2 Fiscal revenues from non-renewable natural resources in Latin America and the Caribbean

Principal findings

Russia's invasion of Ukraine had a major impact on fiscal revenues from non-renewable natural resources in Latin America and the Caribbean in 2022

Producers of non-renewable natural resources in Latin America and the Caribbean (LAC) were strongly affected by the volatility in international commodities markets caused by Russia's invasion of Ukraine. Prices for a wide range of energy commodities and minerals and metals rose with the outbreak of the crisis, reinforcing the rapid gains experienced in 2021. However, in the second half of the year, there was a generalised fall in benchmark prices as global economic activity slowed and COVID-19 restrictions in the People's Republic of China, the world's largest consumer of many non-renewable natural resources, weighed on demand.

Trends in fiscal revenues from non-renewable natural resources in the LAC region varied by type of commodity in 2022. Hydrocarbon revenues rose sharply, rising to an estimated 4.2% of GDP from 2.6% of GDP in 2021. In some countries the rise in hydrocarbon revenues accounted for a significant share of the increase in overall public revenues. Mining revenues are estimated to have remained at their 2021 level of 0.7% of GDP despite a moderate contraction in prices for many base metals and lower production volumes, thanks in part to large annual corporate income tax (CIT) payments in 2022 for fiscal year 2021.

Surging oil prices supported a jump in fiscal revenues from oil and gas exploration and production in 2021

Benchmark oil prices, such as Brent and West Texas Intermediate (WTI), rose sharply during 2021, as global macroeconomic conditions improved and supply lagged. Profits at the region's major oil producers surged, leading to a dramatic increase in CIT receipts in some countries. Non-tax revenues were also buoyant, despite sluggish production levels, driven by higher royalty payments and, in some cases, dividends paid to national governments. For the year, hydrocarbon revenues reached 2.6% of GDP, up from 2.1% of GDP in 2020, but well below the levels seen before the oil price crash of late 2014 and early 2015.

Mining revenues rose significantly in 2021, pushed by a rapid recovery in global industrial production

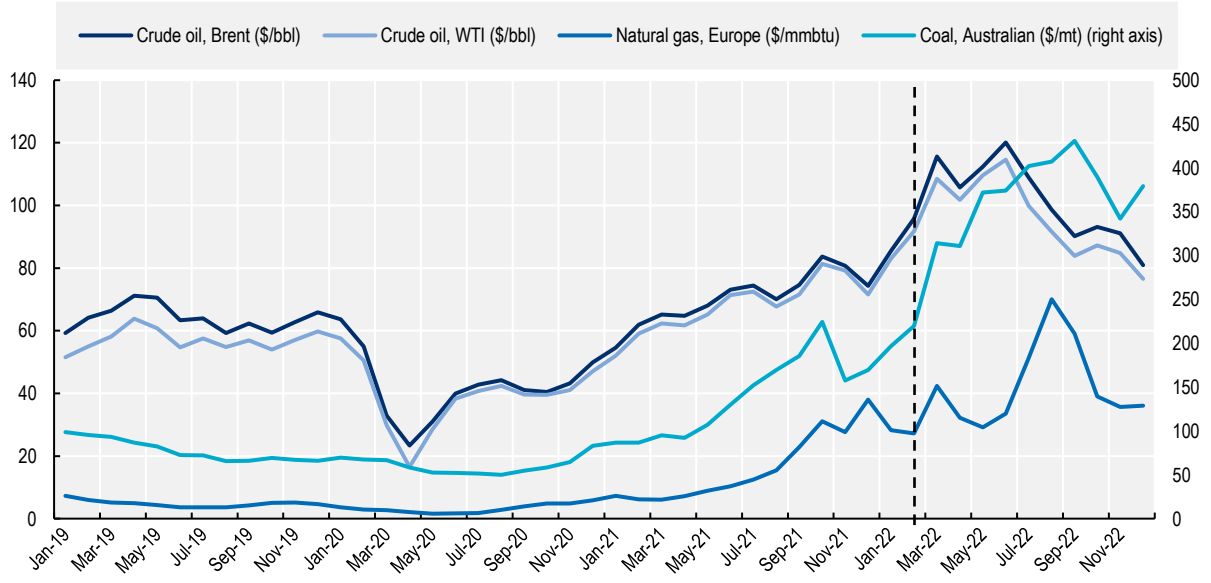
A recovery in mining production, coupled with higher international prices, led to a sharp increase in mining profits and CIT payments in the region in 2021.[1] Higher CIT payments by mining companies accounted for an important share of the growth in overall CIT receipts in mineral and metals producing countries, reaching upwards of 51% in the case of Peru. Non-tax revenues also rose, with royalty payments increasing in line with prices and production. Tax and non-tax revenues were also impacted by large one-off transactions in some countries. On average, mining revenues rose from 0.34% of GDP in 2020 to 0.68% of GDP in 2021 – the highest level since 2011.

Impact of the war in Ukraine on fiscal revenues from non-renewable natural resources in LAC in 2022

The outbreak of the war in Ukraine reinforced an upward trend in international energy prices that was already well established in 2021. Global prices for a wide range of energy commodities rebounded in late 2020 and early 2021, supported by a revival in economic activity as COVID-19 public health measures were progressively lifted (Figure 2.1). Movements in energy commodity markets became increasingly synchronised in the second half of 2021, as higher prices and supply disruptions led to widespread fuel switching. This provided further impetus to prices, increasing demand for other energy commodities – particularly coal – that were already in tight supply.

Figure 2.1. International spot prices for selected energy commodities, January 2019 – December 2022

Dollars per barrel, dollars per million BTUs, and dollars per metric ton



Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on World Bank Commodity Price Data (The Pink Sheet), World Bank.

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The invasion of Ukraine by Russia in February 2022, and the adoption of economic sanctions by the European Union and the United States, produced an immediate response in global energy markets. In March, prevailing benchmark prices for key energy commodities were substantially above the average level for February. Prices for natural gas in Europe and Australian coal were especially dynamic, rising 56% and 43%, respectively, between February and March. However, price movements across different energy commodities decoupled in the second half of the year, reflecting growing worries of a possible global recession and the need to meet current and projected energy needs.

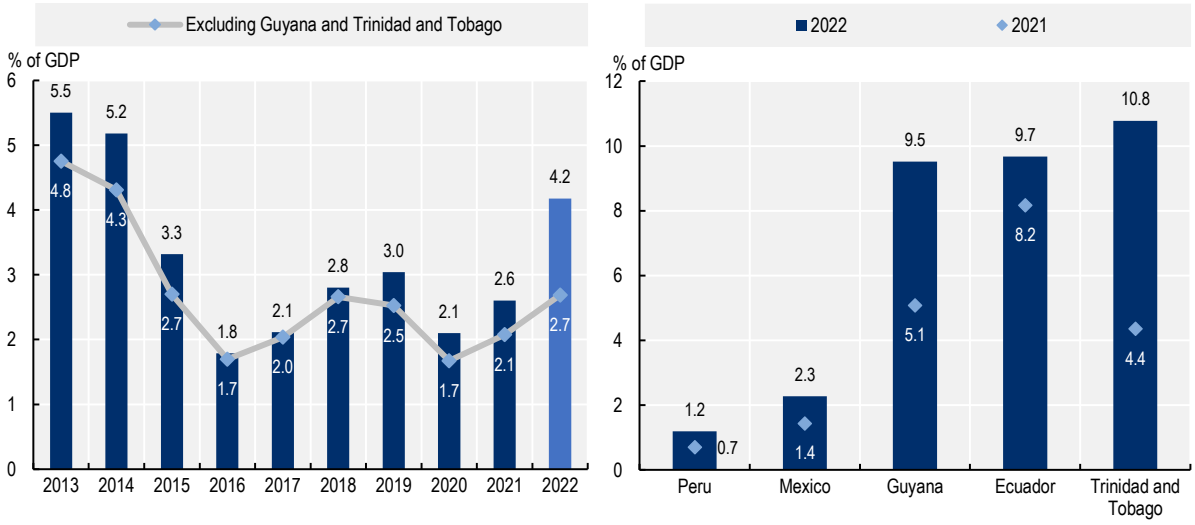
Prices for coal, natural gas and liquid natural gas rose throughout the remainder of 2022, driven by strong electricity demand in China and restocking of gas inventories in Europe. Coal prices continued to surge, with Australian coal peaking at a record high of USD 431 per metric ton in September. Natural gas and LNG prices exhibited strong volatility, with a particularly strong surge in August caused in part by reduced

gas flows from the Russian Federation. In contrast, benchmark oil prices fell in the second half of the year as global economic activity slowed, especially in China due to successive COVID-19 lockdowns and drawdowns of strategic crude oil reserves (World Bank, 2022[1]).

