Chile's Future from an Investment Perspective

2023 Latin American Cities Conferences: Santiago
Americas Society/Council of the Americas
August 2023

Mario Marcel | Minister of Finance
Agenda

1. Stabilizing the economy, rebuilding economic and financial buffers

2. Sustainable Growth and Thriving Opportunities
Stabilizing the economy, rebuilding economic and financial buffers
Although Chile experienced a rapid recovery from the Covid-19 crisis, displaying the highest global growth, it also faced significant macro imbalances and very high political uncertainty.

By the beginning of 2022, Chile was confronted with escalating inflation, triggered by a procyclical fiscal policy and pension fund withdrawals that, altogether, injected liquidity worth 35% of GDP into households. The combination of an overheating economy, political uncertainty, and a rapid increase in interest rates created challenging financial conditions. The adjustment posed a risk of triggering a deep recession.

Strong monetary and fiscal policies combined in 2022 to stabilize the economy. Adjustment was highly efficient, reducing private consumption without prompting a crisis. Q/Q GDP growth turned positive in 2022Q4 and 2023Q1, while annual inflation has declined 7.6pp since its peak in August 2022.

Rebalancing will continue throughout 2023. By the end of the year, the economy will surpass its level from a year ago, inflation will further decline to around 4% and the current account deficit will recover its historical average of 3 ½ percent of GDP, down from nearly 10% in 2022Q3.

Remaining challenges include recovering employment and private investment. Normalization of monetary policy will help, as gains in controlling inflation and fiscal consolidation will enable Chile to start reducing interest rates earlier than in other countries.
The nominal monetary policy rate reached its highest level in October 2022, and remained at that level until July 23, when the Central Bank started the easing process.

Note: Nominal MPR is the monthly average. Real MPR consider expectations to eleven months from the Economics Expectations Survey of Central Bank of Chile. The final point represents the data for August 2023, which is projected based on the TPM level post RPM July and keeping the inflation expectation of July 23 constant for August.

Source: Central Bank of Chile.
Starting March 2022, the new government implemented a comprehensive fiscal consolidation, record at world level. Fiscal policy has played a crucial role in reducing inflation and stabilizing public debt levels.

Central Government real expenditure (1)
(CLP million, constant 2022 pesos)

Fiscal consolidation 2021-2022 (2)
(% del GDP)

Note: (1) (f): forecast 1Q23 Public Finance Report. (2) Calculations are made with the general government net lending data, according to the IMF World Economic Outlook (April 2023). For Chile, the calculation is based on the Budget Office’s Public Finance Report.
Source: Budget Office (Dipres), Ministry of Finance and IMF.
Consumption has undergone a substantial adjustment, with a durable goods component that is significantly below pre-pandemic levels. The downturn of wholesale and retail trade has not dragged down other sectors.

**Private Consumption**
(index, 2018Q1=100, seasonally adjusted)

- Durable
- Non-durable
- Services

**Monthly index of economic activity by sector**
(index Feb.2020=100, seasonally adjusted)

- Wholesale and Retail trade
- Services
- Manufacturing
- Other goods

Source: Central Bank of Chile.
As a result of the cooling down of the economy, inflation reached a turning point in August 2022, dropping 7.6 pp. since then. Market expectation confirm a downward inflation and a level at the end of the year of around 4%

Note: (1) Inflation swaps of August 7th, 2023. Inflation target: 3% YoY.
Source: Central Bank of Chile, National Statistics Office and Bloomberg
The current account is improving. Chile achieved the highest trade balance surplus in 16 years during the first quarter of 2023.

**Note:** Quarterly data in annual variation. For Imports, CIF data is used.

**Source:** Central Bank of Chile.
The labor market has remained resilient and labor participation has been improving although under pre pandemic levels.

**Formal salaried employment: Survey and Administrative data (1)**

<table>
<thead>
<tr>
<th></th>
<th>Administrative records</th>
<th>Employment survey</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2019</strong> Jan-Mar</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2020</strong> Apr-Jun</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2021</strong> Jul-Sep</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2022</strong> Oct-Dec</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2023</strong> Jan-Mar</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Labour force participation rate by age group**

(index Jul-19=100, moving quarter)

- 15-24 years
- 25-34 years
- 35-44 years
- 45-54 years
- 55-64 years
- 65+ years
- Total

**Note:** (1) Administrative records correspond to retirement contributors inform by the Pensions Supervisor. (2) Labour force participation over their own age group.

**Source:** National Statistics Institute and Pensions Supervisor.
Nevertheless, seasonally adjusted unemployment remains above its historical average. Investment is stagnant. Making progress in both dimensions is key to complete economic normalization.

