Growth Lab

# Bolivia's Economic Pivot: Unlocking the Mining and Lithium Potential

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## About the Growth Lab

The Growth Lab at Harvard University's multidisciplinary team, led by Professor Ricardo Hausmann, pushes the frontiers of research on economic growth and development policy. The Lab advances academic research on the nature of economic growth and conducts applied, place-based engagements that aim to understand context-specific growth processes, address key constraints, and identify promising opportunities. Through its research and teaching activities, the Lab has become a global thought leader offering breakthrough ideas, methods, and tools — including Growth Diagnostics, Economic Complexity and Green Growth — that help practitioners, policymakers, and scholars understand how to accelerate economic growth and expand opportunity across the world. Consistent with the mission of the Harvard Kennedy School of Government, in which the program is housed, the Lab works to expand capabilities for improved economic policy-making such that more people and societies can enjoy higher levels of wellbeing through stronger, more sustainable, and more inclusive economic growth processes.

## About the Series

The "Bolivia's Economic Pivot" series, produced by the Growth Lab, comprises seven documents: (1) Main findings and reform priorities, which integrates and synthesizes the six thematic studies in the series (Hausmann et al., 2026) ; (2) The Making of a Macroeconomic Crisis (García et al., 2026); (3) Early Macroeconomic Achievements and Remaining Challenges (Arcay et al., 2026); (4) Reviving the Energy Sector (Lamby et al., 2026); (5) Unlocking the Mining and Lithium Potential (Lamby & Hausmann, 2026); (6) Opportunities and Challenges in Agriculture (Shah et al., 2026); and (7) A Growth Diagnostics of the Tourism Sector (Freeman & Hausmann, 2026). See references.

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We note that the views expressed in this report are solely those of the authors and do not necessarily reflect the views of those acknowledged here.

**Data and Information Disclaimer**

This report is based exclusively on available information and statistics at the time of writing. Official datasets in Bolivia are often outdated, incomplete, or published with significant lags, which limits the precision of certain estimates and the depth of the analysis. Where possible, these gaps have been addressed through secondary sources, historical trends, or internationally comparable data, though some figures should be interpreted as indicative rather than definitive. Given this, judgment was applied in preparing some of the numbers and calculations contained in this report, and any changes or developments occurring after February 28th, 2026, are not fully accounted for.

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## Executive Summary

**Bolivia possesses significant mineral resources, yet its mining sector has failed to translate this potential into sustained production growth.** At first glance, record levels of mining exports suggest that the sector is performing well. However, this masks an underlying stagnation in production. Export growth has been largely driven by rising mineral prices rather than increases in output. Prices for key minerals such as gold, silver, and zinc have increased substantially in recent years, yet production volumes have remained broadly flat over the past decade. No large-scale mine has opened in Bolivia since 2008, and several of the country's largest operations are approaching the end of their productive life.

**Bolivia's performance contrasts with that of neighboring mining economies.** Countries such as Chile and Peru that share similar geological features with Bolivia have attracted substantial mining investment over the past two decades, particularly in exploration and project development. While Chile and Peru's mineral exports per capita in 2024 reached USD 2,820 and USD 1,362 respectively, Bolivia's mineral exports per capita only amounted to USD 295. Bolivia, by contrast, has experienced a significant decline in exploration investment since 2012. Private exploration spending was notably higher in the late 1990s and early 2000s than it is today. The lack of exploration activity is a clear indicator of a sector that is not generating new projects. This is particularly striking given that Bolivia possesses significant resources in critical minerals such as lithium, antimony, and rare earth elements that have yet to be developed at scale.

**The central reason for this underperformance lies in the regulatory environment governing Bolivia's mining sector.** Over the past decades, Bolivia's mining policy has alternated between periods of openness to private investment and phases characterized by expropriations and strong state control. The most recent shift has reinforced the role of the state in the sector. Several mining assets were nationalized in the 2000s, and the current legal framework established by the 2014 Mining Law (Law 535) as well as provisions of the 2009 Constitution introduced significant restrictions on mining rights and private sector participation. As a result, the regulatory framework has created uncertainty and weakened incentives for long-term investment.

**One important constraint is the limited security and transferability of private mining rights.** Under the 2014 Mining Law (Law 535), mining rights are granted through administrative contracts that cannot be freely sold, transferred, or used as collateral. This reduces the liquidity of mining assets and makes it more difficult for companies to raise financing for exploration and development. The stability of these rights is further affected by provisions that allow the state to terminate contracts if their "economic and social function" is deemed not to be fulfilled. Together with Bolivia's withdrawal from international arbitration mechanisms and the termination of bilateral investment treaties, these factors have weakened investor confidence in the long-term security of mining investments.

**A second constraint is the preferential rights granted to state-owned mining enterprises to operate in certain areas, effectively restricting private participation.** Large areas of mining territory are reserved for the state-owned enterprise COMIBOL, and private companies can only operate in some of these areas through partnerships with the company. Rare earth mineral mining is fully reserved to the state and tin mining includes a requirement of processing it with the respective SOE which effectively limits private participation. The state also holds a monopoly over the exploitation of evaporitic resources,

including lithium, through the state-owned company *Yacimientos de Litio Bolivianos* (YLB). While state participation in the sector may reflect national development objectives, the current framework creates operational complexity and reduces incentives for private investment.

**A third constraint is the fragmented structure of Bolivia's mining sector, where cooperatives and private firms coexist without a legal framework that allows them to collaborate productively**. Cooperatives account for a large share of employment and gold production. They often operate in areas that overlap with private mining areas. Conflicts over mining areas have been recurrent, and the legal framework prohibits formal partnerships between cooperatives and private firms, increasing uncertainty for large-scale mining investments and limiting access to productive partnerships for cooperatives. In addition, due to regulatory loopholes, cooperatives operate under a significantly more favorable fiscal regime than private companies, as they are exempt from corporate income taxes and several other levies and mainly pay mining royalties. The scale of cooperative employment means that even modest productivity improvements could generate significant gains in output and fiscal revenues.

**These structural constraints, combined with the limited provision of key public goods required for mining, have contributed to the sector's underperformance.** In addition to a stable regulatory environment, mining development depends on the availability of public goods such as geological information, infrastructure, and institutional capacity. In Bolivia, these foundations remain incomplete, as roughly 60 percent of the country's geology is estimated to be unexplored (UDAPE, 2023). This lack of geological knowledge increases exploration risks and reduces the visibility of potential deposits. At the same time, available evidence suggests that Bolivia's mineral potential is substantial. The country holds the world's second-largest lithium resources, roughly one fifth of global antimony resources, and is already the fifth largest silver producer and fourth largest zinc exporter globally. Unlocking this potential will require both regulatory reforms that restore investment incentives and greater investment in the public goods needed to support mining development.

**Restoring dynamism to Bolivia's mining sector will require reforms that create a stable investment environment while ensuring that the country captures a fair share of the benefits**. Mining investments involve long development timelines and large upfront capital commitments, which makes regulatory stability particularly important. Clear and predictable rules are therefore essential not only to attract investment but also to ensure that projects operate over the long term and generate sustained fiscal revenues. A reform agenda should therefore focus on strengthening the institutional foundations of the sector in a way that both encourages investment and safeguards the public interest.

**This report identifies six priority pillars for reform.** First, strengthening the security and bankability of mining rights would reduce financing costs and encourage exploration. Second, clearer and more predictable permitting and consultation procedures would reduce regulatory uncertainty and shorten development timelines. Third, clarifying the institutional roles of state actors such as COMIBOL and strengthening the role of an independent mining regulator (Autoridad Jurisdiccional Administrativa Minera (AJAM)) would improve transparency and reduce operational complexity. Fourth, integrating mining cooperatives more effectively into the sector through clearer rules and incentives could reduce conflicts and improve productivity. Fifth, a dedicated framework for lithium development that mobilizes foreign knowhow and capital could allow Bolivia to unlock the potential of its evaporitic resources.

Finally, adjusting the fiscal regime toward a more neutral and progressive structure would better align government revenues with project profitability.

**Bolivia's mining sector stands at a critical juncture.** The country possesses significant mineral resources and favorable long-term demand prospects, particularly in minerals linked to the global energy transition. Yet without reforms that restore investor confidence and strengthen the institutional foundations of the sector, much of this potential will remain unrealized. As the existing base of mineral operations is aging, the risk is to even lose part of the existing production capacity. By addressing the regulatory constraints identified in this report and investing in the public goods required for mining development, Bolivia has the opportunity to transform its mining sector into a more dynamic source of growth, exports, and fiscal revenues in the coming decades.

Table 1: Summary of the Reform Pillars and their Key Policy Actions

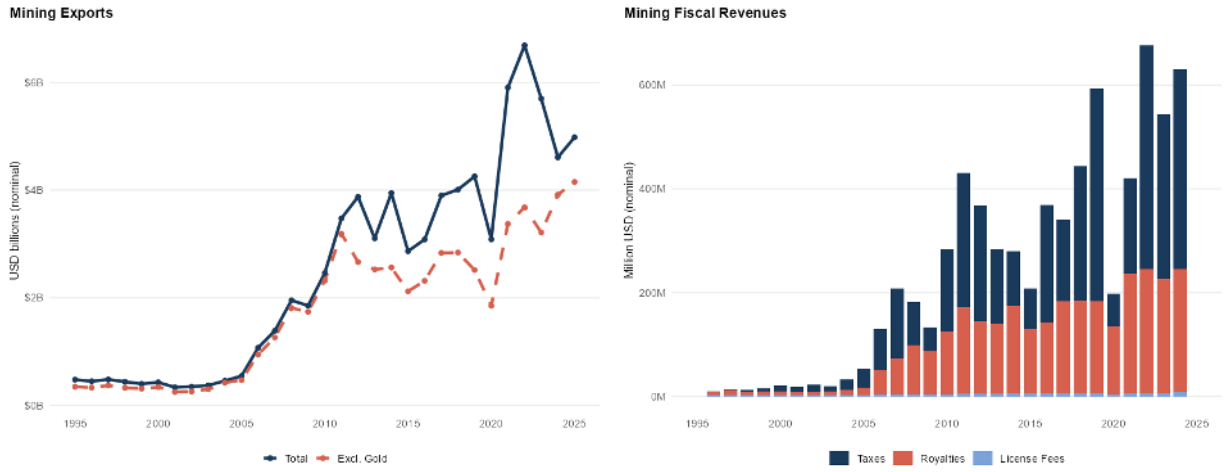
| Reform Pillar | Key Policy Actions |
|---|---|
| **Secure and Bankable Mining Rights** | Strengthen the security rights of administrative mining contracts by allowing conditional transferability of rights with administrative approval, establishing transparent rules for renewal and expansion of mining areas and enabling the use of the contract as collateral.<br><br>This is possible through a new law that alters the Articles 17,18, 98, 136 and 144 of Law 535<br><br>Reform the restrictions regarding foreign mining operations within 50km of the border to allow for joint ventures or limit to exclude only companies of neighboring countries |
| **A Commercially Coherent State and an Independent Regulator** | Clarify the mandates of COMIBOL and strengthen the role of the independent mining regulator AJAM; establish transparent procedures for private participation in areas reserved for COMIBOL; strengthen corporate governance and financial transparency in state-owned mining companies. COMIBOL should take on a role in making mining projects investable.<br><br>This would require a reform of Law 466 which regulates state-owned enterprises as well as Arts. 36-91 of the Law 535, to create an autonomous regulatory body. |
| **Predictable Permitting and Consultation** | Introduce clear timelines for permitting, prior consultation procedures and environmental licensing; define procedural stages and administrative deadlines; strengthen institutional capacity for consultation processes; digitalize permitting procedures and improve transparency of requirements. |
| **Reform Cooperative Framework** | Allow structured partnerships between cooperatives and private mining companies; introduce a graduated fiscal regime based on scale and profitability rather than legal classification; expand access to technical services, finance, and geological information for cooperatives.<br><br>This would require reforming Article 151 of Law 535. |

| | |
|---|---|
| **Competitive and Scalable Lithium Framework** | Eliminate YLB's monopoly and allow for majority private participation in lithium projects under transparent contractual frameworks; strengthen governance and technical autonomy of YLB; establish clear fiscal terms for lithium extraction; encourage competitive bidding for project development.<br><br>Establish a credible and independent regulatory body to oversee the lithium operations. This can be connected to the previously mentioned reforms of AJAM.<br><br>This would require eliminating Law 928 and replacing it with a new lithium regulation. This regulation could be created through a special law for lithium or by including lithium in a renewed mining law with a special regulation. |
| **Progressive Fiscal Regime** | Reform the royalty structure to introduce greater progressivity linked to profitability; simplify the royalty base and close loopholes; index depreciation allowances to inflation and exchange rate movements; maintain stable fiscal terms for long-term investments.<br><br>This is possible through a new law that alters the Articles 226 and 227 of Law 535, among others. |

## 1. Status Quo: Symptoms of Underperformance

**Mining has re-emerged as the central pillar of Bolivia's export economy, yet this resurgence masks deeper structural weaknesses**. In 2025, mining exports reached approximately $5 billion, accounting for 52 percent of total exports and surpassing hydrocarbons as the country's principal source of foreign exchange. The increase in mineral exports over time has also led to important fiscal revenues. In 2024 the Bolivian government received $630 million through a combination of royalties and taxes from the mineral sector which accounted for 5% of its total fiscal revenues (see Figure 1). This upswing reflects favorable international mineral prices and sustained global demand for metals linked to industrial production and the energy transition. Bolivia's location within the Central Andean metallogenic belt, shared with Chile, Peru, and Argentina, provides it with substantial geological potential across a wide range of minerals. On the surface, therefore, the sector appears both strategically important and resource rich.