Hydrocarbon revenues in the LAC region moved in concert with international prices in 2022. While production levels rose in some countries, the primary driver of higher revenues in 2022 was the exogenous boost provided by international prices to the commercial value of production. Payments of property rents, principally ad-valorem royalties that represent the bulk of hydrocarbon revenues in the region, rose during the year, building on large year-on-year increases in 2021. Currency appreciation attenuated these gains in some countries – such as Brazil, Mexico, and Peru – as hydrocarbon non-tax revenues, typically calculated in US dollars, entered public accounts in national currency.

Figure 2.2. Latin America and the Caribbean (10 countries): general government revenues from oil and gas exploration and production, 2013-2022

Percentages of GDP



Note: 10 countries are Argentina, Bolivia (Plurinational State of), Brazil, Colombia, Ecuador, Guatemala, Guyana, Mexico, Peru, and Trinidad and Tobago. Data are simple averages. Figures for 2022 are based on official sources, forecasts and estimates based on the 2022 annual variation in representative products applied to 2021 revenues. Data for Mexico correspond to federal government oil revenue, they exclude own revenues of Pemex, the State-owned oil and gas producer. In Ecuador to oil revenues of the non-financial public sector derived from exports of crude oil. In Guyana, the contribution of oil revenues is based on the withdrawal from the Natural Resource Fund by the central government, which was equivalent to 4.1% of GDP in 2021.
Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on data from ECLAC's Fiscal Revenues from Non-Renewable Natural Resources in Latin America and the Caribbean database.

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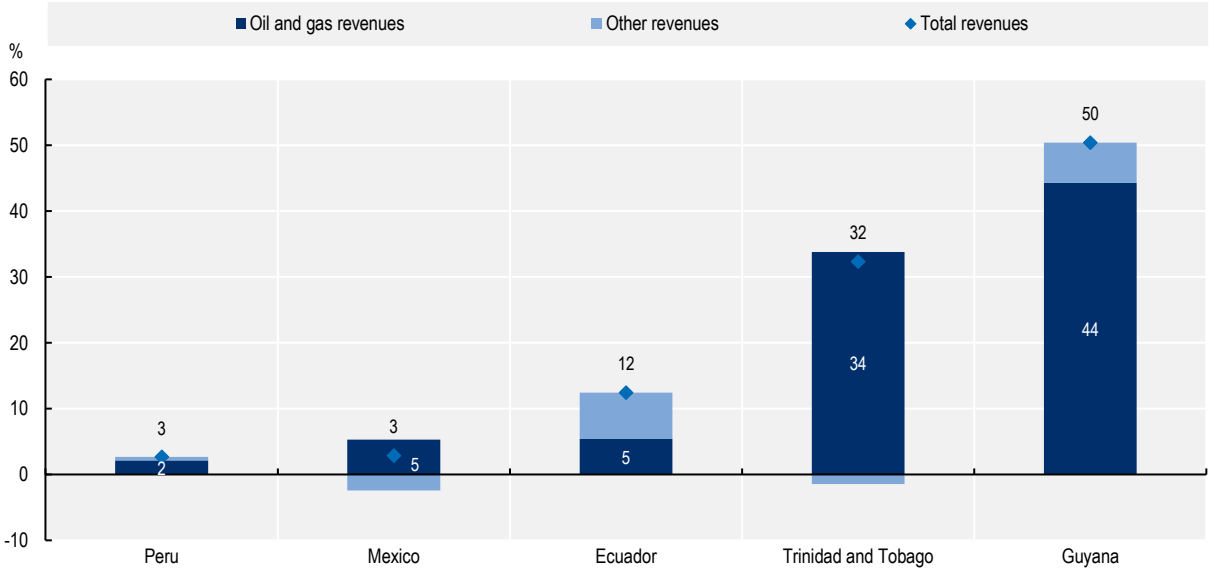
Against this backdrop, general government revenues from oil and gas exploration and production are estimated to have reached an average of 4.2% of GDP in 2022, up from 2.6% of GDP in 2021, and the highest level since oil prices collapsed in late 2014 and early 2015 (Figure 2.2). The LAC average was significantly impacted by strong increases in Guyana as oil production continued to ramp up, and Trinidad and Tobago, where CIT payments surged. Excluding these countries, revenues in the region registered a moderate increase, reaching an average of 2.7% of GDP compared to 2.1% of GDP in 2021. Other

countries, such as Ecuador, Mexico and Peru, also saw oil and gas revenues increase but by a smaller margin in relative terms.

Rising hydrocarbon revenues were a major contributor to the increase in overall public revenues in several countries during 2022 (Figure 2.3). For example, in Mexico and Trinidad and Tobago, the rise in general government oil and gas revenues compensated for a negative contribution attributed to all sources of revenues. In Trinidad and Tobago, this contribution was also apparent in the increase in total tax revenues. In Guyana and Peru, hydrocarbon revenues were primarily responsible for the majority of the year-on-year increase in total public revenues. This effect was particularly pronounced in Guyana, where withdrawals from the Natural Resource Fund by the central government reached 4.1% of GDP, equivalent to 26% of total revenues in 2022.

Figure 2.3. Latin America and the Caribbean (5 countries): year-on-year variation in general government total revenues at constant prices and contribution to that variation by type of revenue, 2021-2022

Percentages



Note: Data for Mexico correspond to federal government oil revenue, they exclude own revenues of Pemex, the State-owned oil and gas producer. For Ecuador, data correspond to oil revenues of the non-financial public sector derived from exports of crude oil. In Guyana the contribution of oil revenues is based on the withdrawal from the Natural Resource Fund by the central government, which was equivalent to 4.1% of GDP in 2021.
Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on data from ECLAC's Fiscal Revenues from Non-Renewable Natural Resources in Latin America and the Caribbean database.

