

Transformational change in Latin America and the Caribbean

A mission-oriented approach

Mariana Mazzucato



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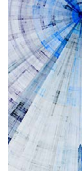
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Preface by Professor Mariana Mazzucato, UCL Institute for Innovation and Public Purpose

Countries in Latin America and the Caribbean (LAC) are very different from each other, but it is fair to say that the region is together undergoing deep political and economic change. The Covid pandemic has exposed underlying weaknesses in welfare states, health systems, and public sector capacities more broadly. The inflationary cost-of-living crisis has compounded the problem, further endangering the most vulnerable communities and members of society. All the while, a climate crisis looms on the horizon, increasing the scale and intensity of water, biodiversity-, and soil-related crises. However, it is the structural challenges within LAC that present the biggest roadblocks ahead: the region's dependence on natural resources, its low productivity, its weak institutional and governance capacity, and its tight fiscal space, to name just four.



Transforming these structural challenges into structural opportunities for inclusive growth, sustainable development, and shared prosperity is what this report is about. It is a question of talking both about the rate of economic growth and about its direction. To put countries in LAC on a new directed growth path that tackles the most pressing challenges of our time, the region needs a new approach to investment, innovation and industrial strategy. This is not about returning to the tried and tested industrial policies of the past —policies set on strengthening import substitution or achieving price competitiveness— though there is no doubt value in retaining some important elements. This is about fundamentally rethinking the role of the state, not as a market fixer, but as a capable, competent, and confident market shaper. This is about designing the relationships between the state, businesses, labor, and citizens with a view to achieving societal and environmental outcomes in a more purposeful way. This is about a new mission-oriented approach to industrial strategy. That is why I am delighted to submit our independent report with the UN's Economic Commission for Latin America and the Caribbean (ECLAC), *Transformational Change in Latin America and the Caribbean: a Mission-Oriented Approach*.

Missions are not easy and to succeed, countries in LAC can develop an all-of-government approach to industrial strategy —one that focuses not on subsidizing specific sectors, but on identifying the most pressing challenges and mobilizing collaboration between a whole host of different sectors around those challenges. This also means moving away from targeting and investing in specific technologies and towards determining social and environmental outcomes for which new ground-breaking technologies can be developed. Indeed, a mission-oriented approach requires us to turn industrial policy on its head: identify the outcomes and mobilize around those outcomes in a purpose-driven way across all sectors. This has huge implications on the capabilities required within government, an area that leaders in the region have neglected for too long. Equally important is the redesign of policies and institutions to become more outcomes oriented. It also has considerable implications on the relationship between government and business and moving towards a more symbiotic relationship between the two, where both risks and rewards of finance and innovation are shared, will be critical. Finally, with a mission-oriented approach, the question of accountability and legitimacy becomes all the more important, meaning citizen participation and new forms of evaluation can be elevated.

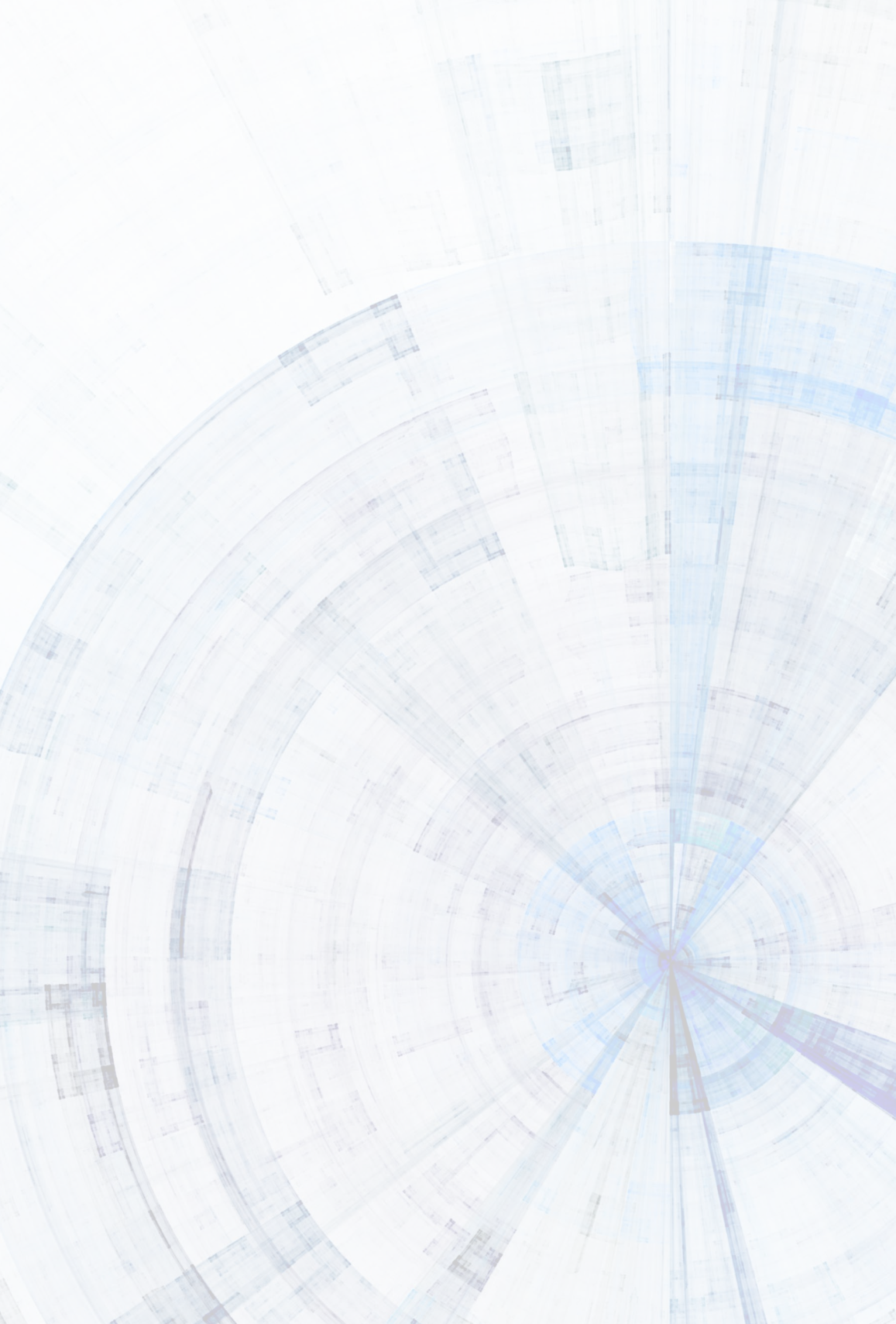
This report was written over an intense period of half a year, with considerable support from my team at the UCL Institute for Innovation and Public Purpose and ECLAC. The aim of this report is not to set out a definitive pathway for LAC, but to offer a new vocabulary and framework for policymakers in the region, as well as the policies, tools, and institutions to back them up. It brings a sense of urgency and purpose to governments in Latin America and the Caribbean, one that has been lacking and is needed now. I am fully committed to supporting governments in the region in their efforts to achieve a more inclusive and sustainable future, and I hope this report can help them do so.



Executive summary

- The report argues that Latin America and the Caribbean (LAC) can benefit in terms of both the direction and rate of growth if the region adopts a mission-oriented approach to its industrial and innovation strategy in order to catalyze cross-sectoral investment and innovation towards solving key goals.
- While countries within LAC are very different from each other, in terms of institutional and economic capacity, the Sustainable Development Goals (SDGs) can be used in all LAC countries to direct economic policy, focusing on challenges related to health for all, reducing the digital divide and achieving net zero across the production system.
- A mission oriented approach to industrial strategy can (and must) address head on the structural challenges faced by many LAC countries, with the aim of turning them into key opportunities for economic growth, increased productivity, and higher wages. Critically, the state will need more fiscal space to co-invest with the private sector in areas like climate adaptation —the emphasis therefore could not be on limits to government spending but on the structure of long-run public investment that can increase growth and productivity while also helping to solve social challenges.
- The report collects learnings from challenge-driven and outcomes-oriented public policies that are already being implemented in the region to tackle health inequalities, digital divide and climate change. There are positive cases that illustrate the importance of crowding in and aligning public and private sector investment and developing institutions with a clear mandate and responsibility. Our emphasis is on how such experiences can be improved through a more holistic and systemic approach.
- The report emphasizes that particular attention could be placed on transforming natural resources from being seen as sectors to be subsidized towards sectors to undergo structural change and transformation to become inputs for sustainable growth.

- Investment must also be made inside state capacity, with the ability to use policies, tools, and institutions in an outcomes-oriented way. This approach requires safe places for experimentation, such as public innovation labs, that can help the government “learn by doing” while ambitiously and purposefully investing in its own capabilities. A mission-oriented approach in LAC could benefit from each country investing in a government lab where, every year, the “what works” conversation can happen across all countries, perhaps at the ECLAC sessions.
- Governments can expand and diversify their policy toolkits, leveraging new types of procurement, conditionalities, and policies around knowledge sharing, while fostering organizational learning and experimentation.
- Building and redesigning mission-oriented institutions, such as State-owned enterprises and public banks, will also be crucial. They could be structured to stand front and centre in the government efforts to direct innovation and investment towards more inclusive and sustainable outcomes. This requires as much attention on institutional and organizational design as it does on policy design. It also requires greater conditionality linked to public investments, loans and subsidies: in exchange for investment by and transformative change within sectors.
- A mission-oriented approach means combining public missions with private purpose. This requires the willingness of both the state and business to work together in a more symbiotic way, providing an opportunity to rethink the social contract. Conditionalities embedded in all government tools are useful for this, not to micromanage business but to make sure there is a “deal” so that public support is in exchange of private investment and transformation, creating a more inclusive and sustainable economy.
- The need for greater legitimacy in policymaking plays a central role in this report as it highlights the importance of both greater citizen participation and more dynamic evaluation to hold governments accountable.
- This report offers a new vocabulary and framework for policymakers in LAC, as well as the policies, tools, and institutions to back them up. It brings a sense of urgency and purpose to governments in the region, one that has been lacking and is needed now.



“Economic growth and innovation have not only a rate but also a direction. Using industrial strategies to redirect an economy towards a more inclusive, resilient/diversified and sustainable growth path means setting clear goals and orienting innovation, partnerships, policy tools and institutions around these goals.”



Chapter I

A new sense of purpose for Latin America and the Caribbean

The current crises being faced across Latin America and the Caribbean (LAC), and indeed by the world economy, are interrelated. The COVID-19 pandemic and the war in Ukraine have highlighted the need to find new engines and processes to underpin economic growth. Reliance on fossil fuels, weak health systems and vulnerable global supply chains are just some of the challenges demanding urgent attention. In LAC, the current crises are made worse by what preceded them: commodity-led development, low productivity, balance of payments constraints, territorial and productive heterogeneity, social vulnerabilities, weak institutional capacities, and limited fiscal space (Grassi and Memoli, 2016; Fernández-Arias, 2017; Ocampo, 2017; Altamirano, 2019). How to turn these challenges into opportunities for economy-wide investment and innovation is what this report is about.

In this context, a different economic development model is required —one that embraces industrial strategies designed to maximize public benefit, directing innovation and investment activity which together create a more inclusive and sustainable economy (Rodrik, 2004 and Mazzucato, Kattel and Ryan-Collins, 2019). The report advocates reviving industrial strategy to be at the heart of economic development strategy. For too long industrial strategy has been synonymous with top-down directing and choosing of particular sectors or technologies to support (“picking winners”). Rather a mission-oriented industrial strategy does not pick sectors but challenges for all sectors to invest towards. It catalyses more additionality by picking the willing and requiring transformation to get there (Mazzucato, 2018a).

By adopting mission-oriented industrial strategies, LAC countries have an immense opportunity to advance inclusive and sustainable economic growth. This is not a small shift. It requires governments to embrace their role in actively shaping markets, and to move away from outdated notions that see a stark divide between the state and business, and between economic, social, and environmental policies. It means moving away from “picking” particular sectors (e.g. natural resources), technologies (e.g. artificial intelligence), or types of firms (e.g. SMEs), towards an approach that “picks the willing” and chooses challenges that demand cross-sector collaboration. This can of course be a key driver of the diversification processes which create a more balanced path of growth (Hausmann and Rodrik, 2003).

Economic growth and innovation have not only a rate but also a direction. Using industrial strategies to redirect an economy towards a more inclusive, resilient/diversified and sustainable growth path means setting clear goals and orienting innovation, partnerships, policy tools and institutions around these goals. Tackling climate change in the region can, for instance, be turned into an investment and innovation opportunity —around new materials, new digital services, new forms of mobility, and a new role for natural resources. The same holds for health challenges and the digital divide —imagine the investment and innovation opportunities implicit in ensuring that all students across LAC have equal access to broadband and digital technology. A mission-oriented approach focuses on problems —from sustainable mobility or healthy nutrition to carbon emissions reduction— that need solving by all sectors (Mazzucato, 2021).

Implementing mission-oriented industrial strategies will require setting clear goals that catalyze bottom-up, cross-sectoral innovation; leveraging all the different levers governments have —from regulation to procurement to grants and loans; entering smart public-private partnerships; and launching or redesigning institutions oriented around these goals.

This shift also demands a new type of public sector: more creative, and with a focus on internal capacity and capabilities so bold policies can be implemented. Implementation is not a linear process, it requires experimentation and learning, both of which require investment (Cimoli, Dosi and Stiglitz, 2009; Kattel and Mazzucato, 2018 and Mazzucato and Collington, 2022). This is why public sector labs, like Laboratorio de Gobierno in Chile are essential. A key capability is policy evaluation that is dynamic and outcomes-oriented. Another key capability is the ability to engage with a wide group of stakeholders, including citizens and trade unions, to build legitimacy and ensure that missions resonate widely. The opportunity implicit in this new approach is to catalyze a new social contract that builds trust and provides traction for economic change.

Mission-oriented industrial strategies are essential for LAC to pivot towards sustainable and inclusive economic development. They can stimulate business and public investment in innovation—a key driver of productivity. They can shape innovation and economic activity that is aligned with—rather than working in opposition to—sustainability and inclusion goals. They can transform natural resource-based sectors, encouraging the reinvestment of rents into innovative and value creating activities. They can diversify the economy by fostering cross-sectoral collaborations and coordination. And finally, they can distribute the rewards from economy-wide innovation across a wider chapter of the population.

This report aims to advance a radical new lens for economic policy in LAC, with the intention of changing the way governments in the region, and their partners, think and bring about directed economic growth. Governments in LAC have a unique opportunity to shape economic development that maximizes public benefit through mission-oriented innovation, better use of available tools, smart public-private partnerships, and purpose-built institutions, undergirded by a strong public service, outcomes-oriented evaluation, inclusive stakeholder engagement, and a commitment to a rejuvenated social contract. Mission-oriented industrial strategy is about bringing a new sense of purpose to governments and economies in the region, ensuring that everyone benefits from the structural transformations ahead.

The report is divided into seven chapters. Chapter II reflects on the structural problems and bottlenecks that burden countries in Latin America and the Caribbean. The remainder of the report focusses on the opportunities that arise from a mission-oriented approach. Chapter III focuses on what is meant by mission-oriented industrial strategy, while chapter IV presents a set of cases that explore the key lessons from countries in the region that have conducted policy in a more outcomes-oriented way. Chapter V outlines the need for dynamic capabilities, mission-oriented institutions and tools to strengthen a mission-oriented approach to industrial policy. Chapter VI calls for a new social contract between the state, capital, and labor and a symbiotic approach to public-private partnerships, before concluding and offering concrete recommendations in chapter VII.

“As the dust from the COVID-19 pandemic settles, there are clear opportunities that governments can use to rethink the role of the state in shaping a path to foster productive structural transformation and capabilities development in Latin America and the Caribbean.”



Chapter II

Structural problems and bottlenecks in Latin America and the Caribbean

The COVID-19 crisis exposed and reinforced deep structural problems in Latin America and the Caribbean. In part of the region, unemployment reached 12% (especially impacting young people, the informal sector, and women) and the gross public debt leapt by 10% to 56.3% of GDP (ECLAC, 2021a). Thousands of small and medium enterprises were closed and relevant productive capabilities were lost. The problems associated with the region's digital divide became evident as only 62% of LAC's population had access to mobile internet (compared to 77% in Europe and 67% in North America), mainly through mobile phones (ECLAC, 2022a), limiting their access to education and health during the various periods of lockdown. The health-related consequences of the pandemic are tragic as most of the health systems in Latin American countries collapsed: the region mourns around one third of all officially recorded global deaths caused by COVID-19 (ECLAC, 2022b).

