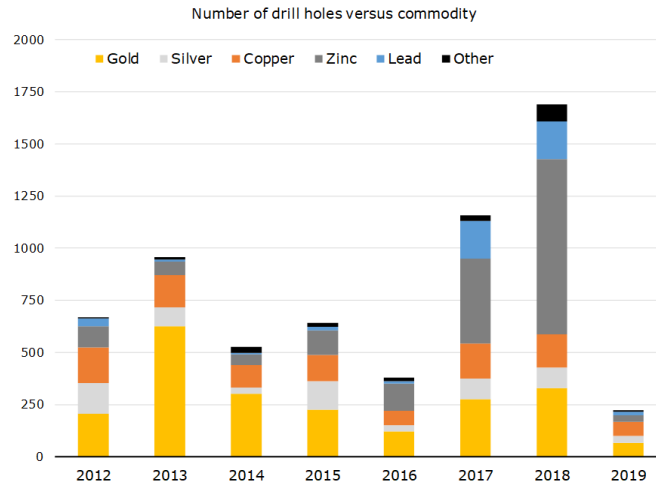
With respect to the extent of the geographic area that has been staked for mining or exploration, only about 14% (~90,000 sq mi) of the total has been claimed, which is in line with peers such as Mexico but far less than Chile, a smaller country but with a large uninhabitable territory in the northern Atacama Desert, (Fig. 10).

It is interesting to see the small proportion of land staked for mining in the U.S. and Canada versus the high proportion staked in Australia and Brazil. Australia has a large amount of relatively uninhabited deserts in its center whereas Brazil is full of jungle, or at least it was.



(Figure 10: Countries sorted by land size from left to right with total square miles claimed for mining [bars]—Peru in red and its Latin American peer group in blue—and proportion of the country are currently staked [dots]. Source: S&P Global Market Intelligence and Exploration Insights)

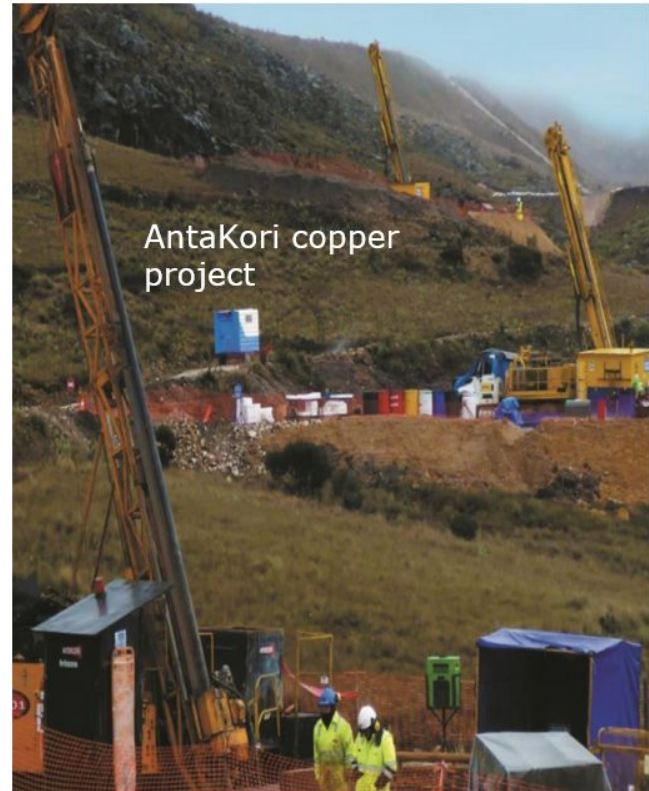
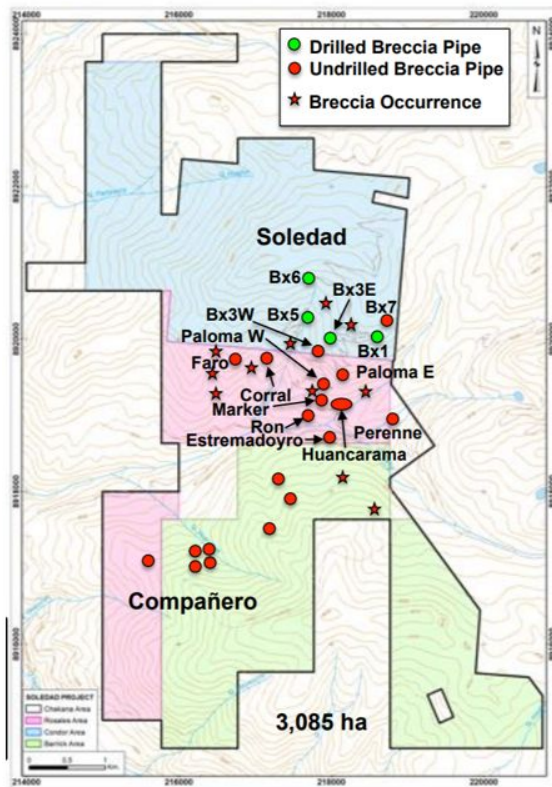
Drilling statistics illustrate that the focus in Peru has been on gold, copper, zinc, silver, and lead in the past seven years, (Fig. 11), with a preference for zinc over the last couple of years given the metal’s price appreciation. Worryingly, though, drilling activity has slowed down in 2019 year-to-date.