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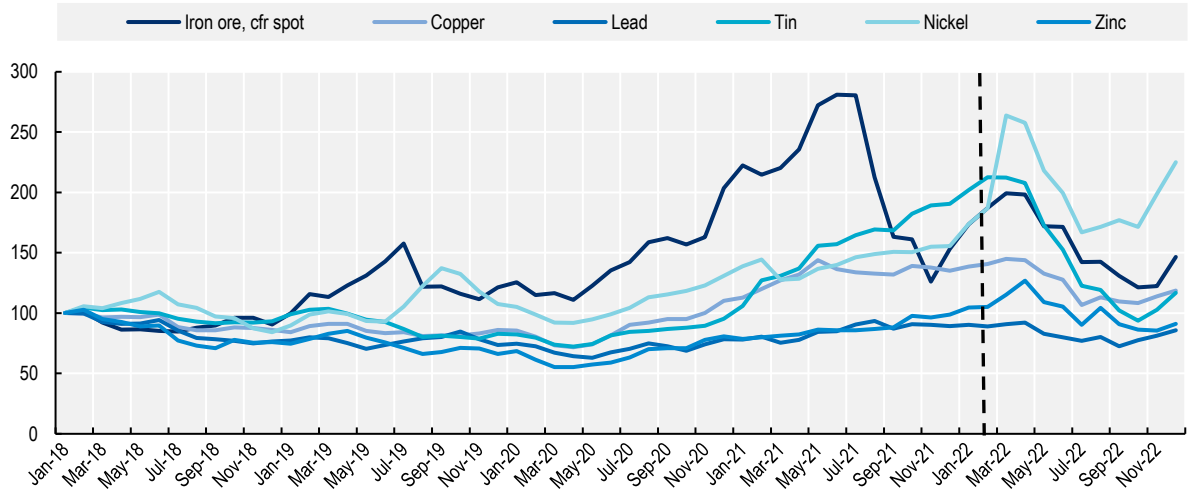
The impact of the war in Ukraine was also apparent in global minerals and metals markets. Most base metals had reached elevated – in some cases record – levels in 2021 and early 2022 on the back of a recovery in industrial production (Figure 2.4). However, prices gave ground in the second half of 2022 as global macroeconomic conditions deteriorated and COVID-19 lockdowns in China disrupted production and global value chains (World Bank, 2022[1]). As a result, annual prices fell for copper (-5%), lead (-2%), and tin (-3%), although they remained at relatively high levels, while iron ore experienced a more significant

correction (-25%). In contrast, nickel prices rose sharply due to sanctions-induced production disruptions in the Russian Federation and atypical market movements as market participants made large purchases to cover their short positions (LME, 2023[2]). Prices for lithium were particularly dynamic, rising by an estimated 194% due to high demand for batteries used in consumer goods and electric vehicles (USGS, 2023[3]).

Figure 2.4. International spot prices for selected minerals and metals, January 2018 – December 2022

Index 100 = January 2018



Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on World Bank Commodity Price Data (The Pink Sheet), World Bank.

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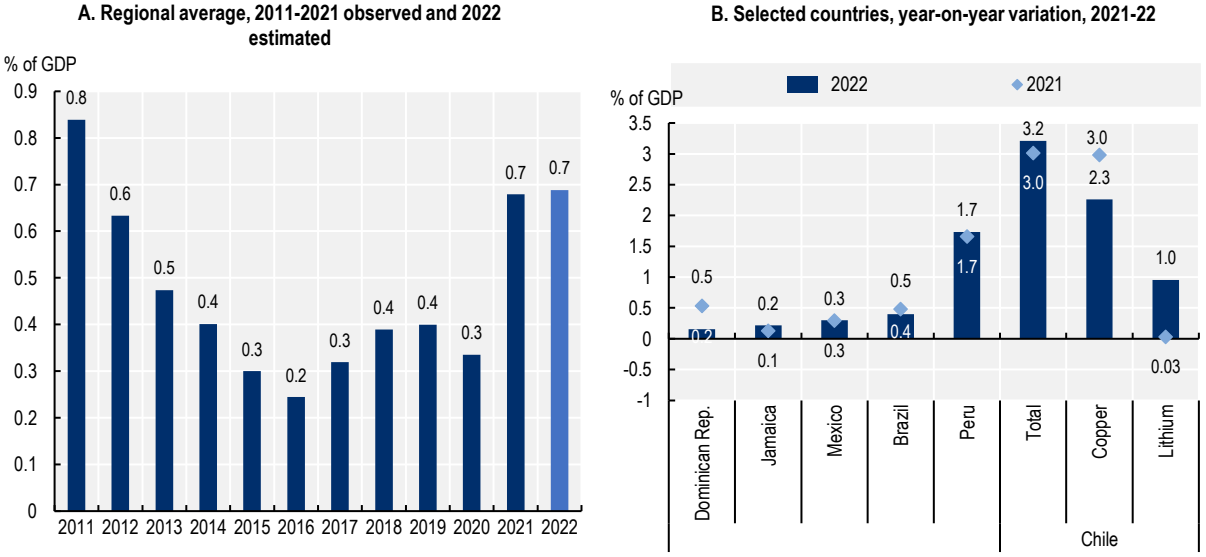
Despite sliding international prices and lower production volumes in some countries, fiscal revenues from mining in 2022 in the LAC region are estimated to have remained at their 2021 level of 0.7% of GDP (Figure 2.5). This relative stability reflected strong performance of mining tax receipts in some countries. CIT payments were especially buoyant, due in large part to the liquidation of outstanding tax liabilities from fiscal year 2021, when high prices translated into large gains in profits. This was especially pronounced in Chile and Peru, where payments for annual declarations registered significant year-on-year increases. In contrast, mining tax revenues contracted in the Dominican Republic, due in part to the deduction of tax prepayments made in 2020 and 2021 by Barrick Gold to support the country in its COVID-19 response (Barrick Gold, 2022[4]).

Figure 2.5. Latin America and the Caribbean (12 countries): general government fiscal revenues from mining, 2021-2022

Percent of GDP



Note: The 12 countries are Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Dominican Republic, Ecuador, Guatemala, Jamaica, Mexico, Nicaragua, and Peru. Data are simple averages. Figures for 2022 are based on official sources, forecasts and estimates based on the 2022 annual variation in representative products applied to 2021 revenues. In the case of Chile, lithium revenues refer to property rents received by the central government from the participation of the State in lithium sales as established in contracts with SQM Salar S.A. and Albemarle Ltda.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on data from ECLAC's Fiscal Revenues from Non-Renewable Natural Resources in Latin America and the Caribbean database.

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Trends in non-tax mining revenues in the region exhibited a high degree of country specificity. In Chile, copper revenues were impacted by a decline in dividends paid by Codelco to the central government and lower revenues from the levy on copper exports by Codelco (DIPRES, 2023[5]). However, property rents from lithium production soared, reaching 1% of GDP in 2022, which more than compensated for the decline in copper revenues. In Brazil, payments of the federal mining royalty contracted in line with lower iron ore prices, but general government royalty revenues were roughly stable as the receipts from the state-level royalty in Pará surged due to a tripling of the royalty rate (Vale, 2023[6]).

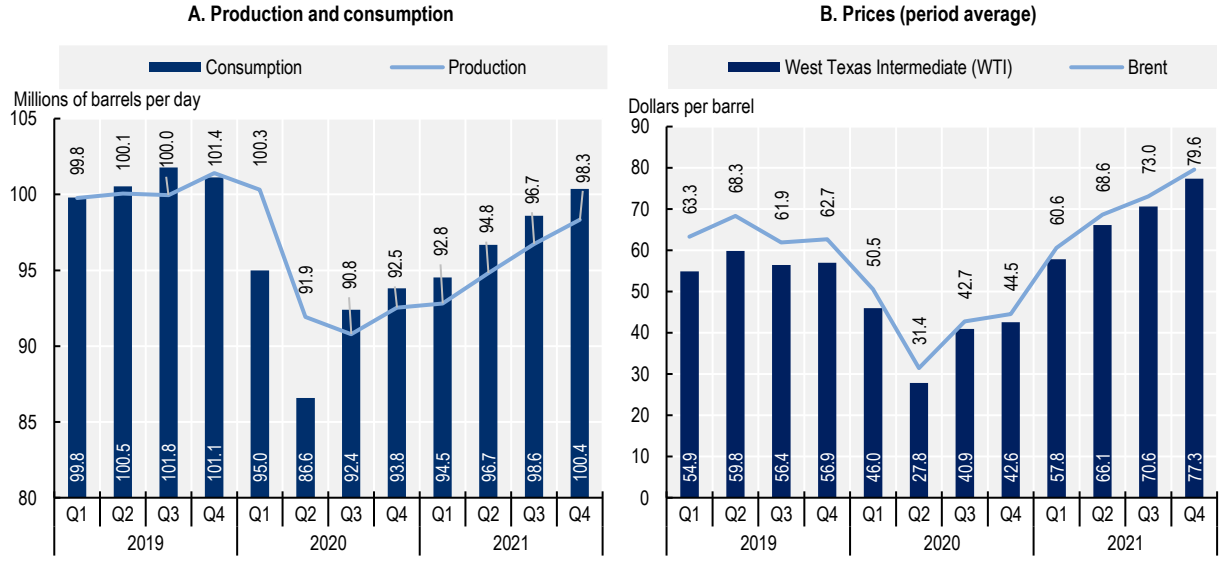
Trends in hydrocarbon revenues in Latin America and the Caribbean during the global economic recovery in 2021

