Integrated Financing Framework for Cuba (CIFFRA)

International policy lessons: integrated report

Simona Iammarino
María Savona
Elisabetta Marinelli
M. Adil Sait
Guillermo L. Andrés-Alpízar
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This document was prepared by Simona Iammarino, María Savona, Elisabetta Marinelli, M. Adil Sait, and Guillermo L. Andrés-Alpízar, Consultants, under the supervision of Ramón Padilla, Chief of the Economic Development Unit of the subregional headquarters of the Economic Commission for Latin America and the Caribbean (ECLAC) in Mexico.

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Explanatory notes:

Three dots indicate that data are not available or are not separately reported.
A dash indicates that the amount is nil or negligible.
A full stop is used to indicate decimals.
The word “dollars” refers to United States dollars, unless otherwise specified.
A slash between years (e.g., 2022/2023) indicates a 12-month period falling between the two years.
Individual figures and percentages in graphs and tables may not always add up to the corresponding total because of rounding.
The closing date of the statistical material in this document is September 30, 2022.

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Summary

As part of the activities of the Joint Program “Support for the development of an Integrated National Financing Framework for SDGs in Cuba” (CIFFRA), a comprehensive review of international policy lessons was carried out in four development financing key areas: (i) export promotion; (ii) attraction and channelling of foreign direct investment (FDI); (iii) promotion of science, technology, and innovation (STI); and (iv) governance and public investment.

Five reports were drawn up (one on each key area and an integrated report with cross-cutting reflections on the experiences studied) and two compilations with 11 case studies on policies to promote exports and attract FDI. This publication corresponds to the integrated report. Taken together, the lessons learned through the literature and case study review suggest a careful combination of development principles and policies that balance the risks and opportunities of opening to international trade and FDI, and help learn from international partners and experiences, improving productivity and skills, as well as retaining human capital.

The objective of the comparative exercise was to provide a basis for reflection on the four dimensions of the study, rather than to establish specific recommendations. Other CIFFRA exercises have taken these inputs into account in the development of policy proposals. All the documentation was delivered to the Cuban authorities and discussed in two workshops with government officials, national academics and ECLAC experts.
Introduction

This integrated report summarises the outcome of the project “Support for the development of an Integrated National Financing Framework for the SDGs in Cuba”, which reviewed selected policy practices for selected countries across the globe, in comparison to the Cuban case, in four interrelated areas: (i) science, technology and innovation (STI); (ii) international trade; (vi) foreign direct investment (FDI), and (iv) governance and public investment.

The project is to be framed in Cuba’s fast changing environment. As the country enters a new constitutional phase, with an increasing commitment to international openness, decentralisation, and knowledge-based development, it is useful to reflect on other countries’ experiences through similar transformations in each of the above four interrelated areas.

The report is structured as follows: chapter I offers an overview of the Cuban economy, with special reference to the four areas of interest; chapter II deals with science, technology, and information; chapter III, IV, and V look at trade; foreign direct investment; and governance and public investment respectively. The conclusions are presented in chapter VI.
I. The Cuban context: high human development and economic inequality

The World Bank (2021) places Cuba in the list of middle-high income countries,¹ and, according to the UNDP (2021), the country has a high Human Development Index (HDI). The Cuban economy is dominated by its service sector, which contributes around 76% of GDP. Manufacturing industries account for roughly 21% of GDP, and agriculture for approximately 3% of GDP. Following Cuba’s economic collapse during the ‘Special Period’ (1991-2000), industrial production has not yet recovered. Cuba has since been heavily affected by external economic shocks.

For example, the 2008 global financial crisis hit Cuba in several ways: through impacts on commodity export-prices, declined demand for its tourism industry, lower remittance rates, as well as reduced access to foreign credit. Total production of industrial goods (measured in physical volume) in 2020 was still at 62.1% of the production in 1989. The export of medical services and tourism have been critical to the Cuban economy (up to the COVID-19 pandemic) with Cuba receiving 4.6 million visitors in 2018.

During recent years, Cuba has shown low real-GDP growth. After decades of continued growth, the GDP fell by 0.2% in 2019 and 10.9% in 2020, due to the COVID-19 crisis: the dramatic fall in tourism revenues caused by the global pandemic amplified the negative effects of the United States sanctions² and of the inherent problems of the Cuban economy.

¹ Figures do not reflect the monetary duality in the country until the beginning of 2021 and have not been systematically updated.
² Cuba has a complex political economy linked to its historical relationship with the US. As a communist country, following the Cuban Revolution, Cuba has faced a blockade enforced through legislation that is also above the authority of the president of the US. The successive sanctions have continued to hinder Cuba’s economic development. The 2015 easing of some restrictions under President Obama administration (2009-17) was reversed by the Trump administration (2017-21), without any significant change at the moment of writing.
To address some of the structural challenges, more than a decade ago the Cuban government initiated the so-called “Updating of the economic and social model”. This has resulted in the development of private economic activity a greater autonomy for State-owned enterprises (SOEs), and improvements in the public administration. Several important changes have occurred in the Cuban legal framework and economic institutions in recent years, which call for a strategic reflection on the future of the country.

A. Governance and public investment: a new vision for Cuba

In the context of the 2015 global commitment to the Agenda 2030, Cuba developed the National Economic and Social Development Plan for 2030 (Ministerio de Economía y Planificación de Cuba, 2015) to address new internal and global challenges. In line with the 2019 new Constitution, the PNDES also emphasises the importance of a deep and structural transformation of the Cuban economy across several dimensions. The country aims to increase its participation in international trade and investments, move towards value chains with higher value added, and boost the promotion of Small and Medium Enterprises (SMEs). At the same time, governance has been directed towards increased decentralisation, with more powers transferred to municipalities and councils of municipalities. Needless to say, the plan also recognises that significant changes need be made in the regulatory framework, governance systems, organisational and management processes, and business structures.

Such transformational developmental agenda, however, is being implemented in a challenging context, with limited capacity for public investment. For instance, as Galeano and Esquenazi (2019) point out, the focus on financing the Cuban health system —public health expenditure as a proportion of GDP is very close to the OECD average— generates challenges for maintaining the necessary amount of investment and increasing the capture of currencies through exports. Along similar lines, Sánchez-García’s (2011) argue that the lack of development of Cuba’s capital market has hindered the ability of municipal governments to manage state resources. Other challenges are the inefficient local administrations (Machín and others, 2020) and sustaining the public education system, which requires better financial management tools (Lauchy and Acosta, 2016; Alpízar-Santana and Ramos, 2018). Furthermore, as shown in figure 1, Cuba has experienced a fiscal deficit over time, with a strong increase in 2020 due to the COVID-19 pandemic. However, it’s important to note that after the crisis of the 1990s (when the fiscal deficit exceeded 30% of GDP) Cuba managed to stabilize the deficit for more than 20 years (below 5% of GDP).

3 In recent years, a set of actions have been generated to strengthen the local governance structures (i.e., municipalities and provinces), in accordance with the new constitution which identifies municipalities as the fundamental political and administrative units, with autonomy and legal personality. The most recent Guidelines approved by the last congress of the Communist Party of Cuba explicitly recognise the importance of promoting territorial development based on the country’s strategy, providing them with the necessary autonomy to achieve their potential.
Such challenges are compounded by the difficulties in coordinating policy action: to enhance competitiveness and innovation, the design and implementation of an integrated economic development policy that supports productive transformation of the economy in line with the National Development Agenda is a critical need (Mañalich and Pérez-Abreu, 2018).