Despite promising early signs of recovery in 2022, Russia's invasion of Ukraine and the resulting prolonged conflict have contributed an additional blow to the region. Indeed, access to natural resources, such as petroleum and wheat, has taken on a new relevance in our globalized economy. Estimates show that in 2022 the Latin American poverty rate will jump to 33% and extreme poverty will drastically increase to 14.5% as a direct result of global inflation for food and fuel (ECLAC, 2022b).

To tackle the urgent challenges of the present and the future, LAC requires a new approach to industrial policy to address its long-term structural problems and bottlenecks. Otherwise, the cost of "not doing" might be too high, resulting in greater

vulnerability to crises, as well as inevitable constraints on the region's inclusive and sustainable development (ECLAC, 2022c). Seven broad structural and interconnected issues deserve attention: commodity-led development, low productivity, balance of payments constraints, territorial and productive heterogeneity, social vulnerabilities, weak institutional capacities, and limited fiscal space.

- **Commodity-led development:**

Development processes in LAC have been highly dependent on natural resources, commodities and commodity prices. Despite the diversification that has taken place in the region after the state-led industrialization of the 1950s and 1960s and the integration to global value chains after the market reforms that started in the 1990s, commodity predominance was never fully replaced and comparative advantages in natural resources sectors prevailed.

Commodity exports continue to contribute a significant share of the region's export basket and thus development processes and public finances rely heavily on the foreign exchange generated by these sectors (ECLAC 2018a). In 2020, natural resources and natural resources manufacturing accounted for more than 70% and 50% of South America's and Central America's exports, respectively (ECLAC, 2021b). In the same year, 82% of the region's total exports to China were primary goods. The strong cyclical nature of commodity prices and the high reliance on commodity exports increase the macroeconomic vulnerability of the region, especially during crisis periods, and the volatility of investments in non-commodity tradable sectors. The current increase in energy and natural resource prices, and the increasing dependence of the region on Chinese demand for commodities, have a negative effect on the relative profitability of non-commodity tradable sectors. This might also lead to capabilities destruction in these sectors, the reprimarization —or reinforcing of primary commodities as the main source of export revenues— of the productive structure, and a step backwards in the green transformation.

- **Low productivity**

The persistence of low levels of productivity in recent decades is a striking feature of LAC. This is largely due to the stagnation of labour productivity levels relative to more industrialized economies. In 2018, LAC's labour productivity represented around 18% of the USA's labour productivity, compared to more than 38% in 1990 (ECLAC, 2021c). Low productivity growth affects the quality and potential of GDP growth.

The region's low productivity stems from a structure in which technology-intensive sectors have limited importance and where investment

in innovation has remained at mediocre levels. Latin America's research and development (R&D) expenditure as a proportion of GDP has been consistently below 0.7% in the last two decades. Only Brazil has surpassed 1% in some years¹ (ECLAC, 2022a). In addition, the contribution of private sector R&D is low in relative terms. More than half of the R&D expenditure of the region is invested by government, with the private sector only contributing around one third of total spending (ECLAC, 2022a). What is more, most of the region's R&D is concentrated in basic research, with experimental and applied research—which are the most relevant in industrialized economies—falling behind. As a result, it is no surprise that LAC represents less than 2% of global patent applications with more than two thirds of them applied by non-residents, mainly multinational firms (ECLAC, 2022a).

- **External sector constraints**

External sector stress and balance of payments crises have been a prominent feature of the Latin American economic and productive landscape (Prebisch, 1949). The “external crisis” argument is based on the economic rationale that given the scarcity of US dollars to finance the external sector, the economy must suffer a domestic income contraction to reduce imports and continue with its growth process (Diamand, 1973). These external bottlenecks and limitations persist today. Indeed, in 2020, gross external debt as a percentage of total exports of goods and services reached a peak of 192.1% for the region (ECLAC, 2022d).

These bottlenecks have several implications. High public debt is not necessarily a problem itself but can become one when countries are subject to rating evaluations which then influence access to financial flows and funding mechanisms. In this context, long-term investments are required to spur transformative change and tackle the operating structural constraints. However, there are not enough bold institutions that have the mandate to deliver patient, long-term or high-risk finance. The exceptions include Brazil's National Development Bank (BNDES) and the Caribbean Development Bank (CDB).

- **Territorial and productive heterogeneity**

Another key feature in LAC is structural heterogeneity, characterized by fragmented production and asymmetries in the productivity levels between subregions, sectors, and firms across countries and within

¹ In 2019, Latin American investment in R&D as a proportion of GDP was of 0.56% (ECLAC, 2022a). In 2019, Brazil led the region with 1.16% R&D expenditure as a proportion of GDP, followed by Cuba and Uruguay with 0.5% and Argentina with 0.46%.

countries (Pinto, 1970; Cassiolato and Lastres, 2005; Cassiolato and Gonzalo, 2015). Beyond that, most of the dynamic sectors and firms are concentrated in urban centres such as Sao Paulo, Buenos Aires, Mexico City, Lima, or Santiago de Chile. For example, GDP per capita of the richest department in Colombia is almost 12 times greater than that of the poorest; the gap reaches almost nine when Chilean regions are compared and eight in the case of Argentine provinces (ECLAC, 2018a).

The differences in productivity levels between sectors are also significant. However, it is at the firm level that this is most evident, as LAC economies are characterized by many micro and small and medium enterprises (MSMEs) with low levels of productivity. More than 99% of companies in the formal economy are MSMEs and have an efficiency and profitability gap with larger companies (Dini and Stumpo, 2020). This undermines the region's capacity to create quality jobs and economic activities and to boost productivity growth.

- **Social vulnerability**

The productivity gaps and growth bottlenecks have resulted in social vulnerability. Therefore, displacement of indigenous populations and a large informal sector, along with high levels of unemployment and social imbalances, are common features in LAC. The region has persistent difficulty in generating formal private sector employment. Informality accounts for more than 50% of total employment. In the worst phase of the pandemic, open unemployment averaged almost 12% for the region (ECLAC, 2022e). Women are the most affected by this problem; one in two women is out of the labour market (ECLAC, 2022e).

As noted earlier, LAC's social vulnerability is also rooted in high levels of poverty and inequality. During the pandemic, the deterioration in distribution affected the poorest sectors the most, halting the trend of falling inequality that had been slowing down since 2002 and lost pace since 2010. The Gini coefficient for the Latin American average went from 0.54 in 2002 to 0.46 in 2020, with very slight reductions from 2010 onwards.

The pandemic has shown that inequalities operate much beyond the income dimension. Before the pandemic only 47.2% of employed persons were affiliated or contributing to pension schemes, and 60.5% were affiliated or contributing to health systems (ECLAC, 2021d). Precarious living conditions make access to public health, education, and other essential public services even more critical.

- **Weak institutional capacity**

The region is held back by weak institutional and public sector capacity, especially at the subnational levels (Mazzucato and Penna, 2016a; Mazzucato and Penna, 2020). Public-sector capacity is typically defined as the set of skills, capabilities and resources necessary to perform policy functions, from the provision of public services to policy design and implementation. The pandemic revealed that many governments in LAC that neglected these core capacities and dynamic capabilities have limited options to deal with emergencies (Mazzucato et al, 2021). Despite the existence of various institutions of excellence, declining levels of trust and satisfaction in public services and institutions have manifested themselves since the mid-2000s. Surveys indicate that most citizens view it as the government's responsibility to provide policies to reduce inequality. Nonetheless, a pernicious trend has also taken hold in the region: trust in government(s) has fallen below 40% (OECD et al, 2021). Moreover, during the pandemic, dissatisfaction with education and health systems increased substantially. These are symptoms of the public sector's difficulties and inability in meeting the evolving demands of citizens.

Citizens' distrust in public institutions is reflected in the low tax morale in the region. While some complain about red tape, the solution is not to reduce regulation or taxes. In 2017, the regional cost of tax evasion and avoidance amounted to 6.3% of GDP (ECLAC, 2019). The problem is further compounded by institutional rigidities and increased judicialization of top-level policymaking. This has hampered the creation of a learning environment within the public sector and has ultimately "infantilized" the state (Mazzucato, 2021 and Collington and Mazzucato, 2022). It has also discouraged the implementation of government-led risk-taking initiatives and capability building. Of course, there are exceptions, such as Chile, where in the form of the Laboratorio de Gobierno a safe space for the civil service to experiment and sandbox new approaches has been developed. But equivalent institutions are lacking in most countries, as well as a regional forum to exchange experiences on "what works" in government.

- **Tight fiscal space**

It must be noted that there is much heterogeneity in the fiscal space of LAC countries, both in terms of tax base and debt profile. For example, Brazil has a relatively high tax base and almost no external sovereign debt, which contrasts starkly with Chile, Colombia and some Caribbean states, including Haiti and Trinidad and Tobago, which depend at least in part on external debt for domestic growth (Prats and Pereira, 2022). Acknowledging these differences is of course crucial for the development of national industrial strategies. Despite these differences, there is a persistent public discourse around austerity as a means to achieve fiscal responsibility.

Industrial transformation requires both public and private investment. Thus, blanket austerity measures can hurt any form of industrial strategy. While achieving efficiency is important, public investment is of course key to making sure that long-run growth occurs as a result of investment in R&D, education, health and more. However, as shown in Table 1 current public investment in R&D is negligible, with Brazil's 1.2% from 2019 representing the region's highest expenditure as a percentage of GDP, much lower than the OECD average from 2020 of 2.7% (OECD, 2022). There is also a well-documented infrastructure investment gap (Larde and Sanchez, 2014). If such investments are not made, then ramifications later require more public spending to pick up the pieces. After all, per capita incarceration presents a higher public financial burden than per capita education. For this reason, it is key to focus on long-term investments that increase productive capacity and to ensure that the public sector has the fiscal space to make such investments, including the ability to adapt and mitigate climate change.

Table 1 | Latin America and the Caribbean: selected investment indicators, by country and region

| Country | Gross fixed capital formation (2021) (Percentages of GDP) | R&D expenditure (2019) (Percentages of GDP) | Public expenditure on education (2019) (Percentages of GDP) | Share of researchers in the economically active population (2019) (Per 1,000 people) | Manufacturing value added (2019) (Percentages of GDP) |
|--|--|--|--|---|--|
| Argentina | 15.3 | 0.46 | 4.7 | 2.9 | 14.5 |
| Brazil | 18.0 | 1.16 ^a | 6.1 ^a | ... | 10.3 |
| Chile | 24.3 | 0.34 | 5.4 ^a | 1 | 9.0 |
| Colombia | 17.4 | 0.23 | 4.5 | 0.17 ^b | 10.9 |
| Costa Rica | 16.9 | 0.39 ^a | 6.8 | 0.79 ^a | 12.0 |
| Cuba | 11.4 ^c | 0.55 | ... | ... | 12.5 |
| El Salvador | 20.4 | 0.17 | 3.4 | 0.15 | 15.5 |
| Guatemala | 15.3 | 0.03 | 3.2 | 0.04 | 13.8 |
| Mexico | 19.7 | 0.28 | 4.3 ^a | 0.73 | 17.2 |
| Paraguay | 22.7 | 0.14 | 3.5 | 0.29 | 18.8 |
| Peru | 23.4 | 0.16 | 3.8 | ... | 12.8 |
| Trinidad and Tobago | ... | 0.08 ^a | 3.7 | 1.25 ^a | 18.1 |
| Uruguay | 18.0 | 0.53 | 4.7 | 1.4 | 10.4 |
| Latin America and the Caribbean | 19.0 | 0.56 | ... | 1.21 | 13.2 |

Source: Author's own elaboration based on information from the Network for Science and Technology Indicators —Ibero-American and Inter-American— (RICYT) [online] <http://ricyt.org>, CEPALSTAT [online] <https://statistics.cepal.org/portal/cepalstat/index.html?lang=en> and The World Bank [online] <https://data.worldbank.org/>.

^a 2018.

^b 2017.

^c 2019.

Although most Latin American countries increased their fiscal expenditure during the pandemic, fiscal rules still restrict them (ECLAC, 2022f). Given the nature of global finance, often International Monetary Fund and World Bank loans in the region have been conditional on LAC reducing their public investment and implementing “structural reforms” that have introduced austerity. Such external limits have often been counterproductive. Indeed, periods of state retrenchment, sometimes due to the conditionalities imposed by global financial institutions, have only caused debt/GDP to rise in various LAC countries. This is because a fall in public investment, and lagging private investment, only cause productivity to fall further, causing the denominator of debt/GDP to be stagnant. Thus, even with a modest deficit, the ratio can rise very high.

These seven structural constraints reinforce each other, hampering development opportunities and long-term growth. The weakness and heterogeneity of the productive structure deepens informality and social inequalities and increase the vulnerability of the external sector. At the same time a weak institutional set-up is not able to direct investments to more dynamic and innovative sectors and to provide quality services to the population, increasing social vulnerability and distrust. The interaction between these structural characteristics and globalization has resulted in several crises, increasing macroeconomic vulnerability and reduced policy and fiscal space. In the face of these structural issues —commodity-led development, low productivity, balance of payment constraints, territorial and productive heterogeneity, social vulnerability, weak institutional capacity and tight fiscal space— designing new industrial policies and development strategies for LAC will be difficult and complex, but urgent. As the dust from the COVID-19 pandemic settles, there are clear opportunities that governments can use to rethink the role of the state in shaping a path to foster productive structural transformation and capabilities development in LAC. The mission-oriented approach to industrial policy proposed in the next chapter is an important step for governments to promote transformation and steer it in the direction that leads to sustainable development.

“A mission-oriented approach redirects vertical policies away from sectors toward key challenges —climate change, the digital divide or health targets— that all sectors —not a limited few— can contribute to. In doing so it catalyzes cross-sectoral support to transform and collaborate towards those goals.”



Chapter III

A renewed call for industrial policy at the centre of development strategy

Key to growth is investment by both public and private actors. To move forward, the solutions cannot be about small states or large states but smart states that can catalyze investment and innovation across the economy. Nothing less than an entirely new lens on industrial strategy is needed, one that positions the public and private sectors as partners in tackling complex challenges and meeting common objectives. For investment-led growth is most effectively catalyzed when there is a clear direction and purpose. If the public sector can set that direction, around sustainability targets, for example, it can crowd in private sector investment, and together work on projects that increase total investment, innovation and ultimately productivity. The more such transformation can happen across supply chains of many sectors, and not a chosen few, the better.

To do this a fundamental change is needed, from traditional industrial policies that focus on sectors to be supported, to better and more complete identification of problems whose solutions require multiple sectors and actors to finance and develop processes of innovation and transformation. For example, natural resources could not simply be extracted from the ground but be infused with added value that moves an economy towards a direction of sustainable, inclusive and innovation-led growth. It also requires investment in new dynamic capabilities within the state.

Traditionally, industrial strategy involves both “horizontal” policies and “vertical” policies. Horizontal ones focus on improving conditions for knowledge creation, for example by improving opportunities for education, increasing the skill base, and constructing innovative infrastructure. Without these investments, there

is no basis on which to develop an industrial strategy. Indeed, as shown in Table 1, historically LAC have invested too little in education, research, and have often not invested in the kinds of institutions that create dynamic links between science and industry.

Vertical policies have instead tended to focus interventions on particular areas: sectors such as transport, health or energy; or a specific technology. These have often led to the blanket provision of subsidies to certain firms and businesses. This has had the downside of leading to the capture of policies by sectors, and an inertial system as there is no duty of those sectors to transform in order to receive support. In LAC this has exhibited itself in terms of seeing natural resource commodity-based sectors as siloed areas to support, rather than areas to transform towards goals (see chapter IV.H). Furthermore, in some countries there has also been an overemphasis on using industrial strategy to achieve price competitiveness either by giving tax exemptions to exporting industries or devaluing exchange rates, which can result in lose-lose trading relationships and has high fiscal costs. In the face of complex problems such as climate change, and structural challenges as outlines in chapter II, such vertical industrial strategies are no longer fit for purpose.

A. A mission-oriented industrial strategy

A mission-oriented approach redirects vertical policies away from sectors toward key challenges —climate change, the digital divide or health targets— that all sectors —not a limited few— can contribute to. In doing so it catalyzes cross-sectoral support to transform and collaborate towards those goals. In other words, the focus is on collaboration and investment across sectors.

Box 1 | Missions

Missions do not specify how to achieve success. Instead, they stimulate the development of a range of bottom-up solutions to meet grand challenges and reward those actors willing to take risks and experiment. A mission-oriented policy is not about top-down planning —it is about providing a direction for growth, increasing business expectations about future growth areas, and stimulating bottom-up solutions that address the major challenges of the 21st century.