Global oil markets rebounded in 2021 after experiencing a severe contraction in demand and supply in 2020 as a result of the COVID-19 pandemic. Macroeconomic fundamentals improved throughout 2021 as COVID-19 public health measures were progressively removed, leading to a rapid increase in demand for liquid fuels (Figure 2.6). Supply remained sluggish during the year despite an agreement among members of OPEC and their partners, the OPEC+ group, to progressively increase production quotas beginning in August. While quotas increased, they went unmet with significant production shortfalls in some

members of the group. Oil output in the United States was impacted by Hurricane Ida, which disrupted production in the Gulf of Mexico.

Figure 2.6. World liquid fuels production and consumption balance and international benchmark prices for crude oil, 2019-2021

Millions of barrels per day and dollars per barrel



Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on Short-Term Energy Outlook Data Browser, U.S. Energy Information Administration (EIA) and World Bank Commodity Price Data, World Bank.

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The imbalance in oil markets resulted in a progressive decline in oil stocks and a concomitant increase in benchmark oil prices. Brent crude oil rose 67% year-on-year in 2021, reaching an average of USD 70.4 for the year, while Western Texas Intermediate (WTI) increased by 73%, reaching USD 68 for the year. In the case of WTI, this represented the highest annual average price since 2014, on the eve of the oil market collapse of 2015-2016. Natural gas prices rose sharply during the year, reaching record levels. This increase was due in part to high demand for electricity generation caused by unusually hot weather in China and the United States (World Bank, 2021[7]).

Echoing global trends, hydrocarbon production in the LAC region registered limited growth in 2021 (Table 2.1). Oil output in Venezuela increased, supported by higher imports of dilutants – which are necessary to refine the country's heavy crude – from the Islamic Republic of Iran.[2] Production also rose in Argentina, with higher output from the Vaca Muerta shale region, and Guyana, where commercial production continues to ramp up. In contrast, oil production slipped in Brazil, the largest producer in the region, and Colombia. In Ecuador, oil output contracted, largely due to preventive closures of oil pipelines threatened by landslides (Ministry of Economy and Finance of Ecuador, 2022[8]). Natural gas production in the region increased marginally, despite a significant decline in Trinidad and Tobago caused by planned maintenance and upgrading activities (Ministry of Finance of Trinidad and Tobago, 2021[9]).

Table 2.1. Latin America and the Caribbean and selected country groupings: crude oil and natural gas production and exports, 2020-2021

Thousand barrels daily, billion standard cubic metres and percentages

Selected country groupings and countries	Crude oil (Thousand barrels daily)						Dry natural gas (Billion standard cubic meters)					
	Production			Exports			Production			Exports		
	2020	2021	%	2020	2021	%	2020	2021	%	2020	2021	%
Latin America and the Caribbean	7201	7242	0.6	4220	3894	-7.7	179	181	0.7	33	30	-8.9
Argentina	480	513	6.8	…	…	…	45	45	0.4	2	2	37.1
Bolivia	…	…	…	…	…	…	16	17	4.4	12	12	0.0
Brazil	2940	2905	-1.2	1401	1292	-7.8	20	21	4.7	…	…	…
Colombia	781	736	-5.7	541	442	-18.3	10	10	1.0	…	…	…
Ecuador	479	473	-1.4	365	349	-4.4	0	0	3.3	…	…	…
Guatemala	8	6	-19.1	…	…	…	…	…	…	…	…	…
Guyana	73	109	48.4	73	116	59.1	…	…	…	…	…	…
Mexico	1663	1665	0.1	1199	1091	-8.9	26	24	-6.5	…	…	…
Peru	40	38	-3.2	…	…	…	12	12	0.1	5	4	-21.3
Trinidad and Tobago	56	60	6.0	56	59	7.0	30	26	-14.8	14	10	-25.0
Venezuela	569	636	11.9	487	448	-8.0	18	24	32	…	…	…
Other LAC	111	101	-9.2	99	96	-2.8	2	2	-9.1	0	1	…
Total World	69 118	69 640	0.8	42 027	41 228	-1.9	3 917	4 146	5.8	1 317	1 419	7.8
OPEC	25 659	26 363	2.7	19 701	19 656	-0.2	636	673	5.7	110	137	24.8
Saudi Arabia	9 213	9 125	-1.0	6 659	6 227	-6.5	119	120	…	…	…	…
Non-OPEC	43 458	43 277	-0.4	22 327	21 572	-3.4	3 281	3 473	5.8	1 207	1 282	6.2
Russian Federation	9 460	9 619	1.7	4 617	4 510	-2.3	578	719	24.5	239	247	3.2
United States	11 283	11 188	-0.8	3 206	2 980	-7.0	950	963	1.4	150	188	25.9

Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on Annual Statistical Bulletin 2022, Organization of the Petroleum Exporting Countries (OPEC), and Memoría de la Economía Boliviana 2021, Ministerio de Economía y Finanzas del Estado Plurinational de Bolivia.

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While production of hydrocarbons in the region rose modestly, oil and gas exports plunged. The decline in crude oil exports was largely due to higher domestic demand for fuels and refined hydrocarbon products in Brazil, Colombia and Mexico (Petrobras, 2022[10]; Ecopetrol, 2022[11]; Pemex, 2022[12]). In contrast, exports of crude oil increased in Trinidad and Tobago. Exports of natural gas from the Plurinational State of Bolivia were relatively stable, with higher volumes to Brazil offsetting a decline in flows to Argentina as an addendum to the existing contract established lower minimum purchase levels (Ministry of Economy and Public Finance of Bolivia, 2022[13]). In Peru, export volumes were significantly impacted by a three-month stoppage at the Pampa Melchorita liquification plant due to technical problems and maintenance (Central Reserve Bank of Peru, 2022[14]). The decline in exports in Trinidad and Tobago resulted from the contraction in production.

Despite weak production and a fall in exports, hydrocarbon revenues in LAC rose sharply in 2021, reaching USD 58.4 billion, up from USD 34 billion in 2020 (Table 2.2). However, oil and gas revenues remain well below the 2019 level of USD 82 billion and the recent high of USD 136 billion in 2013. In absolute terms, the increase was led by Brazil and Mexico, were revenues roughly doubled between years. In relative terms, hydrocarbon revenues reached 2.6% of GDP, up from 2.1% of GDP in 2020, but remained below the pre-pandemic level of 3.0% of GDP in 2019. Non-tax revenues were the primary driver of the uptick in hydrocarbon revenues, with payments of royalties rising in line with international benchmark prices.

Tax revenues rose in most countries, bolstered by high profits. While the increase was small in relative terms, averaging 0.1 percentage points of GDP, some countries saw tax revenues from the sector double.

