



Extractive industry development in Latin America has successfully boosted the foreign investment and revenues received by Latin American governments. The Latin American experience offers interesting lessons, drawing on the diversity of its countries.

MAXIMISING INVESTMENT AND RENT CAPTURE THROUGH EXTRACTIVE INDUSTRY INVESTMENT POLICIES: THE LATIN AMERICAN EXPERIENCE



SUMMARY

With consumption of natural resources continuing to increase worldwide, resource-rich countries in Africa, Asia and Latin America are positioned to play an increasingly crucial role supplying the demand, and reaping increased revenues, for decades to come. This Guide presents a concise introduction to the different Latin American policy models applied to promote development in the oil, mining and gas sectors, while at the same time, laying the foundation for sustainable economic development. It outlines the results of different policy models, and underlines the importance of taking into account regional contexts, including cultural, environmental and political differences.

HOW CAN COUNTRIES USE EXTRACTIVE SECTOR GROWTH TO PROMOTE DEVELOPMENT?

Latin American, African and Asian resource-rich countries share a common challenge and opportunity: taking advantage of growing revenues resulting from increased demand for natural resources and promoting extractive industry development that can lay the foundation for sustained economic growth.

As Figure 1 illustrates, Latin America and Asia have seen significant increases in their share of global mining exports in the past decade, while Asia and Africa have increased their share of exports in the hydrocarbon sector. This growth is distributed in a heterogeneous way within regions, with exports shares concentrated in a few countries. More than a half of all mining exports from Africa originate in South Africa, and around 25% of hydrocarbon exports in Asia are due to production in Saudi Arabia. Similar regional concentrations of resources exist in Latin America.

KEY

LESSONS LEARNED

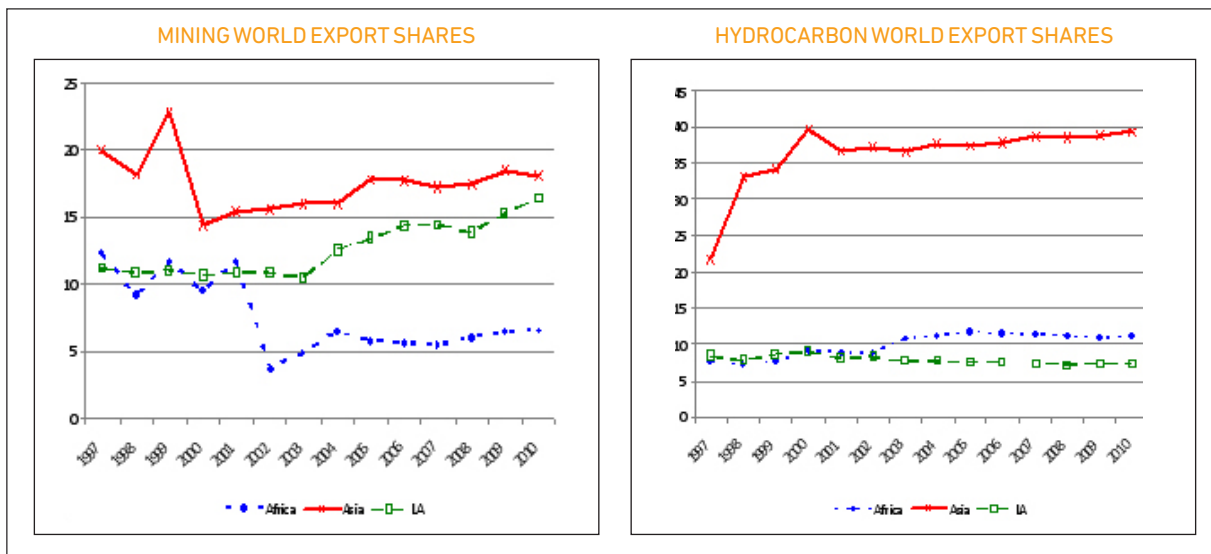
The success of a particular investment model is strongly correlated to the type of extractive sector to which it is applied. In the mining sector, private investment has led development efforts, while in the hydrocarbon sector an investment model where the state is dominant, or at least present, has shown good results.