B.  A Science Technology and Innovation system centred on the public sector

The Cuban STI system is articulated around public organisations, including research centres, universities, and firms. A substantial part of the national science and technology capacity is concentrated in the higher education sector, which accounts for 41 universities and more than 54 thousand academics (ONEI, 2021a). Cuba has made an important effort in STI investment, particularly in Science (see figure 2). The growing trend of R&D investments in Cuba stands out against the relative decrease or stagnation in the rest of Latin America and the Caribbean in recent years: Cuban share of R&D expenditure in Latin American increased from 0.44% in 2011 to 1.72% in 2019 (RICYT, 2021).

However, the “I” side of the STI system, that is the generation and diffusion of innovation (especially in the private sector), is lagging, except for the biotech sector. The greatest capacity for science and technological innovation is in fact concentrated in the latter sector (Limonta-Vidal, 2002; Sáenz, 2005; Yaffe, 2020). The creation of the scientific and productive pole, and later the state-owned conglomerate of the biotechnological and pharmaceutical industries, BioCubaFarma, is seen as a success, because they represent examples of how public investments have resulted in the creation of an innovative and competitive sector.
In recent years, as part of the upgrading of the economic model, new laws and decree laws have been approved, which have resulted in important changes in the country's STI policy, allowing an improvement in the organisation of the system and perfectioning the institutional framework. The modification of the institutional framework in which the Cuban STI system operates has opened new opportunities to generate inter-organisation links, more efficient learning processes, and better use of the human potential (e.g., Rodríguez-Batista and Núñez Jover, 2021).

In terms of human capital resources, according to the latest available data, 89.3 thousand workers are employed in the Cuban STI system, of which 7,945 are classified as researchers (ONEI, 2021a). However, Cuba's performance remains below the regional average of Latin America and the Caribbean in several key indicators, such as the proportion of researchers over the economically active population. Yet, the most recent statistics show that there has been an increase, aligning Cuba with the regional trend and reflecting the recent rise of general investment in R&D mentioned above. Despite the university contributions, Cuba's skilled workforce has been underutilised. More efforts need to be done through public intervention to expand economic opportunities and incentives for its talent (Cribeiro, 2012; Andrés-Alpízar, 2017b; Núñez and Montalvo, 2015).

### C. FDI: a priority for the Cuban economy

Following the enacting of socio-economic reforms in 2011 by the Cuban Government under President Raúl Castro Ruz, the promotion of FDI became a priority. As part of those changes, a new foreign investment law (Law 118/2014) was approved, which modernized Cuba's legal framework for receiving foreign capital investment, granting greater facilities and support to foreign companies. In the years following the 2011 reforms, the Cuban government has continued to take action to improve the business environment and to simplify regulations

---

4 For example, the Decree-Law 323/2014 of the Council of State "Of the Science, Technology and Innovation Entities" or the Decree-Law 7/2021 of the Council of State, focused on the design of the Cuban STI.
For instance, the one stop shop for foreign investment (VUCE) was created; this includes an online platform for managing permits to import and export (MINCEX, 2022), as well as a timetable for posting the government response to investors once a proposal is submitted (Decree 325/2018 and Decree 347/2018, Council of Ministers). The latter Decree 347/2018 modifies previous FDI laws, offering greater flexibility in the investment process.

In parallel, additional policies were adopted, such as the opening in 2013 of the Mariel Special Development Zone (Zona Especial de Desarrollo Mariel, ZEDM), with the purpose of improving the conditions for attracting FDI in Cuba and promoting new production activities (Castro-Cossío and Sáenz-Coopat, 2019). The National Statistical Office (Oficina Nacional de Estadísticas e Información de la República de Cuba (ONEI, 2021a) reports an increase in the number of projects that received FDI between 2019 and 2020 (from 281 to 318), with marginal changes in the proportion of FDI by type. Whilst the ONEIs (2021b) data provides limited information (complemented in the full CEPAL Report by fDiMarket data), it still shows the peculiar status of the ZEDM zone (see figure 3).

![Figure 3](image)

Cuba and the Mariel Special Development Zone (ZEDM): classification of firms according to the type of foreign investment


A key well known barrier to the success of these FDI policies for Cuba lies in the trade restrictions and other sanctions imposed by the United States. While, in principle, these measures are specifically targeting the Cuban government, in practice they have wide-ranging implications, also given the significant role of SOEs in the Cuban economy. Consequently, despite the efforts to improve FDI attractiveness by the government reforms implemented in recent years, the dominant role of the US politics and firms in Latin America and the Caribbean critically limits the effectiveness of the attempt to participate in regional value chains (Peña-Castellanos, 2018).
D. International trade: a vulnerable spot of the Cuban economy

The Cuban economy specialises on the export of low value-added goods. Cuban exports have focused primarily on raw or semi-raw primary goods such as sugar, rum, fish and tobacco, metals (nickel and cobalt) and minerals (zinc ores), and basic commodities. These represent more than 80% of the total goods’ exports. The only high value-added exception is in chemicals and biotech products (e.g., vaccines, medicaments), which in 2020 represented just above 2% of the export of goods (see figure 4).

Figure 4
Cuba: structure of exports of goods
(Cuban pesos)


The vulnerability of Cuba’s international exchanges in manufacturing is compounded by the relatively high concentration of its trade partners. Overall, the ten main trading partners for goods account for approximately 71% of Cuba’s total trade, with exports concentrated in two main countries (China and Canada, accounting for 55% of Cuban market destinations). The situation is more favourable in relation to services, which have a surplus of 6.2 billion pesos (ONEI, 2021a) and exhibit a larger number of destination countries. Since the 2000s, tourism in Cuba has been seen as the ‘engine’ of the national economy, which not only helps sustaining economic growth and development but also attracting foreign currency (Ramírez-Pérez and others, 2020; Salinas and Echarri, 2005; Perelló, 2015). In addition, important contributors to service exports are medical, health and education services, intensive of human capital and not dependent on international value chains.

At present, import and export activities for commercial purposes are controlled mainly by the SOE business system. Private firms require specific authorizations or licenses, although all companies with foreign capital can export without the use of a state intermediary (Álvarez-González, 1995), and sometimes also import. The presence of this kind of intermediaries increases costs for private businesses, as it is common that companies which are allowed to carry out operations in foreign markets provide, against payment, this type of services for those that do not have authorization to trade.

The dynamic evolution of Cuban foreign exchanges in recent years highlights the need for economic policy actions to overcome vulnerabilities in the tradeable sector. The recent involvement of private and cooperative actors (starting in August 2021) into export activities is an important step forward. Yet, it needs to be accompanied by a change of the conditions of SOEs and the introduction of more flexible mechanisms for export and import permission, for example by eliminating the use of intermediaries that generates transaction costs. As mentioned above, the creation in 2013 of the ZEDM also went in the direction of facilitating international linkages and promoting the emergence of new value creation (Castro-Cossío and Sáenz-Coopat, 2019; ZEDM, 2022). To sum up, we present here below the main strengths, weaknesses, opportunities, and threats (SWOT) from the overall analysis (see table 1).