Critically the missions framework requires the state to help forge new forms of partnerships between public, private, and non-profit organizations, through a process of collective intelligence that drives growth while solving key problems in society (Mazzucato, 2018b). In this sense, missions require moving away from a lens of government as just fixing market failures and de-risking towards one of market making: encouraging risk-taking, sharing risks and rewards, and tilting the playing field in the direction of desired goals.

It is not about the government picking winners, but about *picking the willing* —those organisations across the economy (in different sectors, including both the public and private) that are willing to engage with societally relevant missions. Using missions to drive industrial strategy means focussing less on individual sectors and more on problems that matter to people. Structured and governed effectively, a mission-oriented approach to policy could fuel innovation across different sectors, crowding in investment from different actors and catalysing activity that otherwise would not have happened (Mazzucato and Dibb, 2019).

Mission glossary

| | |
|-----------------|---|
| Bottom-up | Progressing upward from the lowest levels of a system |
| Grand challenge | A difficult but important, systemic and society-wide problem with no “silver bullet” solution |
| Measurable | Quantifiable with existing metrics, or achievements that are evidently “yes” or “no” |
| Mission | A concrete target or achievable step towards a grand challenge that contextualises projects |
| Project | A single, isolated, clearly defined innovation activity with risky or uncertain outcomes |
| Sector | A defined category or subdivision of economic activity |
| Spillover | Technological, intangible or other innovation finding a use and value beyond that originally intended |
| Time-bound | Constrained by a hard deadline |
| Top-down | Hierarchical system where actions or policies are initiated at the highest level |

Source: Mazzucato and Dibb (2019).

Source: Own elaboration.

Mission-oriented policies identify grand challenges and break them down into clear, workable targets. The 17 Sustainable Development Goals (SDGs) launched by the UN in 2015 can be seen as a comprehensive overview of the world’s most pressing grand challenges. While the SDGs are useful to direct focus and set priorities, for the most part they remain too broad to be actionable. To make these challenges achievable, they must be broken down into pragmatic steps —in other words, missions, which can be defined as concrete targets within a challenge that act as frames and stimuli for innovation (Mazzucato 2018a; 2018b). Missions are clearly quantified problems that different sectors can address to tackle a challenge, such as reducing carbon emissions by a given percentage over a specific time. For example, SDG 13 on climate action can be broken down into carbon-neutral regions. SDG 14 on life below water can be broken down into ridding the ocean of plastic. SDG 3 on good health and well-being can be broken down into increasing the coverage of national health systems. In each case, the idea is to mobilize as many different sectors as possible to tackle the challenge in a truly comprehensive and sustainable way. This means that a climate mission cannot focus only on renewable energy; it must address transportation, agriculture, and nutrition (Mazzucato, 2019).

Figure 1 | Sustainable Development Goals



Source: United Nations Sustainable Development Group.

For LAC governments to implement mission-oriented industrial strategies an important first step is to have consensus on the challenge or challenges to tackle. Chapter IV proposes three challenges on which LAC could focus: health inequalities, digital divide and climate change. Selecting missions to tackle those challenges that matters to society and stimulate innovation across multiple sectors is a highly complex task. Governments in LAC can harness their full power of convening in order to select a mission. They can bring together public, private and societal organizations. Participation is key, a point that will be developed further in chapter VI.A of this report. Missions come in different shapes and sizes, but here are six key criteria they could fulfil (Mazzucato 2018a):

- **Bold, inspirational, with wide social relevance**

Missions should engage the public. They should make clear that through ambitious, bold action at the level of the Latin American and the Caribbean region or at the country level, solutions will be developed that will have an impact on people's daily lives. To do this, missions must outline exciting opportunities for bold innovation, while being connected to debates in society about what the key challenges are. Central America's objective to set up an integrated supply of energy (see chapter IV.F) is an example of a bold action, inspirational and with social relevance.

- **A clear direction: targeted, measurable, and time-bound**

Missions need to be very clearly framed. While enabling long-term investments, they require a specific target that can either be formulated in binary ways (as clearly as whether a man has reached the Moon and returned safely) or quantified (as clearly as whether a certain percentage reduction in carbon emissions against a baseline has been reached across manufacturing). In addition, they need a clear timeframe within which actions could take place. This needs to be long enough to allow the process to grow, for actors to build relationships and interact, while at the same time being time limited. Without specific targets and timing, it will not be possible to determine success (or failure) or measure progress towards an outcome. Uruguay's plan to bridge the digital gap for students in school (see chapter IV.C) shows how a government can use clear targets to work with the private sector in new ways to unlock innovation and resources.

- **Ambitious but realistic research and innovation actions**

Mission objectives should be set in an ambitious manner, centred on research and innovation activities across the entire innovation chain, including the feedback effects between basic and applied research. Ambitious objectives ensure that researchers and innovators are challenged to deliver what would otherwise not be attempted (additionality in research). Furthermore, the required technological development should attract research and innovation activities that otherwise would likely not be undertaken by private actors, providing the justification and legitimacy for public intervention. Chile's attempt at positioning mining as a key element of sustainable development (see chapter IV.A) is a clear example of how governments can use bold, yet realistic missions to motivate the private sector to take more risks in its efforts to innovate.

- **Cross-disciplinary, cross-sectoral and cross-actor innovation**

Missions should be framed in such a way as to spark activity across and among multiple scientific disciplines across different industrial sectors (e.g., transport, agriculture, health, services) and different types of actors (public, private, third sector, civil society organizations). Missions need to be chosen to address clear challenges that stimulate the private sector to invest where it would not have otherwise invested (additionality in business). Missions connect all relevant actors through new forms of partnership for co-design and co-creation by focusing on targets that require multiple sectors and actors to solve. The Mexican region of Nuevo León and its transition to advanced manufacturing (see chapter IV.B) shows that governments can use outcome-oriented policy to mobilize cross-sectoral, bottom-up innovation from different actors.

- **Multiple bottom-up solutions**

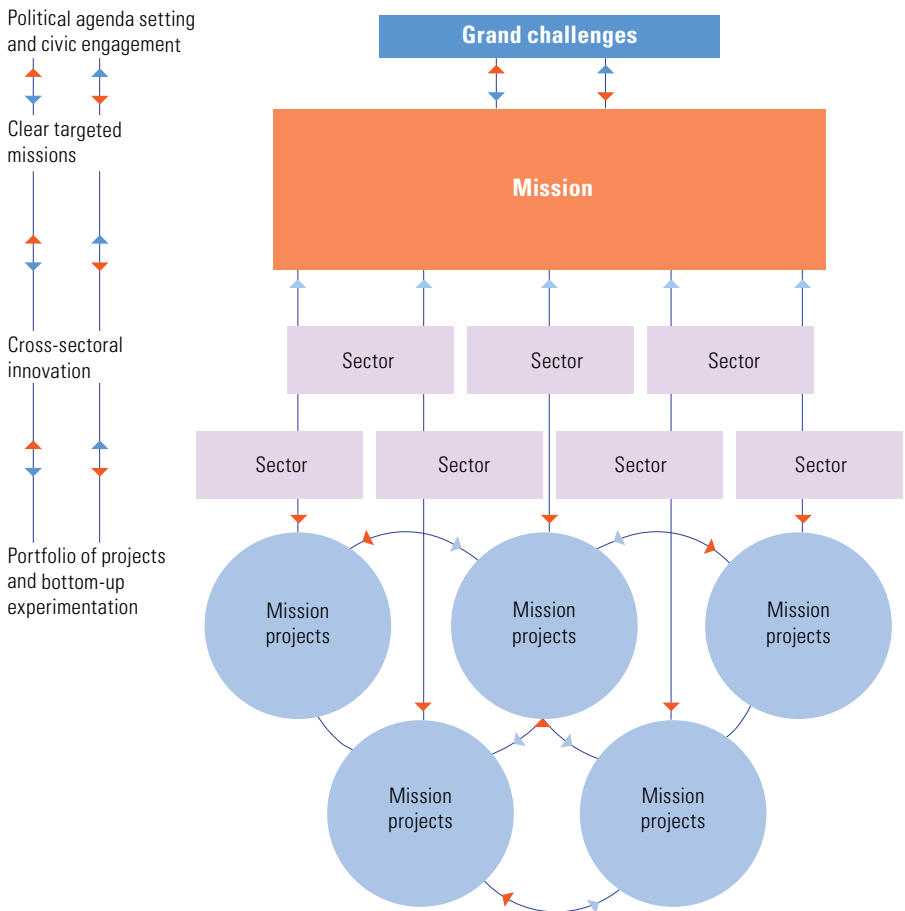
Missions should not be achievable by a single development path or by a single technology. They must be open to being addressed by different types of solutions. A mission-based approach is clear on the expected outcome. However, the trajectory to reach the outcome must be based on a bottom-up approach of multiple solutions, some of which will fail or must be adjusted along the way. Such bottom-up processes can foster the kind of experimentation and self-discovery processes that have been found to foster learning and innovation (Rodrik, 2004). The bottom-up medical innovations that resulted from the Argentinian government's efforts to protect its citizens from the COVID-19 pandemic (see chapter IV.D) offer a good reference point.

- **Participation**

Crucially, missions must be widely perceived to be legitimate and of high societal importance. The best way to do this is to involve stakeholders in mission setting. This will ensure their durability and survival across political cycles. In order to achieve this, meaningful public participation in the selection process of missions is essential, even if missions are ultimately selected at the political level. Without civic engagement, the risk of alienation from the broader public and a purely technocratic approach is too high. A mission will not inspire people unless they feel like they are part of it. This point will be further developed in chapter VI of this report. Bogota's inclusive design of its care system (see chapter IV.E) shows that public legitimacy strengthens public policy.

Once governments select missions, they can use mission maps to help coordinate policies and activities. For example, a green tourism mission for the Caribbean can leverage existing efforts in the region and mobilize additional sectors and stakeholders (see chapter IV.I). Ultimately, a green tourism mission would require many different sectors to work together, from green materials in construction and greener transportation, to new forms of recycling and digital services that capture residents' and tourists' carbon footprint. Figure 2 illustrates the process of creating a mission map: from challenge via a mission to sectoral investments with specific underlying projects.

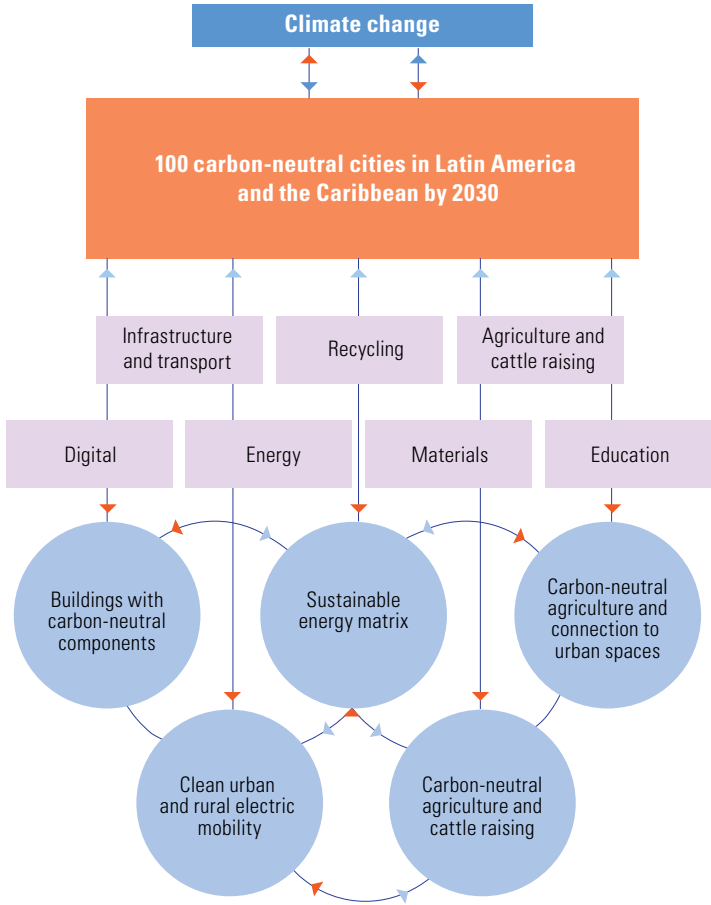
Figure 2 | Mission map



Source: Adapted from Mazzucato (2018a).

An example for a climate-related mission is below. It would require investment in areas like transport, nutrition, digital services and a host of other sectors to truly mobilize innovation and investment in a cross-sectoral and bottom-up way.

Figure 3 | Mission map: 100 Carbon-Neutral Cities by 2030



Source: Adapted from Mazzucato (2018a).

Similarly, given the important presence of water in the region a new model of governance and management is needed. Latin America has the largest water per capita relation of the world; however more than 130 million people do not have access to safe drinking water and only one of 6 people have proper sanitation systems (Mateo-Sagasta, J et al, 2017 and Marengo, 2019). Moreover, water basins and aquatic habitats are used as dumpsites of garbage, mining, industrial and agricultural waste, and residues adding to economic inefficiency,

pollution, and poverty (Mateo-Sagasta, J et al, 2017). To develop a new, more outcomes-oriented approach to water policy, we must redefine water a global common good. Indeed, the common good is an objective and a purpose in and of itself, which has serious implications on the governance of and collaboration around resources (Mazzucato et al, 2022). For example, as discussed in the case of water governance of the Panama Canal in chapter IV, moving towards a common good framing paves the way for a mission-oriented approach. This would require evaluating water in more dynamic ways and developing more outcomes-oriented ways of governing lakes, locks, dikes, and channels so that there is enough water to sustain the economy activity on which Panama depends. There is more research to be conducted in this area, but the global common good framing is a critical step forward to protect ecosystems and economic systems that depend on responsible water governance (Global Commission on the Economics of Water, 2022).

Ultimately, in Latin America and the Caribbean, the mission-oriented approach can help stimulate investment in a wide range of sectors, diversify specialization, mobilize productivity and skills development in manufacturing and services, support the modernization of commodity sectors, and redesign the governance of resources such as water. The following chapters of this report will detail the different elements and enablers that governments can focus on in order to make a successful switch from the traditional sector- or technology-focused industrial policies to mission-oriented industrial policies.

“Adopting a mission framework in rethinking policies for natural-resources sectors provides the opportunity to allow these sectors to move beyond extraction, towards the creation of economic, environmental, and social value. If natural resource sectors are at the heart of a mission, they must transform.”





Chapter IV

Learning from challenge-driven cases in Latin America and the Caribbean

Of the many pressing contemporary challenges that Latin American and Caribbean countries face, health inequalities, the digital divide and climate change should rank high on governments' agendas. They represent an opportunity to put into action a new concerted vision around public policies and the role of the state in addressing grand societal challenges. This chapter evaluates a set of LAC cases that are tackling these challenges in purpose-driven and outcomes-oriented ways, and emphasizes where policy can benefit from more mission orientation and an all of government approach.

These three challenges —health inequalities, the digital divide, and climate change— could be brought to the heart of government policy, playing a key role in mobilizing and coordinating stakeholders. First, the COVID-19 pandemic brought to light fundamental vulnerabilities in LAC's health systems, and it threatens to undermine key development gains of the last decades. The pandemic presented a massive challenge for both public and private health systems, testing the resilience of production capabilities, governance frameworks and institutions to adapt, function, and innovate in their delivery of public services. Second, the region's digital transformation is underway, but the pandemic highlighted how access to the Internet (both in terms of connection and devices) is not uniform and tends to exacerbate existing inequalities both across and within countries in the region. The digital gap of LAC has also affected the relationship between public administrations on one side, and citizens and businesses on the other. Third, governments in LAC must step up their game to have a realistic chance of meeting the climate targets stipulated in the Paris Agreement. Due in part

to the region's heavy reliance on hydropower for energy and the contribution of natural resource extraction to its development, land use and deforestation are key sources of carbon emissions in several LAC countries. As such, the region's endowment of natural resources (from lithium and copper to water and solar) will play an important role in LAC's efforts to decarbonize, although recent history has shown that managing resource extraction requires complex and delicate governance, which is discussed in more detail in chapter IV.H. The increasing number of dry seasons, flooding, and heatwaves are clear indicators of the impact of climate change on LAC countries and of the urgency to find new sources of value creation beyond natural resource extraction to spur development.²

In the remainder of this chapter, we will look at cases of public policies that target these challenges and either reflect a partial mission-oriented approach or could benefit from one. It will present a set of cases from the region that investigate the challenges and opportunities of thinking in a more outcome-oriented way to tackle societal and development challenges. These cases were selected with a view to represent different topics and realities in the region. However, these are not perfect examples of missions, as they were not designed ex-ante with this approach in mind. They show the potential of challenge-driven policies to spur change and the importance of fostering all-of-government and cross-sectoral approaches to industrial and innovation policy. At the same time, they highlight the need to strengthen the capabilities of the public sector to design policies and instruments that can provide a direction to public, private and social interests together.