*Figure 1: Bolivia's Mining Exports and Fiscal Revenues from Mining*

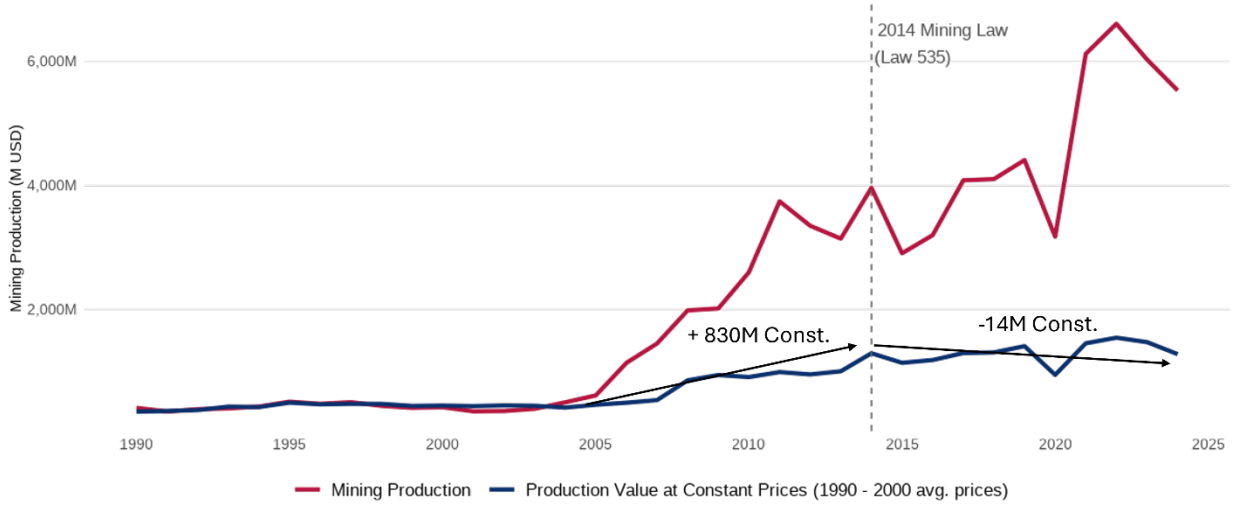



Source: Authors' elaboration based on Ministerio de Minería y Metalurgia (2025)

**The composition of Bolivia's mining exports remains heavily concentrated in traditional metals, reinforcing both continuity and vulnerability.** Gold, silver, zinc, and tin account for roughly 85 percent of production value and have formed the backbone of Bolivia's mining economy for decades (Figure A.1 in Appendix). In addition, the country possesses significant resources in minerals of growing strategic importance, including lithium, antimony, and rare earth elements. This combination of established production and untapped resource potential suggests considerable scope for expansion.

**The recent expansion in mining export revenues has been driven primarily by rising international prices rather than sustained increases in production.** The value of minerals produced increased from approximately $515 million in 1992 to $4 billion in 2014 and reached roughly $7.1 billion in 2025 (this figure reflects gross production value and exceeds the export figure cited above, as it includes minerals processed or consumed domestically). However, in constant prices of the 1990-2000 period, a different trajectory emerges. Between 2005 and 2014, Bolivia experienced genuine real growth in mineral output, with constant-price production increasing by approximately $830 million (Figure 2). Since 2014, by contrast, the real value of production has stagnated and slightly declined despite rising nominal values. Since 2014, the increase in the value of Bolivia's mineral production reflects rising international prices rather than any expansion in the volume of minerals extracted.

*Figure 2: Nominal and Real Mining Production (1995 – 2024)*

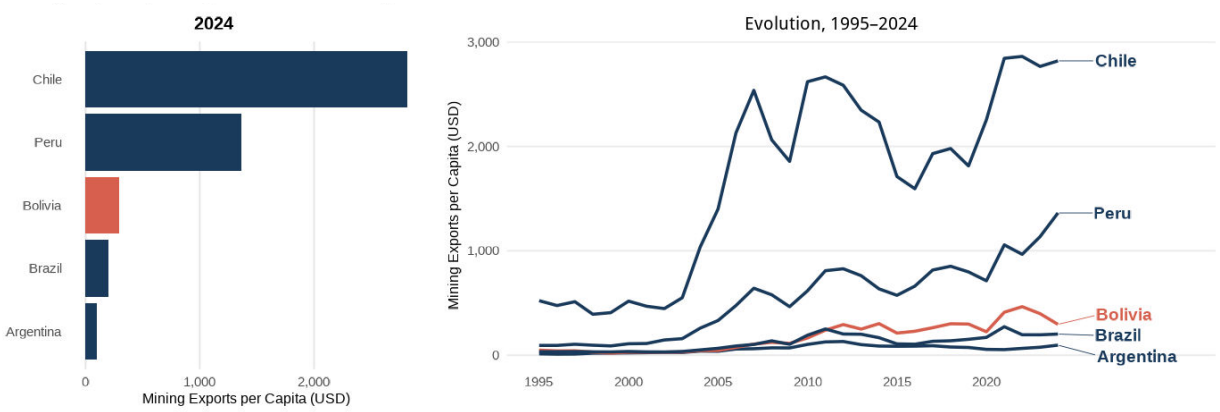



Note: The "Real Production" series multiplies the minerals produced in each year with the average implied price that Bolivia quoted for them between the years 1990 and 2000. In the case of iron and manganese we use the 2006 price as Bolivia did not produce these minerals at scale in the previous period. Source: Authors' elaboration based on data from Ministerio de Minería y Metalurgia (2025)

**The increase in mineral prices and lack of production expansion signals a weak responsiveness of the sector to market incentives.** In mining economies with robust institutional frameworks, price booms typically stimulate exploration activity, capacity expansion, and entry of new operators. Higher prices improve project economics and encourage risk-taking, thereby expanding supply. Bolivia's limited production response during a prolonged period of elevated mineral prices suggests that the elasticity of supply is constrained. This is most visible in Bolivia's most important minerals such as gold, silver and tin in which production volumes have not responded to price surges (see Appendix). The binding limitation therefore appears not to be geological scarcity but institutional and regulatory conditions that dampen investment incentives.

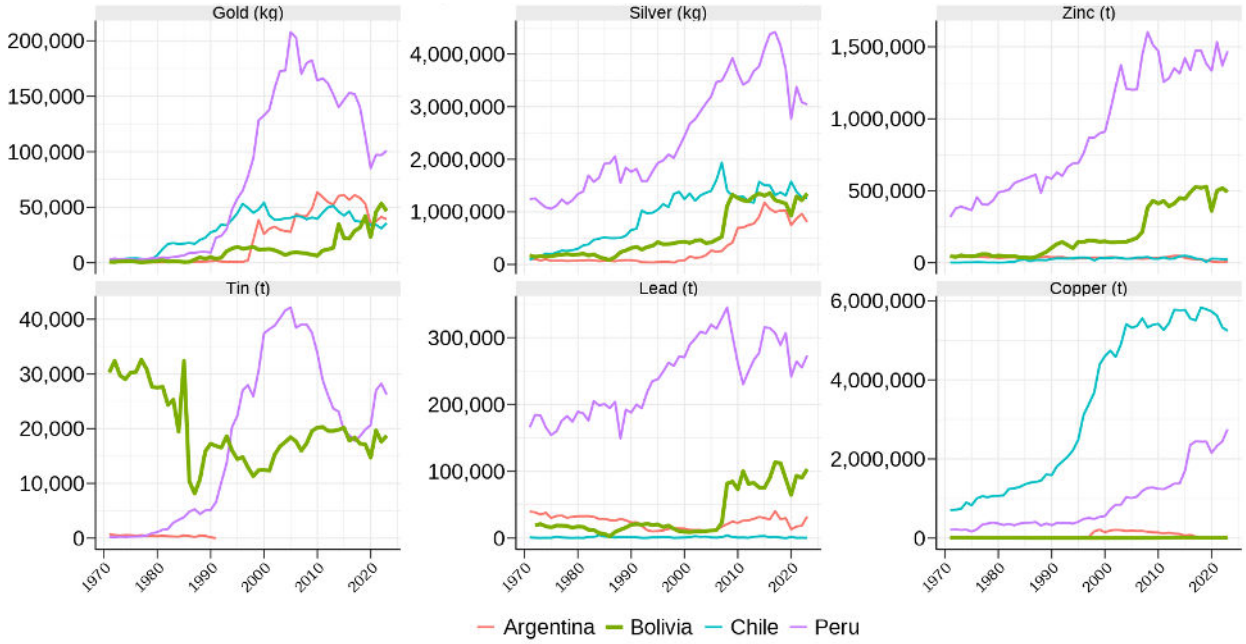
**The weak responsiveness of Bolivia's mining sector to market incentives can also be seen in its underperformance relative to its peers.** Even though Bolivia shares similar geological features with Chile and Peru it has not been able to grow its sector to the same extent that they have over the last 20 years. While Chile's mining exports per capita reached USD 2,818 per capita in 2024 and Peru's were at USD 1362, Bolivia only exported USD 295 worth of minerals in 2024 per capita. The gap has widened significantly after 2005 as Chile and Peru took advantage of rising mineral prices and also increased their production over time (Figure 3). While much of that gap is explained by Chile's and Peru's success in copper, Bolivia still underperformed excluding copper (Figure A. 2). Peru managed to increase its silver and zinc production significantly over time (Figure 4).

***Figure 3: Mining Exports per Capita: Bolivia vs. Neighbors***




Source: Authors' calculations based on UN Comtrade Data and World Development Indicators

***Figure 4: Mining Production by Mineral: Bolivia, Chile and Peru (1971 - 2023)***




Note: The minerals are ranked in descending order of their production value in Bolivia in 2024. Source: Authors' elaborations based on data from the British Geological Survey

**The structure of Bolivia's mining sector further illustrates the institutional complexity underlying this stagnation.** Production is divided among three principal actors: private firms, state-owned enterprises, and mining cooperatives. In 2024, approximately 48 percent of mineral production originated from the private sector, 43 percent from cooperatives, and 9 percent from the state-owned segment, primarily COMIBOL (Ministerio de Minería y Metalurgia, 2025). Each of these actors is concentrated in different minerals and operates under distinct incentive structures. The private sector is predominantly active in zinc and silver (combined 83%), cooperatives are heavily concentrated in gold (66%), and the public sector remains focused on tin (75%).

**This tripartite configuration generates fragmentation that affects both productivity and investment dynamics.** Private firms typically operate capital-intensive projects with access to international financing and technological capabilities. Cooperatives, in contrast, tend to rely on labor-intensive extraction methods and operate with limited access to capital. The state-owned segment occupies a comparatively small share of production but plays a significant role in the allocation of mining areas and regulatory oversight as certain areas are reserved for COMIBOL. The different roles of these actors are also evident when looking at the employment figures. While the public sector employed 5,985 people in 2024, 7,383 people were working in the private mining sector and 152,313 in cooperatives (Table 2). Between 2009 and 2024 employment in cooperatives more than doubled. The coexistence of these distinct institutional logics complicates coordination and long-term planning, while also shaping the political economy of reform.