**Unemployment rate**
(%, seasonally adjusted)

<table>
<thead>
<tr>
<th>Year</th>
<th>Jan-Feb</th>
<th>Mar-Apr</th>
<th>May-Jun</th>
<th>Jul-Aug</th>
<th>Sep-Oct</th>
<th>Nov-Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>7.5</td>
<td>8.2</td>
<td>9.1</td>
<td>10.2</td>
<td>11.1</td>
<td>12.0</td>
</tr>
<tr>
<td>2020</td>
<td>7.6</td>
<td>8.5</td>
<td>9.3</td>
<td>10.4</td>
<td>11.3</td>
<td>12.2</td>
</tr>
<tr>
<td>2021</td>
<td>7.7</td>
<td>8.6</td>
<td>9.4</td>
<td>10.5</td>
<td>11.4</td>
<td>12.3</td>
</tr>
<tr>
<td>2022</td>
<td>7.8</td>
<td>8.7</td>
<td>9.5</td>
<td>10.6</td>
<td>11.5</td>
<td>12.4</td>
</tr>
<tr>
<td>2023</td>
<td>7.9</td>
<td>8.8</td>
<td>9.6</td>
<td>10.7</td>
<td>11.6</td>
<td>12.5</td>
</tr>
</tbody>
</table>

**Gross fixed capital formation**
(index, 2018Q1=100, seasonally adjusted)

- **Construction and other investment works**
- **Machinery and equipment**

**Source:** Central Bank of Chile and National Statistics Office.
The government's commitment to fiscal responsibility, the rejection of pension fund withdrawals, and the evolving political situation has played a key role in significantly reducing economic uncertainty.

Source: Central Bank of Chile based on Becerra and Sagner (2020).
As a result, financial markets underwent a positive correction. Sovereign risk indicators are now at record lows.

Note: PR: Pension Reform.
Source: Central Bank of Chile, Ministry of Finance and Bloomberg.
Universal transfers have been replaced with targeted measures. The government will continue to advance in stabilizing the gross debt/GDP well below the prudent debt threshold of 45% of GDP.

**Note** (f): forecast, 2Q23 Public Finance Report (PFR) Cyclically Adjusted Balance goal.

**Source:** Budget Office (Dipres).
Fiscal consolidation, despite its magnitude, did not harm low-income families, since it maintained and intensified state support. The last CASEN has shown that this measures has contributed positively to reducing poverty.

**Incidence of poverty and extreme poverty in the population**

(Percent of people)

<table>
<thead>
<tr>
<th>Year</th>
<th>Extreme poverty</th>
<th>No extreme poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>12.4</td>
<td>3.4</td>
</tr>
<tr>
<td>2009</td>
<td>9.7</td>
<td>6.4</td>
</tr>
<tr>
<td>2011</td>
<td>7.9</td>
<td>9.6</td>
</tr>
<tr>
<td>2013</td>
<td>4.3</td>
<td>3.4</td>
</tr>
<tr>
<td>2015</td>
<td>3.4</td>
<td>3.4</td>
</tr>
<tr>
<td>2017</td>
<td>2.3</td>
<td>6.2</td>
</tr>
<tr>
<td>2020</td>
<td>4.3</td>
<td>6.4</td>
</tr>
<tr>
<td>2022</td>
<td>2.3</td>
<td>6.5</td>
</tr>
</tbody>
</table>

**Note:** At 95% confidence the differences with respect to 2022 are statistically significant for both categories, except to extreme poverty in 2017-2022.

**Source:** Ministry of Social Development and Family, CASEN (National Socioeconomic characterization) Survey 2006-2022.
Activity grew in the first quarter of 2023 compared to the previous quarter. By the second half of the year, activity levels are expected to exceed those of a year ago, with a growth close to zero for the year as a whole.

Source: Ministry of Finance, Central Bank of Chile, IMF, World Bank and OECD.

Note: Ministry of Finance 2Q23 Public Finance Report.
In recent years, exports have experienced an increase due to agricultural products and non-copper minerals.

**Share of exports by destination**
(Millions of US$, FOB)

**Volume of exports**
(index 2018=100, annual moving average)

Source: Central Bank of Chile.
Foreign direct investment has rebounded. Canada and the United States individually account for the largest shares of investment stock in Chile.

Note (1): Stock at 2021, "NA" represents Not Assigned country of origin "RTW" represents Rest of the World
Source: Central Bank of Chile.
Private investment projections for the period 2023-2027 have risen by US$9.731 million (35%) based on the Capital Goods Corporation survey, comparing the first and second quarters.