A. Chile: the mining sector as a stepping-stone for sustainable development

In 2015 the Chilean agency for productive development, CORFO, designed a smart-specialization programme to make the mining sector a stepping-stone to future sustainable development (Mazzucato and Penna, 2020). The programme was motivated by the ambition to foster innovation along the mining value chain while promoting the adoption of green technologies. Technological solutions were to consider the scale of the Chilean mining sector and country-specific strengths. This case illustrates how natural resource-dependent countries can help transform a core sector of the economy by boosting technological development and creating new markets and sectors around it. The initiative chose the goal of transforming the mining sector toward achieving the following goals by 2035: (1) increase production to 8.5 million tons, (2) increase productivity

² Five direct drivers of biodiversity loss have been identified: land- and sea-use change, resource exploitation, climate change, pollution, and invasive species, all of which are linked to human industrial activities (IPBES, 2019).

(80% of production in the first quartiles of industry costs globally), (3) increase the number of national suppliers (250 world-class suppliers), and increase exports (US\$ 4.0 billion in exports of goods and services). The programme was designed in a bottom-up way, mobilizing different types of actors in the innovation system.

Some of the most ambitious research, development and innovation projects carried out under the initiative were the development of new methods to monitor and map existing tailings (mineral waste material), a dual hydrogen —diesel combustion system for mining extraction trucks, and other zero-waste and climate-smart mining technologies. In 2018, the programme was merged with the Mining and Metallurgy Research Centre (CIMM) into a non-profit organization with the mandate of promoting innovation to address the industry's productivity, sustainability, and safety challenges.

The most important lesson to be learned from this case is the outcome-oriented way in which CORFO designed the policy (Saporito et al, 2021). The organization identified an important societal challenge, namely, to extract resources in a more sustainable and inclusive way. Clear targets were then chosen, which offered clear direction to stakeholders in the mining sector without restricting their ability to develop bottom-up innovations. However, despite the clear direction, the project was too narrow in scope, focusing primarily on the mining sector and not actively cooperating with other ministries or sectors. Additionally, the project was designed and carried out only at the agency level, lacking government and presidential commitment to scale up at the national level, which resulted in a lack of political buy-in and public finance to accomplish the missions. Indeed, a mission-oriented approach demands coordination, commitment and participation from multiple stakeholders.

B. Mexico: from steel to advanced manufacturing, the challenge of Monterrey, Nuevo León

Monterrey, the capital of the northern State of Nuevo León in Mexico, is the most developed commercial hub in the region, the country's third largest metropolitan area, and one of the most developed cities in Mexico. In 2004, the State government introduced a cluster strategy to bring together public agencies, the private sector and universities to develop manufacturing industries and train workers. Strategic clusters were created and a technology park, the Parque de Investigación e Innovación Tecnológica (PIIT)³, was built. The clusters were devised as a solution to the dispersion of skills and talent in the region (Mazzucato and Penna, 2020). The operations were financed by public

³ The PIIT is a scientific-technological infrastructure project that began construction in 2006 with 70 hectares and began operating in 2007. Nowadays, more than 35 R&D centres of universities, public organizations, and companies are located in the PIIT (Mazzucato and Penna, 2020).

and private funds with each cluster proposing a long-term strategic plan and a strategic agenda, operated by committees specialized in human resources, investment and growth, and innovation.

By 2018, Nuevo León had 13 strategic clusters including domestic appliances, automobiles, agro-industry and energy. A demonstration effect was generated, leading to the creation of several new clusters in the city. Among the expected results of the clusters were new products, processes, services and solutions for problems of public interest, whereas the expected impacts were higher competitiveness, better productivity, the superior quality of employment and improved social welfare (Mazzucato and Penna, 2020). In May 2017, following the success of the cluster programme, Nuevo León 4.0 was launched with the objective of increasing R&D expenditure and disseminating new technologies such as the Internet of Things (IoT), machine-to-machine communication, artificial intelligence, digital manufacturing, big data, 3D printing and advanced simulated design.

The strategy gathers actors from different sectors to share good practices and technological solutions. The presence of a body for public-private dialogue and coordination is a key element in the governance of this initiative. As such, the Nuevo León 4.0 executive board was chaired by the CEO of a Monterrey-based auto-parts manufacturer and it included representatives of the State's four leading universities, the State secretaries of education and of economy, the head of the Mexican National Council for Science and Technology, and the head of CAINTRA (Camara de la Industria de Transformacion de Nuevo León). Considering that it is the business sector that will need to take decisive steps to implement aspects of Nuevo León 4.0, through collaborations with the government and universities, its engagement in the institutional arrangement is key to the initiative's success. Several of the world's largest manufacturers are now located in Nuevo León. Around one third of GDP and jobs in the State are generated by manufacturing, which also represents 60% of the exports.

This case emphasizes the need for capable public-private governance arrangements under a symbiotic approach. The city of Monterrey and the region of Nuevo León accurately identified the need to govern their manufacturing industries as an innovation system, recognizing the need for buy-in from and links between the public sector, private sector and research institutes. Importantly, the State government recognized the need to build new manufacturing techniques and processes to keep up with the advance of digitization. Ultimately, it was the effective public-private dialogue and coordination that did the trick. Indeed, this is not about state versus business, but how these two actors can work together, as well as with other stakeholders, such as academic institutions. The mechanisms designed to coordinate private stakeholders from different sectors show that bottom-up and multi-stakeholder processes are essential to articulate different interests towards a common objective.

C. Uruguay: Plan Ceibal, an ambitious initiative for digital inclusion

The Plan Ceibal in Uruguay set itself in 2007 a clear mission: to distribute one laptop with Internet access to all elementary-level students and teachers throughout the country. The Laboratorio Tecnológico del Uruguay (LATU), one of the main technology labs in the country, led the initiative (Larrouqué, 2013). Founded in 1965, LATU helps to link the private and public sector to foster IT innovation, and international cooperation. In doing so, LATU has developed a much more flexible organizational structure than most public organizations in Uruguay, including for example the use of public procurement with less bureaucratic procedures.

Plan Ceibal delivered promising results by the end of its third year: 380,000 laptops were distributed, reaching every student at primary public school. Wireless networks were designed and installed in schools and various points within their vicinities, such as libraries, clubs, public squares, and low-income neighbourhoods (Larrouqué, 2013). LATU led a team of engineers and volunteers tasked with resolving problems around connectivity, training and other issues encountered by users. The State-owned telecommunications enterprise, ANTEL was a key strategic partner for LATU in providing connectivity to more than 2,000 schools. From a software point of view, the laptops had distinctive features: Linux as an operative system and “Sugar” as a user interface were both specially tailored for children (Plan Ceibal, 2017). The plan has evolved from an initial phase focused on Internet access to the more contemporary introduction of e-learning. Today, Plan Ceibal covers 85% of students attending Uruguayan educational institutions; 100% of students between the ages of 6 and 15 who attend public schools and their teachers, as well as students from private schools in low-income areas.

The impact of this plan on inclusion and school performance requires further attention, but Plan Ceibal has key elements of mission-oriented policy. First, the programme defined a clear mission: to give internet access to every primary school student in the country. Second, LATU and ANTEL conveyed strong public sector leadership and had a clear mandate to achieve this mission. This leadership has proved very important to generate the political will needed to push the initiative forward and adapt it to the local context. LATU, a mixed public-private institution, and ANTEL, a state-owned enterprise, played a leading role in the initial phase of the programme, and once the plan matured, involved different stakeholders such as students, teachers, families, and librarians, to name a few. This clear mission and strong public sector leadership contributed heavily to achieving digital inclusion in Uruguay.

Plan Ceibal has interesting parallels with the mission led by the BBC in the UK to reduce the digital divide in the 1980s by helping kids to code (Blyth, 2012). This required the building of a new computer, the BBC Microcomputer, that found its

way into all British classrooms (Mazzucato, 2021). Interestingly, it required that procurement be designed to crowd in the innovations needed for the low-cost, high-quality computer. It was this outcome-oriented procurement that allowed what was at the time a nascent computer company, Acorn Computers, to find a market and grow. It was eventually bought by ARM, the most innovative high-tech UK company before it was sold to SoftBank. The lessons in the BCC case are key: a public procurement strategy for a social goal can have immense spin-offs in terms of technology development and the scaling up of small companies —more so than policies that are ex-ante focused on the technology or the start-ups. Both cases demonstrate that a clear public mission can be used to galvanize multi-stakeholder and cross-sectoral action to address a societal challenge.

D. Argentina: the COVID-19 pandemic as a productive and technological challenge

The crisis generated by the COVID-19 pandemic boosted the capacity to collaborate and innovate all over the world. In Argentina it was no different. Around half a dozen COVID-19 test kits were developed and approved during the first year of the pandemic and around 60 research projects on kits development were financed by the Agencia Nacional de Promoción de la Investigación, el Desarrollo Tecnológico y la Innovación (Agencia I+D+i), the country's national research agency. Some of these kits were exported to other Latin American countries and today, they are produced and sold in Argentina, competing with other kits produced in China, the United States and other big global exporters.

TECME, an Argentinian medical equipment firm that developed and scaled its ventilator production during the pandemic, offers an interesting case of how to build scalable public-private partnerships. The company benefited from the support and collaboration of multiple public sector stakeholders: the Health Ministry, the Production Ministry, the STI Ministry and VENG, a state-owned enterprise mandated with development of technical services specialized in space technologies. Indeed, the whole development and production of the ventilators (to build a ventilator demands the integration of around 2,700 parts) was done in quickly and effectively. Given the pandemic-induced problems to global supply chains, Argentina's production of ventilators represents a genuine and successful attempt at pursuing a policy of important substitution. TECME turned out to become a "hidden champion", demonstrating that the organization had complex industrial capabilities that could be scaled up quickly and effectively. Its ventilator production increased 40% and its industrial plant was expanded with the support of credit, grants, and fiscal incentives from the different public institutions. The experience also showed how a high-tech state-owned enterprise, VENG, can collaborate with a private company in order to face a key productive and societal challenge (ECLAC, 2020a; Gonzalo, 2020).

In more general terms, the COVID-19 challenge provided a clear direction through which to align and focus the research, innovation and investment efforts of several public and private institutions at different levels. In doing so, it has also prompted the alignment between a wide range of policy instruments, including subsidies, public procurement, seed capital, credits, new training programmes, new public-private and contractual agreements. The Argentinian government's response to the pandemic was not perfect and its various shortcomings, like that of all countries, require scrutiny and learning. Nonetheless, the experience of TECME offers a useful case of how public-private partnerships can be built, and new instruments can be designed, implemented and scaled with clearly defined objectives and challenges in an outcomes-oriented way (ECLAC, 2020a; Gonzalo, 2020).

E. Colombia: designing a care system in Bogota

Governing challenge-driven policies at the city level and place-based policymaking contexts differs from doing so at the national level. The relative proximity to citizens and the sharp emphasis on public service delivery also means that community participation and representation during a mission-oriented innovation process is all the more important for these types of actors.

Claudia López, Bogota's mayor, and her team understand this well. They have developed the city's "Care System" that sets out a pathway for orienting public services and infrastructure of Colombia's capital city to enable the equitable distribution of unpaid domestic care work across genders, and to give women more time and autonomy over their lives (Council on Urban Initiatives, 2022). The goal of the Care System is to transform society's cultural and behavioral norms—for both men and women—that hitherto resulted in entrenched societal inequalities in the city.

Approximately 30% of Bogota's female population, or 1.2 million women, spend an average of ten hours per day doing unpaid care work. This responsibility leaves the majority of the city's women experiencing "time poverty", depriving approximately 70% of them from the opportunity to pursue education and rendering around 90% of them in poor or low-income categories. By redesigning the city's public institutions, developing the right capabilities for innovation, and most importantly, giving the city's female population a seat at the table, over 130,000 services to caregivers have been provided support through the Care System as at 1 June 2022, just two years into the initiative's launch (Council on Urban Initiatives, 2022). Through its various strands, Bogota's Care System seeks to ameliorate normalized and longstanding society-wide gendered inequalities and injustices, and replace them with a set of values, institutions, and physical infrastructure that usher in a more equitable "Caring City".

Importantly for Bogota, adopting a mission-oriented innovation framework for its Care System could also be used to align agendas, policies, and resources between different levels of government that each play a role in shaping the system—the national, regional, and city levels of authority. For example, the city of Valencia in Spain has aligned its mission-oriented innovation programme, Missions Valencia 2030, with the metropolitan region’s Urban Strategy Valencia 2030 programme, the European Commission’s mission on cities and the UN’s Sustainable Development Goals. This strategic alignment has enabled Valencia to link the municipal, metropolitan, European, and international spheres of policy and coordinate its missions accordingly (UCL IIPP, 2021). Bogota could seek to take a similar approach, engaging policymakers and leaders from national government agencies as well as inter-Latin American NGOs to scale up its ongoing actions and build further momentum.

F. Central America: from the Regional Electricity Market to the Sustainable Energy Strategy 2030

The Sustainable Energy Strategy 2030 is the main regional initiative of the countries of the Central America Integration System (SICA)⁴ that aims at energy integration aligned with the Sustainable Development Goals (SDG) Agenda 2030. Launched in 2020, the strategy was elaborated in collaboration with ECLAC and SICA, along with the intense involvement of governments. The following main objectives can be highlighted: (1) to universalize the access to modern energy services (mainly electricity and gas), (2) double energy efficiency, and (3) increase the use of renewable energies (ECLAC, 2020b).

The Sustainable Energy Strategy 2030 comes after some key advances and achievements related to energy issues in the region over the last decades. A key milestone in this process was the constitution and development of the Mercado Eléctrico Regional (MER) in 1996 between Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and Panama. This initiative was followed by the development of regional and bi-national infrastructure, regulation and institutions to coordinate and stimulate the electrical exchange and integration at regional level. Since the constitution of the MER, electrical exchange among the regional market went from 700 GWh in 2013 to more than 3,000 GWh in the 2020s (IDB, 2021). This experience has resulted in the strengthening of the network of institutions and companies linked to the energy sector. It has also reduced energy dependence on external agents and allowed the diversification of the energy matrix (ECLAC, 2018b).

⁴ SICA Member States are Belize, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua and Panama.

The Sustainable Energy Strategy 2030 renews and increases the energy aspirations of Central America, advancing specific and more contemporary goals. One of the targets adopted is that around 1.5 million households should be reached by energy connection by 2030. It is expected that between 2025 and 2030 the region will deeply increase its energy efficiency both at the household and enterprise levels. Finally, regarding renewable energies, it is intended to increase their average share of the energy mix to 30% by 2030 (ECLAC, 2020b).

While this strategy has yet to achieve its planned objectives, achievements thus far present several interesting elements. First, regional integration can provide a catalyst for addressing energy security, energy efficiency and advancement towards renewable energies, while helping to confront climate change. It also shows the potential for creating and shaping regional markets and developing missions at the multilateral level. Second, and from a public policy point of view, the case highlights the great level of coordination that initiatives at the supranational level may entail. The Sustainable Energy Strategy 2030 implies different efforts related to regional institutional coordination, infrastructural investments and regulation, designing and implementation of public awareness programmes to increase energy efficiency, technological development and implementation. A mission-oriented approach could therefore help countries to define common energy challenges in the future and join efforts in solving them; ECLAC could be a strategic partner in this process.

G. Leveraging natural resources for economic development

Latin America and the Caribbean are deeply dependent on the export of natural resources, which has been both a source of value creation and economic vulnerability. The reality that many State-owned enterprises in LAC are positioned in natural resource sectors is directly tied to what has been termed the “resource curse”: the claim that a region’s abundance of natural resources leads to easy wealth extraction both by the private sector and by top government officials and thus to corruption, fewer incentives for investment, and income inequalities (Palma, 2016). The consequences include less economic growth, corrupted democracy, and stunted development (Sachs and Warner 2001). Therefore, transforming LAC’s relationship with natural resources is inextricable from a deep structural reform and redesign of the public sector and its current relationship with the private sector.

The arguments that supported the narrative of natural resources are now outdated. Natural resources did tend to have low (consumer) income elasticity, which was characteristic of mid-20th-century capitalist growth in the West. The income

elasticity of minerals, clean energy and food in emerging countries, however, has been and is likely to continue to be much higher. Moreover, in the current global context, advanced as well as emerging and lagging countries need a comprehensive transition to environmentally sustainable growth. This will involve major changes in food, materials, and energy, requiring considerable innovations in all natural resources and increasing demand for new sustainable products. As such, the potential for innovation in and around natural resources is much greater than before.