(Figure 11: Drill holes per commodity focus. Source: S&P Global Market Intelligence and Exploration Insights)

Making it difficult to love

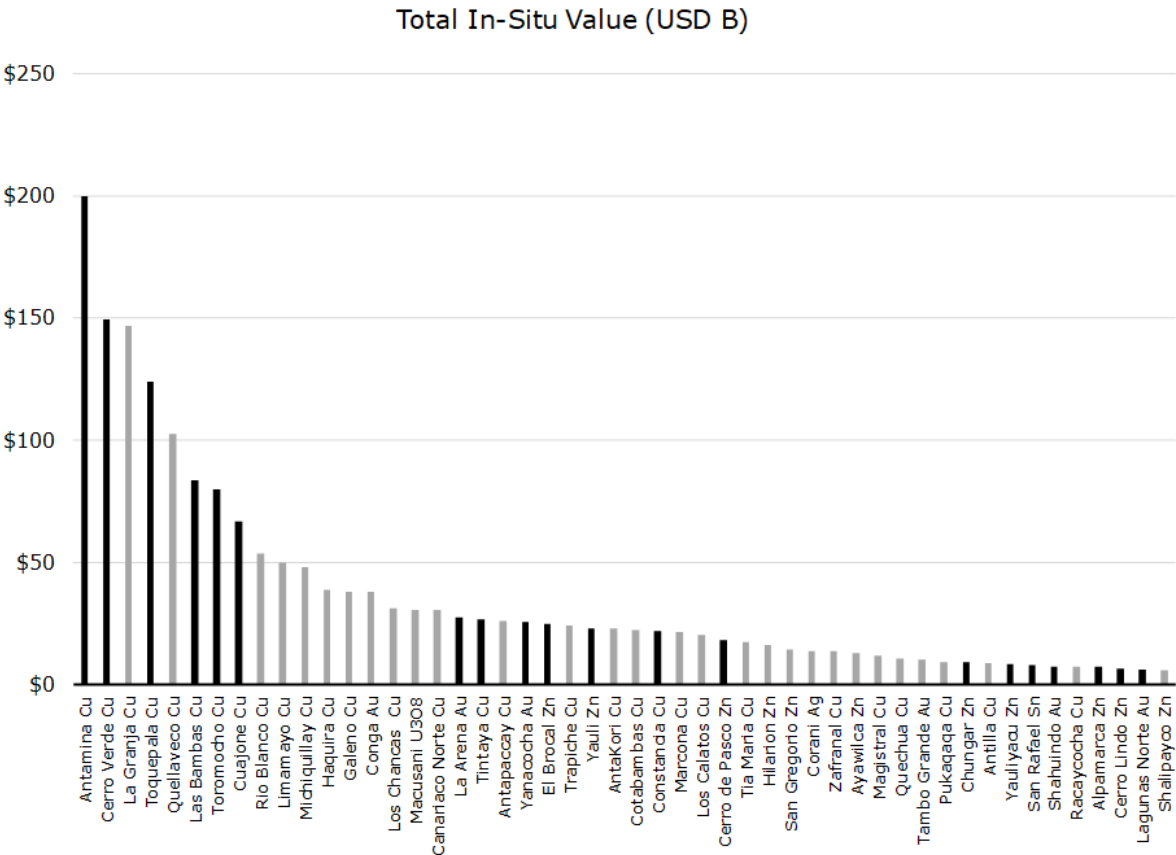
The *Exploration Insights* portfolio exposure to Peru includes companies exploring and operating copper, zinc, gold, and silver assets throughout the country. As investors in Chakana Copper (PERU.V), we are well aware of delays in the permitting of drilling activity in the country. The company has been waiting over 12 months for modifications of existing permits to allow access to drilling new targets in its Soledad copper-gold project in northern Peru. Likewise, Regulus Resources (REG.V) is still waiting for permits to access the northern portion of its land package at AntaKori, (Fig. 12).