Successful state participation in the extractive industries sector has resulted in institutional improvements, with state-owned enterprises playing a particularly important role in the production of hydrocarbons.

Foreign direct investment (FDI) flows to extractive industries seem to change to reflect different tax and royalty schemes. In the mining sector in particular, some Latin American countries have succeeded in attracting foreign investment that complies with international social and environmental standards.



Figure 1
Evolution of Mining and Fuels World Exports Shares 1997-2010



Own Elaboration.
Source: [WTO-Statistics Database-Time Series \(2011\)](http://WTO-Statistics-Database-Time-Series)

A successful extractive industry sector is capable of attracting large amounts of investments that, at the same time, comply with international social and environmental standards. Latin American experience shows that in order to develop extractive industry sectors successfully, resource-rich countries need to meet three conditions. First, they must have clearly established state and private roles with respect to investment and the carrying out of operations in each sector. Second, policy packages to attract foreign investment and assign public investment to build up the extractive sectors must be in place. Finally, third, state extractive rent capture must be maximised without compromising competitiveness. To create these conditions and maximise market opportunities, countries must take into account national, regional and global concerns and expectations.

Much of Latin America has reaped the rewards of smart extractive industry policy. In the last decade, Peru increased its mineral exports by 1000%. Since 2011, Brazil has been a net oil exporter, reflecting the considerable increase of its proven reserves and production. Colombia has increased domestic access to natural gas, lowering energy costs for the poor. At a more broader geographical level, regional energy integration is under way, fostering broad economic growth.

Overall, resource-rich countries in Latin America have developed their extractive industry sectors pursuing a variety of policies in search of the right balance between public and private investment for each sector.

CHARACTERISTICS OF THE LATIN AMERICAN APPROACH

Latin American countries are diverse with regards to culture, environment and politics. They are also resource-rich territories that, despite their economic dependence on global markets, are set to play a crucial role in the coming decades in the context of accelerating global natural resource scarcity. In this section, we present some key characteristics of Latin American countries' experiences with promoting extractive industry investment, before turning to an analysis of the three main models applied in the region.

Investment in Oil and Gas Sectors

Latin America countries can be placed on a spectrum according to the level of state participation in their respective extractive sectors. In the oil and gas sectors, Peru, Argentina and Chile have very little state participation; Bolivia, Ecuador, Venezuela and Mexico have significant state intervention; while Colombia and Brazil fall somewhere in between.

Where these industries were formerly privatised, there is a trend of the state seeking to reinforce its presence, as seen in Peru and Argentina, where the state is attempting to increase its shares in these sectors. This tendency has coincided with a resurgence of left-of-centre political regimes in the last decades in several resources-rich countries, such as Argentina, Bolivia, Venezuela, and more recently, Peru.



In terms of production, exports, and internal and regional market integration, both private-led and state monopoly models have underperformed. Private-led regimes have failed to meet popular expectations, triggering social and political unrest in some cases, such as in Bolivia and Peru. On the other hand, fully state-owned companies in Mexico and Venezuela have been undermined by institutional mismanagement. The mixed state-private companies, such as ECOPEL in Colombia and PETROBRAS in Brazil, seem to be more successful in terms of production and fulfilling market demand. Institutional and governance improvements have been important in underpinning the success of these state-private initiatives.

To learn more about investment policies in these sectors, read the [ELLA Brief: Gas Sector Investment Policy](#) and [ELLA Brief: Oil Investment Policies](#).

Investment in the Mining Sector

In the mining sector, the private-led model predominates. With the exception of Chile's CODELCO, all major mining companies working in Latin America are in private hands. Thus the main challenge in the mining sector has been how to maximise state rent capture without discouraging foreign investment, and how to proceed with the fewest negative environmental and cultural impacts. Additionally, Latin America has had to discriminate among different mining investments, seeking investments that will consider local markets instead of taking all the mining production overseas, and that will better serve the social goal of improving the quality of life for local people while avoiding environmental degradation. Experiences in the region show that these goals are possible to fulfil.

To learn more about investment policies in the mining sector, read the [ELLA Brief: Mining Industry Investment Policy](#).