Table 1
Cuba: summary of SWOT analysis for the four areas of interest (science, technology and innovation, trade, FDI and governance for public investment)

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment to a new economic and productive model</td>
<td>Lack of a publicly available data and information base for socio-economic analysis</td>
</tr>
<tr>
<td>Policy reforms on a steady and consistent trajectory</td>
<td>Excessive centralisation/low participation of local actors in decision-making processes</td>
</tr>
<tr>
<td>Move towards governance decentralisation</td>
<td>Administrative and institutional bottlenecks</td>
</tr>
<tr>
<td>High and sustained investments in social policy and education</td>
<td>Little development within the banking and financial system</td>
</tr>
<tr>
<td>Increasing trends in capital formation and accumulation</td>
<td>High fiscal deficit</td>
</tr>
<tr>
<td>Increasing R&amp;D expenditure</td>
<td>Low levels of investments and technological acquisition</td>
</tr>
<tr>
<td>Research excellence in specific fields</td>
<td>Ageing of labour force and brain drain</td>
</tr>
<tr>
<td>Innovation capabilities in biotechnology (Scientific and Productive Pole, BioCubaFarma)</td>
<td>Decreased capabilities to patent</td>
</tr>
<tr>
<td>Human capital-intensive service exports in medical, health and education</td>
<td>Aging of S&amp;T infrastructure, technological obsolescence</td>
</tr>
<tr>
<td>More diversification across economic sectors attracting foreign capital (tourism, energy, mining, manufacturing, among others)</td>
<td>Dependency on import for essential goods and services</td>
</tr>
<tr>
<td>Growing interest and awareness of the role of STI, trade, FDI in both government and among the general public</td>
<td>Concentration of trade in low value-added products</td>
</tr>
<tr>
<td></td>
<td>Lack of FDI in highest value-added functions</td>
</tr>
<tr>
<td></td>
<td>Vulnerable touristic model (e.g., sun and beach)</td>
</tr>
<tr>
<td></td>
<td>Weak domestic SMEs, linkages, and externalities</td>
</tr>
<tr>
<td></td>
<td>Inconvertibility of the Cuban Peso</td>
</tr>
<tr>
<td></td>
<td>Lack of integration into macro-regional GVCs (LAC)</td>
</tr>
<tr>
<td>Opportunities</td>
<td>Threats</td>
</tr>
<tr>
<td>---------------</td>
<td>---------</td>
</tr>
<tr>
<td>• Opportunities from the shift to the Fourth Industrial Revolution</td>
<td>• US economic sanctions and general blockade</td>
</tr>
<tr>
<td>• Potential for growth in key sectors/natural resources for the global economy</td>
<td>• Worsening of the economic crisis because of the Covid-19 global pandemic and Ukraine war</td>
</tr>
<tr>
<td>• Potential for business networks and linkages between multinationals and domestic SOEs and SMEs</td>
<td>• Failing to update regulation systems (e.g., Law 118)</td>
</tr>
<tr>
<td>• Experimenting with trade and connectivity policies</td>
<td>• Lack of participation in international financial institutions</td>
</tr>
<tr>
<td>• International demand for Cuban vaccines and therapeutics, including those against COVID-19</td>
<td>• Lack of collaboration and networks in trade STI and FDI within the macro-region</td>
</tr>
<tr>
<td>• Institutional reforms, particularly territorial articulation of policy approaches</td>
<td>• Insufficient trust and consensus</td>
</tr>
<tr>
<td>• Accessing external sources of investment financing</td>
<td>• Uncertainty on exchange rate regime</td>
</tr>
<tr>
<td>• Participating in Central/Latin America political and economic integration, GVC economic integration and S&amp;T cooperation</td>
<td>• Failing to generate an integrated policy approach to economic development due to too much fragmentation of policy objectives and lack of clear priorities</td>
</tr>
<tr>
<td>• Interest shown by other trade and investor partners (EU, other Asian economies)</td>
<td>• Implementing change by increasing internal marginalisation and exclusion</td>
</tr>
</tbody>
</table>

Source: Prepared by the authors, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), Preliminary Overview of the Economies of Latin America and the Caribbean 2021, Santiago, 2022.
II. Creating and strengthening local capacities for science, technology, and innovation

A. Conceptual framework and policy rationale

1. Main ingredients of STI and inclusive structural change

Innovation is defined as “a new or improved product or process (or combination thereof) that differs significantly from the unit’s previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process)” (OECD, 2018c). Innovation is mainly the result of investments in R&D, human capital, organisational capital, and physical and intangible infrastructures (OECD, 2020).

Innovation can have different degrees of radicality, that is new to the world, the market, or the producer. Here we do not assume that an innovation needs to be new to the world (i.e., highly radical), but to the local market and users (i.e., incremental). Innovation, as well as Science and Technology (STI), are here mainly considered as instrumental to achieve structural change and technological upgrading that could strengthen local capabilities in Cuba, and the conditions by which this can be achieved in an inclusive manner. STI also underpins the level of sophistication of the products exported, affecting trade competitiveness.

Structural change is traditionally considered as the transformation of the (national) output composition from primary to manufacturing and services (Bah, 2011; Padilla and Villareal, 2017). Structural change is also expected to entail a shift of production toward assets and activities based on higher knowledge and skilled labour that entail more advanced technological capabilities and allow upgrading toward more efficient business organisation structures, higher size and productivity, exports in more knowledge intensive goods and services with high elasticities of demand, functional upgrading along Global Value Chains (GVCs) and the consumption of higher value-added goods and services.
In a developing or emerging country context, when technology is adopted and internalised, necessity entrepreneurship is replaced by opportunity entrepreneurship (Fairlie and Fossen, 2018), with informality reducing because of entrepreneurial opportunities, and emerging specialised spatial agglomerations or clusters. Institutions also evolve, become more complex, establish regulations on the labour markets, the environment and technology (e.g., IPR), and the innovation system evolves. However, in some countries, these transformations occur but not necessarily lead to higher knowledge and skilled labour. For instance, in Latin America there has been a significant expansion of the services sector, but highly oriented to informal, low productivity activities (Padilla and Villareal, 2017) that have not scaled up structural change, thus missing opportunities for more sustained and sustainable growth. This is why it is important to talk about progressive structural change (or inclusive structural change).

Inclusive structural change can be defined as a process of structural change whereby all the transformations entailed and mentioned above are counterbalanced when they have exclusionary outcomes, either in the making or through targeted policies that offset the unintended exclusionary outcomes (Ciarli, Savona and Thorpe, 2021). For instance, when structural change occurs jointly with increased productivity in existing activities and a move towards more complex and technology-intensive sectors and processes, it is expected to lead to higher long-term economic growth and better-paid jobs, lower inequality, and a more equally distributed access to the sources and participation to the processes that lead to structural change.

Inclusive innovation is achieved as the result of a process to (re)-distribute benefits and losses of innovation —across people and space— as well as power and decision-making, such that those individuals and places which are currently excluded or marginalized from decision-making and gains accrued to previous innovations become included in processes of economic development, and their needs are explicitly addressed as a result. An innovation is also considered inclusive when individuals from excluded groups and regions are involved in the processes through which innovation happens, such as the design and development of new goods and services (Ciarli, Savona and Thorpe, 2021; Planes-Satorra and Paunov, 2017).

2. Achieving inclusive structural change through STI: mechanisms and trade-offs

The way in which innovation diffuses and generates inclusive structural change depends on a number of enabling conditions (e.g., education, financial infrastructure), private and public actors (entrepreneurs, firms, workers, households, local communities and governments, national ministries, among others.) and interactions between different categories of actors. The latter do not act and interact in a vacuum, but within a context affected by a number of enabling conditions, that might differ in different national and regional contexts, historical periods, institutional and cultural settings. The creation of new goods and services by means of new processes and organisations is by all means a destructive phenomenon (Schumpeter, 1911).

The outcomes of these processes entail the creation of new activities and the obsolescence of existing ones; the need for new skills and the redundancy of others; segments of the society benefiting, while others remain excluded. Structural change and inclusion might therefore reinforce each other in a virtuous circle; or rather go into different directions conducive of different combinations of inclusion/exclusion and lower/more disruptive structural (see diagram 1).
Diagram 1
Innovation pathways to structural change and inclusion


Note: Arrows represent pathways. The variables that represent conditions, actors and interactions define the effect of innovation on adoption/diffusion, and on structural change and inclusion outcomes. Some pathways go through adoption/diffusion, while some variables have a direct impact on structural change and inclusion. Variables represent the innovation channels and sources, the type of innovation, as well as meso- and macro-conditions such as sectors, demand, geography, and institutions. In the extremes, innovation may have a positive effect on structural change, and a negative effect on inclusion (top end of the right axis), or no or negative effect on structural change and a positive effect on inclusion (bottom end of the left axis). The axis measures the trade-offs between structural change and inclusion outcomes. Structural change and inclusion are therefore not intended to represent different options – they are not mutually exclusive – but rather innovation processes may lead to different degrees of inclusive structural change.