***Table 2: The Structure of Bolivia's Mining Sector in 2024***

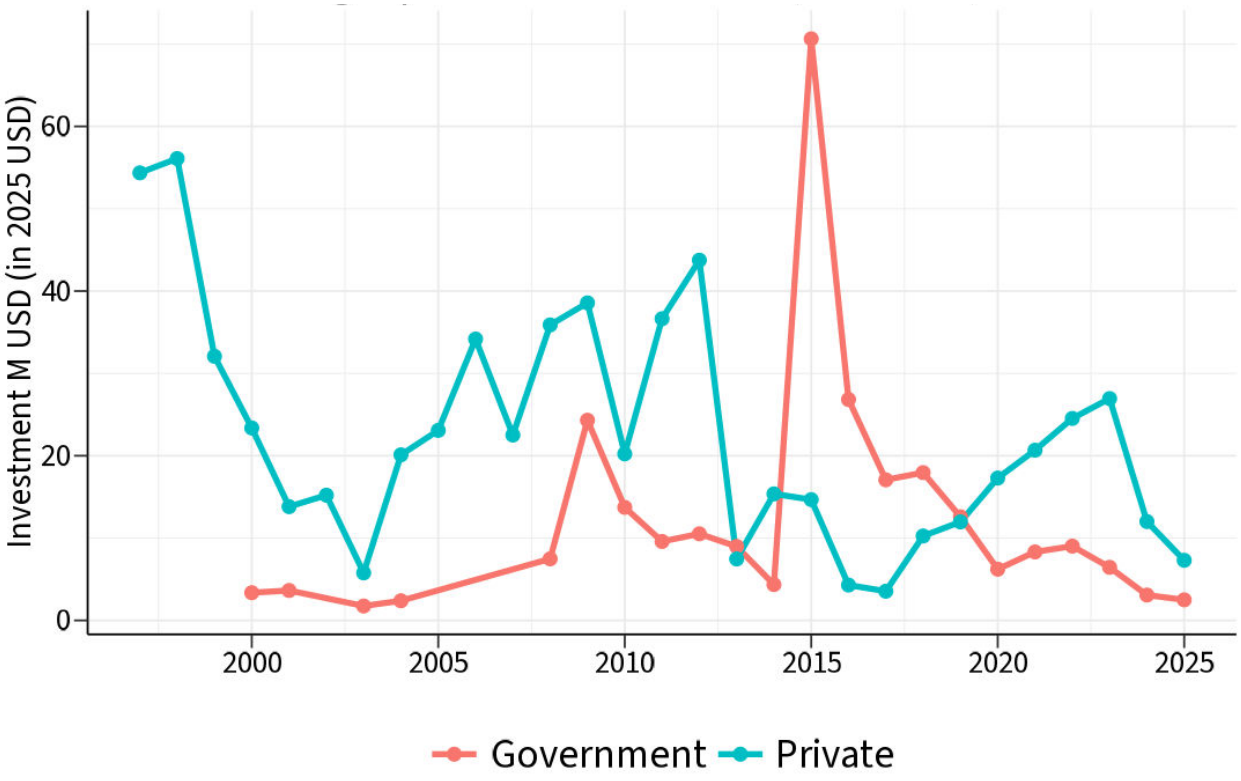
| | Employment | | Production Value | | Labour Productivity |
|---|---|---|---|---|---|
| | Employment | Share | Production Value (USD M) | Share | Output per Worker (USD) |
| **Estatal** | 5,985 | 3.6% | 528 | 9.2% | 88,269 |
| **Privada** | 7,383 | 4.5% | 2,743 | 47.9% | 371,596 |
| **Cooperativas** | 152,313 | 91.9% | 2,458 | 42.9% | 16,141 |
| **Total** | **165,681** | 100% | **5,730** | 100% | **34,586** |

Source: Authors' elaborations based on (Ministerio de Minería y Metalurgia, 2025)

**The most direct indicator of structural weakness in the sector is the sustained decline in exploration investment.** Exploration spending finances geological surveys, feasibility assessments, and early-stage risk-taking that generate the pipeline of future mining projects. Bolivia's exploration investment peaked at approximately $56 million in 1997. After 2012, however, private exploration expenditures declined sharply and have not recovered to previous levels. In several subsequent years, annual spending remained below $30 million despite favorable global price conditions (Figure 5). The uptick in private exploration spending between 2018 and 2023 is driven by investments from the junior mining companies "New Pacific Metals" and "Eloro Resources". These have been the only significant greenfield investments in Bolivia's mining sector in the past ten years.

**New Pacific Metals' projects illustrate the operational risks associated with permitting delays and contested land access.** At its Silver Sand project, the company faced encroachment by artisanal miners operating illegally within its concession area, despite the presence of legally recognized cooperatives nearby that did not generate conflict (New Pacific Metals, 2025). The company initiated legal action in late 2023, but it took until mid-2025 for a court ruling to restore full control of the site (ibid.). During this period, access to parts of the concession was restricted, delaying project development. The episode highlights how weak enforcement of mining rights and illegal mining activities can impose prolonged uncertainty and materially affect project timelines.

*Figure 5: Bolivia's Mining Exploration Investments (1997 – 2024)*



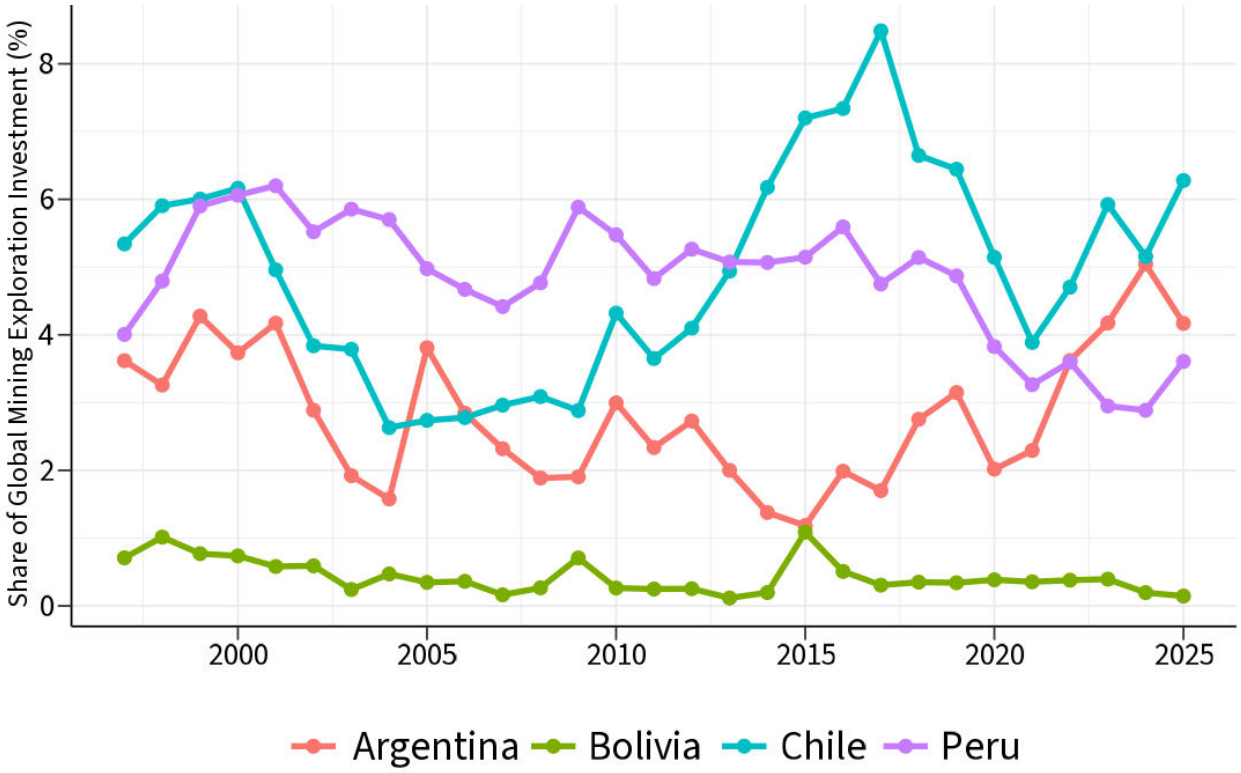

Note: This only includes greenfield exploration investment or late-stage feasibility investments. It does not include on-site investments as it is not indicative of possible new entrants Source: Authors' elaborations based on S&P Capital IQ data

**The lower levels of exploration investment have translated into an increasingly narrow production base.** Private mining output is heavily concentrated in four major operations: San Cristóbal, San Bartolomé, San Vicente and Sinchi Wayra. These together account for roughly 85 percent of private production. Several of these mines such as San Cristóbal and San Vicente began operations more than two decades ago and are approaching later stages of their life cycles.[1] The absence of significant new projects over the past decade indicates that Bolivia's pipeline of mines replacing them is thin. Without renewed exploration and development, current stagnation may give way to structural decline as existing mines mature.

**Bolivia's experience stands in contrast to neighboring countries that share similar geological endowments and were exposed to the same global commodity cycle**. Chile and Peru continued to attract substantial exploration capital and bring new projects into operation during the same period in which Bolivia's exploration spending contracted (Figure 5). This divergence suggests that global market conditions alone cannot account for Bolivia's stagnation. Domestic institutional factors appear central to explaining why higher prices did not translate into sustained production growth.

[1] San Bartolomé has already stopped producing as an active mine. Instead it buys up minerals from cooperatives and processes them. The San Vicente mine may have another 4 years of production planned based on the current reserves and annual production (Pan American Silver, 2025). Brownfield exploration investments could mean that the life of mine could be extended in the future but there are no such announcements as of now.

*Figure 6: Share of Global Mining Exploration Investments by Country (1997 – 2024)*




Source: Authors' elaborations based on data from S&P Capital IQ

**The predominance of price-driven export growth carries significant macroeconomic implications for Bolivia.** When export revenues depend primarily on international price fluctuations rather than expanding domestic production capacity, foreign exchange inflows become more volatile and externally determined. This volatility complicates fiscal planning and heightens vulnerability to global commodity downturns. A mining sector that expands output during price booms can partially stabilize revenues by increasing volumes and diversifying its asset base. In contrast, a sector that fails to translate favorable prices into investment remains structurally exposed to external shocks.

**Bolivia's lithium sector illustrates the broader institutional challenges that limit the conversion of resource endowment into production.** The country possesses some of the world's largest lithium resources, particularly in the Salar de Uyuni, yet large-scale commercial production has not happened. Over the past decade, the state-owned enterprise YLB pursued a strategy centered on public control and vertical integration, with cumulative investment of more than $800 million (BCB, 2024). By 2024, however, lithium exports amounted to only around $100 million, and the economically recoverable portion of resources remains uncertain. The gap between geological potential and realized output highlights the centrality of governance and contractual design.

**Bolivia's mining industry currently benefits from elevated mineral prices, but its stagnating production outlook despite a favorable geology points towards institutional problems**. An aging asset base, concentrated production structure, limited exploration activity, and institutional fragmentation pose significant risks to sustained growth. Without reforms that restore investor confidence, clarify contractual arrangements, and facilitate exploration and project development, the sector may face gradual

decline as existing operations mature. Understanding the institutional evolution that produced this configuration is therefore essential for identifying pathways toward a more investible and production-oriented mining sector.

**Inaction would be costly as numerous mines are approaching their end of life and the country strongly needs a source of foreign exchange revenues.** The mining operations of San Cristóbal and San Vicente are approaching their end of life and there is no agreement as of yet on expansion plans. As they together generate an annual inflow of $1.5bn in exports this is a significant risk of losing FX export revenue. Beyond existing operations Bolivia has a window of opportunity to develop new mines and leverage its natural resource endowment. The demand for some of Bolivia's key mineral is projected to grow in the future and geopolitical tensions around mineral supply chains have potentially heightened the risk appetite. These tendencies could prove to be an important window of opportunity for Bolivia's push to develop its mining potential. Inaction would risk losing some of the current actors and might mean squandering an important opportunity.

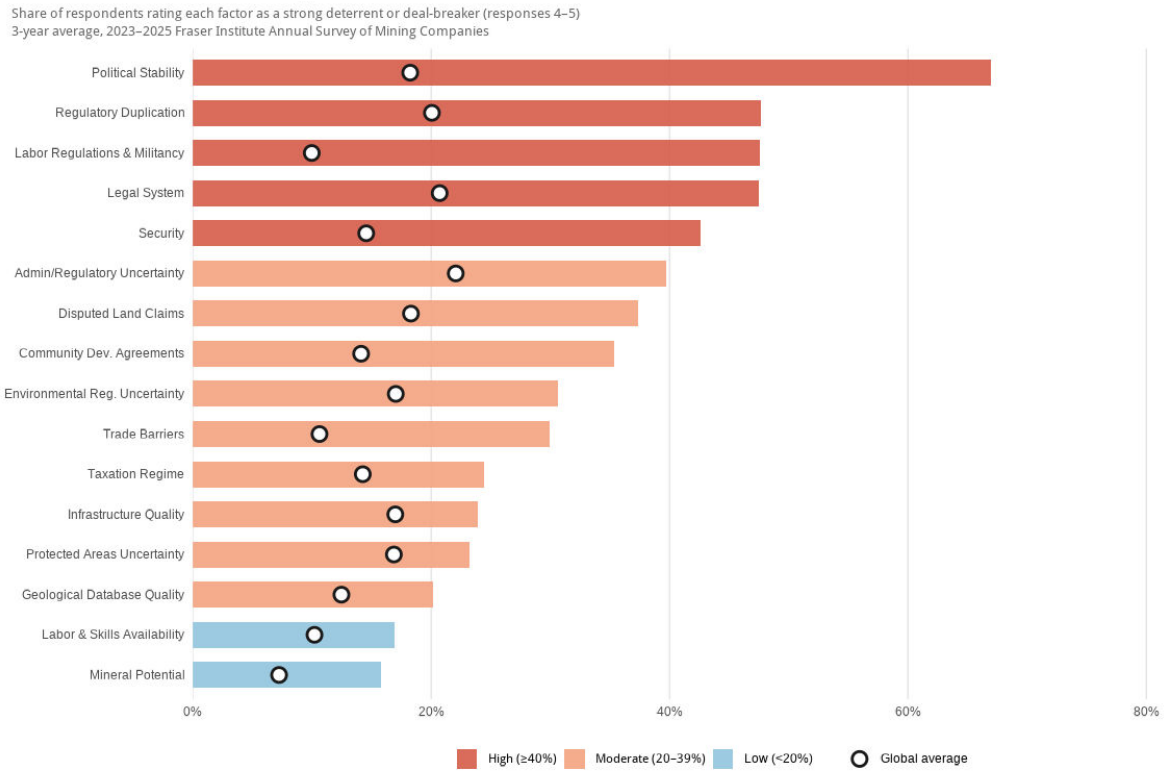
## 2. Structural Reasons for Underperformance

**Bolivia's mining underperformance is institutional in origin, not geological.** The country ranks among the world's top producers of zinc, silver, and tin and holds the world's second-largest lithium resource base, yet no new large mine has opened since 2008[2] and private exploration investment remains far below that of regional peers. Political instability is the single largest investment deterrent among mining companies and analysts familiar with Bolivia's sector, followed by regulatory duplication, labor militancy, and legal system quality, each rated a strong deterrent or deal-breaker by more than 40% of survey respondents (Fraser Institute, 2023-2025 average; Figure 7). Bolivia ranks worse than most other mining jurisdictions across all the dimensions covered by the survey.