Survey of the Capital Goods Corporation (CBC), 2023-2027
(millions of US$)

- **Mining**
- **Public Works**
- **Energy**
- **Real Estate**
- **Technology**
- **Other**

**Jun-23**: US$ 37.847 MM
**Mar-23**: US$ 28.115 MM

Fuente: Capital Goods Corporation 2023Q1 and 2023Q2 survey.
Sustainable Growth and Thriving Opportunities
• During the last 15 years, growth potential has declined substantially in Chile, mostly due to stagnant productivity. While many factors can explain the latter, declining returns and growing environmental barriers to the growth strategy that emerged in the 1980s and 90s, plus global trade conflicts, have played an important role.

• The global move towards environmental sustainability and the development of the digital economy are opening new growth opportunities to Chile. The country has strong comparative advantages in the production of essential inputs to electromobility and renewable energies, as well as deep broadband penetration.

• Adequate policies and regulations are essential to grab these opportunities. The Government is building on previous experience to develop an enhancing environment. This includes fostering the greening of copper mining; developing a national lithium policy and a green hydrogen action plan; reinvesting lithium and copper earnings on R&D and infrastructure; full domestic connectivity and with business partners abroad, and the development of green financing.

• Private investment, foreign capital and technology are also key to a new development strategy. The government is working on speeding up project preparation and authorizations, as well as removing remaining sources of business uncertainty.

• By 2026, Chile should have increased copper production; 4-5 new lithium projects should have been negotiated; two thirds of power should be from renewable sources; a dozen of green hydrogen projects should be under way. These steps, alongside ongoing productivity-enhancing policies, can increase growth potential by full two percentage points.
Potential growth has declined by 2 ½ pp between 2005 and 2023. While many factors contributed to this, productivity bears much of the responsibility, remaining stagnant for the past 10 years.

Trend GDP (1) (annual change)

Non-mining GDP growth decomposition (average contribution on growth)

Note: (1) Trend GDP estimated by a Committee of Experts for Trend GDP in each consultation year. 
Source: Central Bank of Chile and Ministry of Finance.

Source: National Productivity Council.
Supply of critical raw materials

Carbon emissions reduction targets and absorption

Green growth opportunities

Green Hydrogen (GH2)

Unlimited renewable energy
It is projected that a greener global economy will increase demand for Chilean commodities like copper. Mining companies are investing to become a cleaner, greener industry.

**Copper demand from “green factor”**

(Goldman Sachs estimates)

Copper greening:
- Desalination plants
- Water recirculation processes
- Renewable energy supply
- Stricter emission standards
- More efficient, cleaner smelting plants

Source: Goldman Sachs Global Investment Research and Cochilco.
Lithium exports are booming, and Chile leads in production and reserves internationally.

### Lithium reserves by country in 2023

- **Chile**: 36%
- **Australia**: 24%
- **US**: 4%
- **China**: 8%
- **Argentina**: 10%
- **Other countries**: 18%

### Top prospects regarding their geological potential to host lithium projects (1)

**SALARES ZONA NORTE**

1. Atacama
2. Tara
3. Aguas Calientes Norte ó 1
4. Puja
5. Loyoques o Quisquiro
6. Aguas Calientes Centro ó 2
7. El Laco
8. Aguas Caliente Sur ó 3

**SALARES ZONA SUR**

9. Aguas Calientes Sur Sur ó 4
10. Pajonales
11. Gorbea
12. Agua Amarga
13. La Isla
14. Aguilar
15. Parinas
16. Grande
17. Pedernales
18. Maricunga

---

**Note**: (1) The National Geology and Mining Service (SERNAGEOMIN) identified 18 salt flats located in the regions of Antofagasta and Atacama as the top prospects regarding their geological potential to host lithium projects.

**Source**: Cochilco based on the United States Geological Survey (USGS), National Geology and Mining Service (Sernageomin), www.gob.cl/litioporchile and Ministry of Finance.
The main objectives of the National Lithium Strategy address aspects of sustainability, income, stakeholders, mining development and economic growth. The development of the industry will be through public-private cooperation and joint ventures.

**Strategy’s Implementation Timeline**

2023
- Lithium and Salt Flats Strategic Committee
  - State participation through a public-private partnership in Salar de Atacama
- Process of participation and dialogues with stakeholders
- Network of protected salt flat and use of low-impact tech.

2024
- National Lithium Company bill
- Modernize the institutional and regulatory framework
- Lithium and Salt Flats Technology & Research Public Institute

2025
- 4-5 new projects under way

**Source:** www.gob.cl/litioporchile, Ministry of Finance.
Chile has unique advantages in the world to produce renewable energy, Green Hydrogen and its derivatives. The Atacama Desert provides the highest photovoltaic power potential in the planet while Patagonia presents strong and constant winds that give Chile great comparative advantages for the generation of clean energy.