Table 2 below summarises the main benefits/mechanisms, and the main costs/conditions of science, technology, and innovation, in terms of achieving economic structural change and inclusion.
Table 2
Trade-offs of Science, Technology, and Innovation Strategies to Achieve Structural Change and Inclusion

<table>
<thead>
<tr>
<th>Potential benefits of STI</th>
<th>Potential side-effects on inclusion of STI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formation of endogenous/indigenous capabilities</td>
<td>Technological unemployment</td>
</tr>
<tr>
<td>Employment generation</td>
<td>Skill bias technical change</td>
</tr>
<tr>
<td>Meeting local/contextual needs</td>
<td>Spatial and individual inequality</td>
</tr>
<tr>
<td>Imitation and reverse engineering</td>
<td>Exclusion of actors, sectors, and regions</td>
</tr>
<tr>
<td>Transfer and diffusion of knowledge</td>
<td>Lack of voice and participation in investment decisions</td>
</tr>
<tr>
<td>Knowledge spillovers from all the above</td>
<td>Exploitative behaviours</td>
</tr>
</tbody>
</table>

Mechanisms for development
- Investments in public R&D and STI
- Imitation and adaptation
- Skills upgrading and human capital formation
- Catching up and moving away from specialisation/development traps

Necessary (but insufficient) conditions
- Investment in R&D (S&T) do not lead to innovation; might lead to exclusionary structural change

Source: Prepared by the authors.

B. Key lessons from the literature and case studies

To distil lessons from a selected number of countries with highly heterogenous economic, social, historical, and cultural backgrounds is not a straightforward venture. With the several caveats that this implies, below we reflect on the country cases reviewed and the literature on STI in low- and medium-income countries (LMICs), in order to shed light on the Cuban case.

When looking at the use of STI policy within a National Innovation System (NIS) perspective in LMICs, Bell (2009) warns on the risk of major imbalances. First, the concentration of public policies on fostering innovation capabilities by strengthening public and centralised R&D centers and universities should be complemented by devoting equal attention to fostering complementary capabilities in private business firms. Translating Science into Technology and Innovation is important and should not generate a trade-off with public funds into Science and Research. This is achievable by ensuring that public research centers interact downstream with both public and private enterprises. Interesting experiences of economic transition with a particular attention to strengthening the NIS, such as that of Viet Nam, clearly show this aspect.

Second, when it comes to developing own production and innovation capabilities in the private sector (Bell, 2009; Ciarli, Savona and Thorpe, 2021), relying mainly on technology transfer via import and acquisition of technologies from foreign suppliers or trade and GVCs partners should be complemented by devoting a similar effort to create, use and develop own innovation capabilities. For instance – as also discussed in the FDI section below – Costa Rica has very much depended on the Intel presence, though this has also represented a limitation: despite the very strategic choice of the sector (ICT, which potentially could pave the way for the development of Industry 4.0), Intel left the country, hollowing the manufacturing base of their investments. Following Lopez Gonzalez and others (2019), LMICs such as Costa Rica, with a good potential for developing their own pathways of inclusive structural change, should devote strategic effort in developing local technological capabilities, to reduce vulnerability and dependency from foreign investment and make the most from indigenous development of human capital and absorptive capacity (Molina-Domene and Pietrobelli, 2012).
Third, in terms of the governance of STI strategies, not only is it important that public policies are designed to interact with firms downstream, but also that policy makers that identify priorities and implement the policies are made accountable of their choices to civil society and independent actors that play as an advisory role, as in the case of Costa Rica. Viet Nam also can be considered an example of transformation of the governance of the innovation system, showing a learning process for policymakers. It is important however to remember that an inclusive decision process does not necessarily and automatically follows such good practices.

Finally, it is crucial for Cuba to make sure that a new vision for the country embraces an integrated platform of policies, and a synergetic view between innovation, economic development and social policies that avoids the pitfalls encountered even in virtuous experiences. Viet Nam, for example, has managed a substantial structural change of the economy from agriculture to manufacturing. However, a significant contribution has come from its geographical location and the opportunities offered by joining GVCs close to China, the “factory of the world”. This has been proved positive in terms of industrialisation process but carrying at the same time side-effects in terms of specialisation trap and exclusion at both individual and spatial levels.

C. Key recommendations

What can industrial and innovation policy do to strengthen local capacity within the NSI in a manner that is sustainable and inclusive? First, it is of crucial importance to start off with a process of local and endogenous change by ensuring scalability, and persistent transformation. If so, regional, and local embeddedness should be prioritised over entering, for instance, GVCs prematurely (Lopez Gonzalez and others, 2019). In the context of inclusive structural change in LMICs, this calls for a thorough revision of the potential roles of economic and innovation policies and most importantly their integration in a coherent platform of instruments.

Second, particularly in LMICs contexts, it is crucial to identify relevant opportunities for endogenous innovation and to make sure that the latter can support endogenous change. Following place-sensitive views of economic development in the last decade or so (e.g. Iammarino, 2005; von Tunzelmann, 2009; Iammarino and others, 2019) entails going well beyond mission oriented, top-down, science-led approaches—which require frontier technology, substantial funds, and an advanced institutional framework— and integrating them with ‘diffusion-oriented’, bottom-up, capacity-building programmes, achieving effective compromises and fruitful dialogues between the two main governance views.

Thirdly, it has been increasingly recognised that public policy should include adequate citizen participation in decision making processes (Thorpe and Gaventa, 2020), in relation for instance to what the priorities to be achieved are through the missions, or to technological choices to achieve growth. This aspect will be further explored in the section on governance.

It is important that STI policies (and any other policy for what matters) are framed within a balanced and inclusive governance, with a clear articulation of scientific, technological, and socio-economic objectives related to investments, technology transfer, and sectoral specialisation choices. Such governance should engage all parts of society that are directly or indirectly affected or involved by foreseen policy choices so to build consensus and support, providing an opportunity to align incentives of actors as diverse as entrepreneurs, workers, consumers, donors and policymakers, communities, private sector, and multinational enterprises.
This is particularly important, in a context such as Cuba, with limited private participation in the innovation system. At the early stages of the creation of systemic interaction, it is important to provide instruments for actors to work collaboratively with the aim to align their incentives and find common ground for their objectives.

In sum, the above set of reflections imply that it would be imperative to:

- Identify areas of STI that are in line with existing local assets, needs and potential and are thereby conducive of local innovation. Such policy priorities should be identified within a participative process, to ensure support throughout the policy cycle.

- Provide mechanisms and instruments to favour the alignment of incentives among different categories of actors, in line with the “Governance of Network Alignment” framework (von Tunzelmann, 2009), according to which the most important ingredient for the implementation of development policies of any nature is the matching of technical change, and institutional and organisational change.

- Develop a comprehensive policy mix that supports all actors of the innovation system and that favours interaction between them. In the case of Cuba, where the public leg of the innovation system is most developed, it is essential to support particularly business firms’ innovation and technology adoption.

**Box 1**

**STI: main policy lessons**

(i) Mapping, supporting, and developing private sector innovation capabilities alongside scientific and technological ones.

(ii) Identifying science priorities and complement public funds in centralised R&D centers with a diffused support to the private business sector.

(iii) Investment in education with close attention to skills matching and upgrading when it comes to translate science into technology and innovation.

(iv) Identifying technological priorities searching for civil society consensus, creating a system that can leverage on such a consensus to generate entrepreneurial opportunities.

(v) Developing innovation that maximises diversification strategies and enhance economic structural change.