Artisanal and Small-Scale Mining

One of the most challenging issues for the extractive sectors in Latin America, as well as in other regions, is the expansion of artisanal and small-scale mining (ASM). This term is used to describe all small-scale, informal mining activity, whether legal or illegal, that uses rudimentary processes to extract minerals. National regulations usually classify ASM according to a certain level of daily or monthly output, with 'medium' and

'large-scale mining' being the other two size categories.

ASM provides an important source of livelihood for rural communities, but it is usually accompanied by environmental degradation and deplorable social and labour conditions. In most countries with a mining sector, ASM generates at least as much employment as large-scale mining and, therefore, could be a strategic activity to be considered in the poverty alleviation debate.¹ However, because ASM is generally a part of the informal sector, formal regulations are often non-existent, resulting in high environmental, safety and health costs.

Latin American responses to ASM challenges focus on attempts to formalise the ASM sector and provide technical assistance for the adoption of cleaner technologies. For example, in Madre de Dios, a region in the Peruvian Amazon, gold is extracted from the river using more mercury than what is necessary. In fact, according to some researchers, the proportion of mercury to gold used to clean the mineral is more than twice what is required, with the residuals being thrown into the river.² To diminish the use of mercury, local NGOs are trying to increase the homemade retorts for mercury recycling.³ This offers not only a partial solution for ASM's health and environmental problems, but it also reduces ASM production costs.

But these efforts have largely been isolated and unsustainable. Moreover, in Latin America there has been a lack of educational support and no examples of establishing a mining cluster linking ASM with other economic activities.⁴ Despite this, ASM continues to grow in the region and absorb an ever-larger proportion of the rural-poor labour force, which is difficult for large-scale operations to replicate due to the mass mechanisation inherent in big projects.

Employment and Linkages Dilemma

Extractive industries face an employment and linkages dilemma. The large investments in these industries generate neither high levels of employment nor linkages with other industries. Oil and mining industries may contribute a large proportion of total Gross Domestic Product (GDP), up to 20 – 25%, and an even larger share of total exports, up to 60–70%. As important as these industries might be, however, they absorb as little as 2–3% of the working-age population. Despite being a highly productive sector, extractive industries will be hard pressed to generate sufficient employment

¹Hentschel, T., Hruschka, F., Priestner, M. 2002. *Global Report on Artisanal & Small Scale Mining*. IIED, World Business Council for Sustainable Development, London.

²Chávez, M., et al. 2009. *Estudio Diagnóstico de la Actividad Minera Artesanal en Madre de Dios* (Diagnostic Study of Artisanal Mining Activities in Madre de Dios). Fundación Conservación Internacional, Lima.

³"A retort is essentially a bowl or other vessel inverted over the burning amalgam in which the mercury vapour is trapped and condensed. This practice reduces exposure hazards and saves money". Quoted in: United Nations Environment Programme. 2008. *Module 3: Mercury Use in Artisanal Small Scale Gold Mining*. UNEP, Nairobi.

⁴Hinton, J., Veiga, M., Veiga, A.T. 2003. *Clean Artisanal Gold Mining: A Utopian Approach?* *Journal of Cleaner Production*. 11 99–115.



opportunities, especially for the non-qualified labour force coming from poor, rural communities located in the areas directly impacted by extractive projects.

Investment of the extractive sector rents in forward linkages are absent in many resource-rich countries and, therefore, even indirect employment generation is insignificant. Resource-rich countries could benefit by considering more strategic investments in science and technology in order to generate more forward linkages to and from extractive sector outputs.

THE LATIN AMERICAN RESPONSE: THREE INVESTMENT MODELS

Latin American countries have responded to the challenge of promoting sustainable development of their extractive sectors primarily by following three investments models: state-led, private-led and state-private mix. In this last model, mixed state-private companies such as PETROBRAS tend to be the main economic actors in their sectors.

The adoption of one model over another depends on several factors, such as the government’s political priorities and the amount of known reserves in a specific sector. Governments have adopted varying models of development for different sectors, and have moved from one model to another in response to political changes.