**The key barriers mentioned in the survey align with the results of our analysis of the sector**. The prominence of political instability is consistent with Bolivia's repeated policy reversals: a private investment-friendly framework in the 1990s gave way to a state-led model after 2006, signaling that the terms of private participation are subject to political revision. The result of this new model has been a restrictive legal framework with a lack of a high-quality regulator. The lack of coherent and clear regulation is reflected by "regulatory duplication" being one of the largest constraints mentioned in the survey. Beyond this, labor regulations and security rank comparatively high and are likely connected to the prevalence of mining cooperatives and their conflictive relationship with the formal private sector, a dynamic examined in detail below. The rest of the section will analyze the main barriers to the development and growth of Bolivia's mining sector in detail.

[2] In this context we consider a large mine one that produces at an output of more than $50m annually. The last mine of that size was opened in 2008 with the start of production of the San Bartolomé mine.

*Figure 7: Barriers to Investment in Bolivia's Mining Sector (Fraser Institute Survey)*




Note: The Fraser Institute surveys mining executives every year about their view of respective mining jurisdictions. The bars displayed here represent the sum of answers of "strong deterrent" and "would not invest" for Bolivia averaged over the years 2023 to 2025 to enlarge the sample size. Source: Authors' elaborations based on Fraser Institute Annual Survey of Mining Companies (Mejía & Aliakbari, 2024, 2025a, 2025b).

## a) Legal Framework with a lack of stability and safety

**Bolivia's repeated policy reversals in mining have undermined the stability that long-term capital formation requires and have resulted in a restrictive regulatory system today.** During the 1980s and 1990s, the state dismantled COMIBOL's monopoly and opened large areas to private participation through mining concessions (Arsel et al., 2014). This enabled large mines that still account for the majority of Bolivia's non-gold production. The political decisions of the mid-2000s reversed this direction: nationalizations, constitutional changes, and contract renegotiations expanded state control but not production. What deters long-term investment is not just any single policy choice but the pattern of reversal itself: a liberal framework in the 1990s, nationalization after 2006, partial opening under Law 535 in 2014. Mining projects require investment horizons of 15 to 20 years; this requires a stable regulatory environment over this period. The instability and current restrictive regulations are amongst the most severe deterrents to investment according to the survey results from sectoral experts (Figure 7). The legal changes documented below are the mechanisms through which the legal framework restricts further development of the sector today. A reform must keep the sustainability of the changes in mind to avoid yet another reversal in the close future.

**The replacement of mining concessions with administrative contracts removed foundational features of investable mining rights such as their transferability and collateral value.** The Mining

Code of 1997 had established concessions as transferable, indefinite rights that could be sold, inherited, and used as collateral (Arsel et al., 2014). This framework enabled the development of large private mines that still account for the majority of Bolivia's non-gold production. Three successive legal interventions between 2006 and 2009, formalized by Law 535 of 2014, replaced this system entirely. The concessions were replaced by "Administrative Mining Contracts". These contracts cannot be sold, transferred, or used as collateral (Arts. 98 and 136, Law 535), eliminating the project finance architecture through which most large-scale regional mining is developed. More decisively, they cannot be classified as mineral reserves, meaning publicly listed companies cannot book Bolivian assets on their balance sheets.

**Bolivia's contract approval requirements and the collapse of investor protection have further limited investment safety.** Law 535 requires parliamentary approval for major mining contracts, a requirement shared by no other Andean jurisdiction: Chile adjudicates concessions judicially, Colombia and Peru administratively (Poveda Bonilla, 2022). The parliamentary route transforms commercial negotiations into political events, exposing contracts to electoral cycles and the veto power of organized interests. Bolivia withdrew from the ICSID Convention in 2007 and subsequently terminated most bilateral investment treaties. Investors now face neither domestic legal certainty nor international recourse. This is a deterrent as international arbitration can be seen as an insurance mechanism protecting investors from potential expropriations without compensation.

**Further legal restrictions constrain investment by placing entire mineral categories and geographic areas outside the reach of private operators**. Foreign companies cannot invest within 50 kilometers of Bolivia's borders (Arts. 28 and 133, Law 535), directly affecting Bolivia's most prospective copper-bearing areas near the Argentine and Chilean frontiers. Additionally, private development of rare earth minerals is banned entirely (Art. 27, Law 535). These restrictions are more binding than comparable provisions in neighboring countries: Peru allows border zone exemptions by supreme decree, while Chile's restrictions apply only to companies headquartered in neighboring countries and are equally overridable by supreme decree (Invest Chile, 2019).

## b) Regulatory Quality

**Bolivia lacks an independent technical mining regulator, and no single institution is accountable for coherent sector oversight**. The *Autoridad Jurisdiccional Administrativa Minera* (AJAM), established under Law 535, functions primarily as an administrative tribunal and permitting body, not a regulatory agency with standard-setting authority or sector-wide supervisory capacity. Regulatory functions are distributed across the Ministry of Mining, AJAM, SENARECOM, and the *Contraloría* without a coordinating mandate. The contrast with regional peers is direct: Chile's COCHILCO operates as a specialized technical and market intelligence body, and both Chile and Peru formally separate environmental licensing from enforcement (Poveda Bonilla, 2022).

**The lack of an independent regulator decreases transparency and trust and heightens the risk of conflicts during operations and permitting processes.** Without a credible regulator that can resolve conflicts predictably and transparently, investment does not happen. In the absence of such an actor the only way to settle a dispute is through political pressure, road blockades, or ministerial discretion. In that environment, the party with the greatest capacity to disrupt has more power than the party with the strongest legal claim, and investment decisions tend to be limited. This has been reflective in numerous

instances in Bolivia's mining sector. In many cases water competition has been the central fault line: extraction in drought-prone areas has triggered community invasions and export route blockades, while poor conflict resolution frameworks have led to mining rights revocations and costly international arbitration claims that signal systemic social risk (Guevara et al., 2023; Weinberg, 2010). In lithium, contracts signed in 2024 with foreign partners proceeded without the environmental impact assessments required under Bolivian law and without genuine community consultation (Dialogue Earth, 2025; Ruas, 2025).

### c) State Monopolies

**COMIBOL has not been able to translate its preferential position into an expansion of production.** Large parts of the territory remain reserved for COMIBOL, and private firms must enter minority joint ventures in these areas. In such arrangements, profits must be shared which raises the costs of the project, and decision-making becomes more complex. Despite this preferential position, COMIBOL has not significantly expanded production over the past decade. Since 2014, public-sector output of key minerals such as tin and zinc has declined, while only iron production has increased due to the development of the Mutún steel project. This has happened despite tin being effectively reserved for the state's production. The reservation of areas for COMIBOL has therefore not translated into higher national output. Instead, this reservation of areas limits those that are attainable to a private investor.[3]

**Similarly, Bolivia's state-led development of its lithium sector through its state-owned enterprise YLB has failed.** The country's vast lithium resources are under sole authority of YLB. It has pursued an industrialization strategy which sought to not only produce lithium carbonate but also lithium-ion batteries. Up until 2024 YLB invested more than $800M in solar evaporation plants (BCB, 2024) but these investments failed as YLB missed all of its targets. In 2025 YLB produced 2,462 mt of lithium carbonate even though its newly developed plant had a capacity of 15,000t. (MHE, 2026). Bolivia's approach to developing its lithium resources through exclusive state-led development has failed thus far and will be discussed in detail in the following section.

### d) Fragmented Structure of the Mining Sector

**Mining cooperatives are a central pillar of Bolivia's mining economy, yet the regulatory framework governing them has created structural asymmetries that limit the sector's overall productivity and fiscal performance.** Cooperatives account for most of the mining employment and produce almost all of Bolivia's gold. Employment in cooperatives grew from around 50,000 workers in 2004 to more than 150,000 by 2024 (Ministerio de Minería y Metalurgia, 2025). Despite their scale, cooperatives operate with significantly lower productivity than private firms and contribute only a small share of total mining tax revenue. Their fiscal regime is highly favorable, as they are exempt from corporate income tax, VAT, windfall taxes, and transaction taxes, and typically pay only reduced royalties due to regulatory loopholes. These fiscal exemptions are not linked to scale or profitability. This combination reduces public revenue and creates asymmetric competition between cooperatives and private operators. A more graduated fiscal regime based on actual output and profitability could preserve small-scale mining while improving equity and efficiency. The limited extension of environmental

[3] In practice a private investor could still partner with COMIBOL in the areas that are reserved to it but this introduces additional project complexities.

licensing requirements to cooperative operations has contributed to tensions with local communities and has shaped the public perception of the sector (Ferrufino et al., 2024).

**Legal barriers have prevented productive collaboration between cooperatives and private firms and have stoked disputes.** Article 151 of Law 535 prohibited subcontracting or joint ventures between cooperatives and private companies. This restriction limits the transfer of capital, technology, and formal management practices to cooperative operations. In other jurisdictions, such as Peru, subcontracting arrangements have helped formalize artisanal mining while maintaining large-scale investment. In Bolivia, the absence of such mechanisms has instead intensified competition over mining areas and contributed to recurring conflicts. Several high-profile disputes illustrate the consequences of this fragmented framework. In 2012, part of Glencore's Colquiri mine was transferred to cooperatives following labor unrest (Ballantyne, 2023; PCA CASE Nº 2016-39/AA64, 2016). That same year, opposition from communities and cooperatives led to the displacement of South American Silver from the Mallku Khota project (Da Silva, 2018). More recently, conflicts have affected projects such as Silver Sand (Lazenby, 2024). These cases signal to investors that tenure security can be politically contested, particularly in areas where cooperatives operate. Reforming the legal barriers could improve the productivity of cooperatives and potentially reduce conflicts. The tension in such a reform would likely lie in the heightened taxes on cooperatives.

### e) Rigid Fiscal Structure

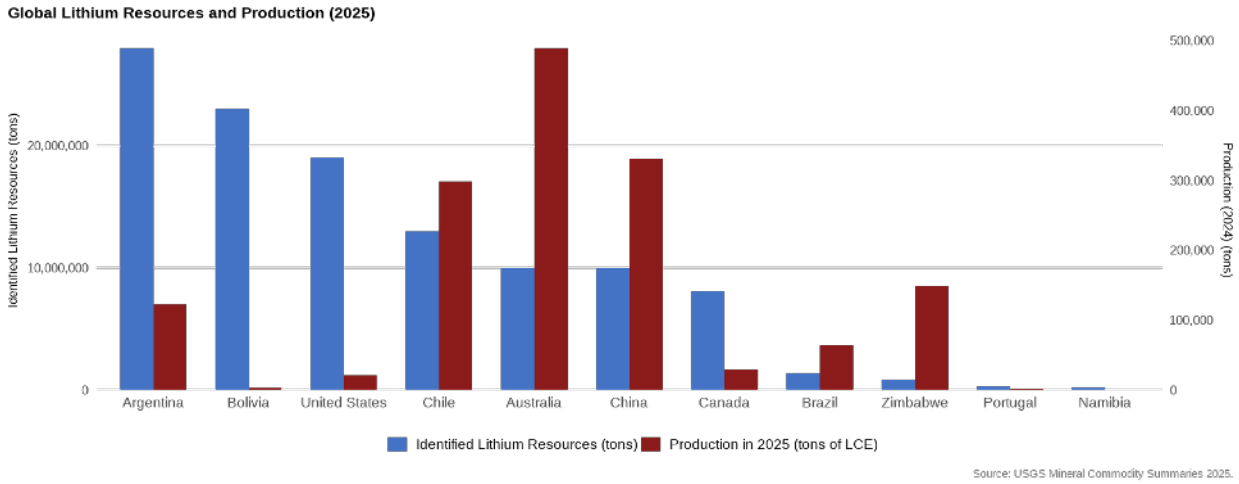
**The fiscal structure of Bolivia's mining sector further raises the threshold for investment.** Although the overall government take is lower than in hydrocarbons, Bolivia ranks at the upper end in Latin America and applies a statutory tax rate of 45.7 percent (Bazel et al., 2023). More important than the rate itself is the structure of taxation. Bolivia levies royalties on gross revenues rather than on profits, unlike Peru and Chile (ibid.). Revenue-based royalties apply regardless of whether a project is profitable, which increases risk for lower-grade deposits and early-stage projects. This structure raises the effective hurdle rate for investment and makes marginal projects less viable. Additionally, Bolivia's royalty price tiers are effectively obsolete: the highest rate on gold applies above USD 700 per troy ounce, a level gold has not fallen below since 2007, with analogous thresholds applying to silver. A structure designed to capture windfall rents during price spikes delivers no incremental fiscal benefit when it permanently sits at the top bracket, as has been the case for nearly two decades.