(vi) Combining ‘mission-oriented’ and ‘diffusion-oriented’ approaches to innovation activities and capabilities to capitalize on and enhance local potential.

(vii) Devising policy instruments that can counterbalance the side effects of innovation and structural change in terms of inequality and inclusion.

(viii) When importing technology and integrating in GVCs, planning mechanisms that maximise learning to develop in parallel local capabilities and avoid dependence.

Source: prepared by the authors.
III. Supporting internationalization through trade

A. Conceptual framework and policy rationale

The export of goods and services is a source of income and knowledge, which allows to improve the balance of payments. The role of international trade on economic development has been the focus of heated debates since the beginning of economics as a discipline. This is because openness to trade interacts with several micro and macro-economic aspects that are relevant to economic growth, such as factor allocation, access to technology, the balance of payment and other macroeconomic stability variables, economic institutions, income distribution, and industrial dynamics (Atkin and Donaldson, 2021).

Several policies have been implemented in low- and middle-income countries to improve their integration in the global economy through trade. These include: (i) sudden liberalisation of planned economies —some resulting in disastrous short-term effects and generation of long-term inequalities and market distortions (Ellman, 2005; Orenstein, 2008; Jun, 2018); (ii) export processing zones (Mandani, 2003); (iii) regional trade agreements (Freund and Ornelas, 2010); iv) and industrial policies (McMillan and Naughton, 1992; Thatcher, 2014).

But trade policies are much more complex than that and include interventions at the macro level such as bilateral and multilateral tariff and non-tariff agreements, quality standards, exchange rate monetary policies, and dumping; as well as bottom-up approaches such as spurring clustering and inter-organisational linkages, fostering SMEs innovation and internationalisation, or promoting local and international integration in value chains. The impact of these policies usually depends, among other contextual factors, on what is exported, where, by whom, and with whom. Because of this, trade policies are often combined with STI, FDI and other industrial and economic development policies.
1. **Why what you export matters?**

Shifting exports from primary goods or low value-added services to more sophisticated products has characterised the development pattern of most industrialised economies. How to do that has been at the centre of the policy debate in Latin America for half a century (e.g., Prebisch, 1950; Harrison and Rodriguez-Clare, 2010; Cimoli and others, 2009), because of the mixed results of different trade policies. What countries export matters for the balance of payments. Goods and service with higher value added and productivity generate higher income, for an equal number of resources used (Prebisch, 1950; Singer, 1950). Goods and services with higher demand elasticity benefit more from a positive trend in the growth of global income and demand (Thirlwall, 1979; Cimoli, 1988; Cimoli and Porcile, 2013) and may be more resilient to global shocks in demand (Thirlwall, 2002).

What is exported matters also for technological learning and improving economic productivity (Akcigit and Melitz, 2022; Cimoli and Porcile, 2009, 2010; Katz, 2001): the interaction with buyers of sophisticated goods and services, or goods and services with high knowledge content, may lead to more opportunities or learning from buyers (Barrientos and others, 2016; Blalock and Gertler, 2004). Firms that produce in positions of the GVC that are closer to the final market or to the primary goods tend to be able to extract more value added. Firms that supply unique skills and/or products and services that are hard to reproduce, are difficult to be replaced and tend to experience a more equitable trade partnership (Dallas, 2015; Lee and Gereffi, 2015; Frederick, 2019; Gereffi and others, 2021).

2. **Why where you trade matters?**

Firms tend to become more productive when they export to higher income countries, because of competition and increased opportunities to learn from more sophisticated buyers that also supply technologies (Dalgıç and others, 2021). Trading firms also have the opportunity to access higher quality suppliers in technologically advanced countries, and increase their own productivity (Monarch, 2014; Sugita and others, 2016).

3. **Why who exports matters?**

It matters for inequality (Pavcnik, 2017) and because exporting firms are more productive than the average (Wagner, 2012); in market economies differences in productivity lead to differences in wages (Song and others, 2019), implying that as the gap between exporters and the rest of the firms widens (De Loecker, 2013), so does wage inequality (Helpman and others, 2017). As the technology gap between firms operating in the global market and those that are active only locally widens, so does the effect on inequalities. It matters because of the likelihood of gaining from trade, as trading does not necessarily lead to higher productivity (Ciarli, Savona and Thorpe, 2019). Exporters tend to increase productivity when they trade in industries and activities with high levels of knowledge appropriation and technological opportunities (Wang and others, 2021).

4. **Why whom you trade with matters?**

In a global economy in which most of trade flows occurs between firms (Baldwin and Lopez-Gonzalez, 2015), it matters because selling to more productive and technologically advanced buyers is associated with higher chances for firms to upgrade (Verhoogen, 2021). But if the buyer exerts a strong market power or has secretive strategies and is less willing to share knowledge with buyers and suppliers, such opportunities are stifled (Bontadini, 2019). It matters because exporting may give access also to suppliers of higher quality inputs, which also tend to improve
the chances of exporters to upgrade and sell products of higher value added (Bernard and Moxnes, 2018).

B. Key lessons from the literature and the cases studies

Beyond what is exported, where, with whom, and by whom, the kind of policies implemented and how they are implemented are crucial in determining the success of trade (liberalisation) strategies. Similar protectionist and interventionist policies aimed at building exporting industries in Latin American and East Asian countries (Cimoli and others, 2009) have led to very different outcomes in different locations, depending on the context in which they were implemented and how they were implemented.

Perhaps even more relevant to Cuban policy makers are the contrasting results of liberalisation policies in planned economies in East Asia and Eastern Europe. For instance, according to Chang and Nolan (1995), one of the crucial ingredients of the Chinese economic growth success, vis-à-vis the failure of some of the ex-Soviet states, was the slow and controlled pace in building new decentralised institutions, vis-à-vis the shock therapy adopted in Eastern Europe. Notably, connectivity policies – i.e., in support of trade, FDI, GVC participation, among others – are nowadays strongly intertwined, as the Chinese and South East Asian experience has clearly shown over the last decades (Davies, 2010; Wei, 2013).

Does protecting national industries to build capabilities in the production of high-tech goods pay off? It depends. The literature is fraught with examples and arguments on both sides (Rodrik, 2007). As put by Rodrik (2007) “If there is a clear association between how rampant industrial policies are and how poor productivity growth is, or between adherence to noninterventionism and strong economic performance, it does not show up in the numbers”. The literature tends to converge on the need to build capabilities through protectionist policies, while also relying on competition as an incentive for firms to invest in increasing those capabilities (e.g. Cimoli and Porcile, 2009; Salazar-Xirinachs and others, 2014).

Do export processing zones (EPZ) and industrial parks lead to sustainable development and growth? The evidence around the globe is mixed (Pack and Saggi, 2006; Naudé, 2010). Successful EPZ tend to come in pair with other active industrial policies (Rodrik, 2008) aimed at investing in the public and private sector in technological capabilities, e.g. though forming and employing engineers (Amsden, 2001). However, effective clustering of SMEs and multinational enterprises (MNEs) has often proved to be a prerequisite to achieve the necessary capabilities and create the right labour pooling, fostering internationalisation (see also the FDI section below).

Does regional trade agreement help balance positive and negative impacts of trade liberalisation policies? Again, it depends. Regional trade agreements are another potentially useful trade policy that combines interest of a selected number of countries that participate. Especially for small countries like Cuba, they combine advantages of a larger market for selling goods and access to inputs, with some trade protection. They also tend to work in combination with parallel industrial policy to strengthen technological capabilities in selected industries, as for example in the case of Mercosur (Rodrik, 2007). But alike import substitutions and EPZ, the effects are multiple and regional trade agreements can also be double swords, sometimes reducing possibilities for industrial development rather than increasing them.