**Hydrogen costs from hybrid solar PV and onshore wind system in the long term**

(USD/kgH2)

Source: International Energy Agency
Chile is committed to confront climate change by making significant changes to its energy matrix. Chilean renewable installed capacity has already a great potential to become the main producer of energy in the country.

**Gross Power Installed Capacity by Region in 2022 (1)**

**Electricity generation by technology and NCRE participation**

**Note**: (1) Maximum gross power installed in the National Electric System. It considers power plants in operation and in test, (f): forecast.

**Source**: National Electric Coordinator and Ministry of Energy.
### Key milestones

<table>
<thead>
<tr>
<th><strong>H2 Facility CORFO</strong></th>
<th><strong>Sign of agreement with Denmark</strong></th>
<th><strong>Magallanes Green Hydrogen Regional Transformation</strong></th>
<th><strong>International partnership</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agreements with IDB, WB, KfW and BEI to allow leverage for the private sector by Corfo</td>
<td>Promote green maritime corridors and expand cooperation with Europe</td>
<td>Platform to identify and validate initiatives required for the development of the local industry</td>
<td>The regions of Antofagasta and Magallanes are registered as Hydrogen Valleys in the international platform of Mission Innovation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Ventana al Futuro</strong></th>
<th><strong>InvestChile strategy for the development of GH2 industry</strong></th>
<th><strong>Environmental Impact Assessment System (SEIA)</strong></th>
<th><strong>Reform of Law 19.300</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The Ministry of National Assets authorized the first concession to produce GH2, where 13 hectares of public land will be allocated with a capacity of 200MW of electrolysis</td>
<td>Reduction of information asymmetries, continuous accompaniment and support to international companies</td>
<td>Publish documents aimed at developing criteria applicable to GH2 projects</td>
<td>A comprehensive reform incorporating hydrogen production within the legal typologies for admission to the SEIA will be presented by the end of 2023.</td>
</tr>
</tbody>
</table>

### Source: Ministry of Finance and Ministry of Energy.
Chile has been increasing investment in digital infrastructure and connectivity to provide services to the world. Substantial investment in data centers, submarine cable to Asia, and 5G infrastructure under way.

**Historical**

- Internet Access Service: Total Mobile Connections (total penetration per 100 inhabit.)

**Estimation**

- Internet Access Service: Mobile Connections by Technology (millions)

**Source:** Office of Major Projects (OGP) of the Ministry of Economy, Chilean Chamber of Construction and Corporation of capital goods (CCG) and Telecommunications Undersecretary.
The estimation of the impact on potential growth and on fiscal space of these measures will be entrusted to a technical, independent committee.
# Productive diversification: measures within the Fiscal Pact

<table>
<thead>
<tr>
<th>Economic sector</th>
<th>Goal to 2026</th>
<th>Development instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean and competitive mining</td>
<td>Accomplish and keeping forecast production of Cochilco</td>
<td>• Fiscal stability&lt;br&gt;• Reduce in 30% the time of paperwork of mining projects&lt;br&gt;• Implementation of tax credits for emission reduction projects, hydraulic efficiency</td>
</tr>
<tr>
<td>Lithium</td>
<td>3 to 4 new projects in development</td>
<td>• Implementation of lithium national policy and giving of Ceoles&lt;br&gt;• Creation of lithium and salt pans institute&lt;br&gt;• Implementation of tax credits to projects with direct extraction technologies and extension of values chains</td>
</tr>
<tr>
<td>Renewable energies</td>
<td>2/3 of matrix of electric generation of renewables sources</td>
<td>• Implementation of Ministry of Energy proposal to solve problems of north renewable generators&lt;br&gt;• Implementation of tax credits to new projects</td>
</tr>
<tr>
<td>Green hydrogen</td>
<td>10-12 projects in development</td>
<td>• Action plan of H2V&lt;br&gt;• Financial facility of US$1.000 millions with international organizations&lt;br&gt;• Ventana al Futuro Agenda, Ministry of National Assets&lt;br&gt;• Simplification of environmental impact assessment, including assessment baselines&lt;br&gt;• Implementation of tax credits to innovative projects with multiplier effect</td>
</tr>
</tbody>
</table>
Chile's Future from an Investment Perspective

2023 Latin American Cities Conferences: Santiago

Americas Society/Council of the Americas

August 2023

Mario Marcel | Minister of Finance