## 3. Lithium as a stress test for Bolivia's Mining Governance

**Bolivia holds the world's second-largest lithium resources but has yet to produce at commercial scale.** Bolivia holds the world's second-largest lithium resources but has yet to produce at commercial scale. About 23 million metric tons, or roughly 15% of global identified resources, are concentrated in its salt flats. This positions Bolivia as the second-largest lithium resource holder globally, after Argentina (28 million tons, (USGS, 2026)). However, production is negligible and stood at approximately 2,500t Lithium Carbonate Equivalent (LCE) in 2025, compared to approximately 298,000t LCE in Chile and 122,000t LCE in Argentina (USGS, 2026). This gap reflects an institutional framework that concentrates technological, financial, and social risk in the state without the capacity to manage it. A state-led model centered on YLB limits private participation while weak regulatory capacity and contested consultation

processes increase project risk. Without reform to both the investment framework and institutional architecture, Bolivia is unlikely to convert its resource base into sustained production.

***Figure 8: Global Lithium Resources & Production in 2025***




Source: Authors' elaboration based on US Geological Survey (2025) and YLB (2025)

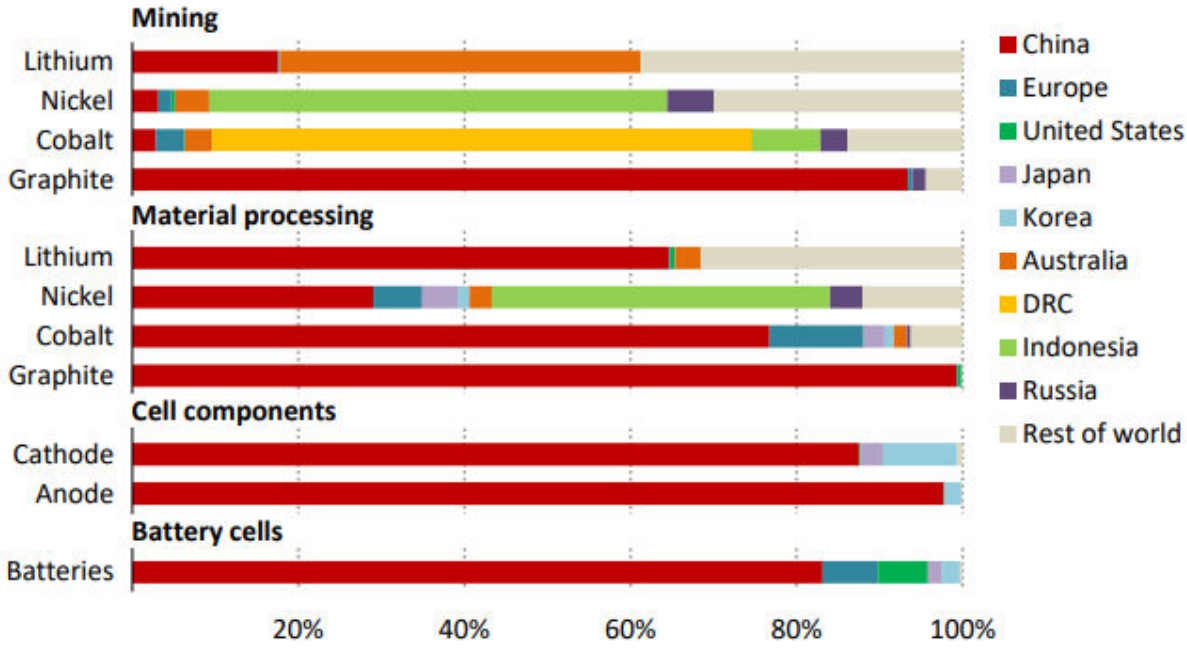
**Lithium development in Bolivia is a complex process requiring simultaneous management of technological, financial, and social risk.** Bolivia's lithium resources are characterized by high magnesium content[4] and higher rainfall, which limit the effectiveness of conventional evaporation methods (CGEP, 2025; Becker Toro, 2024). Direct lithium extraction (DLE) offers a potential pathway but remains site-specific and has yet to be widely deployed at commercial scale in comparable environments (McBride et al., 2025). At the same time, extraction affects water use and land access in environmentally sensitive and often Indigenous territories. These conditions make lithium development a coordination problem across multiple risk dimensions rather than a standard extractive activity.

**Bolivia has chosen a state-led development model for the lithium sector which has failed to produce the envisioned results.** All lithium-related activities must be executed directly by the state-owned YLB or through joint ventures in which it holds a majority stake (Law 928). Since 2008, YLB has invested more than $800 million in infrastructure based on evaporation technology but achieved minimal output, just 2,462 mt of lithium carbonate versus a planned capacity of 15,000t (MHE, 2026). The failure to meet production goals has led to a situation in which YLB now is considered technically bankrupt (Brújula Digital, 2026). In this structure the state bears the bulk of technological and financial uncertainty associated with deploying and adapting extraction technologies. In most extractive sectors, private firms assume exploration and development risk in exchange for participation rights. In Bolivia, the concentration of risk within the public sector slows project development and limits experimentation with alternative technological approaches.

[4] The Salar de Uyuni has a magnesium to lithium ratio of 19:1 while Chile's Salar de Atacama records 6:1 ratio and Argentina's Hombre Muerto Salar has a ratio of 1:1 (Yeo, 2025). This makes lithium extraction more costly in Bolivia as the magnesium has to be removed from the brine.

**Bolivia has also followed a misguided industrialization strategy.** The government's policy has proclaimed the goal of developing a domestic lithium-ion battery supply chain. Battery manufacturing requires advanced chemical processing, precision engineering, and integration into highly specialized global supply chains. As a result, this production process is concentrated in a few countries that have these capabilities. China produces over 80% of all batteries with the remaining share being split between European countries, the USA, Japan and South Korea (Figure 9). Even major lithium producers such as Chile and Australia have not developed significant battery manufacturing industries domestically. Bolivia currently lacks a comparable industrial base in refining or manufacturing. Entering this segment therefore implies building capabilities that only a handful of countries have developed over decades. This strategy generates unrealistic expectations and diverts attention from the binding constraint of scaling lithium extraction.

***Figure 9: Geographical distribution of the Battery Supply Chain***




Source: (IEA, 2024a)

**The recent pivot from YLB to enter into partnerships with international firms indicates a recognition of these constraints but it does not resolve the underlying institutional issues**. Agreements with the CATL consortium and Uranium One aim to incorporate DLE technologies and external expertise into project development (Becker Toro, 2024; YLB, 2025). These arrangements may address specific technical bottlenecks and support pilot-scale production. However, they operate within the existing state-led framework and do not establish a general, transparent, and replicable system for private participation. In fact, they have been stalled legally due to a lack of environmental studies and prior consultation of local communities (Defensoria del Pueblo, 2025). The projects have also drawn criticism as neither of the two companies chosen have direct experience with DLE. The difficulties of these intended projects have made the lack of a credible regulatory and institutional framework in Bolivia's approach to lithium visible.

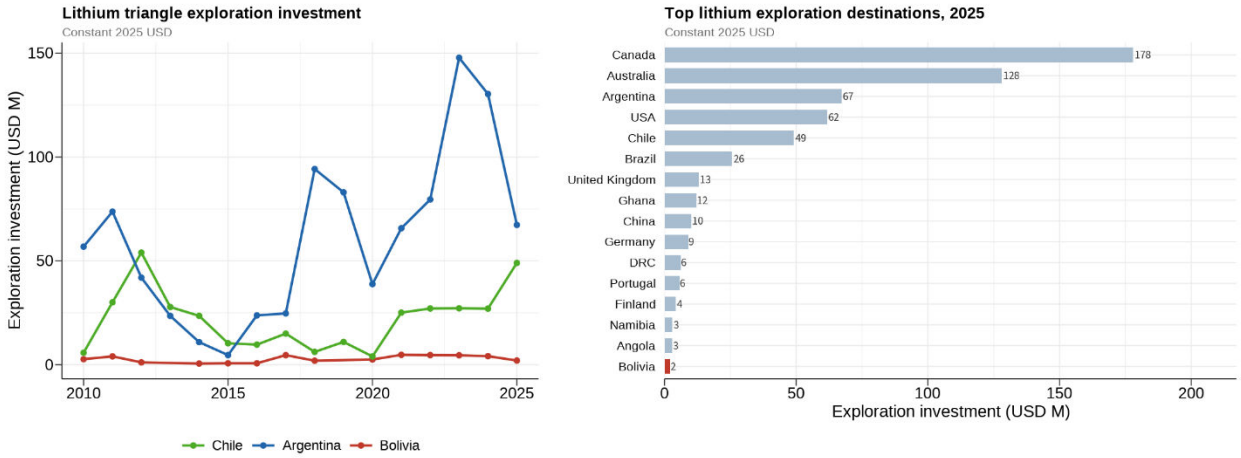
**The absence of a credible and independent institutional framework raises regulatory and political risk.** The state simultaneously acts as project developer, contracting party, and de facto regulator, with limited separation between these functions. No autonomous regulatory body provides oversight with sufficient authority to enforce rules consistently or mediate disputes. The weak institutional capacity also undermines the ability to secure a durable social license to operate. Lithium projects are located in areas where water use, land rights, and environmental impacts are highly salient, making credible prior consultation essential. Existing consultation processes have been perceived as insufficiently transparent or binding, reducing trust in project outcomes (Al Bouchi & Caraway, 2023; Medinaceli & Medinaceli, 2024). The state's dual role as project proponent and arbiter of consultation further complicates perceptions of neutrality. Local communities in the area of *Nor Lípez* have successively lost confidence in YLB given the lack of transparency and absence of a regulator.[5] These conditions increase the likelihood of delays, renegotiations, and conflict, raising project timelines and cost uncertainty. Social license therefore functions as a core input into project viability rather than an external constraint.

**Argentina and Chile illustrate how different institutional models allocate risk and shape lithium sector outcomes.** Argentina has adopted a private-sector-led model based on concessions, decentralized decision-making, and long-term fiscal stability provisions. This framework has supported a pipeline of more than 40 lithium projects and rapidly increasing output (Lithium Triangle Investment Framework, 2024). Chile combines private operation with strong state oversight and rent capture, producing approximately 298,000t LCE in 2025 (USGS, 2026). In 2023, Chile revised its lithium policy to reserve strategic areas for its state-owned enterprises CODELCO and ENAMI, which can enter joint ventures with private firms, including as minority partners. Early agreements, including announced projects with Rio Tinto, indicate that this model remains capable of attracting large-scale private investment.

**Most lithium investment flows to jurisdictions with a private-sector led model but Chile's model demonstrates that state participation can coexist with private investment when supported by credible institutions.** In 2025 Canada, Australia, Argentina and the USA captured 63% of the world's lithium exploration investment. All these countries have mining regulations in which private companies have full ownership of their operations through concessions. This framework enabled Argentina to develop its lithium sector despite its macroeconomic struggles (Figure 10). On the other side, Chile's approach addresses political economy concerns around resource control by having a larger state participation. Although its investment levels have been lower than Argentina's, it has still succeeded in attracting substantial investment. However, Chile's model relies on regulatory capacity and institutional credibility that Bolivia currently lacks. In 2025, Chile ranked 24th out of 68 jurisdictions on mining policy attractiveness, compared to Bolivia's ranking of 62nd (Fraser Institute, 2025). Replicating elements of the Chilean approach would therefore require more than legal changes. It would require strengthening regulatory independence, improving governance within sectoral SOEs, and establishing credible mechanisms to secure social license for project development.

[5] This has been a finding of conversations with local community leaders in Rio Grande and Colcha K during a research trip in January 2026.