Box 2 | The potential of natural resources under a mission approach: the case of lithium

The demand and prices for lithium have increased over the last two decades and have recently reached peak levels due to the war in Ukraine. Chile, Bolivia and Argentina hold around two thirds of the global resources in the salt flats of the “Lithium Triangle” area (USGS, 2020; Poveda Bonilla, 2020; Obaya, 2019). In this context, moving from the availability of natural resources to sustainable and value-adding extraction of lithium is key. Part of the challenge concerns governance and resource management. But another important part is the need to develop capabilities and increase exports, participating in the energy and digital transitions. This opportunity is not permanent for countries of the Lithium Triangle. Embracing a challenge-led approach at the national and regional level could boost regional value chains and complementarities while strengthening their national and sub-national capabilities to generate value and promote a sustained and sustainable development model.

Missions have the potential to help countries disentangle the role that natural resource sectors could play in national development strategies. Missions can reshape the incentive system beyond the exploitation of natural resources, promoting the reinvestment of rents in more innovative and more rewarding activities. Because of its participatory nature, missions could also help indigenous communities to be included in decision-making processes. Some questions to answer include: to which mission could innovation and technology in natural resource sectors contribute? What are the roles of new technologies in fostering capabilities development in commodity-dependent countries? And how will the adoption of digital and green technologies affect the demand and supply of natural resources? Ultimately, taking these questions seriously can allow governments in Latin America and the Caribbean to turn the natural resource curse into an opportunity for change.

Source: Own elaboration.

There is now a new window of opportunity for natural resource-rich countries as the demand for these resources is increasing and there are new conditions that make it possible to be technologically active and innovative in accessing, producing and transforming them. Countries that take advantage of their wealth in natural resources could thus increase their development potential by seizing market and innovation opportunities provided by global growth, while developing the capabilities that are likely to be at the heart of the next technological revolution, such as biotechnology, nanotechnology, bioelectronics and new materials (Perez, 2010). Natural resources also open a different

window for developing countries to encourage and demand fair redistributive policies, and a new social contract between the public sector and multinational companies around sustainable access to natural resources, while protecting and benefitting the local population. However, for natural resources to lead the development of the Latin American region, countries will need to encompass a very wide network of participants and activities and build consensus on a common strategic direction, framed through several missions. Adopting a mission framework in rethinking policies for natural-resources sectors provides the opportunity to allow these sectors to move beyond extraction, towards the creation of economic, environmental, and social value. If natural resource sectors are at the heart of a mission, they must transform.

H. Panama: water management as a global common good

LAC is fully committed to the 2030 Agenda for sustainable development and water is linked to almost all the 17 Sustainable Development Goals. Successful water management in the region requires a mission-oriented approach to guide the collective action of multiple sectors and stakeholders with a clear view of the challenge.

In that context, it is urgent to change the conversation between all actors and sectors involved, to create incentives to promote innovation, water-related investments with the best technology available to improve water management, to ensure universal access to safe water and sanitation, to foster resilient communities, with clarity in respect to water-related risks, conflicts, and most importantly understand the relationship between the availability of water with the preservation of natural ecosystems and nurture and restore environmental water management (watersheds, rivers, lakes and aquifers).

An important example of the key role of ecosystems to sustain economic activity is the Panama Canal. By 1930, freshwater supply became the main issue for the canal and a sophisticated system of rivers, dams, and lakes were constructed to ensure the proper operation of the connectivity between the Pacific and the Atlantic. Since then, multiple factors related to water management are measured daily such as lake and river levels, rainfall, and climate variations. Studies have illustrated how, for the continued sustenance of its network of lakes, locks and channels, and the necessary supply of freshwater thereof, the ecosystems surrounding it need to be preserved in terms of quantity and quality and therefore be kept healthy and resilient (UNESCO, 2003). The calculated investment needed for a portfolio of projects to guarantee an adequate water supply and proper management of the artificial system of lakes, locks, dikes, and channels to enable the passing of large vessels is around 2 billion dollars (World Economic Forum, 2014).

A mission-oriented approach to the governance, management and investment around the Panama Canal can help achieve the goal of resilience and sustainability. Five components are necessary to implement this mission approach: (1) to value water both through evidence-based data and eco-systemic accounting including the economics of water; (2) to assess the situation of water sources and resources; (3) to evaluate gaps in clean water supply and service delivery, including sanitation and its impacts on people, women, and communities; (4) quantify the water component of food, health and as an input in value chains of key productive sectors and correlate food security, health for all, and key actions to ensure a transition towards sustainable industrial development; (5) investigate the best technologies and water governance models at the local, national, and regional levels to enable new forms of partnerships between governments, communities, civil society, and industries including the evaluation of financial needs.

Using a mission-oriented approach, water can be the catalyst, not only for Panama but for different countries of LAC, of a new development model and new paths of sustainable growth based on more equitable premises, as well as a better, more efficient, and effective stewardship of nature (Global Commission on the Economics of Water, 2022).

I. The Caribbean: sustainable tourism as leverage for economic and social development

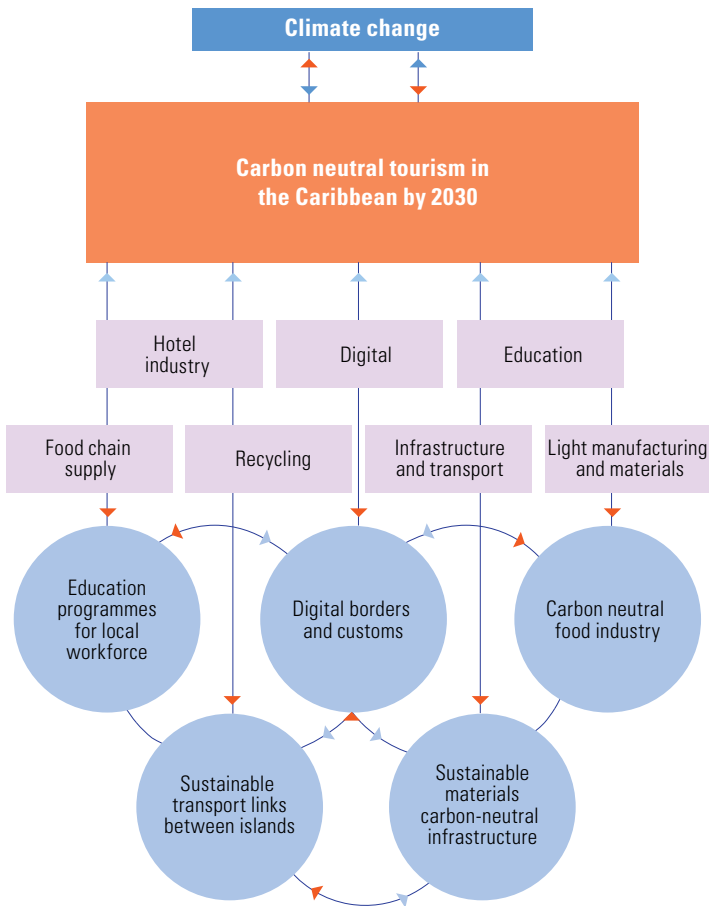
Tourism is the most important sector for most Caribbean economies. The tourism value chain is a mainstay of local economies, strengthening demand for local suppliers, creating opportunities for other sectors of the economy (agriculture, manufacturing, services) and ensuring that investment flows to the specialized infrastructure and human capital needed to support the industry.

Data indicate that in 2014, the overall actual tourist expenditure was US\$ 13.1 billion, 92% higher than in 1989. However, the economic benefit to the region more broadly is even more astounding: the total actual tourist expenditure in 2014 contributed over the long term to US\$ 40.3 billion of GDP in the region, or one third of the GDP in the borrowing member countries of the Caribbean Development Bank (Ram, 2017).

Nonetheless, the tourism industry in the Caribbean is facing real challenges, including seasonality of demand, competition from other regions, disease outbreaks, climate change (with its potential to raise sea levels, coastal erosion, and extreme weather patterns), and weak links to local economies. If tourism is to become a lever for economic growth, these challenges must be addressed (Ram, 2017). A mission-oriented approach can help policymakers bring directionality and coordination to the region's tourism sector.

Under a mission-oriented approach, tourism can be transformed from a sector that contributes economic value to the economy to a bright north star that sets a clear direction for the region’s economic growth. Transforming tourism on its own is not enough, however. Other sectors such as services, transport, infrastructure, digital, education, agriculture and manufacturing are key to achieving a mission around sustainable development through tourism. What is more, because of its multi-stakeholder approach a mission-oriented approach unlocks the opportunity to think about the role of tourists themselves in creating a sustainable and inclusive approach to tourism. A visual representation of how this might look is shown below.

Figure 4 | Mission on sustainable tourism in the Caribbean



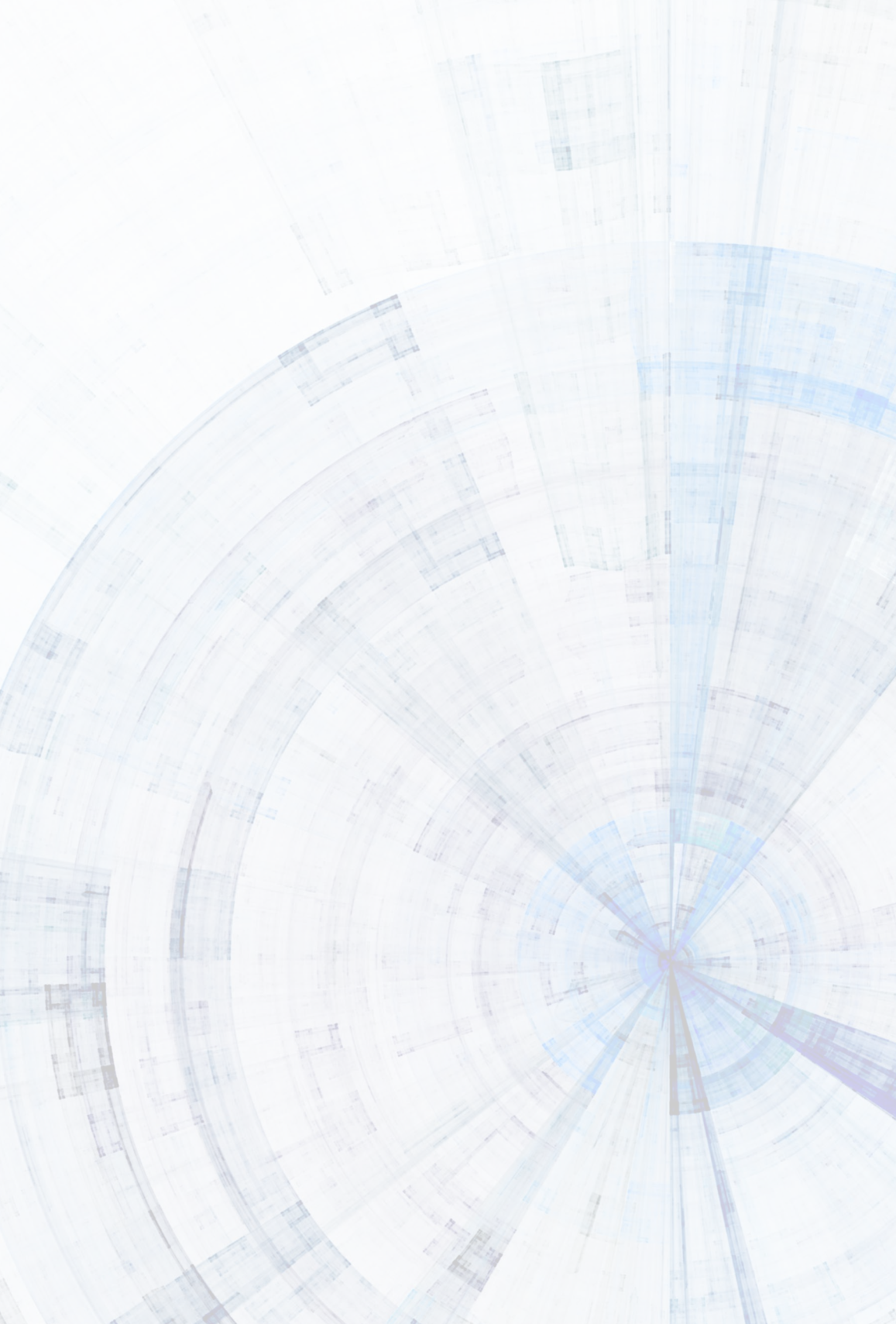
Source: Own elaboration.

A mission-oriented approach would require the support of strong financial institutions like the Caribbean Development Bank to provide the long-term finance to implement this framework. Cross-country and cross-sectoral support would also be essential to ensure the success of this approach. Caribbean countries have a promising opportunity to take advantage of current trends and make tourism a lever for development.

The cases in this chapter highlight the opportunities for using new outcome-oriented policies and coordination mechanisms to tackle the LAC region's green-, digital-, and health-related challenges. Despite not having been designed as missions, there are four main takeaways from which LAC governments can learn:

- (i) Defining a shared direction for investment and innovation can help align public and private sector activity, as well as different sets of institutions, sectors and policies, around common objectives and mobilize bottom-up solutions.
- (ii) There are a range of outcome-oriented tools, such as procurement, that can be leveraged to direct growth and innovation. If used correctly, these outcome-oriented tools can spur cross-sectoral innovation, crowd in private sector investment and generate multiplier effects.
- (iii) Deliberately designed mechanisms for collaboration between the public and private sectors are vital to build buy-in and alignment around common objectives.
- (iv) Capable public or public-private institutions that have a clear mandate and responsibility, like LATU, can ensure that implementation and delivery of policy is of a strong standard. A legal and political mandate must be coupled with the necessary dynamic capabilities.

The next chapter digs into each of these takeaways, exploring how to effectively implement a mission-oriented approach to industrial policy.



The background of the page is a light blue architectural drawing of a dome structure, showing a grid of lines and curved segments that form the dome's surface. The drawing is semi-transparent and serves as a decorative backdrop for the text.

“Governments can redesign the institutions on the ground —from State-owned enterprises to public banks— to ensure they are aligned to a mission-oriented approach.”



Chapter V

Governing missions: public sector capabilities, tools, and institutional design

Missions do not happen in a vacuum, and the conditions can be created for them to succeed. First, they can only be implemented if there are the right capabilities on the ground to transform the existing design of policies into one that is more focused on outcomes. In part, this requires experimentation and sandboxing to have safe spaces to make mistakes and learn, like the Laboratorio de Gobierno in Chile or MindLab in Denmark.

Second, governments need the right tools, instruments and policies, such as outcomes-oriented budgeting, procurement and evaluation. For example, ever since the Korean War when the United States Government introduced the Defense Production Procurement Act, it has linked investment in technology for military spending to dynamic procurement methods. During COVID-19 the same act was used to produce personal protective equipment (PPE) and vaccines. Similarly, outcomes-oriented budgeting can be critical to making sure that problems are tackled head-on with adequate budgets and metrics. The social challenges that LAC is facing around climate, the digital divide and health are urgent. It is essential to use such outcomes-oriented tools in times of crisis and non-crisis alike —as a new way of “doing” policy.

Finally, governments can redesign the institutions on the ground —from State-owned enterprises to public banks— to ensure they are aligned to a mission-oriented approach. In Germany, for example, the KfW, the country’s state-owned investment bank, provided loans to the steel sector on the condition that the bank’s investments were aligned with the national

energy transition mission, requiring the sector to reduce its carbon and material content by investing in reduce, reuse, and recycle technologies⁵. This chapter explores each of these pillars—public sector capabilities, tools, and institutional design—and draws lessons for designing and implementing missions in LAC.

A. Public sector capabilities

The dynamic capabilities of the public sector are key ingredients for governing and shaping a mission-oriented economy. Particularly in the face of considerable digital disruption, governments in Latin America and the Caribbean require more investment in and capacity around digital infrastructure, understood as the solutions and systems that enable the effective delivery of essential society-wide functions and services in the public and private sectors. This will require secure new data sources, digital tools, data standards and regulations that protect the public interest and personal information (Kattel and Mergel, 2019). There have been a few examples of effective responses to the pandemic in the LAC region, demonstrating that a visible public sector can have the critical mass to lead and steward the economy through effective governance in the public interest. Such state capacity is critical in establishing the right rules and incentives to achieve improved equity, both in periods of crisis and calm (Mazzucato et al, 2021).