Which investment model is chosen also depends on the extractive sector in question, which typically plays out in three main ways. First, states tend to seek more control in oil production since it is the most profitable extractive sector. Second, gas and oil sectors are particularly sensitive to regional geopolitical dynamics and domestic needs since their products are crucial energy sources for economic growth. Third, the mining sector is primarily important for its revenues, so rent capture and distribution are key.

As previously discussed, the main policy objective is to maximise state rents, regardless of which model a country chooses. Rents are easier to capture in sectors where state-owned enterprises are dominant, like PDVSA in Venezuela. Capturing rents in this context does not reduce investment flows, so the tax base stays constant over time.

The mining sector is different, however. The development of this sector depends upon foreign investment because the technology needed to extract minerals is much more complex, and therefore requires more private-sector skills. In this case it is more likely that an increase in the tax burden could discourage FDI. Thus, it is difficult to answer which tax scheme is optimal, which is why Latin American countries have opted for varying strategies. To learn more about tax and royalty schemes in Latin America, read the [ELLA Brief: Extractive Industries Tax and Contractual Frameworks](#).

Figure 2:
Investment Models by Country and Sector
(Countries with Significant Resources in Each Sector)

| INVESTMENT MODELS | SECTOR – COUNTRIES |
|---------------------|--|
| State-led Model | Oil, Gas – Ecuador, Mexico, Venezuela |
| Private-led Model | Oil, Gas – Argentina, Bolivia*, Chile, Peru Mining – Colombia, Mexico, Peru |
| State-Private Model | Oil, Gas – Bolivia*, Brazil, Colombia Mining – Chile |

* Bolivia has moved from a Private to a State-Private model in oil and gas sectors in the last decade.
Own Elaboration.

CONTEXTUAL FACTORS

ENABLING LATIN AMERICA'S RESPONSE



The fact that all countries need gas or oil as energy sources influences national policies and regional geopolitics. Net exporters such as Ecuador, Mexico and Venezuela have fewer incentives to open up their energy sectors to private investments, because even though their state-led industries may be less efficient, they are still able to bring in enough revenue to satisfy political needs. Net importer countries have the challenge of increasing their production to fulfil at least their domestic demand, and therefore are more open to private initiatives.

Latin American countries are involved in a process to promote initiatives for regional energy integration. Countries with significant oil reserves, such as Venezuela, or gas reserves, such as Bolivia, have acquired positions of regional importance in the context of energy integration. Likewise, main exporters

such as Venezuela, and large growing economies such as Brazil and Argentina, play key political roles in regional extractive issues.

In all sectors, institutional factors are decisive in underpinning successful implementation of new policies. With oil and gas, state institutional investment in mixed state-private companies has been vital to achieve good performance. In the mining sector, resource-rich countries such as Chile and Peru have been able to attract significant foreign investment, as well as increase their rent capture, thanks to institutional improvements. Compliance with agreements, establishing easy to monitor and comprehensive rules, transparency, and education levels of public officials are four key factors for improving institutional performance.

LESSONS LEARNED

- 1** Resource-rich countries have chosen their investment models taking into account their own social particularities, as well as regional and global socioeconomic contexts. The model and conditions for success of a particular investment strategy are related to the nature of the extractive sector to which it is applied. For example, gas production has been oriented toward domestic and regional markets to promote economic growth and integration, while mining production is focused on global markets.
- 2** In mining, where all main producers are net exporters, the goal has been to attract foreign investments while improving state rent capture mechanisms. Here, FDI flows seem to be sensitive to changes in tax and royalties schemes.
- 3** In the hydrocarbon sector, an investment model where the public sector plays a strong, but not dominant, role, has shown good results. Active government participation in the mining sector has been discarded, as private corporate investment has led development in this area.
- 4** Successful state economic intervention in the extractive sector has been related to institutional improvements, such as accounting transparency and improved professional technical skills. State institutional investments seem to be necessary in order to achieve success. Investments in oil and gas have focused on improving the performance of mixed state-private companies. In mining, investments have focused on improving regulatory and tax policy. In both cases, states have sought to professionalise their personnel.