*Figure 10: Exploration Investment in Lithium*




Source: Authors' elaborations based on S&P Capital IQ

**State equity participation is often less effective as a revenue-generating instrument and instead serves broader political objectives (World Bank, 2022).** In YLB's contracts with CBC and Uranium One, the state's equity is "carried" by the private partner, meaning YLB does not finance project costs. Instead, the private developer recovers CAPEX, OPEX, and financing costs from production before profits are shared. As a result, public revenues can be significantly delayed, especially in the presence of high financing costs or cost overruns. The experience of the Oyu Tolgoi copper-gold mine in Mongolia illustrates this risk: despite a 34% government stake, rising costs and financing burdens have reportedly pushed back profit participation from 2017 to 2037 (Bloomberg, 2026; BNE IntelliNews, 2026). Such outcomes have triggered repeated renegotiations and highlight the limitations of relying on carried equity to maximize public revenue. Rather than a fiscal tool, state equity is better understood as a mechanism to secure political legitimacy and public support by avoiding the perception of "giving away" mineral resources to foreign companies. For Bolivia, this implies a need for clarity on the objectives of state participation and a careful assessment of its trade-offs.

**A three-instrument fiscal regime combining a royalty, a resource rent tax, and a corporate income tax would allow Bolivia to capture rent across the full commodity price cycle.** Bolivia currently levies a 3% flat royalty on lithium carbonate production alongside profit-based taxation specific to the mining sector, though the applicability of the latter to lithium remains legally undefined (Medinaceli 2024). The royalty generates revenue from first production and requires no cost verification, an administrative advantage in a context of limited audit capacity, but it imposes a fixed burden regardless of profitability, which may strand output when prices are low and fails to capture windfalls when prices are high. The IMF (2012) recommends pairing a royalty with a resource rent tax (RRT) triggered only after the investor recovers its capital plus a minimum required return; because the RRT applies only to above-normal profits, it does not distort the investment decision. Bolivia's existing extractives surtax provides an additional profit tax for resource rents, but its applicability to lithium remains legally undefined (Medinaceli & Medinaceli, 2024). A sliding-scale royalty, as used by Chile, offers a simpler alternative but remains levied on gross revenue, creating downside distortion at low-margin operations.

The appropriate design for Bolivia depends on the cost structure of the Bolivian lithium projects. Any reform must also account for YLB's equity position in joint venture projects. Fiscal reform and the future policy regarding YLB are therefore complementary, not alternative, policy levers.

## 4. From Endowment to Opportunity

### a) Conventional Minerals

**Bolivia's mining sector possesses substantial untapped geological potential that has not yet been translated into production.** The country shares the Central Andean metallogenic belt with Chile, Peru, and Argentina, a region that has generated some of the world's most productive mining districts. Mineral resource maps show significant deposits across Bolivia's territory, including polymetallic systems, precious metals, iron, and lithium-bearing brines (Figure 11). However, actual mining activity is far less extensive than in neighboring countries, indicating a gap between geological endowment and realized extraction. This divergence suggests that Bolivia's underperformance reflects institutional and informational constraints rather than an absence of mineral potential.

**A large share of Bolivia's territory remains underexplored, which limits the visibility of commercially viable deposits.** According to government estimates, approximately 60% of the country has not been systematically explored (UDAPE, 2023). Limited funding for the national geological service, SERGEOMIN, and coordination challenges with regional authorities have constrained the production of high-quality geological data. In modern mining economies, public geological surveys play a central role in reducing exploration risk and attracting private capital. Where baseline data are incomplete or outdated, early-stage exploration becomes more expensive and uncertain, which discourages entry. Strengthening geological information systems could therefore unlock private investment without requiring immediate large-scale fiscal reforms.

**An opportunity to increase geological knowledge of Bolivia's potential may come from leveraging the knowledge of neighboring countries.** As Figure 11 shows, most of Bolivia's neighboring countries have a large number of mining claims right next to the border with Bolivia. This implies that the owners of those mining claims will have conducted geological studies of different qualities to understand the potential of that area. Often the results and data must be shared with the geological institute of that country. Bolivia could improve its subsoil knowledge by negotiating data sharing agreements with the geological institute of neighboring countries. This would facilitate the discovery and development of its mining potential in border areas.

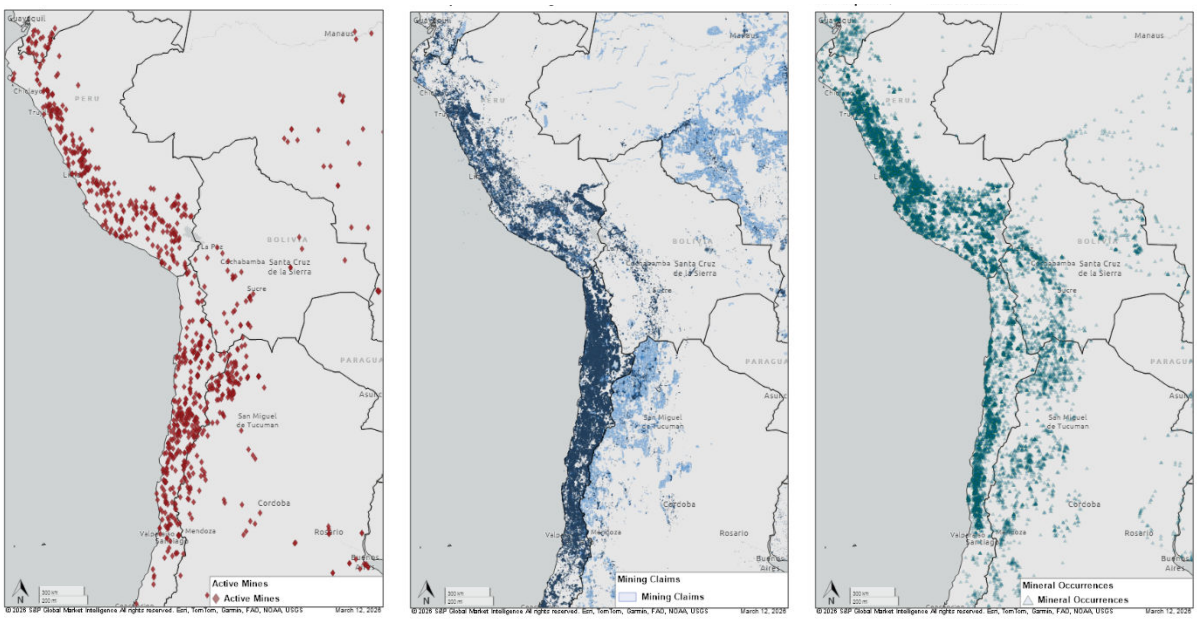
**Market conditions further reinforce the potential for renewed mining investment in Bolivia.** Several of the country's key minerals, including silver, zinc, tin, and gold, have experienced price increases in recent years. In addition, minerals such as antimony, wolfram, and lithium have seen particularly strong price movements due to supply constraints and rising strategic demand. While short-term price fluctuations are not sufficient to drive long-term investment decisions, they signal structural shifts in global markets. The energy transition, electrification, and geopolitical diversification of supply chains are expected to sustain demand for many of Bolivia's mineral commodities. Many of Bolivia's minerals play a role in renewable energy systems, battery technologies, and industrial supply chains. Zinc and silver are essential for solar technologies, tin is critical for electronics and soldering, and lithium remains central to battery storage. Bolivia's endowment also extends to other critical minerals that are not yet explored and

mined in the country such as nickel, cobalt, titanium or beryllium (Agramont-Lechín, 2025). If regulatory and institutional barriers are reduced, Bolivia could position itself to benefit from these structural demand trends.

**The timeline for realizing this potential differs between greenfield and brownfield investment.** Large greenfield projects require extensive exploration, feasibility studies, environmental permitting, and infrastructure development. Given Bolivia's recent history of regulatory change and investor disputes, major international mining companies are likely to proceed cautiously. Rebuilding confidence will require credible and sustained policy signals. As a result, large new projects are unlikely to materialize immediately even under reform. Shorter-term gains are more likely to come from brownfield expansions and productivity improvements within existing operations. Many currently operating mines have potential for life-of-mine extensions or incremental capacity increases if regulatory and fiscal conditions improve. Similarly, reforms that enable structured cooperation between cooperatives and private firms could raise productivity without requiring entirely new projects. Facilitating technology transfer, improving geological data, and clarifying tenure rules could generate measurable increases in output within a shorter timeframe.

**Bolivia's mining potential is real but it will require time for it to be developed.** The country's geological endowment and favorable global demand trends create a real opportunity for expansion. However, realizing this opportunity requires institutional adjustments that reduce risk, improve information availability, and restore investor confidence. The scale and timing of investment will depend not only on market conditions but on the credibility and consistency of regulatory reform.

***Figure 11: Active Mines (left), Mining Claims (middle) and Mineral Occurrences (right)***




Source: S&P Capital IQ 2025

## b) The Lithium Potential

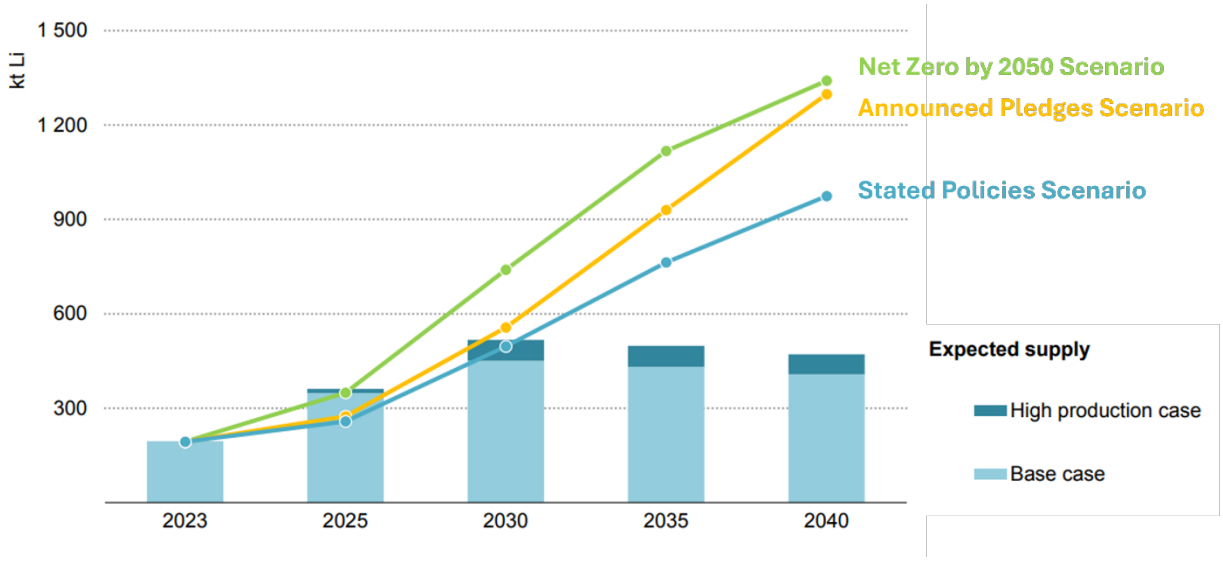
**Bolivia possesses one of the world's largest lithium resource bases, but the extent to which these resources can be converted into commercially viable reserves remains uncertain.** According to estimates by the U.S. Geological Survey, Bolivia holds an estimated 23 million tons of lithium resources, concentrated primarily in the country's salt flats (Uyuni, Coipasa and Pastos Grandes) (USGS, 2026). Resource estimates, however, do not automatically translate into economically recoverable reserves. Determining the commercial viability of Bolivia's deposits requires detailed geological characterization, pilot projects, and successful demonstration of extraction technologies.

**Bolivia's lithium brines present technical challenges that complicate extraction and processing.** Compared to neighboring brine deposits of Chile and Argentina, Bolivia's brines often contain relatively high magnesium-to-lithium ratios, which increases processing complexity and costs. Moreover, seasonal rainfall in the Altiplano has rendered evaporation techniques unviable. In response, Bolivia has explored DLE technologies that promise higher recovery rates and shorter processing times. However, these technologies remain relatively unproven at large commercial scale in brines with similar chemical characteristics. It represents a technological challenge that Bolivia needs to solve to convert its lithium potential into reality.

**Despite these challenges, long-term market projections suggest that lithium demand will remain strong and could provide an opportunity for Bolivia to develop its resources**. Lithium-ion batteries are a key component of electric vehicles, grid-scale energy storage, and many consumer electronics, making lithium an essential input for the ongoing electrification of the global economy. Lithium prices have fluctuated significantly in recent years. A shortage of supply contributed to record prices in 2022, which triggered rapid expansion of production in several countries and led to a subsequent decline in prices. Prices have since partially recovered as markets adjust to new supply conditions. Looking ahead, many market projections anticipate that global demand could begin to outpace supply again in the early 2030s (Figure 12). Given that lithium projects typically require more than a decade to move from exploration to commercial production (Buarque Andrade et al., 2024), this suggests that any large-scale lithium projects initiated in Bolivia today would likely enter the market in the 2030s.[6] However, Bolivia will face increasing competition as other countries expand their production and global lithium supply becomes more geographically diversified. Additionally, other battery technologies such as sodium-ion batteries may improve in the future and subsequently reduce demand for lithium (Paduano et al., 2026). While this is highly uncertain the window for Bolivia to develop its lithium resources may not last forever as both competing producers and competing technologies may enter the market in the future.

[6] The projects with CBC and Uranium One Group were planning to start production after a three year construction phase followed by a three year ramp-up phase.