(Figure 12: [left] Chakana's land package highlighting a number of undrilled targets [red] and [right] drilling at Regulus' AntaKori copper-gold project. Source: *Chakana Copper and Regulus Resources*)

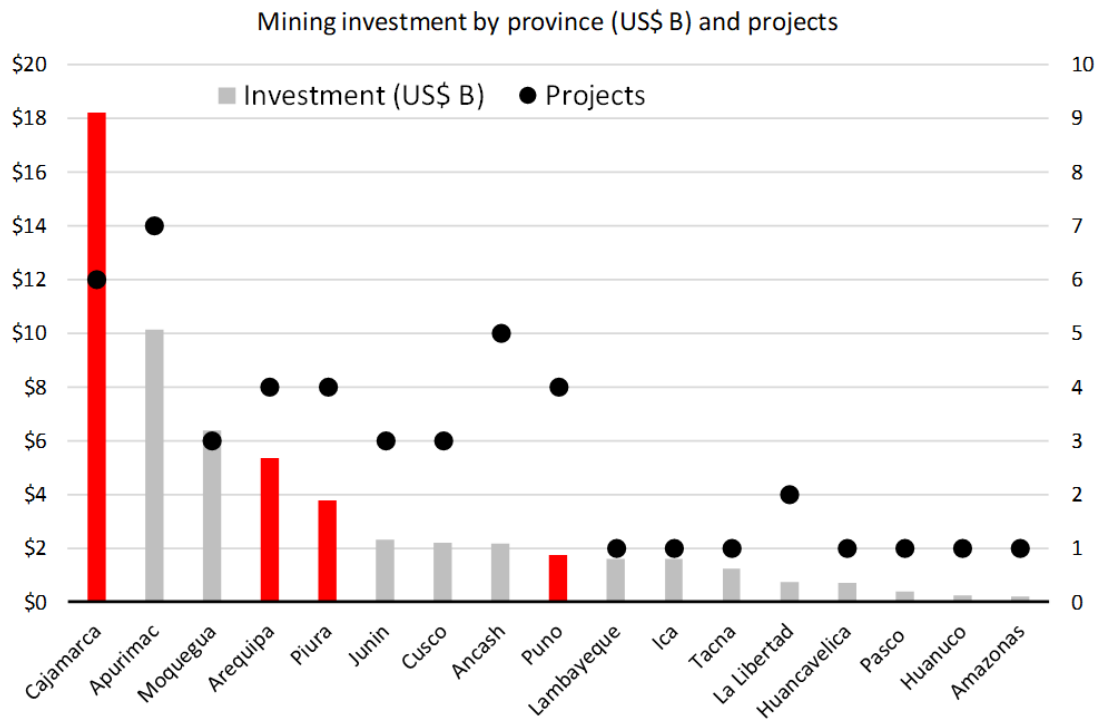
Peru's change of presidency in March 2018 was accompanied by a revision of its bureaucratic infrastructure. Currently, there are about six ministries, apart from the Ministry of Mines, involved in any permitting process, which has resulted in a state of paralysis for explorers. Anecdotally, there were 30 permits granted last year, but only six were given the green light to initiate activities.