CONCLUSION

The success of extractive industries development lies in getting the right mix between the shares of state and private sector investment, in accordance with particular institutional capacities and socio-political contexts. Latin American experience shows some trends despite the variety of scenarios present. For the oil and gas sectors, a state-private arrangement with a strong state role in an open market, seems to be the most successful model. For the mining sector, which is private-sector led, key policies are related to incentives and tax schemes to attract investment and optimise state rent capture. For all sectors, there are unique socio-political conditions and institutional enabling factors that must be taken into account.

KNOWLEDGE PARTNERS

Below is a sample of some of the key organisations involved in researching, assessing and networking on issues related to the energy and mining sectors. For information about additional organisations working on Extractive Industries Investment Policy, read the [ELLA Spotlight on Organisations](#).

[Extractive Industries Transparency Initiative \(EITI\)](#) is an initiative composed of governments, companies and civil society that promotes good governance of extractive industries, in particular aiming to improve transparency and accountability in the sector.

[The Fraser Institute](#) is a Canadian think tank that produces research on a variety of topics, including energy and mining, and recommends public policy solutions.

Research by the [International Council of Mining & Metals \(ICMM\)](#) is conducted in collaboration with governments, international organisations, communities and indigenous peoples. It aims to analyse and promote mining's contribution to sustainable development.

[Oil Watch](#) is a network of civil society organisations from Latin America, Africa and Asia that are working to address the oil industry's effects on the environment and on collective rights.

[The World Bank's Sustainable Energy, Oil, Gas, and Mining Unit \(SEGOM\)](#) offers a large collection of resources, links, and initiatives related to energy and the mining sector, especially concerning the relationship between extractive industries and poverty reduction.

RECOMMENDED READING

Below is a selection of some of the key publications related to Extractive Industries Investment Policy in Latin America. For additional information about other important works, read the [ELLA Spotlight on Publications](#).

Berrios, R., Marak, A., Morgenstern, S. 2010. [Explaining Hydrocarbon Nationalization in Latin America: Economics and Political Ideology](#). *Review of International Political Economy* 18 (2) 1-25.

Ernst & Young. 2011. [Global Oil and Gas Tax Guide](#). Ernst & Young, London.

Fraser Institute. 2011. [Survey of Mining Companies 2010-2011](#). Fraser Institute, Vancouver.

PwC Global Mining Group. 2010. [Income Taxes, Mining Taxes and Royalties: A Summary of Selected Countries](#). PriceWaterhouseCoopers, Phoenix.

Roberge, R., Collins, T. 2007. [The Wealth of Nations: How Well do Countries' Petroleum Strategies Align?](#) PriceWaterhouseCoopers, Phoenix.

Tordon, S., Tracy, B. Arfaa, N. 2011. [Can National Oil Companies Create Value for Their Countries?](#) World Bank Working Paper Series 18. World Bank, Washington, DC.

Wolf, C. 2009. [Does Ownership Matter? The Performance and Efficiency of State Oil vs. Private Oil \(1987-2006\)](#). Cambridge Working Paper in Economics 0828. University of Cambridge, Cambridge.



LEARN MORE FROM THE ELLA BRIEFS

The ELLA Briefs focus in on the different extractive industries sectors: gas, mining and oil. A fourth brief addresses the extractive industries tax and contractual frameworks.

[Gas Sector Investment Policy: The Latin American Experience](#)

Since gas is a cheaper and more environmentally-friendly energy source, Latin American countries have pursued various investment policies to successfully develop the gas sector, including a strong focus on regional integration.

[Mining Industry Investment Policies](#)

How can countries attract foreign investment but at the same time ensure that mining leads to economic growth that is

environmentally and socially sustainable? The Latin American experience offers some answers.

[Oil Industry Investment Policies](#)

What policy strategy should countries use to boost their oil sector, increasing their revenue from exports while reducing their oil dependency? Latin American countries offer useful lessons for the evaluation of national investment policy options.

[Extractive Industries Tax and Contractual Frameworks](#)

How can countries maximise extractive industries' rent capture by the state without chasing away foreign direct investment? Several Latin American countries have had face this question and their experience holds lessons learned and best practices to consider when assessing different fiscal policy options.

CONTACT [GRADE](#)

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