*Figure 12: Projected Lithium Supply and Demand by different Scenarios*




Source: (IEA, 2024b)

## 5. What needs to be done: Restoring an investible mining sector

Bolivia has a rich geological potential and with the right changes the new administration can spur growth in the mining sector. The current regulatory structure of Bolivia's mining sector and its practices have restricted the growth of the industry. Reforms need to address these barriers and incentivize investment and modernization of the sector. Given the long-term nature of investments in mining, it is paramount that these reforms will be sustainable over time. Bolivia has a history of swinging between market liberal approaches and privatizations on one side and periods of state dominance paired with expropriations. The reforms of the sector should, therefore, keep in mind the political economy that may make it viable to retain the changes even after a change in government.

The administration of Rodrigo Paz has recognized the need for reforms and has taken encouraging initial steps. The need for a mining reform and a new law has been identified although it is yet unclear what the content of the new law will look like. Bolivia is trying to attract investments in the sector and as part of this effort has presented its mining potential at the industry conference PDAC, in Toronto, in March 2026. This is a good proactive signal to outside investors. Additionally, the government appears to have agreed to reform the legal prohibition of collaborations between cooperatives and private companies. While the goal in and of itself is good the details about the ensuing tax definitions and other regulations of such collaborations will be key. The main details of the upcoming reforms are still being discussed. To address the structural barriers that we outlined in section 2 the reforms should be focused on the following pillars:

### Pillar 1: Securing Mining Rights

Restoring secure and bankable mining rights should be considered a foundation of a reform agenda. Mining is a capital-intensive industry that requires large upfront investment and long payback periods. Investors must be confident that exploration rights can evolve into production rights and that those rights are durable, transferable, and financially usable. The shift from concession-style rights to administrative

contracts has reduced asset liquidity and increased perceived risk. Without stronger tenure clarity, financing costs remain high, and exploration capital will continue to flow to neighboring jurisdictions.

These reforms can be undertaken within the existing constitutional framework by changing current provisions in a new mining law (Art. 93,98, 136 of Law 535). Mining rights should explicitly be recognized as stable and enforceable rights that are transferable upon authorization. Similarly, the rules governing renewal and expansion of mining rights should be transparent and predictable. Even without returning to the 1997 concession model, these changes would materially reduce uncertainty and improve bankability.

The political economy of tenure reform is sensitive because mining rights are closely linked to sovereignty debates. It is therefore important to emphasize that the reforms are focused on strengthening the legal clarity of contracts under state ownership of subsoil resources. The objective is to reduce financing costs and increase production, not to transfer ownership of the resource. The necessity for legal clarity has recently been showcased by the example of the Cobre mine in Panama. The mine accounted for 5% of Panama's GDP and started operations in 2019. In 2023 the contract of the Cobre mine was declared unconstitutional by Panama's supreme court and it has had to close down since (Moreno et al., 2023).

Arbitration regulation can play a significant role in restoring confidence in the sector. The Bolivian Constitution limits arbitration to disputes between the state and foreign investors. Article 320 states that arbitration must follow Bolivian Law and fall under its courts' jurisdiction, while Article 366 prohibits international arbitration in hydrocarbon production. These restrictions were extended primarily by the Conciliation and Arbitration Law (Law 708, 2015), which banned arbitration outside Bolivia governed by non-Bolivian law, complemented by provisions of the Investment Promotion Law (Law 516, 2014) requiring disputes to be resolved under Bolivian jurisdiction. In mining, since there is no explicit ban of international arbitration like in hydrocarbons, Laws nº 708 and 516 could be amended to allow specific provisions for foreign or international arbitration, while still mandating the application of Law nº 535 (Mining Law). However, this would include an interpretation risk by the constitutional court of Article 320. Without constitutional change, legal certainty in domestic arbitration could be improved by creating a framework that shields arbitration from domestic court review while protecting the right to regulate. Fiscal stabilization clauses as well as political risk insurance mechanisms could also play a role in this context.

Bolivia's border zone restriction bars foreign companies from the western altiplano copper corridor, one of the country's most prospective geological belts. Under Arts. 28 and 133 of Law 535, foreign investment is prohibited within 50 kilometers of Bolivia's borders, covering approximately 260,600 km² of national territory (Fundación Milenio, 2024). Peru and Chile have resolved analogous constitutional constraints through supreme decree exemptions that authorize foreign participation in border zone projects case by case; Bolivia could adopt the same mechanism as an immediate first step. A more structurally durable option would reframe the restriction to apply only to companies headquartered in neighboring countries, which addresses the actual sovereignty concern more precisely: control of strategically sensitive border areas by Chilean or Argentine entities, rather than foreign capital broadly; Chile already applies this narrower formulation (Invest Chile, 2019). A third option would condition access on joint ventures with a Bolivian partner, whether state or private, framing foreign entry as supervised partnership rather than territorial concession. A new mining code could combine a JV requirement as the standard structure with

an executive exemption mechanism for cases where the government determines that alternative arrangements better serve national development objectives, giving policymakers a defensible default and the flexibility to deviate from it.

**Pillar 2: A Commercially Coherent State and an Independent Regulator**

Bolivia's mining institutions conflate three functions that reform should separate: resource ownership, commercial operation, and sector regulation. COMIBOL retains reserved areas and participates in partnerships with private firms, yet its production performance has been limited and its presence in the sector blurs the line between operator and overseer. AJAM, the sector regulator, lacks the institutional independence and technical capacity to perform its oversight role credibly. Dispersed governmental authority, where permitting, commercial operation, and regulatory oversight are distributed across overlapping agencies, is a primary constraint on investor confidence and fiscal capture in Latin American mining (Wagner, 2022). Bolivia's institutional design exemplifies this problem. Addressing it does not require reducing the state's role, but it does require assigning distinct mandates to distinct institutions.

Reform should reorient COMIBOL around project development rather than direct operation. Governments can create significant value by preparing investable projects before private entry: conducting geological surveys, resolving tenure questions, and engaging communities early, so that competitive tenders attract technical operators rather than financial intermediaries. COMIBOL is well-positioned to play this role, coordinating across agencies, managing state participation rights, and reducing the informational and commercial risk of areas before they are tendered to private firms. Reserved zones should either be reduced in scope or made subject to transparent tendering with defined timelines. Where COMIBOL participates as an operator or joint-venture partner, it should do so under clearly defined governance standards, with financial transparency benchmarked against international norms. Bolivia's state mining enterprises currently show near-zero adherence to voluntary disclosure and governance standards such as ICMM or EITI, which investors and lenders interpret as a governance risk. Strengthening corporate governance within COMIBOL would improve the bankability of joint-venture projects and the credibility of state participation more broadly.

Transforming AJAM into a genuinely autonomous regulatory agency is an equally important and currently underweighted reform priority. At present, AJAM manages exploration licensing and sector oversight within an institutional environment that is not insulated from the commercial and political pressures that also shape COMIBOL's decisions. A reformed AJAM should have a clear and exclusive mandate covering permitting, compliance monitoring, and environmental oversight; an independent board with defined tenure and insulation from ministerial discretion; and adequate technical staff and funding to enforce standards without political interference. Chile's COCHILCO, a specialized technical and policy advisory agency operationally separate from CODELCO, offers a regional benchmark for this kind of institutional separation. Bolivia itself operated a comparable model under the Sistema de Regulación Sectorial (SIRESE, Law 1600, 1994), which created sector-specific regulators financed independently and insulated from ministerial discretion. The institutional design of SIRESE, and the conditions under which its agencies lost independence after 2006, offer directly applicable lessons for structuring and protecting a reformed AJAM. Bolivia could also mandate its state mining enterprises to seek ICMM membership and incentivize IRMA certification across the sector as early credibility signals: these require no legislative

reform and would immediately improve Bolivia's standing with institutional investors and international lenders assessing governance quality.

State participation in mining reflects legitimate national development objectives and need not be reduced. What matters is that it operates through commercially coherent and transparent structures. A COMIBOL focused on developing investable projects and engaging in partnerships through transparent frameworks can coexist with private capital and actively attract it. An independent AJAM that regulates without commercial conflicts reinforces rather than undermines the state's ability to capture revenue from the sector. Neither reform requires constitutional change.

**Pillar 3: Predictable Permitting and Consultation**

Reducing timeline uncertainty is critical for attracting long-term capital. Investors can manage environmental and social obligations when procedures are clear and predictable. The main deterrent arises when consultation and permitting processes are open-ended or subject to discretionary delays. In capital-intensive sectors, time risk translates directly into higher financing costs and delayed production. Additionally, unclear permitting and consultation processes limit the social license to operate.

Reform should establish structured timelines for prior consultation and administrative approvals while respecting constitutional protections for indigenous communities. Clear procedural stages, defined deadlines, and administrative silence rules would reduce uncertainty without weakening rights. Strengthening institutional capacity within relevant ministries can ensure that consultation is both meaningful and efficient. The administrative silence was already part of the proposed extraordinary investment framework that was established by supreme decree 5503 but later reversed due to large protests. It is important to clarify that such measures do not reduce the hurdles of environmental studies and community consultations. Instead, the aim is to improve clarity and procedural quality, not limiting participation. Predictability benefits both investors and communities by reducing conflict and setting clear expectations from the outset.

**Pillar 4: An Integrated and Productive Mining Ecosystem**

Addressing the fragmentation of Bolivia's mining sector can unlock productivity gains and reduce conflict. Cooperatives represent a large share of employment and gold production but operate under a distinct legal and fiscal regime. The current framework limits structured collaboration between cooperatives and private firms, creates conflict over mining areas and fiscal asymmetries. This fragmentation reduces technology transfer, lowers productivity, and increases territorial disputes.

Reform should allow structured partnerships between cooperatives and private companies under clear contractual frameworks. Integrating cooperative mining rights into the broader regulatory regime would improve consistency and transparency. A graduated fiscal structure based on scale and profitability rather than legal classification alone would enhance equity while protecting genuinely small-scale operations. Supporting access to finance, technical services, and geological information would help cooperatives upgrade productivity.

While FENCOMIN (the main cooperative association) has signaled support for removing barriers of cooperation with private companies they may oppose changes to their tax and labor regime. A reform should carefully trade off incentives with more stringent fiscal and labor regulations.

**Pillar 5: A Competitive and Scalable Lithium Framework**

Lithium requires a distinct reform approach given its unique legal regime and political symbolism. Under current legislation, evaporitic resources remain under exclusive state control, with YLB holding central authority. Despite over USD 885 million in public investment since 2011 (BCB, 2024), commercial-scale production has not been achieved: output reached 2,462 tons of lithium carbonate in 2025 against targets that originally projected tens of thousands of tons annually (MHE, 2026; YLB, 2025). The challenge is to reconcile sovereignty with scalability in a rapidly evolving global lithium market. Technically, the first-best solution would be to fully open the sector to private concessions and operations, following Australia's and Argentina's model. This is likely unviable in Bolivia's current political economy, where such a policy would be portrayed as transferring national resource wealth to foreign companies.

Reform should enable larger and more competitive private participation, primarily because Bolivia's extraction conditions require technical experimentation that YLB cannot conduct alone. Bolivia's brine contains a high magnesium-to-lithium ratio and high rainfall, making conventional solar evaporation unviable and requiring Direct Lithium Extraction technology. This is a technology that is not yet mature and has not yet been proven at commercial scale in Bolivia's specific geological and climatic conditions. Attracting private partners is therefore as much about accessing technical expertise and bearing commercial-scale risk as it is about capital. The most investor-attractive option would be extending administrative mining contracts to cover lithium and eliminating the YLB state monopoly, with public revenues generated through royalties, corporate income tax, and surtax. This structure faces significant political constraints but merits transparent policy discussion. A more politically feasible path follows the Chilean model: YLB would become a minority joint-venture partner rather than a mandatory majority stakeholder, as currently required by law. The recent Rio Tinto partnerships with CODELCO and ENAMI in Chile indicate that this structure can attract major investors. Both options require competitive and transparent bidding rather than bilateral negotiations, which have historically produced unfavorable contract terms for Bolivia. Any structure in which YLB's participation is carried rather than paid-up carries material fiscal risk: at Bolivia's country risk premium, the combination of high financing costs and potential cost overruns can erode the state's share of profits before dividends are paid, as the Oyu Tolgoi experience in Mongolia illustrates.

An independent lithium regulator is required to deliver transparent and credible oversight, including when YLB acts as operator or joint-venture partner. Under Law 928, YLB simultaneously explores, commercializes, and industrializes evaporitic resources while also negotiating contracts whose compliance it is expected to oversee, producing a structural conflict of interest that private partners can exploit and that communities and courts have already challenged. An autonomous regulator should hold standard-setting authority in three areas: water use and environmental performance in fragile salar ecosystems, including monitoring that distinguishes brine extraction from fresh groundwater consumption; fiscal compliance, to ensure that royalties and profit-based instruments translate into public revenue commensurate with resource value; and public disclosure of contract terms. Placing these functions in a body with technical and financial independence from YLB and the Ministry of Hydrocarbons and Energy is the condition under which private capital can be mobilized without surrendering public interest.