Table 2.2. Latin America and the Caribbean (10 countries): general government fiscal revenues from oil and gas exploration and production, by type of revenue, 2020-2021

Percent of GDP, percentage points of GDP and percentages

Country	Billions of US dollars			Percentage of GDP								
	Total revenues			Total revenues			Tax revenues			Non-tax revenues		
	2020	2021	2021/2020 (%)	2020	2021	2021/2020 (p.p. of GDP)	2020	2021	2021/2020 (p.p. of GDP)	2020	2021	2021/2020 (p.p. of GDP)
Argentina	1.7	2.2	28	0.4	0.4	0.0	0.09	0.05	0.0	0.3	0.4	0.1
Bolivia	1.4	1.3	- 7	3.8	3.4	-0.4	0.2	0.2	-0.1	3.6	3.2	-0.3
Brazil	9.9	21.4	117	0.7	1.3	0.6	0.03	0.18	0.2	0.6	1.1	0.5
Colombia	4.0	3.5	- 12	1.5	1.1	-0.4	0.3	0.4	0.05	1.1	0.7	-0.4
Ecuador	5.7	8.7	51	5.8	8.2	2.4	…	…	…	5.8	8.2	2.4
Guatemala	0.02	0.04	91	0.03	0.05	0.02	0.01	0.02	0.01	0.02	0.03	0.01
Guyana	0.2	0.4	106	3.6	5.1	1.5	…	…	…	3.6	5.1	1.5
Mexico	9.6	18.3	92	0.9	1.4	0.6	0.03	0.03	0.00	0.8	1.4	0.6
Peru	0.7	1.6	133	0.3	0.7	0.4	0.1	0.2	0.1	0.2	0.5	0.3
Trinidad and Tobago	0.9	1.0	15	4.0	4.4	0.4	1.7	2.5	0.9	2.3	1.8	-0.5
LAC[1]	34.0	58.4	72	2.1	2.6	0.5	0.2	0.3	0.1	1.9	2.3	0.4

1. Revenue-to-GDP ratios for Latin America and the Caribbean correspond to a simple average of the countries included in the sample. Figures may not sum due to rounding.
Note: Data for Mexico correspond to federal government oil revenue; they exclude own revenues of Pemex, the State-owned oil and gas producer. Data for Ecuador correspond to oil revenues of the non-financial public sector derived from exports of crude oil. Data for Guyana refer to revenues deposited in the Natural Resource Fund.
Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on data from ECLAC's Fiscal Revenues from Non-Renewable Natural Resources in Latin America and the Caribbean database.

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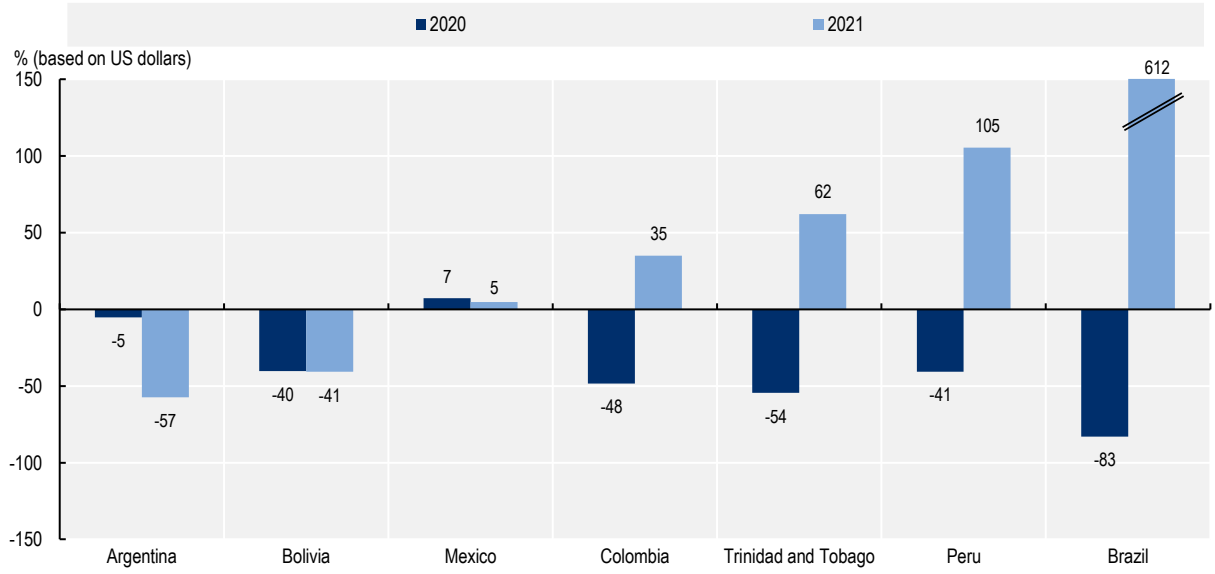
The increase in international oil prices supported a strong rise in sales revenues, largely irrespective of changes in sales volumes, for many of the region's major oil-producing companies. Higher revenues translated in many cases into a significant improvement in financial results, reversing weak profits or even losses reported in 2020. Petrobras, the Brazilian State-controlled national oil company, was emblematic of these trends, with operating income rising 273% in 2021, to reach USD 37.6 billion, which contrasted with the 51% contraction experienced in 2020 (Petrobras, 2022[10]). Operating profits of Ecopetrol, the national oil company of Colombia, increased by 308% to reach USD 7.9 billion for the year (Ecopetrol, 2022[11]).

The surge in profits translated into a strong increase in hydrocarbon tax revenues, principally from CIT (Figure 2.7). In Brazil, hydrocarbon tax revenues rose 612% in US dollar terms in 2021, due in large part to higher CIT payments by Petrobras, which totalled USD 1.9 billion, up from USD 0.2 billion in 2020 (Petrobras, 2022[15]). Oil and gas CIT receipts in Peru and Trinidad Tobago also increased despite disruptions to production and exports, thanks to higher energy commodity prices. Despite record profits, hydrocarbon tax revenues were less dynamic in Colombia, reflecting in part the reduction in the statutory CIT rate to 31% in 2021 from 32% in 2020.[3] In Argentina, tax revenues contracted, largely in line with the current tax liabilities of YPF – the State-owned national oil company – which fell 34% in US dollar terms in 2021 (YPF, 2022[16]).

Figure 2.7. Latin America and the Caribbean (7 countries): year-on-year variation in general government CIT revenues from oil and gas exploration and production, 2020–2021

Percentages based on US dollars



Note: Data for Mexico correspond to federal government oil revenue, they exclude own revenues of Pemex, the State-owned oil and gas producer.
Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on data from ECLAC's Fiscal Revenues from Non-Renewable Natural Resources in Latin America and the Caribbean database.

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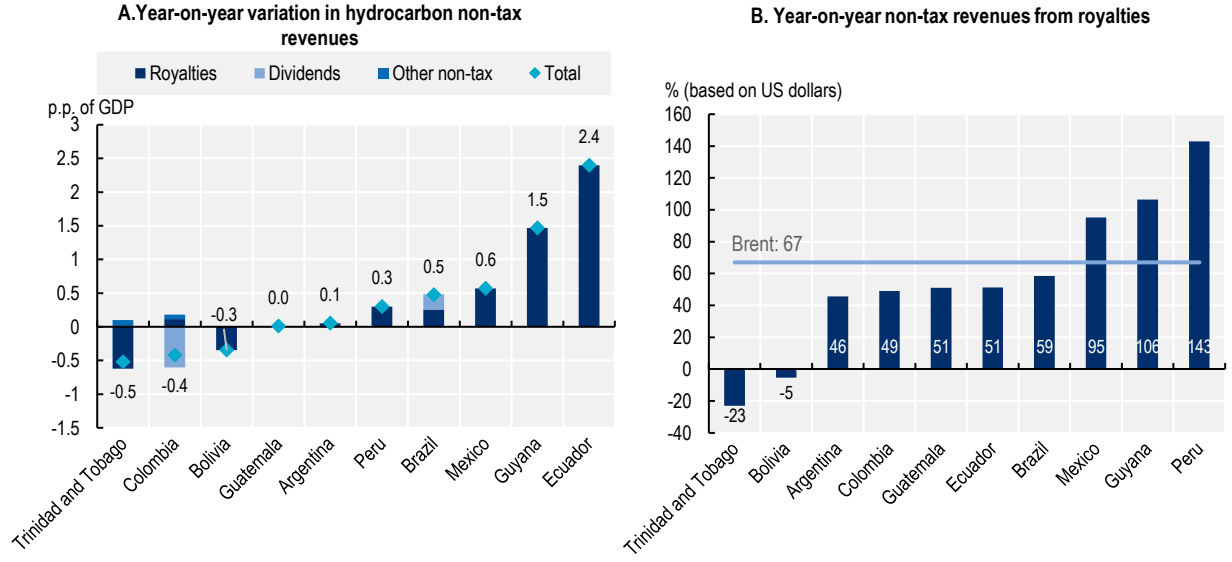
As with tax revenues from hydrocarbons, non-tax revenues rose in most countries, bolstered by higher receipts of royalty payments linked to the commercial value of production (Figure 2.8). The uptick in the regional average was strongly influenced by Ecuador, where revenues surged, despite lower production and exports, due in part to the registering of several crude oil invoices corresponding to contracts with China made in 2020 (Ministry of Economy and Finance of Ecuador, 2022[8]). In Mexico, transfers from the Mexican Oil Fund rose principally due to the increase in the average price for Mexican crude but also benefitted from payments that were deferred from the previous year as part of COVID-19 related support for the sector (Secretaría de Hacienda y Crédito Público, 2022[17]). In Peru, the increase in royalty payments was driven by the surge in global LNG prices, which was apparent in the value of exports of natural gas (+191%), which offset a contraction in export volumes (-36%) (Central Reserve Bank of Peru, 2022[14]).