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6 As well as the institutional and technological context in which they are implemented (see the Technical Reports on Governance of public investment and on STI).
Does liberalising trade always lead to innovation and productivity growth? As discussed previously, it depends, it is contingent on the ability of the domestic firms to compete in the global market, learn from providers and buyers, and move on to export goods that have a rising demand, and which offer opportunities to learn more capabilities.

Does liberalising trade impacts other parts of sustainable development, beyond productivity, economic growth, and innovation? Yes, it does. Pavcnik (2017) discusses various channels through which, by shifting opportunities and costs among firms, trade also induces a reallocation of resources, with winners and losers. Among those will be different types of workers, some of whom will benefit from employment opportunities and wage increase, other not (Acemoglu and others 2016). Differences will also emerge across regions, depending on their exposure to trade (Rodríguez-Pose, 2012; Autor and others, 2015). Depending on the extent of the changes, the timing of the policies, and the social protection mechanisms in place, the impact may lead to poverty and vulnerability in the short, or even long run. The initial impact may in fact have knock-on effects on education, health assistance, and thus longer-term inclusion opportunities.

For these reasons, the transition to a more open market economy is usually accompanied by a combination of openness and connectivity, social and industrial polices in most countries. These include, among others, macro stabilisation, gradual reduction of tariff and non-tariff barriers to export and import, liberalisation of domestic production and free economic initiative, investments in new industries in SOEs as well as through firm subsidies, selective attraction of FDIs, targeted EPZs, and regional trade agreements in the geographical area of location.

Although Cuba has high trade barriers, suffers from severe trade restrictions imposed by the US, and has gone through only mild trade policies, it does not face more serious SDG challenges than some of the countries that, having started from a lower level of economic development in the 1990s, have gone through several trade and industrial policies. This suggests that trade policy cannot be considered, per se, sufficient as a development strategy.

C. Key recommendations

Based on a comparison of the changes in the composition of Cuban international trade in relation to countries that have undergone economic and industrial transitions, a review of the literature on trade and industrial policies and their socio-economic impacts, a review of policy experiences from various countries that have undergone a transition from closed to open economies, and a mapping of their performance in relation to the SDGs targets, recommendations for future areas of actions in Cuba are here summarised.

- The design of trade (and industrial) policies in Cuba requires a careful ex-ante evaluation to map expected outcomes, opportunities, and risks. Crucially, such analysis should be comparative, not only assessing different combinations of policies, but also contrasting how different stakeholders value the different impacts. The weaknesses, strengths, threats, and opportunities of the Cuban economy may be useful starting points for further analysis.
It is necessary to place as much attention to policy design as to policy implementation, ensuring that adequate capacities are in place to assess the impacts of trade (and other) policies (this aspect will be addressed further in the sections on FDI and governance of public investment).\footnote{Most failures in industrial and trade policies were due to how they were implemented, and how they quickly turned to the advantage of those who were in power to design and influence them, rather than because of the policies themselves (Dercon, 2022).}

Cuba has accumulated substantial know-how in several industries and science and technology domains (see previous section on STI). There is an unusual wedge between the scientific know-how that the country has accumulated, its human capital and the low sophistication of the goods and services that it exports: Cuban export structure resembles that of economies with much lower know-how and talent. Support to shift what the country exports towards a more diversifies mix of products and more sophisticated goods and services should build upon those strengths, identifying how the human capital of the country can contribute to the development of high value added and internationally competitive industries. For this to be effective, future research and policy design should carefully assess population skills, beyond the know-how.

In relation to who exports, several countries have managed to transform their export structure carefully crafting pro-active industrial policies, including the strong involvement of SOEs. However, successful cases tend to accompany the investment in SOEs with closely monitored competition and performance evaluation, to avoid rent seeking and behaviour and state capture.

Building on the third area of action above, support to export should be accompanied by adequate assistance to private entrepreneurial activity, allowing for diverse (groups) of actors in different cities and regions of the Cuban economy to exploit the large wealth of untapped scientific know-how and talent. For this to work, trade policies should be accompanied by redistributive social policies, making sure that access to international trade is inclusive. The case studies seem to suggest that regulation and investment in managerial practices and know-how are essential. EPZ and clusters may be useful to experiment with different programmes.

In relation to where to trade, there is a need to explore truly regional trade agreements with Central and Latin America and the Caribbean, which allow Cuban exporters and importers to rely on different markets, with a more diverse demand, and acquire technology embedded in inputs. As for the other trade policies, such agreements need to be carefully studied to seek opportunities to diversify Cuban exports and enter in GVCs, while avoiding reducing the space for Cuban industrial policy. For instance, the European Union has been crucial for the trade integration of some Eastern European countries —and especially some of their regions— that have adopted proactive and coherent industrial and technology policies. Other East European experiences, instead, although registering generally higher growth rates, have maintained a peripheral role, and a specialisation in labour-intensive, low value-added industries.
The SDGs offer a useful set of indicators that can be used to run foresight analysis on how the different goals may be affected by different combinations of trade and industrial policies. As suggested above, such foresight exercises should consider how different stakeholders value the different aspects of sustainability; such exercises can be studied also through several experiments of policy mixes.

### Box 2

**Trade: main policy lessons**

(i) Trade policy cannot be considered, per se, sufficient as a development strategy: a mix of trade, general connectivity, innovation capacity building and institutional change is needed.

(ii) Defining and implementing trade policies are both crucial: what matters is what, where, by whom, and with whom exchanges occur.

(iii) Gradually shifting towards a more diversifies mix of exports and more sophisticated goods and services that better incorporate local know-how and human capital.

(iv) Building capabilities through protectionist policies needs complementary degrees of competition.

(v) Investing in SOEs is to be accompanied by closely monitored competition and performance evaluation; linkages between private SMEs and SOEs need to be encouraged.

(vi) Exports require to be complemented by adequate assistance to private entrepreneurial activity, allowing for diverse groups of actors in different cities and regions.

(vii) Regulation and investment in managerial and entrepreneurial practices and know-how are essential.

(viii) EPZ and clusters may be useful to experiment with different programs, industries, and places.

(ix) Exploring regional trade agreements and GVCs with Central and Latin America and the Caribbean is vital.

(x) SDGs can be used as a useful set of indicators to run foresight analysis and international comparisons.

*Source: Prepared by the authors.*
IV. Encouraging Internationalisation through Promoting FDI

A. Conceptual framework and policy rationale

1. A rapidly changing global context

The evolution of the modalities and geography of global productive capital flows has been rapid and drastic. The number of attractive locations and investors from emerging and developing economies has grown exponentially since the 2000s (e.g., Rabellotti, 2003; Padilla and Gomes Nogueira, 2016; UNCTAD, 2018); the majority of these cross-border FDI flows span neighbouring economies, rather than being genuinely global transactions (e.g., Rugman, 2005; Guy, 2009; UNCTAD, 2017); FDI has shifted from greenfield investments to M&A, from capital-intensive to high-tech manufacturing, from manufacturing to knowledge-intensive services, from production to R&D activities, from sectoral to functional specialisation: around 2/3 of global FDI stocks are now in service industries (e.g. Iammarino, 2018). These global trends represent massive changes of the current worldwide division of labour, and it is paramount to take them on board, especially if the aim is to identify suitable instruments in the policy domain.