Social license is a binding constraint on lithium development, not a procedural formality. ILO Convention 169 has constitutional rank in Bolivia, meaning that any contract concluded without proper Free, Prior, and Informed Consultation is legally vulnerable to challenge. In 2024 this vulnerability materialized when a successful legal action obtained precautionary measures suspending legislative ratification of both the CBC and Uranium One contracts, pending compliance with indigenous consultation rights and environmental impact assessments (Fundación Solón, 2025). Three reforms would stabilize local participation: commissioning state-funded pre-feasibility studies before tendering so that communities can consult on concrete project parameters; establishing clear territorial speaking rights among competing community organizations around the Salar de Uyuni; and channeling a defined share of lithium royalties to affected municipalities rather than solely to departments.

**Pillar 6: A Progressive Fiscal Regime**

Bolivia's fiscal structure raises the effective investment threshold without generating commensurately higher public revenues. The current royalty system levies charges on gross revenues regardless of project profitability, which increases downside risk for lower-margin deposits and imposes costs on early-stage projects before production has recovered upfront capital. Bolivia's statutory effective tax rate stands at 45.7 percent, placing it at the upper end of Latin American mining jurisdictions (Bazel et al., 2023), yet the total effective take amounts in practice to approximately 9 percent of gross mineral value (Fundación Jubileo, 2018). The gap between the statutory rate and the effective take reflects structural design flaws rather than rate miscalibration, and reform should address the former rather than simply adjusting the latter.

Reform should move towards an improved two-layer fiscal structure that pairs a moderate royalty with a profit-based mechanism. A royalty on gross revenues ensures that the state receives revenues from first production and requires no cost verification, an administrative advantage given Bolivia's limited audit capacity. However, a royalty alone fails to differentiate between projects generating normal returns and those generating genuine resource rents. The IMF (2012) recommends pairing a baseline royalty with a resource rent tax triggered only after an investor recovers its capital plus a minimum required return; because the resource rent tax applies exclusively to above-normal profits, it does not distort the investment decision at the margin. Bolivia already has instruments that move in this direction. The problem is not the level of the overall take but its composition: the current system places disproportionate weight on gross revenue royalties, which fall equally on marginal and highly profitable operations, while the profit-linked instrument that should capture resource rents during price booms is narrowed by the full exemption of mining cooperatives. Given that cooperatives account for nearly all of Bolivia's gold production, this exemption substantially reduces the progressivity of the regime without any corresponding investment rationale. Reform should shift the balance toward the profit-based layers by moderating reliance on gross revenue royalties and extending existing profit taxes to cooperative operators on a graduated basis linked to scale and profitability.

| Reform Pillar | Key Policy Actions | Rationale / Expected Impact |
|---|---|---|
| **Secure and Bankable Mining Rights** | Strengthen the security rights of administrative mining contracts by allowing conditional transferability of rights with administrative approval, establishing transparent rules for renewal and expansion of mining areas and enabling the use of the contract as collateral.<br><br>This is possible through a new law that alters the Articles 17,18, 98, 136 and 144 of Law 535<br><br>Reform the prohibition of foreign companies within 50km of the border zone. This could be done by allowing for JVs or limiting the restriction to companies of neighboring countries. | Secure and transferable rights reduce perceived political risk and improve the bankability of mining projects. This lowers financing costs and encourages exploration and long-term investment. |
| **A Commercially Coherent State and an Independent Regulator** | Clarify the mandates of COMIBOL and the mining regulator AJAM; establish transparent procedures for private participation in areas reserved for COMIBOL; strengthen corporate governance and financial transparency in state-owned mining companies. COMIBOL should take on a role in making mining projects investable.<br><br>This would require a reform of Law 466 which regulates state-owned enterprises. | Clear institutional roles reduce conflicts of interest and improve investor confidence while maintaining state participation in the sector. Transparent partnership frameworks allow the state to benefit from mining development while mobilizing private capital. |
| **Predictable Permitting and Consultation** | Introduce clear timelines for permitting and prior consultation procedures; define procedural stages and administrative deadlines; strengthen institutional capacity for consultation processes; digitalize permitting procedures and improve transparency of requirements. | Reducing regulatory uncertainty shortens development timelines and lowers investment risk. It increases transparency from which local communities also benefit. |
| **Reform Cooperative Framework** | Allow structured partnerships between cooperatives and private mining companies; introduce a graduated fiscal regime based on scale and profitability rather than legal classification; expand access to technical services, finance, and geological information for cooperatives.<br><br>This would require reforming Article 151 of Law 535. | Better integration between cooperatives and private firms can raise productivity, facilitate technology transfer, and reduce territorial conflicts. A more coherent regulatory framework improves efficiency across the sector. |

| | | |
|---|---|---|
| **Competitive and Scalable Lithium Framework** | Eliminate YLB's monopoly and allow for majority private participation in lithium projects under transparent contractual frameworks; strengthen governance and technical autonomy of YLB; establish clear fiscal terms for lithium extraction; encourage competitive bidding for project development.<br><br>This would require eliminating Law 928 and replacing it with a new law.<br><br>The lithium sector will require a clear and strong regulator which is currently absent. This could be combined with the reform to AJAM or be a separate entity. | Mobilizing capital and foreign knowhow is essential to convert Bolivia's lithium resources into commercial production and solve the technological challenge. A competitive framework can accelerate development while preserving state ownership of strategic resources.<br><br>A clear regulator of lithium operations is key to instill trust from the public, make projects viable and maximize the state's returns. |
| **Progressive Fiscal Regime** | Reform the royalty structure to introduce greater progressivity linked to profitability and international prices; simplify the royalty base and close loopholes; index depreciation allowances to inflation and exchange rate movements; maintain stable fiscal terms for long-term investments. | A fiscal regime linked to project profitability reduces downside risk for marginal projects while preserving public revenue from highly profitable operations. |

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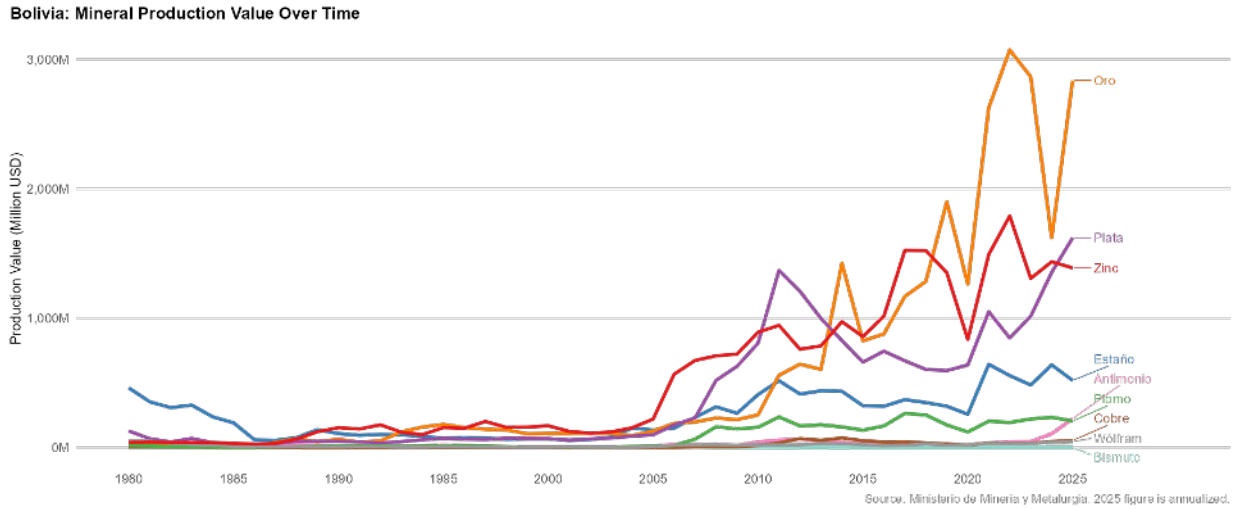
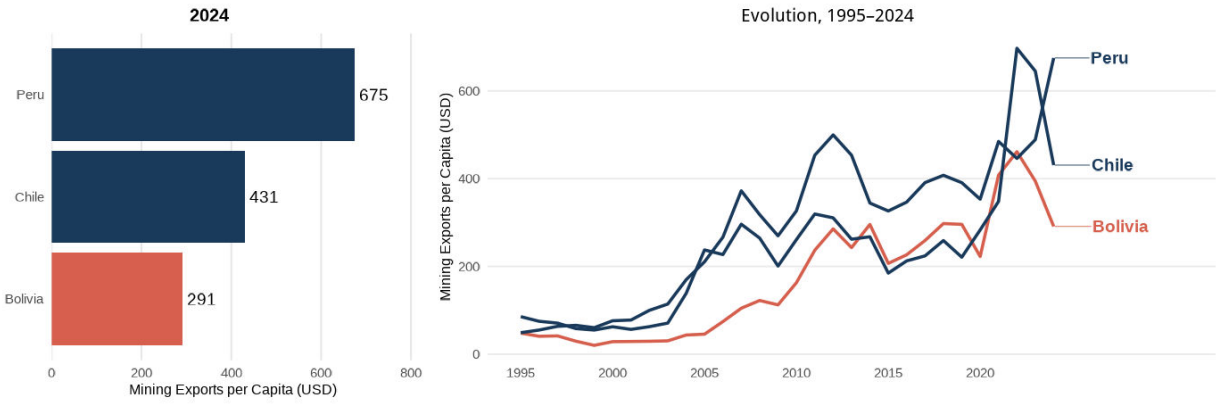
# Appendix

***Figure A.1 Mineral Production in Bolivia (1980 – 2025)***



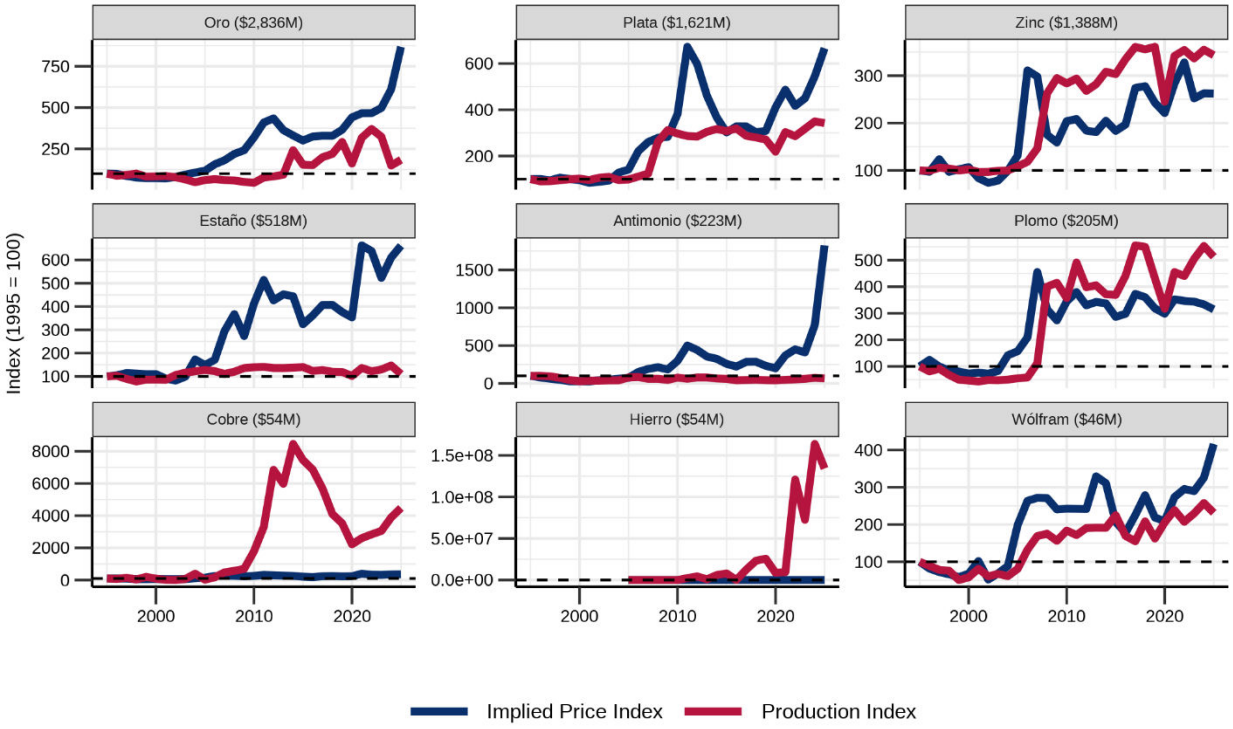

Source: Authors' elaborations based on Ministerio de Minería y Metalurgia (2025)

***Figure A. 2 Mining Exports per Capita excluding Copper: Bolivia vs. Chile & Peru***




Source: Authors' elaboration based on UN Comtrade data

***Figure A.3 Index of Mining Production and Implied Price - Value of 2025 Production in Brackets***




Source: Authors' elaboration based on (Ministerio de Minería y Metalurgia, 2025)