For this and other reasons, about half of the top 50 mining projects in the country (which represent ~US\$1.8 trillion of in-situ value) are sitting idle, stagnating the growth of the local mining sector and its potential positive impact on the economy, (Fig. 13).



(Figure 13: The top 50 mining projects by in-situ value those highlighted in **black** are operating and those in **grey** are not operating. Source: *S&P Global Market Intelligence and Exploration Insights*)

With this backdrop, the Peruvian Minister of Energy and Mines announced at the PeruMin Convention that there are 48 mining projects (~US\$60-billion-worth) expected to be completed in the mid- to long-term. The downside to this plan is that 18 of those projects are located in “problematic” provinces, (Fig. 14).



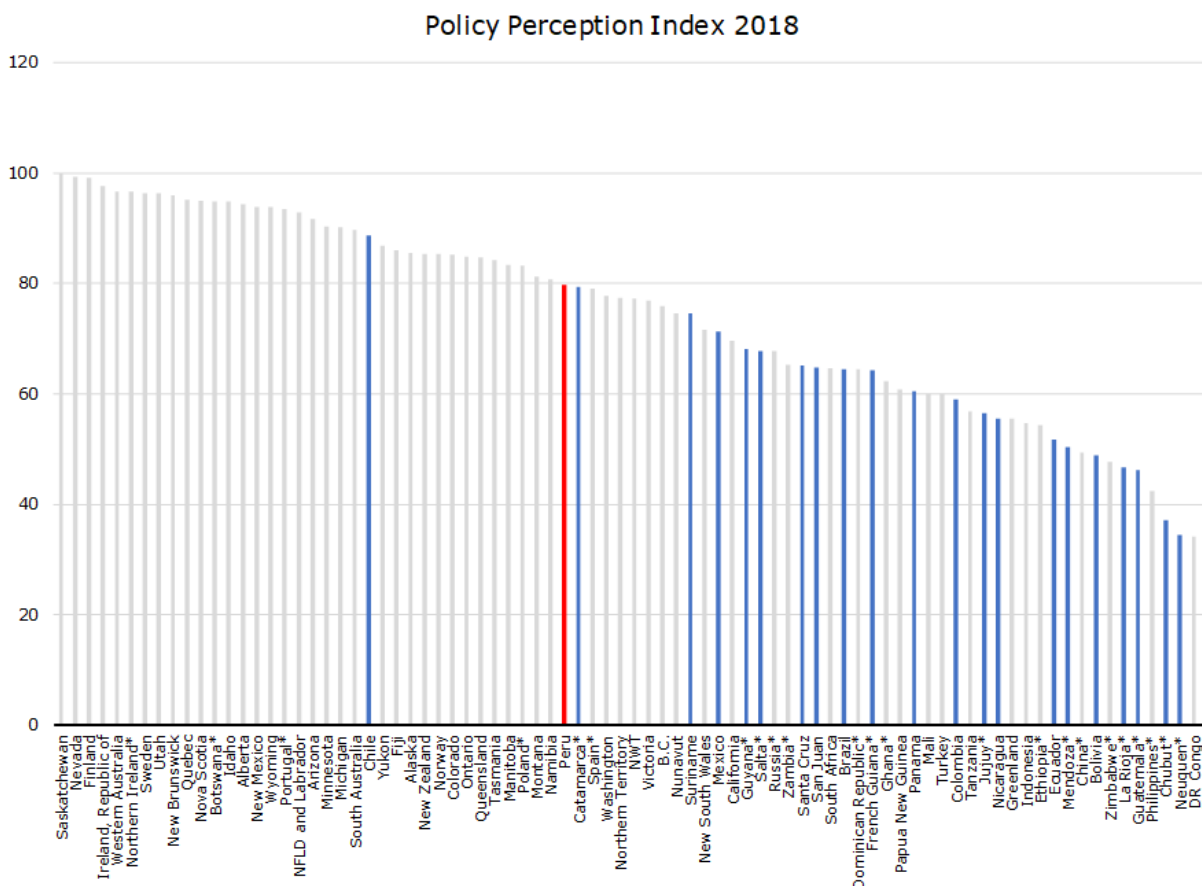
(Figure 14: Number of current mining projects in Peru [dots] and development costs [bars] by province, highlighting problematic jurisdictions in red. Source: Ministry of Energy and Mines, 2018)