2. FDI: direct benefits, externalities, and risks

According to the theory, a major rationale behind the attraction of FDI has been the potential for new economic opportunities for developing and emerging economies, including financing for development. These include the ability to adopt new business models, production techniques to enhance productivity, increased employment prospects and skills development, alongside human and physical capital formation. However, knowledge externalities (e.g., Blomström and Kokko, 1996; Breschi and Lissoni, 2001; Javorcik and Spatareanu, 2008) arise only when foreign MNEs allow local firms to access new technologies and skills from backward and forward linkages, as well as labour flows.
Market access externalities may come from the experience that MNEs have of international marketing, distribution networks, and lobbying power (Iammarino and McCann, 2013). Such effects take place through three main mechanisms: backward linkages of domestic firms supplying intermediate inputs or services to their MNE customers; imitation and adaptation of innovations generated elsewhere; skills upgrading and human capital formation, from basic learning-by-doing and -by-using to formalized advanced technical training courses (e.g., Radosevic, 1999; Padilla, 2008; Iammarino, Padilla and von Tunzelmann, 2008; Letto-Gillies, 2012; De Marchi, Giuliani and Rabelotti, 2018). Importantly, the learning processes implied by all three mechanisms occur via both informal and formal connections.

Learning and capabilities building processes are strongly dependent on the characteristics of local actors and environments (e.g., Berger and Diez, 2004; Giuliani, Pietrobelli and Rabelotti, 2005; Morrison and others, 2008; Crescenzi and others, 2014). As seen in the trade section above, the literature has stressed that the consequences of openness to FDI and integration in GVCs crucially depend on the capacity of places to implement and govern systemic integration, involving the co-ordination of a diverse structure of ‘value networks’, both local and global: this in turn requires capacity to manage institutional change (e.g., Coe and others, 2008; Gereffi, 2014; Yeung and Coe, 2015).

Casting doubt on the fully positive nature of FDI direct impact and externalities, scholarly work has highlighted that foreign MNEs can also have negative consequences, particularly in weak economic and innovation systems (e.g., Giuliani and others, 2005, 2014; García and others, 2013; Crescenzi and Iammarino, 2017; Narula, 2019). Examples include: crowding out domestic firms, outcompeting them and pushing them out of the local market; poaching qualified labour due to MNE higher salaries; monopolising suppliers; diverting capital from investment in local firms; failing to upgrade local informal economic activities; rising demand and cost of production inputs as well as prices of local assets (housing, business services, among others.); spurring polarization processes at both individual and spatial level, with ambivalent winner-loser impacts in terms of equity; exploitative/predatory attitudes, particularly for FDI from emerging markets’ MNEs (see table 3).

### Table 3

**Caution or Promotion of FDI?**

<table>
<thead>
<tr>
<th>Potential benefits of FDI</th>
<th>Potential risks of FDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Capital formation</td>
<td>• Crowding out of domestic firms</td>
</tr>
<tr>
<td>• Employment generation</td>
<td>• Poaching human capital</td>
</tr>
<tr>
<td>• Increased market competition</td>
<td>• Rising demand and cost of production inputs and prices of local assets</td>
</tr>
<tr>
<td>• Demonstration effects</td>
<td>• Spurring polarization processes at both individual and spatial level</td>
</tr>
<tr>
<td>• Transfer and diffusion of knowledge</td>
<td>• Exploitative and predatory actions</td>
</tr>
<tr>
<td>• Knowledge spillovers from all the above</td>
<td><strong>Mechanisms for development</strong></td>
</tr>
<tr>
<td></td>
<td>• Backward linkages with MNEs customers</td>
</tr>
<tr>
<td></td>
<td>• Imitation and adaptation</td>
</tr>
<tr>
<td></td>
<td>• Skills upgrading and human capital formation.</td>
</tr>
</tbody>
</table>

**Necessary (but insufficient) conditions**

• Local absorptive capacity
• Capacity for systemic integration, i.e., coordination of ‘value networks’ (local/global)

Source: Prepared by the authors.
3. **FDI and local economic development: policy principles**

Some general principles for a coherent policy framework can be drawn from the current scholarly literature (e.g., Alfaro and Charlton, 2007; Chaminade and Vang, 2008; Bajgar and Javorcik, 2020; De Marchi, Giuliani and Rabellotti, 2018; Iammarino, 2018) and can be summarised as follows: (i) FDI Screening: quality of FDI determines the impact; (ii) Complementarity between trade and FDI: promotion of local SMEs, their internationalization and integration in GCVs helps attracting FDI; (iii) Development of multiple inter- and intra-regional linkages, backwards and forwards: integration particularly, but not exclusively, within the relevant macro-region; (iv) Involvement of stakeholders for broad capacity building, and (v) Multi-level governance, with specialised and territorially targeted organizations for supporting inward and outward FDI.

**B. Key lessons from case studies**

As already highlighted, the heterogeneity of economic, social, historical, and cultural backgrounds emerging from the review of policy case studies prevents actual comparisons; however, political, economic and policy evolution of the case studies uncover important positive and negative messages applicable, with due distinction and contextualisation, to the case of Cuba. Here below the most relevant are summarised:

- Interesting experiences of economic transformations with evident gains linked to FDI attraction strategies and integration in macroregional value chains and production networks —following previous neighbours’ examples— are offered by some South-East Asian economies such as Cambodia and Viet Nam.

- FDI attraction in industries such as natural resources, tourism, export-oriented garments have been critical to economic transformation, away from agriculture, initiating processes of diversification to light and higher value-added manufacturing and services, knowledge transfer and supplier systems linked to MNEs within regional GVCs.

- Fundamental role of regional ‘big players’ and/or integration in macro-regional trade and GVC networks: in Asia since the early 2000s, China and the ‘Belt and Road’ scheme; in Europe since 1990, the EU and accession and collaboration mechanisms.

- General regulatory reforms to fight corruption and improve ease of business, and strengthening the role of development and investment agencies, have been preconditions for FDI attraction, as shown by the cases of the European CEECs (i.e., Bulgaria, Romania) and candidate countries (i.e., Albania).

- Carefully designed and place-specific incentives for FDI. E.g., tax exemption for fixed periods, sectoral selection/exclusion to promote local ecosystems and industrial bases, Special Economic Zones operating under different rules, bans to activities deemed harmful, among others —have proved more effective than general incentives and used also in conjunction with protectionist measures (e.g., different levels of MFN).

- Actual FDI incentive packages thoroughly differentiated by subnational region, sector, and business function are critical to reach local development benefits. Examples are the variegate typology of incentives used by Costa Rica in comparison to other LAC countries —e.g., sector specific regulations, such as those in Eco-tourism (e.g., ‘turismo rural comunitario’) and in Mining (e.g., 2020 Mining Code)— or the special support to attract FDI projects with significant socio-economic impact in Bulgaria.
Beyond tax and incentives policies, clear governance, and framework for internationalisation and FDI with consistent and continuous articulation of responsibilities and mandates have been able to gradually transform and upgrade economic systems. The framework for internationalisation and FDI needs regular updating and frequent amendment to respond to global rapid changes.

Crucially important, as shown in the sections above, are skills upgrading and ease of restrictions on inflows of foreign skills.

Recognised risks—present in all case studies—are associated to limited knowledge spillovers on domestic firms, tax loopholes and increasing gaps in tax incentives and public support between foreign and domestic firms, curbing the development of local production systems. Indiscriminate tax exemptions may lead to unequal playing field adverse to domestic firms and innovation.

Currency risk and heavy reliance on foreign creditors and currencies carry severe risks for financial and macroeconomic stability, as both Romania and Bulgaria experienced.

While sophistication and diversity of industry and export structure have increased in many cases as a result of foreign capital attraction policies, concerns remain over middle-income or development traps preventing the shift to higher productivity and value-added activities. This indicates that, as highlighted also in the trade section above, beyond FDI, there is the need to consider synergies with other areas such as STI policy and skill upgrading, and governance for public investment.

Over-reliance on large investors is rarely a strategy for long-term resilience (e.g., Intel in Costa Rica). Similarly, excessive dependence on natural resources and FDI without a green diversification strategy based on intense innovation represent a serious missed opportunity, as so far demonstrated by the case of Uzbekistan.