There is of course considerable heterogeneity in public sector capabilities and capacities across governments in LAC. Some, including Brazil and Chile, that have relatively efficient bureaucracies have been making notable strides towards using more experimentation and digital tools in public sector processes. Meanwhile, other smaller or lower-income countries in the region face a much larger capacity challenge with over-worked, understaffed, undertrained bureaucracies. Irrespective of these differences, governments and international financial institutions should acknowledge the essential role that investment in public sector capacity plays in tackling the societal challenges that endanger human life and the planet. This debate must be held against the current global backdrop of post-pandemic weakened economies, renewed pressures for fiscal consolidation, and dramatic increases in military expenditure, all of which have the potential to constrain the amount of finance that flows into public institutions to tackle societal challenges.

To adopt a mission-oriented approach, LAC countries can create the space to experiment with and test different policies. The global response to the pandemic has clearly shown that regions and countries that did better than others in the developing world, such as Kerala and Vietnam, did so off the back of strategic investments inside their public administrations (Mazzucato et al, 2021). Regions

⁵ The Energy Transition (Energiewende) is the ongoing transition by Germany to a low carbon, environmentally sound, reliable, and affordable energy supply.

with government organizations that had the capacity to respond dynamically did best. Some of those key capabilities include:

- Capability to anticipate, adapt and learn within and across organizations.
- Capability to harness social participation, public initiatives and innovation to democratize innovation and scrutinize public policy.
- Capability to build and govern digital infrastructures and platforms for the common good.

LAC countries need to rethink the role of their public administrations to make them into a dynamic agent of transformation. Missions call for a symbiotic interaction between public and private actors as co-creators of markets and technologies. If the public sector wants to redesign its relationship with the private sector and become a competent partner, the following six areas are all good places to start.

- **Directing public administration towards satisfying public interests.** Inefficiency reduction in public administrations may be well meaning, but it can be damaging and could certainly not become the only goal. The ultimate objective of public structures needs to remain the creation of value for citizens. A strong purpose within the public sector is a useful way to motivate civil servants and rethink in a dynamic way the concept of efficiency and how to evaluate it (see “Adopting dynamic criteria for evaluation” below). LAC, in different decades, have implemented modernization reforms in order to increase efficiency. These types of modernization reforms have usually been directed to reducing costs by eliminating “red tape”, merging departments and outsourcing core elements. These modernization reforms have not necessarily been a well-thought-out process of aligning the capacities of the government with the creation of value for citizens. Governments in LAC can replace the focus on reducing costs with one that augments value creation.
- **Operating with a cross-departmental approach under a multi-sectoral perspective.** Designing new institutions is not enough. It is crucial to have coordination among public institutions, considering existing public capabilities and going beyond a narrow intra-departmental logic. This implies the development of new capacity to strategically coordinate public sector employees within and across existing public organizations and it implies an additional effort to coordinate sometimes opposing institutional goals. LAC countries could learn from the experience of the National Systems of Innovation, which —despite the efforts made by governments in designing innovation agencies and ministries— resulted in siloed innovation departments disconnected from public sector institutions (Freeman, 1995). A challenge-based approach needs to be tailored and built on existing innovation capabilities in the public and private sector, considering existing institutions and inter-institutional linkages and strengthening public sector capabilities in operating with a cross-departmental, multi-sectoral and multi-actor perspective.

- **Developing internal dynamic capabilities.** Existing capabilities and knowledge flows matter. Developing internal capabilities and facilitating knowledge-flows within public institutions is a crucial pre-requisite for achieving public sector objectives, beyond a static efficiency logic. This means not only developing a broad spectrum of internal competencies but also being able to attract the best available talents with prestigious jobs. Importantly, it is precisely those public organizations with a strong sense of purpose and mission mystique, a set of institution-strengthening characteristics and institutional charisma, that attract the most ambitious and competent talent (Kattel and Mergel, 2019). Civil services in the LAC region historically have tended to be unstructured, unstable and connected to political cycles. For LAC governments to create internal dynamic capabilities, they could invest in creating a civil service reform that allows a space to develop long-term competencies. Either via meritocracy or other models, LAC governments should not overlook the power of having a professional civil service that can respond rapidly to any crisis or window of opportunity, as the COVID-19 pandemic has shown us.
- **Leadership and risk-taking attitude.** The public administration must have the autonomy to take direct initiative, thereby moving beyond simply incentivizing the behaviour of citizens and firms. This means welcoming risks and uncertainty, but also failure if conceived as a conscious learning process. In LAC, cases of corruption and misuse of public resources for private gain continue to be a cause for concern. In this sense, anti-corruption regulations and accountability systems have important functions to fulfill in shaping the activities of public administrators. Properly implemented, these can help curb abuses, foster citizens participation, facilitate organizational learning and improve the quality of public goods and service delivery, ultimately contributing to strengthening democracy. However, the institutionalization of accountability mechanisms must ensure adequate levels of autonomy and flexibility for public administrators, providing them sufficient legal security so that they have the right to experiment innovative solutions and eventually fail. In the absence of these elements, excessive or dysfunctional accountability systems may even help to reduce corruption but can also lead to paralysis of public administrators due to fears of sanctions.⁶
- **Strategic use of procurement and public investments.** Public procurement is an important instrument that this report discusses in more detail in the next chapter. However, to leverage procurement effectively so that it aligns with a clear investment strategy, governments need the right risk-taking attitudes and capabilities in place. The Small Business Innovation Research (SBIR)

⁶ Indeed, in Brazil, this phenomenon has become known as the “blackout of pens” and has been the subject of policy debate.

programme in the United States offers an excellent example of how to do this well (Mazzucato, 2020). SBIR was established in 1982 with a clear mandate to stimulate technological innovation and to use small and medium-sized firms (SMEs) to meet the R&D needs of public agencies. It requires that all federal agencies with R&D expenditures above US\$ 100 million spend 3.2% of their annual budget through the SBIR programme. This incentivizes and enables a risk-taking attitude within federal agencies and necessitates the existence of technical expertise, including specific competencies in drafting procurement contracts. These kinds of organizational incentives are crucial in changing the way public sector institutions operate.

- **Adopting dynamic criteria of evaluation.** Static cost-benefit analysis does not adequately capture the qualitative impact in terms of externalities and spillovers of public policies. In doing so, it underestimates the benefits part of the analysis. LAC public administrations could therefore introduce different evaluation criteria, based on dynamic metrics, that could capture the creation of public value (value that is created collectively and shared equally) in all its qualitative and transformational aspects over the long period. How to consider these dynamic criteria for evaluation will be investigated in more depth in the next sub-chapter.

B. Mission-oriented tools

Governments must transform or expand their current policy toolbox if they want to use instruments that align with a new mission-oriented approach to industrial strategy. Innovation should not be viewed as a small subset of government spending but as a vital consideration for how all government budgets can be used to drive maximum return on investment (MOIS, 2019). This sub-chapter will explore outcomes-oriented budgeting, mission-oriented procurement and public sector digital infrastructure: three tools that can help governments implement and govern missions.

1. Outcomes-based budgeting

Outcomes-based budgeting is an instrumental approach to achieve more accountable and effective public policies. Defined as allocating scarce financial resources to achieve priority outcomes, when the connection between budgets and expected outputs or performance is put at the centre of all government policy, it improves public financial management and maximizes the budgetary space (Barroy and Gupta, 2020).

Box 3 | Financing innovation and technological capabilities through natural resources funds

Guaranteeing long-term resources for innovation, science and technology is a challenge for countries in LAC that are exposed to cyclical macroeconomic shocks and face social structural challenges such as poverty and inequality.

Following the experience of natural-resources-rich developed countries such as Australia, Sweden, and Norway, in the 2000s, several countries in the region designed Natural Resources Funds (NRF) financed through royalties from the commercialization of minerals, oil and hydrocarbons. Those funds were designed to redistribute rents from natural resources sectors and to develop new capabilities. Traditionally, the use of this type of financial instrument has focused on addressing development challenges, supporting public investments and developing innovative capabilities.

In 2005, Chile was the first country in the region to design such a fund, the Chilean Innovation Fund for Competitiveness. Through the application of a tax between 0.4% and 5% on sales to all companies that produced more than 12,000 tons of copper, the fund allocated resources to scientific research projects, business innovation, technology transfer and entrepreneurship, through specialized public agencies such as CORFO and CONICYT, and through regional governments. In Brazil, in 2010, the Brazilian Social Fund was created with an explicit mandate to invest in science, technology and capabilities development. In 2011, Colombia created the Science, Technology and Innovation Fund financed with royalties from mining and oil resources, with the aim of enhancing the innovative capacity of the country's departments. In 2015, the Mexican Petroleum Fund for Stabilization and Development was established, which in addition to serving as a macroeconomic stabilizer, seeks to strengthen the country's innovative and technological capabilities.

Innovation funds represent a mechanism with great potential to articulate the efforts of the public sector and offer long-term financing to develop innovative capacities and take advantage of technological opportunities. In a mission-driven approach, natural resource funds could play a key role in financing long-term transformative activities. The outcomes of these funds depend on the ability to ensure a balance between short-term and long-term priorities, guaranteeing patient capital for technological and innovation goals.

Source: Own elaboration.

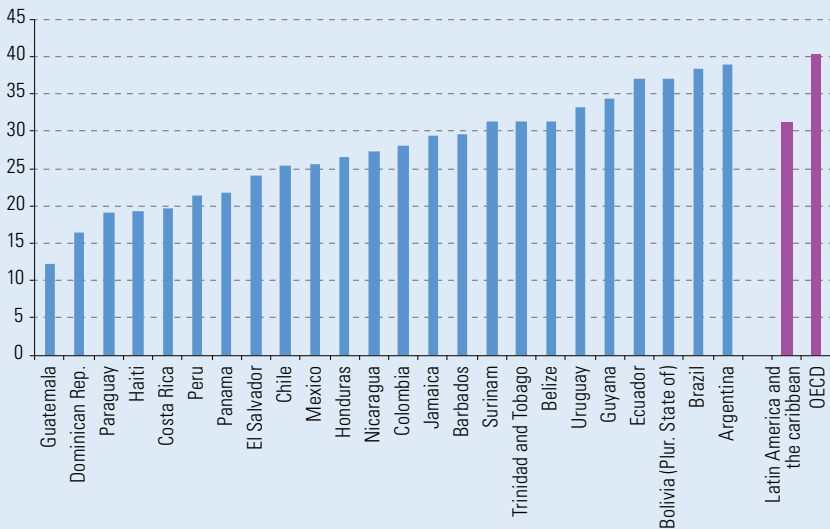
2. Strategic procurement

Mission-oriented procurement is another way to channel budgets into defined objectives. Public procurement refers to the process by which public organizations place an order for goods, services and works required to fulfil their needs (Mazzucato, 2020). Governments have buying power through their procurement budgets and cross-departmental procurement should become part of the mission-oriented process (MOIIS, 2019). The state's purchasing power can direct procurement processes towards precise missions and foster new partnerships. Countries around the world are using procurement as a tool to advance public policies and objectives, including in health and climate.

Box 4 | Strategic use of procurement in Latin America and the Caribbean

A mission-oriented industrial strategy can complement supply-side innovation policies—for example, an increase in R&D funding—with demand-side policies, such as public procurement (Kattel and Lember, 2010). Using public procurement to incentivize innovation and alignment with strategic industrial aims can provide meaningful results with minimal added cost (MOIIS, 2019). Public procurement is an instrument that could help missions to create new markets. It is estimated that in Latin America public procurement constitutes 20%-30% of government expenditures. In recent years, the potential for using procurement as a tool for industrial and innovation policies has received renewed attention (Kattel and Lember, 2010; Edquist et al., 2015; Moñux and Uyarra, 2016; OECD, 2017). Innovation around the use of procurement can be a significant demand-side stimulus, allowing companies to scale up through market creation.

An international comparison of government/public procurement, 2018 (Percentage of GDP)



Source: OECD (2020).

LAC countries have been making progress towards harnessing the strategic use of procurement. One of the most common strategic objectives in the region has been the participation of SMEs in public procurement (OECD, 2020). Another relevant area has been the promotion of procurement by women-owned enterprise, for example in Chile, the Dominican Republic and Honduras. Latin American countries including Brazil, Costa Rica, El Salvador, and Paraguay have also taken key steps to use procurement as a tool for fighting climate change and promoting environmentally friendly goods and services (“green procurement”).

However, there remains a largely untapped potential especially in promoting technological innovation. Brazil is one of the few countries in the region that has made a lot of progress in public procurement for innovation (PPI). Even so, PPI still represents a

very small set of total purchases made by the public sector, having been used only 75 times in the period 2010–2019 in areas such as agriculture, aerospace and defence, energy and ICT (Rauen, 2019). Argentina, Chile, Colombia, Peru, and Uruguay have also taken steps towards recognizing the importance of the instrument, exploring its use or building an enabling regulatory framework. In fact, one key lesson from the incipient Latin American experience is that the absence of an adequate regulatory framework, while not making PPI completely unviable, hinders its use in a more systematic way (Comotto and Meza, 2017).

Source: Own elaboration.

3. Dynamic evaluation

To assess whether a mission is successful so that this information can help guide government policy, we need the right metrics. Some of the best mission-oriented organizations, like DARPA in the United States, were just as good at turning the tap off as they were at turning it on. But for public sector institutions to make these decisions with confidence they need new ways of measuring, monitoring, and evaluating mission-oriented policies, so that they also capture broader economic impacts in a dynamic way.

Indeed, when well designed, missions can have a catalytic effect on the whole economy, stimulating investment and innovation across sectors. This is what happened with the Apollo space mission, where the homework solved along the way mobilized investment in a whole range of sectors, including food, robotics, electronics, materials and software, to name but a few. Spillover effects included camera phones, foil blankets, baby nappies and home insulation. In fact, the entire software industry can be seen as a spillover effect of the programme's data processing requirements. A mission-oriented policy increases the effectiveness of innovation and productivity policies and has the potential to contribute to the recovery of public finances, not through spending cuts —as in the prevailing austerity agenda— but by increasing strategic investments that would boost future revenues due to the higher multiplier effect (Mazzucato, 2018c). However, these multiplier and spillover effects are usually not considered when assessing or evaluating a programme, project or public intervention (Mazzucato, 2021).

The “mainstream” approach to policy evaluation assumes that, under certain assumptions, individuals pursuing their own interests in competitive markets achieve the most efficient and welfare-maximizing outcomes. In policy evaluation, this approach is translated by using assessment and evaluation techniques of static ex-ante cost-benefit analysis (BEIS, 2020). Governance and evaluation tools are therefore focused on accountability. This type of evaluation is often static and recorded ex-post because it is “valued for its supposed scientific and technical authority and as a means of legitimizing government activities” (Chouinard, 2013).

Missions are not static, they are dynamic. As countries take aim to tackle grand challenges, current ways of policy evaluation are not sufficient and need to be complemented by alternative approaches. These alternative approaches should think of value as co-created by all economic and social actors and markets as the result of investment by public and private actors (Mazzucato, 2018d).

New methods of assessment that incorporate this notion of public value as collectively created by a range of stakeholders should be developed and used. First, rather than focusing on single instruments and representative actors, these methods could analyze and evaluate a policy mix, as the effects of different instruments are rarely linear and can even be contradictory, with significant time lags and spillover effects. Second, these methods could view policymaking as a process that occurs through a variety of feedback channels that produce different insights and perspectives on insights (BEIS, 2020). Therefore, a mission evaluation framework could include the following elements (Kattel et al, 2018):

- **Milestones:** modern grand challenges tend to be long-term and lack easily definable endpoints. Under such conditions, the use of intermediate goals is crucial. Intermediate objectives can be used to track progress towards the mission objective and to make informed and flexible adaptive decisions about interventions. Publicly available real-time data on progress towards intermediate goals also provides a sense of urgency, success and motivation for the actors involved. Using artificial intelligence and Big Data to create dynamic metrics and dashboards could help achieve this. Additionally, milestones are also important as they allow for flexibility and adaptation so that the mission can be changed over time if the milestones provide new information or show that the mission, for whatever reason, has been framed problematically and needs adjusting.
- **Spillovers:** more comprehensive measures of cross-sectoral and cross-scientific impact are needed. Thus, even if a milestone or the overall mission objective is not achieved, the mission may still be successful (at least to some extent) if the process generates positive economy-wide spillover effects. For example, the Internet was discovered not because of an ex-ante goal, but as a solution to a problem scientists had in the late 1960s of enabling multiple computers to communicate on a single network. The spillovers that result from such missions are higher due to their inter-sectoral character (Deleidi and Mazzucato, 2021).
- **Project portfolios:** a mission is not a single project, but a portfolio of actions from different policy areas designed to promote diverse solutions. A range of different funding instruments will help to achieve this, from grants to prizes, new forms of procurement and financial instruments. This will ensure that public funds are allocated to a wide range of activities, with an emphasis on complementarity and avoiding duplication. The process could explicitly be one that allows for the tension between top-down

direction setting and bottom-up exploratory approaches. Instead of prescriptive project specifications, participants could be given the flexibility to propose a variety of solutions to achieve the mission objectives and intermediate goals.