Recent examples include Newmont Goldcorp (NEM.NYSE, NGT.T) being forced to abandon the development of the US\$5-billion Conga copper-gold project in Cajamarca, violent opposition to the US\$1.8-billion Tia Maria copper project operated by Southern Peru Copper in the Arequipa region, and protestors blocking the highway that runs from the Las Bambas mine to the Port of Matarani in Apurimac, (Fig. 15).



(Figure 15: [top left] Community opposition to the Conga copper-gold project in Cajamarca, [top right] violent opposition to the development of the Tia Maria copper project in Arequipa, [bottom left] blockades at Las Bambas that halted concentrate shipments to the Port of Matarani [bottom right]. Source: *Revista Ideele*, *Mining.com*, *New Straits Times* and *CruiseMapper*)

In the Fraser Institute's Annual Survey of Mining, companies that responded to policy factors that affect investment decisions (Policy Perception Index) put Peru in the middle of the pack, which is well above the majority of its Latin American peer group, but far behind Chile, (Fig. 16).



(Figure 16: Policy Perception Index for 2018 illustrating Peru's location [red] in the middle of the pack with its Latin American peer group in blue. Source: *Fraser Institute Annual Survey of Mining Companies 2018 and Exploration Insights*)

President Vizcarra's fight against graft and corruption has support among the citizenry but it has led to a direct conflict with the opposition-led Congress. In order to end the impasse, the President has proposed an early general election (July 2020).

An unstable local political landscape and the potential for yet another election will only add more uncertainty, which is not conducive to attracting significant inflows of capital from foreign investors to the mining sector or any other for that matter. To see the capital inflows that will drive GDP growth, the Mining Minister needs to realize his goal of improving public policies and disentangle the regulatory framework.

Although I am not keen to add to my exposure to Peru at this time, I will continue to hold the Peruvian explorers in the Portfolio, for the time being, anticipating a resolution of permitting delays before the coming election and banking on the geological prospectivity of the country to host more major world-class deposits.

Disclosures

Of the companies mentioned in this week's letter, Exploration Insights owns shares of Chakana Copper (PERU.V) and Regulus Resources (REG.V).

[Note that our trading activity is based on our investment thesis, which can be short- (tactical) or long-term (strategic), but the timing will not always be perfect due to market volatility and share price liquidity. As a subscriber, you may want to purchase/sell a stock sooner or later than we do. As we need to justify our purchases and sales while allowing our subscribers to trade with us, we, unfortunately, cannot always act as quickly as we would like. We also want to remind all our subscribers that they have access to the open and closed positions in the EI Portfolio via the website. As soon as we execute a trade, we update the price and date of the open and closed positions, depending on whether the position was purchased or sold. There can be delays due to the illiquidity of some of the junior mining stocks and the time needed to link a new stock to our website. Our site visit expenses are covered by the company.]

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