In contrast, royalty payments fell in Trinidad and Tobago because of lower hydrocarbon production volumes and sales due to maintenance carried out by some of the country's principal producers (Ministry of Finance of Trinidad and Tobago, 2021[9]). Likewise, royalties and production levies fell in the Plurinational State of Bolivia, due largely to lower export prices. The prices for the country's exports are established in sales contracts with Argentina and Brazil using a formula based on prices for a basket of hydrocarbons products and that are updated quarterly. This introduces a lag in prices, which in 2021 implied that lower 2020 prices were carried into the year.

Figure 2.8. Latin America and the Caribbean (10 countries): year-on-year variation in general government non-tax revenues from oil and gas exploration and production, 2020-2021

Percentage points of GDP and percentages



Note: Data for Mexico correspond to federal government oil revenue, they exclude own revenues of Pemex, the State-owned oil and gas producer. Data for Ecuador correspond to oil revenues of the non-financial public sector derived from exports of crude oil. Data for Guyana refers to revenues deposited in the Natural Resource Fund.
Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on data from ECLAC's Fiscal Revenues from Non-Renewable Natural Resources in Latin America and the Caribbean database.

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Non-tax revenues were also impacted by swings in dividend receipts. In Colombia, dividends paid by Ecopetrol, the national oil company, fell to 0.1% of GDP, compared to 0.7% of GDP in 2020, as a result of the company's weak financial results during the previous year (Ministry of Finance of Colombia, 2022[18]). In contrast, Brazil's federal government received dividends equivalent to 0.2% of GDP from Petrobras, compared to just 0.02% of GDP in 2020.

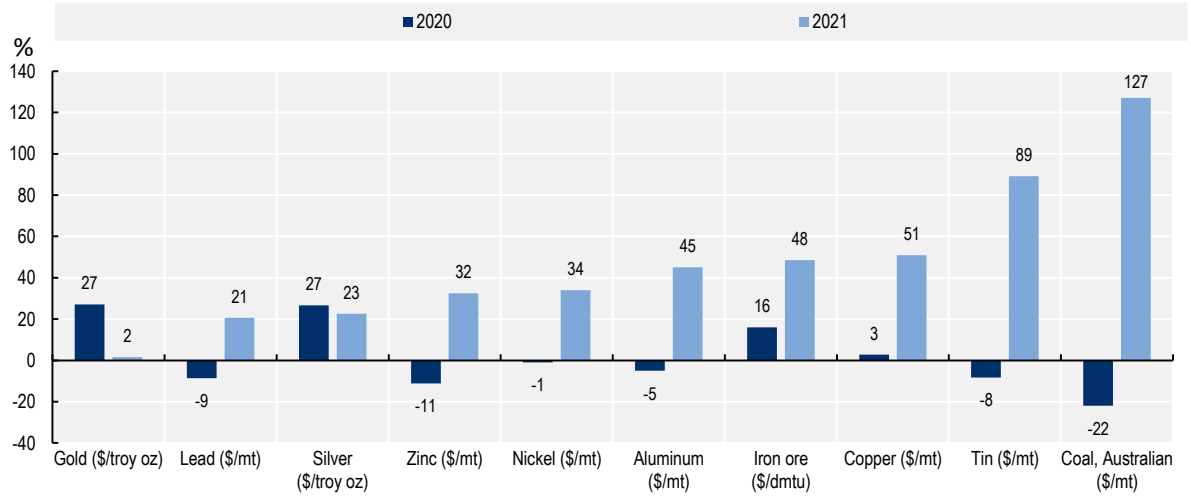
Fiscal revenues from mining in LAC rose sharply during 2021, bolstered by favourable prices and higher production

Global metals and minerals markets were buoyed in 2021 by the improvement in global macroeconomic conditions and a faster-than-expected recovery in industrial production. Lingering disruptions to production and transportation caused demand to outstrip supply, leading to a drawdown in inventories and a rapid increase in benchmark prices (Figure 2.9). Copper prices reached record levels, reflecting solid fixed capital investment in China, and supply disruptions that resulted in a fall in refined copper inventories. Iron ore prices also surged, due in part to tight supply for seaborne deliveries and high steel demand for construction in China (Vale, 2022[19]). However, iron ore prices gave ground in the second half of the year as China announced restrictions on annual steel production, which fell 2.8% for the year. Coal prices skyrocketed as demand surged due to shortages in China and a rise in coal-based power generation in

Europe and the United States as natural gas prices jumped. However, prices for coal experienced a significant correction in the fourth quarter as China lifted domestic production restrictions.

Figure 2.9. Selected minerals and metals: year-on-year variation in annual average prices, 2020-2021

Percentages



Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on World Bank Commodity Price Data (The Pink Sheet), World Bank.

StatLink https://stat.link/l9hekv

Minerals and metals production in Latin America and the Caribbean rebounded in 2021, consolidating the recovery that began in the second half of 2020 (Table 2.3). Mine output in the Plurinational State of Bolivia and Peru, the second largest producer of copper globally, registered strong rates of growth, largely since their mining sectors were most impacted by the pandemic in the region in 2020. The recovery in the Plurinational State of Bolivia was propelled by small and medium producers, and high prices for zinc and tin, the latter of which reached a record level in 2021 (Ministry of Economy and Public Finance of Bolivia, 2022[13]).

In Brazil, overall mining output was supported by an 11% year-on-year increase in iron ore production. In contrast, copper production in Chile slipped marginally, due in part to a three-week labour strike at Codelco's Andina copper mine (Codelco, 2022[20]). Mining output in Colombia remained at the depressed levels of 2020, due in part to the decision by Prodeco, a subsidiary of Glencore, to cease operations at its Calenturitas and La Jagua mines, which had not reopened after being placed in care and maintenance in 2020 (Glencore, 2022[21]).