A mission-oriented approach to evaluation under the analytical framework presented above will be able to capture the dynamic aspects of market-shaping policies (spillovers, multipliers, systems change), as well as an ongoing and reflexive assessment of whether the system is moving towards the mission through the achievement of intermediate goals. Key to the success of the mission is how we assess its progress and evaluate the results of implementation. The current ways of doing this will not work. LAC countries could expand their methodologies to include the dynamism missions require.

C. Mission-oriented institutions

Having dynamic capabilities and mission-oriented tools is not enough. Both need to be accompanied by a set of mission-oriented institutions that have the mandate to direct long-term and patient finance, lead mission-oriented innovation, steer outcome-oriented public procurement and create a safe space for risk-taking and experimentation. Three types of public sector institutions could help Latin American and Caribbean countries implement a mission-oriented approach: public investment banks, State-owned enterprises and public innovation labs.

1. Public investment banks

Exact definitions of public investment banks vary, but for the purposes of this report, we define them as majority public-owned entities that have a mandate to pursue socio-economic goals in a defined geographical area, sector or market segment using repayable financial instruments and non-repayable instruments as grants.

Public investment banks perform the function of directing finance to prioritised economic sectors and economic activities which need either long-term, “patient” finance or more risky types of investments which the private financial sector is unable or unwilling to provide (Mazzucato and Penna, 2016b; Macfarlane and Mazzucato, 2018). Examples include public venture capital funds, such as Yozma in Israel, State investment banks like the KfW in Germany, or multilateral banks including the European Investment Bank. Understanding how this has been done well —what does and does not work— requires learning from international experiences with financial institutions willing to provide strategic

long-term finance. As this subchapter will show, new forms of finance have often involved new forms of financial instruments and regulation (Kattel, Kregel and Tonveronachi, 2017).

The structure of the financial system is key to the successful implementation of mission-oriented policy. This is because finance and funding are not neutral. The type of finance available can affect both where investments are made and the type of activity that is funded (O’Sullivan, 2006; Mazzucato, 2013a). The forms of financial institutions and markets that exist have a material impact on activity in the real economy. This makes it necessary to rethink the financial ecosystem to foster a greater emphasis on the provision of long-term, patient finance and investment in the real economy (Mazzucato and Macfarlane, 2017; 2019). This also offers an opportunity to establish a closer alignment between the finance ministry and strategic industrial aspirations.

Missions, by their nature, are designed to spur innovation towards addressing societal challenges. By providing a direction for economic growth, missions can also help to crowd in commercial investment by guiding business expectations about where future growth opportunities may lie (Mazzucato, 2013b; 2018b). It is precisely because innovation is highly uncertain, has long lead times and is a collective endeavour that it requires patient, long-term finance. The private sector will often not invest in higher-risk areas until future returns are better understood. In countries that have achieved innovation-led growth, the State has often supplied the patient finance that the private sector was unwilling to provide. Here, the State did not intend to fix market failures but to invest in new technologies and create new markets by acting as an investor of first resort rather than just as a lender of last resort. This is particularly relevant for developing countries where the pools of private capital are smaller and financial markets are less mature.

A mission-oriented public investment bank should (1) have a clear mandate to be challenge- and mission-driven rather than having a sectoral focus, (2) be placed at the centre of the investment process, (3) have different sources of finance and portfolios of investments that enable the bank’s appetite for risk, (4) have a range of financing instruments, covering both debt and equity, suited to different areas of the risk landscape, (5) have a governance model that allows the right balance between political representation and independent decision-making, (6) be able to strike the right balance between risks, rewards, and conditionalities, ensuring that investments are structured across a risk-return spectrum so that lower risk investments help to cover higher risk ones and allowing the bank to reap some of the financial rewards where success occurs to offset the inevitable failures, and (7) have close alignment between State investment banks and government institutions, including the central bank and other regulatory bodies (Mazzucato and MacFarlane, 2019).

Box 5 | Crowding in business investment through Brazil's public bank BNDES

In many developing economies there are already public banks such as the Development Bank of South Africa, or the Brazilian Development Bank (BNDES). Indeed, in Brazil, BNDES has had a virtuous role in articulating public and private sector around the support, financing and scaling of start-ups (Gonzalo et al, 2022a). With a systemic and evolutionary public policy approach, BNDES, the biggest Latin American Development Bank, and the Financiadora de Estudos e Projetos (FINEP), the main Brazilian public organization oriented to the support of innovation, have contributed, in partnership with the private funds, to the creation and consolidation of the Brazilian entrepreneurial ecosystem in several ways. With the Venture Forum, they have created and stimulated the spaces of interaction between entrepreneurs and investors.

Through the INNOVAR Programme, FINEP financed the operational cost and co-invested with private venture capital funds. With the INNOVAR Funds of Funds, the public sector has articulated with the Brazilian regional banks to promote the decentralization of the venture capital investment activity. Through the FINEP Startup Program, FINEP has directly injected capital to a cohort of strategic start-ups. Furthermore, through the use of conditionalities, the bank has in the past succeeded in crowding in business investment. In fact, the analysis of BNDES R&D support funds and other financial instruments for the period between 2003 and 2011 has shown that the bank successfully generated crowding-in effects in the private sector, increasing private investment in innovation (Carreras, 2022).

Source: Own elaboration.

Thus, experience suggests that aligning such institutions with the government's wider industrial policy objectives can create a powerful synergy between policy, regulation and financing. For example, the close alignment between Germany's State investment bank, KfW and the government's Energy Transition policy has been instrumental to the systemic greening and decarbonization of the country's economy (Moslener et al 2018). Although potentially powerful, this relationship is highly dependent on effective governance arrangements, which are particularly important for public banks in developing countries.

2. State-owned enterprises (SOEs)

In several countries, State-owned enterprises (SOEs) have historically represented a crucial institutional mechanism for development and economic transformation through investment by strategic companies in core industries. Conventional economic theory has focused extensively on the cases of corruption and inefficiency (although limiting their analysis of SOEs' performance to short-term financial variables). Very little attention has been devoted to how SOEs, in various contexts, have nurtured organisational and technological capabilities while fostering structural change in the economy at large. Several acclaimed cases of successful industrial development (e.g., Italy, Republic of Korea, China, Germany, the Scandinavian countries) demonstrate that SOEs can become an effective mechanism for transformational policies when their activities are oriented towards clear industrial objectives (Mazzucato and Li, 2020).

State-owned enterprises are critical in many developing countries. It is renowned that they constitute serious managerial, financial and technological challenges. However, outright privatisations would not address these long-term and uncertain challenges. At best, they could result in a higher extraction of value from workers and natural resources if the privatised companies operate in regulated sectors with monopolistic margins. On the contrary, there is an opportunity to use the mandate and sectoral diversification of SOEs to provide an opportunity for economic transformation; and for the creation of a dynamic system of state ownership that fundamentally changes the interaction between private and public organisations. This means that State ownership becomes a tool for catalysing and crowding in other sources of finance, through symbiotic partnerships and strong conditionalities for investment towards societal goals. In other words, it becomes less about unconditional handouts and more about purposeful transformation.

Instead of considering SOEs as isolated companies controlled by different State entities, there is the possibility of grouping them under a single State holding company, with an autonomous legal status. The historical model of Italy's former State holding company, Istituto per la Ricostruzione Industriale (IRI), a highly sectorally diversified but also vertically integrated group with cross-cutting policy objectives, offers interesting lessons for current configurations (Gasperin, 2022). CORFO in Chile —which took deliberate inspiration from the IRI model— was another interesting example of an entrepreneurial State holding agency that created national strategic companies in the steelmaking, energy and telecommunications sectors. Other countries have currently adopted a State holding company to manage their portfolio of SOEs, notably France with the Agence des participations de l'État (APE) and Singapore with Temasek.

There are several advantages of this organisational structure, including higher financial capacity at the level of the parent company; the possibility of switching funds from the more profitable companies to those in need of further resources for internal restructuring or new investments; and facilitating sectoral spillovers and industrial partnerships. In general, a State holding company can better value and validate the systemic nature of different State-owned enterprises.

Furthermore, a publicly controlled yet autonomous State holding company has the potential to significantly reduce the political intrusiveness to State ownership. When its personnel is selected based on motivation and merit, the State holding company can be characterised by an entrepreneurial and publicly oriented sense of mission and purpose, as was the case with the Italian IRI. The State-owned sector should be able to attract, but also to grow internally, the best technical and managerial talent to run the companies with the maximum degree of efficiency. Financial sustainability also implies lower levels of dependency on government funds and subsidies. The holding company model has clear advantages for many countries in LAC. However, to prevent misuse, it should be implemented carefully with clear accountability mechanisms in place as well as the right capacities, regulations and evaluation frameworks.

The intermediate position between the ultimate shareholder (the Government) and the single operating companies enables a potential dialectic synthesis between general national policies and the specific needs of SOEs as business organisations. While investment decisions and industrial initiatives could be oriented with a systemic approach from the State holding agency, the managerial and financial autonomy of the companies must be preserved.

Privatising State-owned enterprises would simply deprive the State—and other interacting private companies in the economy—of an important pool of technical competencies in strategic sectors. Privatisation often leads to countries losing a direct and potentially effective tool for driving and orienting industrial transformation in the context of economic development. Without a patient long-term owner, the future of these companies could be the eventual disappearance or their continued existence under highly destructive governance, which would favour the short-term interests of the new shareholders over its various stakeholders and the economy at large. Reforming these companies should be the priority, recognising the inherent opportunities in the systemic role of a State ownership portfolio. In ordinary activities, they could reflect their distinct industrial nature as commercial undertakings, but their ownership and place in the economy ensure the general orientation of their long-term programmes.

Box 6 | State-Owned Enterprises (SOEs) in Latin America: main features, challenges, and opportunities

Despite several methodological and data issues that make it difficult to assess the extent of SOEs in Latin America, there are around 500 in the region; if the state, provincial and municipal levels are included, the number could go to more than 2,000 (Kaufmann, 2015). Most of the national SOEs were created in Latin America since the 1930 great crisis and during the period of industrialization by import substitution. Since the 1980s, but mainly during the 1990s, under the Washington Consensus, Latin American countries advanced on partial and complete privatisation processes. In the 2000s, some new SOEs were created while others were re-nationalised.

Historically, oil, mining and electricity, finances, infrastructure, telecommunications and services have been the sectors of relevance to SOEs in Latin America (Guajardo Soto, 2013). SOEs' contribution to GDP in Latin America could go from 5% to 30% (Kaufmann, 2015). SOEs can channel public investment, generate and coordinate private investment crowding in processes, create well-paid jobs and push R&D, risky and innovative activities (Castañeda et al, 2020; Chavez and Torres, 2013; Guajardo Soto, 2013).

There are different Latin American cases of dynamic, innovative and systemically integrated SOEs. For instance, Empresas Públicas de Medellín (EPM) in Colombia is a main actor of the Medellín innovation system. EPM is the biggest Colombian SOE that provides water, energy and gas. EPM is directly involved in the energy transition helping Colombia to achieve the Sustainable Development Goals, assisting the Colombian population to achieve full access to public services and investing in new technologies and projects through a specific corporate venture capital fund. In

Argentina, INVAP has more than 45 years of experience involved in high tech projects around nuclear energy, space, industrial technologies and medical equipment. INVAP is the only Latin American enterprise recognized by NASA as competent to develop complete satellite systems, from development to operation. The Corporación Nacional del Cobre de Chile has a prime role in the Chilean mining sector, mainly based on copper (and with a prospective role in lithium) contributing to the copper supply chain governance and to the development of national suppliers and R&D projects. There are more cases of relevant SOEs in Latin America, both at the national and the state level.

However, there are different challenges related to the Latin American SOEs with respect to their performance, accountability and role in dealing with Latin America's productive, social and environmental asymmetries. The most common criticisms relate to the weak mechanisms of information and control, the lack of managerial staff, the difficulty in their regulation and low productivity (IDB, 2015; Guajardo Soto, 2013). These challenges and criticisms have generated a space to rethink the role of the Latin American SOEs. How to articulate SOEs to broader mission-oriented and challenge-led policies; how to increase the SOEs' R&D spillovers and linkages with the Latin American entrepreneurial and productive structure; how to improve the performance and impact of the State and regional level SOEs; how to create and consolidate new SOEs oriented to emerging and strategic sectors and technologies related to energy transition, biotech and ICT. These are some of the challenges faced by Latin America (Gonzalo et al, 2022b; Castañeda et al, 2020; Chavez and Torres, 2013).

Source: Own elaboration.

3. Public innovation labs

Capabilities and solutions are not created out of thin air. They must be developed. Places that safeguard learning and experimentation are thus key opportunities to test out and “sandbox” new instruments and policies, such as mission-oriented procurement or pre-competitive regulation (Collington and Mazzucato, 2022). Cultivating the space to make mistakes and learn from them is essential to usher in a new, more flexible way of making public policy. Public innovation labs that are set up to develop prototypes, help scale new solutions and build capacity and networks both within and outside of the public sector are key to a mission-oriented approach for five reasons:

- (i) **Learning through sandboxing:** sandboxes are a virtual or physical space that civil servants can use to work with stakeholders and test solutions in a safe environment. One example is a “regulatory sandbox” through which selected firms can work with regulators to jointly explore, trial and test innovative products, services and business models without having to meet all the usual requirements for compliance.
- (ii) **Allowing participation:** in most cases, innovation labs are designed under the principle of “co-production”, a key element for the definition of a mission but also when thinking about the ways to achieve it. This “co-production” happens with citizens, businesses, but especially other parts of government. Indeed, they can help to foster an all-of-government approach to change.

- (iii) **Mission-led approach:** these spaces are dedicated to designing public services in a way that key challenges (missions) are addressed, and that public value is created along the way. Such missions could be in public education, public health, or public transport for example. By transforming public services to be levers for innovation, the public sector becomes a tool for innovation rather than a drag on it.
- (iv) **Building capabilities:** the usual methodologies that an innovation lab uses to create change are based on the principle of learning by doing. In that sense, innovation labs are critical for investing in dynamic capabilities. By having participatory processes with citizens and also by incorporating civil servants, innovation labs develop different types of capacities and capabilities that are key to defining, implementing and measuring a mission-oriented approach.
- (v) **Peer learning:** the process of learning with and from each other is also something that is embedded in the nature of a public innovation lab. These spaces can therefore provide a platform for peer learning between public organizations. By working in the open and sharing lessons (to scale or replicate practices), innovation labs are an essential space to share knowledge of not only successes but also of things that did not work. Sharing knowledge creates an impact by presenting new ways to do policy or provide public services. One example of a knowledge-sharing platform is the UCL Institute for Innovation and Public Purpose's (IIPP) Mission-Oriented Innovation Network (MOIN), a peer-to-peer network with close to a hundred public sector organizations adopting a mission-based approach to their work and engaged in innovation for public value. MOIN provides a learning platform for those organizations to share their own experiences, and to connect to insights and research from IIPP. A similar approach could be implemented by the governments of LAC.

An interesting case, that reflects the five points stated above, is the Laboratorio de Gobierno of Chile. The Chilean government set up in 2015 the Laboratory as a State agency, dependent on the Chilean Ministry of Finance. Its purpose is to accelerate the transformation of public services by using collaborative design methodologies, promote the development and implementation of evidence-based solutions to improve public services and foster adoption of innovative practices in institutions, with a multidisciplinary and people-centered approach.⁷ The Laboratorio is modelled on NESTA in the United Kingdom (when it was still positioned inside government) and MindLab in Denmark. As a public institution, it has been crucial for investing in the training of the civil service and for creating clear places for experimentation. Spaces such as the Laboratorio de Gobierno are especially effective when placed at the center of government rather than at the periphery. A mission-oriented approach in LAC could thus benefit from each country investing in a Laboratorio de Gobierno

⁷ See, Laboratorio de Gobierno [online] <https://www.lab.gob.cl/que-es-el-lab> (access on 8 September 2022).

type of organization and perhaps ECLAC playing a coordinating role, so that every year the “what works” conversation can happen across all countries, perhaps at ECLAC’s Annual Sessions.

Mission-oriented policies, on their own, would not be enough to create the path for inclusive and sustainable development. Capabilities, tools, and institutions are essential to do so. Civil servants should have enough agency to adapt, make mistakes and learn. They should also be equipped with tools that allow a different approach to policymaking, one where the government is taking the lead and pointing in the right direction. And they should have the institutions that support and enable this new way of policymaking. Nonetheless, this new approach requires the participation of a broader set of actors when defining and implementing policies, and a renewed definition of value that is reflected in the way we assess and evaluate the success of missions. The following chapter addresses these points.

“It is through a new social contract between the state, capital, and labour that governments can ensure that more people share in the growth of their economies.”



Chapter VI

New social contract

Missions require new relationships between all value-creating actors—in government, in business and in civil society. In many Latin American and Caribbean countries, citizens feel as though the social contract—the tacit agreement that citizens and businesses have with government for a set of political and economic rights—is broken. Rampant inequality, where the richest 1% of Latin Americans capture 25% of their countries' GDP,⁸ is just one blatant example of this problem. So too is the precarity of work, especially among groups that were hit hardest by the pandemic, including women and domestic workers; and the recent fall in real minimum wages as a result of rising inflation (ECLAC/ILO, 2022). It is particularly in times of crisis that the most vulnerable are let down by our current economic system, making times of “normality” all the more important in fixing its deficiencies. Problematic contractual partnerships and unjust constitutional arrangements have contributed to much of the social vulnerability and weak institutional capacity discussed in chapter II of this report. Shifting the balance of power can begin with designing missions, policy tools, partnerships and institutions that reflect shared goals and produce shared value. It can also begin with engaging citizen organisations in new ways, ensuring broader political participation and economic co-creation.

A. Citizen engagement: participation and co-creation

Many Latin American and Caribbean countries suffer from low levels of public trust: over 90% of citizens in Paraguay and Colombia believe that the elite

⁸ According to information from the World Inequality Database [online] <https://wid.world/>.

sometimes or always buy elections, and about three quarters of all respondents to a cross-LAC poll believe that governments cater to “powerful groups” (Lewis and Plutowski, 2021). Whether or not these perceptions perfectly match the region’s reality, they present a harsh critique of LAC’s political and economic governance over the past several decades. It is for this reason that industrial strategies and innovation policies cannot be top-down. If governed responsibly and inclusively, a mission-oriented industrial strategy has the potential to inspire and harness the full creativity of citizens to tackle problems as urgent as climate change, a more caring society and rising inequality. To mobilize society at large, missions should have widespread legitimacy and acceptance, which, among other things, requires that citizens be heavily involved in setting them. In this context, it becomes critical to develop a sound and transparent process to decide what the missions are, how they are framed, and how missions are assessed —with flexibility and adaptation built in so that missions have the right checks and balances along the way. For this to occur, there needs to be a strong level of public trust in the process of mission setting and implementation.

Citizens must be at the heart of any strong and purposeful mission, and the question of “who” — who will benefit from the innovation outputs and who takes on the “transition risk”— should therefore be foregrounded. It is precisely this question that is front and centre in the London council of Camden’s approach to missions (Camden Council, 2021). Building on its Camden 2025 action plan, which it had designed using citizen assemblies, public events and resident surveys; in 2020 the municipality created the Camden Renewal Commission. The commission has developed four ambitious missions and is in the process of handing over the reins to community leaders, businesses, and citizens. Indeed, Camden Council is now taking its work forward by designing a community wealth fund to ensure that its citizens co-own and share in the wealth that is created by the borough.

City- and community-based missions speak to the broader need to situate citizens and community groups at the heart of defining, implementing, and assessing missions. Through an honest approach to co-creation, missions offer LAC policymakers an opportunity to work with citizens on the ground to identify what their most pressing challenges are and how these can be repackaged into broader missions (Mazzucato, 2019). Through a concerted effort of co-implementation, policymakers can get real-time feedback of whether policies are well suited to the needs of communities. And through co-assessment, policymakers can evaluate the impact of missions and monitor the progress of reaching their targets.

The experience of participatory budgets, which emerged in the Brazilian municipality of Porto Alegre in 1989 and later spread to other parts of the region such as Argentina, Peru, and Chile, consists of a deliberation and

decision-making process that commits a portion of the budget typically at the local level of government to finance projects proposed by community organizations (Bloj, 2009; Correa and Hepp, 2021). Indeed, in the case of Porto Alegre, the strength of community associations is considered one of the factors that contributed to the municipality's readiness to implement participatory budgeting (Navarro, 2004). The starting point of any such initiative, however, is the government's political will to share decision-making. Participatory budgets enable citizens to engage in the public debate on the government budget and help define the priorities of public spending and investments for their communities. In so doing, they can help to steer public investments into directions that address the community's needs. They also have the potential to promote distributive impacts and legitimacy-building into political and budgetary processes and to contribute to social cohesion, transparency, and strengthening the relationship between civil society and the state (Bloj, 2009).

Concerted outcome-oriented approaches to evaluation and healthy citizen representation and engagement are by no means a given. They can be designed into mission-oriented policies from the beginning and continuously revisited. Ultimately, these are tools to ensure that missions remain credible and legitimate and to hold governments and other stakeholders to account in their efforts to tackle overarching challenges. The last key piece of this puzzle is about renegotiating the way that governments and companies work together, with the aim of guaranteeing that growth is inclusive and sustainable. To do so, countries in Latin America and the Caribbean will need a new social contract with all stakeholders.

B. Public and private: a new deal

Fundamental to implementing mission-oriented industrial strategy is a different relationship between business and the State—a dynamic mutualistic relationship characterized by shared goals that maximize public value, prioritization of stakeholder value on the part of willing businesses, and co-investment in technology, skills, and infrastructure. This new form of public-private partnership should replace the rent-seeking and value extractive behavior that has dominated economies in the region, in particular in the natural resources sector, which owes its presence to the region's colonial history, financialization, and persistence of oligopolistic markets.

Too often there have been unbalanced or parasitic public-private relationships, either because of weak or corrupt States or rent-seeking companies. Since the turn of the century, more than 30 unicorns—privately held start-up companies valued at over US\$ 1 billion—have emerged in Latin America. Brazil, Mexico, and Argentina are responsible for most, but Chile, Uruguay, Colombia, and Peru

developed a few themselves, with some of the best-known start-ups including Rappi, Nubank, iFood, Mercado Libre, Globant, and Core Securities Technologies (Startupeable, 2021). The growth of knowledge-intensive and high-value companies is a positive trend, but there is a clear risk of entrepreneurial and Intellectual Property (IP) drain. The State has contributed to the growth process of most of the region's start-ups both directly —by investing during the early and highest risk phases through grants, seed capital and Venture Capital (VC) public funds— and indirectly —through public support programmes for training and education (Gonzalo et al, 2022). However, in some cases, global VC funds have changed leadership, reduced R&D funding and capacity, and stripped start-ups of assets; while in other cases, killer acquisitions by multinational companies have meant that IP is integrated into foreign firms (Gonzalo et al, 2013; Gonzalo, 2015; Pires et al, 2019). This has led to rent extraction by domestic and foreign firms and an unbalanced relationship between the State, which takes the early risks, and the private sector, which reaps the rewards.

What is more, globally labor representation does not often receive the recognition and legitimacy it deserves. Indeed, labor's share of global income is almost at an all-time low. In 2020, real average wages fell in Argentina, Bolivia, Colombia, Costa Rica, El Salvador, Nicaragua, Panama, Paraguay, Peru, and Uruguay by an average of 1.7%. Furthermore, average wages also contracted by an average of 2.5% in 2021 for six of those economies. At the same time the capital share of global income has grown. Is this because capital has gotten smarter and more efficient while labor has gotten less so? No. Even in periods when productivity has risen, labor has not reaped the rewards, indeed the growth of real wages has lagged productivity growth.

To tackle the problems around rent-seeking and wage stagnation, governments must reconceptualize public-private partnerships. This is about redesigning the very contracts on which the relationships between public and private sector actors are built. Indeed it is about moving from a model of redistribution to one of predistribution where both risks and rewards are socialized. Here are some different ways this can be done:

- **Intellectual property (IP) governance:** New models for IP governance could be a core component of more symbiotic public-private partnerships. IP protection is not a right but the result of a contract whereby the government grants monopoly power in exchange for transparency and diffusion of knowledge. However, IP rights are often abused (too wide, too strong and too upstream) (Mazzoleni and Nelson, 1998). The State can therefore establish a new legal blueprint for patents and other IP that better balances private incentives and public value and interest.
- **Equity stakes:** A portion of the value that is created by all actors can go back to public wealth funds, rather than just to the private sector. This

is a direct way to recognise that often the highest risk early stage of investment in innovation is borne by the taxpayer —hence equity stakes can be used to socialize both risks and rewards. Such funds can then be used to reinvest the value created back into local communities, or produce citizen dividends/shares. This can happen via public banks or more local wealth funds as is being experimented for example in various cities and States in the United States.

- **Diffusing knowledge:** Intellectual property rights can also inhibit the diffusion of critical knowledge, technology, and infrastructure. This became blatantly evident during the COVID-19 pandemic, during which big pharmaceutical companies failed to share IP-protected information that could have drastically scaled up the production of vaccines. Exploring opportunities around pools, pledges, or licensing could enhance the propensity for knowledge-sharing.
- **Conditionalities:** When companies benefit from public investments in the form of subsidies, guarantees, loans, bailouts or procurements conditions can be attached to help shape innovation so that it achieves the greatest public benefit. For example, procurement can be conditional on greener supply chains, reinvestment of profits, and better working conditions.

Box 7 | Case study of public-private partnerships in Sweden

Sweden's industry is an insightful example of how such mission-driven partnerships between the public and private sector may look in practice. One of the Nordic country's largest investments in green technology and infrastructure is currently underway. The project sets out to promote sustainable and societal development by putting a particular emphasis on housing and quality of life. The project was initiated by the Council of Sustainable Cities, a Government-commissioned council consisting of 13 member institutions following the mission of strengthening and creating the necessary conditions for the development of sustainable cities and communities.

The starting point for this collaborative council was Goal 11 of the 2030 Agenda for Sustainable Development —the creation of inclusive, safe, resilient, and sustainable cities and human settlements. The Sustainable Development Goals (SDGs) often have the important function of establishing the direction and mission of such collaborations. The Council seeks to further develop relevant knowledge in sustainable urban development as well as to promote dialogue and collaboration by involving actors at a national, regional, and local level. Promoting conversations between the decision makers and residents has given the latter a direct stake in the project's success and with that the opportunity to make their voices heard. Creating this space for honest stakeholder engagement in the north of Sweden has been of particular importance for the inclusion of the Sami —one of Sweden's indigenous peoples.

In line with the new social contract, the Council and its member organisations have allowed for new forms of cooperation between authorities, regions, municipalities, businesses and civil society. Taking such multi-stakeholder approaches is a necessary ingredient to building an economy that promotes societal well-being. Vinnova, one of the member organisations and Sweden's innovation agency, actively seeks to fund innovative projects and businesses that benefit society, moving beyond an exclusive focus on shareholder value toward the creation of public value for all. Another example that illustrates the potential of symbiotic partnerships between the private and the public sector is the First Movers Coalition (FMC). Together with the Swedish government, a handful of *willing* Swedish companies have now joined the coalition, aiming to collaborate across sectors to lead the climate transition.

These industrial collaborations across the public and the private sector in Sweden are changing the game of how business is done. Swedish businesses have collaborated with Government institutions and citizens to collaboratively work towards the mission of a sustainable and more equal future. These initiatives have promoted mission-driven partnerships between the private and the public sector while at the same time being conditional on and directed towards the creation of stakeholder value. These cross-sectoral initiatives enable access to a broader spectrum of competences, building new capacities, and contributing to the successful realisation of capital intensive and bold missions the private sector would not be able to shoulder alone.

Source: Own elaboration.

LAC has some positive examples of public-private partnerships that can be regarded as a basis for symbiotic and constructive relationships. In Brazil, some of the positive cases are linked to stimulating innovation in the fields of health, biofuels/ethanol, agriculture, and aspects of the Brazilian space programme (Mazzucato and Penna, 2016a). In particular, the programmes focused on health —the Ministry of Health's Public-Private Production Development Partnerships— and biofuels/ethanol —the BNDES-FINEP Joint Program for Supporting Industrial Technological Innovation in the Sugar-based Economy and Sugar-Chemicals Sectors (PAISS in Portuguese)— can be distinguished by two main features. First, they were both aimed at achieving high public benefit, including economic, environmental, and social benefits; second, but just as important, both programmes included concrete mechanisms to ensure that both the risks and rewards could be balanced between actors in the public and private sector (Laplane, 2021). In the context of the PDPs, public procurement was conditional to price reductions which had potential repercussions on access to health. In contrast, in PAISS, equity participation via BNDES was the main instrument adopted to enable the State to share in the risks and potential financial gains of co-investing in innovation (Laplane, 2021). Learning from these incipient experiences is key to informing more symbiotic and mission-oriented policies and there is increased interest in applying new approaches to national development problems (see, for instance, Gadelha (2016)).

A mission-oriented approach to industrial strategy in LAC can transform the way that the public and private sectors work together, and ensure that more citizens and workers benefit from the value all stakeholders create. By putting shared, common goals at the centre of public-private partnerships and ensuring that both risks and rewards are shared—notably through contractual arrangements tied to intellectual property (IP), grants, loans and procurement—the outcomes of these partnerships become more concrete and felt. To achieve the economic transformation described in this report, LAC businesses, governments, trade unions, and other stakeholders must come together to shape markets that reflect a more equitable stakeholder form of capitalism. It is not about glorifying one actor over the other, but about finding new ways to co-invest and collaborate. Ultimately, it is through a new social contract between the State, capital, and labour that governments can ensure that more people share in the growth of their economies.

“Old approaches to economic development will not empower LAC to overcome current economic, health, inclusion, and climate crises. There is a clear need for governments to set bold goals and work collaboratively.”



Chapter VII

Conclusions and key recommendations

The current economic and social challenges being faced by countries in LAC can be transformed into opportunities for investment and innovation, which stimulate collaborations, diversification and increases in productivity. By advancing mission-oriented industrial strategies, LAC countries can direct economic growth, and in the process maximize the way it benefits the populations in question.

First, this requires reintroducing industrial strategy into the vocabulary of policymaking. But rather than focusing on specific sectors, industrial strategy should start with challenges, to catalyse investment and innovation across *multiple sectors*—including in manufacturing, natural resources and services and to focus economic development around key goals related to health, digital access and climate. This can stimulate transformation within sectors, and bottom up processes of discovery, key to processes of diversification.

Second, this means using a wider array of the tools available to governments, from procurement to budgeting, to advance mission goals. To bring about transformative change, missions cannot be restricted to the confines of individual departments, it requires a rethink of policy instruments and funds across all of government.

Third, this means advancing a new type of public-private partnership, one designed to yield public benefit in line with the mission goals set by government, and that is reflected in clear contractual commitments. These can be done through ambitious “conditionalities” linked to public subsidies and investments or intellectual property rights, that for example might require on the business

side greater investment or types of knowledge sharing. Such conditions should not micromanage what companies do but set the constraints of what must be done in exchange for government help, e.g. make supply chains greener, improve working conditions etc.

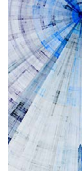
Fourth, this requires building or redesigning institutions —from public banks to State-owned enterprises— with clear remits to align their investments and activities with mission goals. Such redesign is both about the remit of an organization and its culture, for example, more risk-taking and experimentation.

Foundational to these shifts are an empowered public service, dynamic evaluation metrics and an engaged public. Ultimately, seizing the opportunity to direct public and private investment and innovation towards tackling pressing challenges has the potential to renew the social contract between governments, businesses and people, building trust and ensuring that the benefits of economic growth are widely felt.

Finally, the transformative approach to economic development described in this report requires willingness to learn from what works and what does not in past experience. For this we hope that the new era is one of knowledge sharing between LAC governments, perhaps through networks supported by ECLAC that purposefully learn from each other.

Old approaches to economic development will not empower LAC to overcome current economic, health, inclusion, and climate crises. There is a clear need for governments to set bold goals and work collaboratively with willing partners in the private sector to foster economies that are truly sustainable and inclusive. The time is now.

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The current economic and social challenges in Latin America and the Caribbean have highlighted both the region's structural problems and the urgent need to find new drivers of economic growth. The old approaches to economic development will not enable Latin America and the Caribbean to overcome the present-day economic, health and climate crises. Governments must set bold goals and work with willing private sector partners to promote a truly sustainable and inclusive economy. By advancing mission-oriented industrial policies, countries can stimulate cooperation, diversify production, increase productivity and direct economic growth that is both sustainable and inclusive. There is a unique opportunity to shape economic development that maximizes public benefits through mission-driven innovation, better use of available tools, smart public-private partnerships and purpose-driven institutions, underpinned by a strong public service, results-based evaluation, inclusive stakeholder engagement and a commitment to a renewed social contract. The mission-driven industrial strategy is about imbuing governments and economies of the region with a new sense of purpose and ensuring that everyone in society benefits from the structural changes ahead.