Table 2.3. Latin America and the Caribbean (9 countries): international metals and minerals prices and mine production, by country and product, 2020-2021

Thousands of metric tons and percentages

Metals and minerals	Year and percentage change		Production in thousands of metric tons unless otherwise specified											
			LAC-9	Argentina	Bolivia	Brazil	Chile	Colombia	Dominican Republic	Ecuador	Jamaica	Mexico	Nicaragua	Peru
Copper	2020		9 610			1 235	5 733					492		2 150
	2021		9 550			1 153	5 625					473		2 299
	% variation		-0.6			-6.6	-1.9					-3.9		6.9
Zinc	2020		2 534		360	446						394		1 335
	2021		2 853		500	426						395		1 532
	% variation		12.6		38.9	-4.5						0.2		14.8
Lead	2020		482		65							176		242
	2021		540		93							182		264
	% variation		11.9		44.3							3.4		9.4
Tin	2020		64		15	29								21
	2021		74		20	27								27
	% variation		14.7		33.7	-6.2								30.7
Níckel	2020		395			293		80	22					
	2021		455			342		84	28					
	% variation		15.2			16.8		6.1	26.4					
Iron ore	2020		403 535			387 995		787				5 859		8 894
	2021		450 257			430 551		750				6 807		12 149
	% variation		11.6			11.0		-4.7				16.2		36.6
Coal	2020		57 080					53 549				3 530		
	2021		57 459					52 891				4 569		
	% variation		0.7					-1.2				29.4		
Bauxite / alumina	2020		38 514			30 955			9		7 550			
	2021		39 395			33 365			80		5 950			
	% variation		2.3			7.8			744.9		-21.2			
Gold (metric tons)	2020		409	35	23	63	34	49	28	9		72	8	88
	2021		460	35	46	62	34	55	25	13		81	11	97
	% variation		12.3	0.0	96.8	-1.6	1.0	13.9	-9.7	38.8		12.9	27.6	10.5
Silver (metric tons)	2020		9 001	712		50	1 576	20	88			3 809	22	2 724
	2021		9 743	694		50	1 383	27	80			4 176	23	3 310
	% variation		8.2	-2.6		0.4	-12.2	33.8	-9.3			9.6	5.7	21.5

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of World Bank Commodity Price Data (The Pink Sheet), World Bank; Secretaría de Minería de Argentina, Sistema Federal de Información Minera; Instituto Nacional de Estadísticas del Estado Plurinacional de Bolivia, estadísticas mineras; Agência Nacional de Mineração do Brasil, Anuário Mineral Brasileiro: Principais Substâncias Metálicas; Comisión Chilena de Cobre (Cochilco), Anuario de Estadísticas del Cobre y Otros Minerales 2000-2020; Agencia Nacional de Minería de Colombia, Sistema de Información Minero Colombiano; Oficina Nacional de Estadística de la República Dominicana, estadísticas mineras; Banco Central del Ecuador, Reporte de Minería; Instituto Nacional de Estadística y Geografía de México, estadísticas mineras; Instituto Nacional de Estadística e Informática de Perú, estadísticas mineras; and, United States Geological Survey, Mineral Commodities Summaries: Bauxite and Alumina, 2023.

StatLink https://stat.link/7nplxj

Favourable international prices and a recovery in production levels led to a large increase in fiscal revenues from mining in the LAC region. Total mining revenues – both tax and non-tax – reached USD 27.4 billion, up from USD 11.4 billion in 2020, an increase of 140% (Table 2.4). Similar increases were observed in the Plurinational State of Bolivia, Brazil and Colombia, while revenues tripled in Chile, Jamaica and Peru. In relative terms, mining revenues averaged 0.68% of GDP, doubling the 2020 average of 0.34% of GDP and above the pre-pandemic mark of 0.40% of GDP in 2019. A major driver of higher mining revenues was an up-tick in tax receipts from the sector, particularly in Chile and Peru, as CIT receipts rose in line with profits. Non-tax revenues also rose, principally due to increases in the Plurinational State of Bolivia, Chile, and Peru.

Table 2.4. Latin America and the Caribbean (12 countries): general government revenues from mining, 2020-2021

Billions of dollars, percentage, percentage of GDP and percentage points of GDP

Country	Billions of US dollars			Percentage of GDP								
	Total revenues			Total revenues			Tax revenues			Non-tax revenues		
	2020	2021	2021/2020 (%)	2020	2021	2021/2020 (p.p. of GDP)	2020	2021	2021/2020 (p.p. of GDP)	2020	2021	2021/2020 (p.p. of GDP)
Argentina	0.2	0.3	17	0.06	0.06	0.00	0.04	0.04	0.00	0.02	0.02	0.00
Bolivia	0.2	0.4	132	0.43	0.95	0.52	0.03	0.30	0.27	0.40	0.65	0.26
Brazil	3.5	8.0	125	0.24	0.48	0.24	0.15	0.36	0.21	0.09	0.13	0.04
Chile	3.2	9.5	198	1.26	3.01	1.75	0.72	1.85	1.13	0.54	1.16	0.62
Colombia	0.6	0.9	64	0.21	0.30	0.08	0.05	0.09	0.03	0.16	0.21	0.05
Ecuador	0.1	0.1	45	0.09	0.12	0.03	0.05	0.07	0.02	0.04	0.05	0.01
Guatemala	0.01	0.02	72	0.02	0.03	0.01	0.01	0.02	0.01	0.01	0.00	0.00
Jamaica	0.005	0.02	306	0.04	0.13	0.09	0.00	0.00	0.00	0.04	0.13	0.09
Mexico	2.0	3.8	88	0.18	0.29	0.11	0.18	0.29	0.11	…	…	…
Nicaragua	0.1	0.1	48	0.43	0.58	0.14	0.28	0.40	0.13	0.16	0.17	0.02
Peru	1.2	3.8	225	0.56	1.66	1.10	0.39	1.23	0.84	0.17	0.43	0.26
Dominican Republic	0.4	0.5	27	0.50	0.54	0.03	0.37	0.43	0.05	0.13	0.11	-0.02
LAC[1]	11.4	27.4	140	0.34	0.68	0.34	0.19	0.42	0.23	0.14	0.26	0.11

1. Revenue-to-GDP ratios for Latin America and the Caribbean corresponds to a simple average of the countries included in the sample. Figures may not sum due to rounding.

Note: In the case of Chile, lithium revenues refer to property rents received by the central government from the participation of the State in lithium sales as established in contracts with SQM Salar S.A. and Albemarle Ltda.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on data from ECLAC's Fiscal Revenues from Non-Renewable Natural Resources in Latin America and the Caribbean database

StatLink https://stat.link/8iys9j

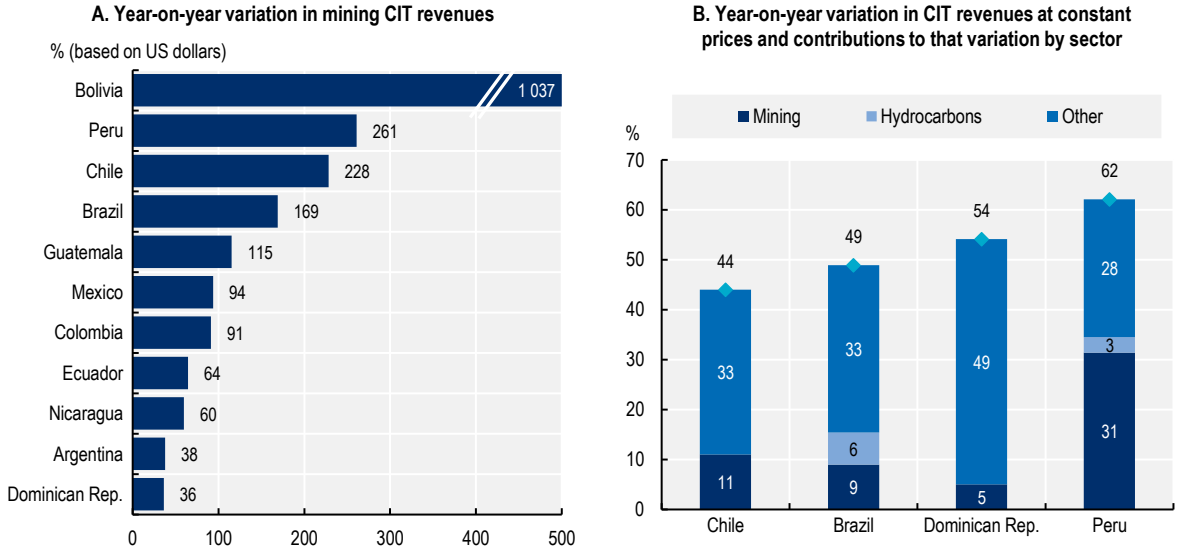
High international metal and mineral prices gave rise to a dramatic increase in operating profits of mining companies in the LAC region. Codelco, the largest copper producer in the world, saw operating profits rise by 210% in 2021, while those of Vale, a major producer of iron ore, increased by 116% (Codelco, 2022[20]; Vale, 2022[19]). The increases in profits highlight the large price and income elasticities that characterise the sector. Vale estimates that a USD 1 rise in the price per dry metric ton (dmt) of iron ore, all other factors constant, would result in a USD 310 million increase in operating income in 2021 (Vale, 2022[19]). For context, average iron ore prices in 2021 reached USD 162 per dmt, up from USD 109 per dmt in 2020, an increase of USD 53 per dmt. Likewise, sensitivity analysis by Codelco suggests that pre-tax profits would

rise by USD 320 million as a result of a 5% uptick in copper prices (Codelco, 2022[20]). As with iron ore, copper prices registered a large advance in 2021, rising 51%.

Higher profits translated to a surge in mining tax revenues, particularly CIT receipts (Figure 2.10). Advance payments on 2021 tax liabilities rose strongly, in line with positive quarterly financial results of major mining companies. CIT payments made in 2021 from tax filings for fiscal year 2020 were especially strong. In Chile and Peru, this was in part due to the suspension or reduction of advance tax payments during 2020 as part of the tax relief measures adopted to respond to the COVID-19 pandemic (DIPRES, 2022[22]; Ministry of Economy and Finance of Peru, 2021[23]). In Peru, CIT receipts were given further impetus by the liquidation of outstanding tax liabilities – equivalent to 0.5% of GDP – by Compañía de Minas Buenaventura and Sociedad Minera Cerro Verde (SUNAT, 2021[24]; 2021[25]; 2021[26]). In the Plurinational State of Bolivia, CIT revenues surged after reaching an artificially low level in 2020 due to a large advance payment during 2019 by Minera San Cristóbal for taxes that would have fallen due in 2020 (Minera San Cristóbal, 2021[27]).

Figure 2.10. Latin America and the Caribbean (selected countries): general government CIT revenues from mining, 2020-2021

Percentages



Note: Figures for Chile correspond to overall income tax revenues and those for Brazil refer to receipts of CIT and the CSLL.
Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on data from ECLAC's Fiscal Revenues from Non-Renewable Natural Resources in Latin America and the Caribbean database.

StatLink https://stat.link/bp8gnk

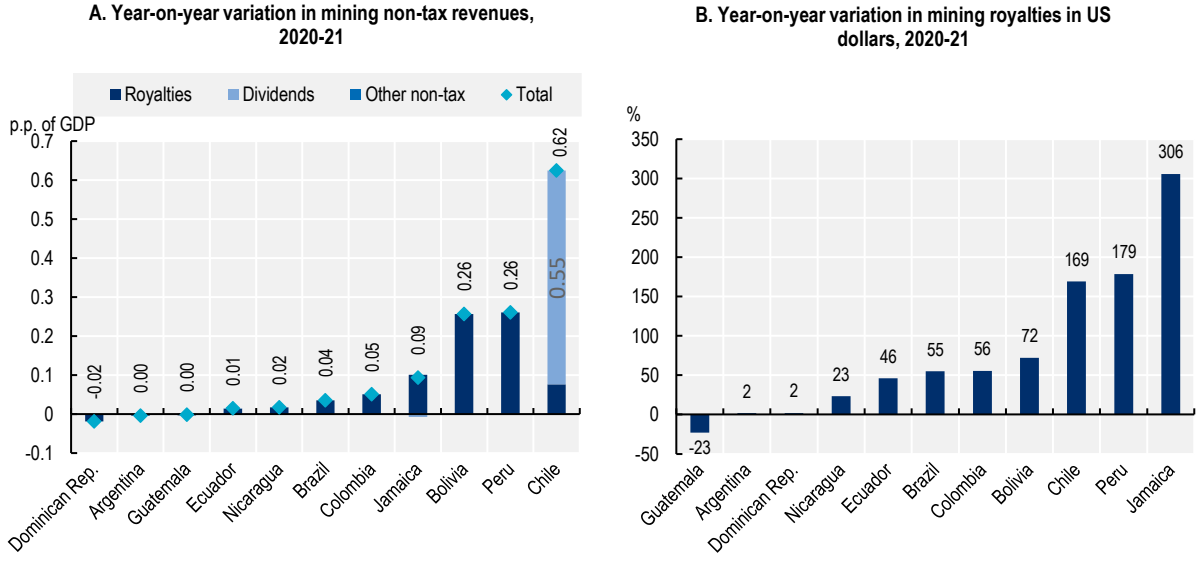
Rising CIT payments by mining companies also drove the growth of overall CIT revenues in several countries in the region (Figure 2.10). For example, in Brazil mining CIT payments accounted for 9 percentage points of the 49% increase in total CIT receipts. When combined with hydrocarbon receipts, the contribution of non-renewable natural resources to the growth in CIT receipt reaches 15 percentage points. Likewise, in Peru, mining revenues were the principal driver of the growth in CIT revenues, representing 31 percentage points of the 62% increase in total CIT revenues, while hydrocarbons contributed a further 3 percentage points. In Chile, CIT payments by private mining companies accounted

for 11 percentage points of the increase in overall income tax revenues (44%). While less pronounced, CIT payments from mining in the Dominican Republic were also relevant.

Non-tax mining revenues in LAC grew markedly in 2021, rising from an average of 0.14% of GDP in 2020 to 0.26% of GDP. However, this increase was largely due to a significant increase in dividend payments by the State-owned Codelco to the national treasury (USD 2 billion) (DIPRES, 2022[22]). Property rents, principally royalties, registered large year-on-year gains in US dollar terms, reflecting the combined effect of higher prices and increased sales volumes, but registered only a marginal increase relative to GDP (Figure 2.11). In Brazil, payments of the Financial Compensation for the Exploration of Mineral Resources, a federal royalty, and state-levied royalties increased in line with an 11% rise in iron ore production and a 48.5% uptick in the average annual price for iron ore. In Peru, royalty payments surged, reflecting their base of calculation – operating profits at progressive rates as established by mining contracts – and the liquidation of outstanding royalty payments by Minera Cerro Verde in August 2021 (SUNAT, 2021[25]). In Jamaica, the exceptionally large increase in royalty payments was due to an agreement reached with Concord Resources Limited to reinstate the levy on the export of bauxite ore (bauxite levy).[4]

Figure 2.11. Latin America and the Caribbean (11 countries): year-on-year variation in general government mining non-tax revenues, 2020-2021

Percentage points of GDP and percentages



Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on data from ECLAC's Fiscal Revenues from Non-Renewable Natural Resources in Latin America and the Caribbean database.

StatLink https://stat.link/pt8eqa

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Notes

[1] Mining revenues from Nicaragua are included for the first time.

[2] BBC News Mundo, "Cómo Irán está ayudando a Venezuela a aumentar su producción petrolera pese a las sanciones de Estados Unidos", 18 January 2022, https://www.bbc.com/mundo/noticias-america-latina-59917947 (accessed 27 April 2023).

[3] In September 2021, the Colombian congress approved a structural tax reform that raised the statutory CIT rate to 35% for 2022 onwards.

[4] Jamaica Information Service, 30 September 2021, "Bauxite Production Levy Reinstated on Noranda Jamaica" https://jis.gov.jm/bauxite-production-levy-reinstated-on-noranda-jamaica/ (accessed 27 April 2023).