Misalignment of policy objectives for economic diversification and the types of FDI being attracted to the economy. A range and calibrated mix of economic and social policies must complement FDI attraction to counterbalance unequal regional development, low quality of new jobs, limited knowledge spillovers, among others.

C. Key recommendations

The literature review and the case studies provide grounds for broad policy guidelines, many of these regarding internationalisation more broadly and complementing the recommendations provided in the areas of trade, STI and governance for public investment.

Developing local analytical capacities to improve the screening of FDIs and devising sector—function and subnational region—specific measures helping the gradual diversification of economic structure

Whilst there are solid reasons to support policies geared to attracting FDI, caution is warranted as not all FDIs will produce the expected benefits. Developing analytical capacities within the government to understand current FDI trends, as well as their evolution over time against the existing economic structures is a prerequisite to design policy tools able to target FDI that can generate positive effects and local externalities. In this respect, it is important that policy analyses and choices reflect sectoral and regional specificities. The nature of FDI, the companies able to join GVCs, and the subnational location where economic activities take place have very
different needs and profiles across and within agriculture, manufacturing, and service industries. The latter are extremely diversified, and carefully tailored promotion and incentives packages have to be devised for different service activities (e.g., tourism, financial and business services, ICT, transport) and manufacturing productions (e.g., garments, electronics, food and beverage, construction). A diversified sectoral and functional FDI portfolio (keeping an eye also on the potential of outward FDI for connecting to GVCs), and national and subnational policy approaches coordinated and articulated at industry-location levels should focus on defined industry/technological areas.

- **Mapping, building, and strengthening capabilities for SMEs**
  As said in the trade section, building SMEs capabilities is a pre-requisite to support internationalisation generally and attractiveness specifically. It is essential to understand local SME current needs and demands in relation to internationalisation and participation to macro-regional and global value chains and production networks. SMEs usually lack the capacity to articulate their needs as they are absorbed by the day-to-day management of their business. It is therefore essential that intermediary institutions (i.e., clusters, industry associations, innovation/investment agencies, chambers of commerce, but also universities and education and training institutions) support their capacity to interact among each other and generate local networks and linkages and help them articulate their requests. Such intermediation, however, is resource-intensive and require specific skills and dedicated financial resources.

- **Developing local collaboration, networks, and involvement of all stakeholders**
  A culture of business collaboration and coordination needs to be built, as the challenges ahead require different categories of actors to be actively engaged to promote innovation and internationalisation and to maximize the benefits of these processes, including the embeddedness of MNEs with linkages to local SMEs. Heterogeneity and complexity require composite, diversified and tailored development policies, based on modular combinations of public and private actions, both from local and global sources. Modularity implies integrated intervention, i.e., micro-level support to individuals and firms—as, for example, in skills provision, training, innovativeness and openness encouragement—designed in conjunction with place-sensitive policies through the assessment of meso-level characteristics of industries/functions within regions, looking at economic, technological, social, and institutional structures. The national macro-level should provide the framework conditions for the regulation of FDI with respect, for example, to sustainability, social responsibility, tax regimes, territorial equity and rights, and the integration with other forms of public intervention, for example social policy.

- **Articulating an institutional and regulatory framework for FDI, internationalisation and integration in macro-regional and global value chains and production networks**
  Stable, harmonised, and adapting institutions and governance for managing openness and international integration, with clear-cut responsibilities and accountability, have proved essential in securing diffused development of the local economic and its constituent blocks. Place-based policies, and related smart specialisation constructing regional advantage strategies, have increasingly gained momentum, emphasising the crucial link between inward and outward
internationalisation and innovation upgrading, and the high dependence of territories on macro-regional production and innovation networks. The national coordination role, coupled with the pervasive territorial articulation targeting sectoral networks, is one of the most innovative features of the most successful and iconic FDI and Investment Agencies in the world (e.g., both Ireland and Scotland have similar historical models of governance based on defined and coordinated responsibilities). Trade in GVCs and FDI are complementary and, in the Cuban case, together could ensure integration in the macro-region of Central and Latin America.

- Creating an integrated information base to monitor the potential features and evolution of international integration.

The use of information and communication technologies to create and manage in an integrated way the flow of information and data on the Cuban economy at the micro and meso levels is an absolute pre-requisite for designing government intervention and monitoring trends and outcomes.

In line with the general principles derived from the literature, the main policy suggestions are summarised in box 3.

<table>
<thead>
<tr>
<th>Box 3</th>
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<tbody>
<tr>
<td><strong>FDI: main policy lessons</strong></td>
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<tr>
<td>(i) Complementarity between trade and FDI: promotion of local SMEs, their internationalization and integration in GCVs mutually reinforce FDI attraction.</td>
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<tr>
<td>(ii) Creating integrated information bases to inform FDI policies.</td>
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<tr>
<td>(iii) Screening of and selecting FDI: quality determines the impact.</td>
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<tr>
<td>(iv) Designing sector-, function- and region-specific measures helping gradual economic diversification.</td>
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<tr>
<td>(v) Articulating incentives at regional/local and sectoral level to avert FDI concentration.</td>
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<tr>
<td>(vi) Building investment agencies: clear governance and framework for internationalisation and FDI with consistent and continuous articulation of responsibilities and mandates.</td>
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<tr>
<td>(vii) Implementing regulatory reforms, promoting legal bodies to fight corruption and enhance ease of business.</td>
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<td>(viii) Developing green diversification strategy to maximise benefits from resource based FDI.</td>
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<tr>
<td>(ix) Selecting FDI incentives —e.g., tax exemption for fixed periods, sectoral selection/exclusion to promote local ecosystems, Special Economic Zones operating under different rules, sector specific regulations (e.g., Eco-tourism, mining Codes, among others.), bans to activities deemed harmful.</td>
</tr>
<tr>
<td>(x) Preventing over-reliance on large investors.</td>
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<tr>
<td>(xi) Avoiding indiscriminate tax exemptions to avert unequal playing field adverse to domestic firms.</td>
</tr>
<tr>
<td>(xii) Minimising currency risk to ensure macroeconomic stability.</td>
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</table>

Source: Prepared by the authors.
V. Decentralised governance and public investment

A. Policy rationale

The capacity of local governments and institutions to handle public investment underpins all other dimensions of development policy. The ability to carry out public investment choices coherently and to implement them efficiently is closely linked not only to the governance structure but also to the capacities of the government workforce. Addressing these issues is critical in Cuba, which is undergoing a process of economic, social, and administrative transformation. The current Cuban shift towards decentralisation and the need to align different policy domains, with a focus on knowledge-based development and place-based policies, requires a reflection on multi-level governance, capacity building and stakeholders' engagement.

Place-based policies focus on the developmental needs of a territory, deliberately considering local assets, local stakeholders, and thereby local future potential. Place-based policies are typically defined in contrast with “people-based” policies, which target individuals, based on their characteristics of relevance, regardless of where they are located. Place-based approaches evolved to recognise and build upon the idea of the ‘learning region’ (Cooke and Morgan, 2000). They have been fully embedded in the EU Cohesion Policy, with its focus on Smart Specialisation (e.g., Foray 2014, 2015). Smart Specialisation Strategies (or S3) build upon three principles:

- Localization refers to the fact that Smart specialisation is a place-based approach, and it builds on the assets and resources available on the territory.
- Prioritisation refers to the fact that S3s has to identify and concentrate resources on a limited set of areas, the so called “S3 investment priorities”.
- Participation refers to the bottom-up activities underpinning S3s, whereby stakeholders are directly involved in the strategy design and implementation.
Within this context, understanding the ‘institutional quality’ of regional and local authorities is critical. Reinforcing accountability mechanisms is central to ensuring that a functioning multi-level governance is in place. With that, Barca (2009: p. 41) refers to “a system in which responsibility for the design and implementation of policies is distributed among different levels of government and local institutions with special purposes (private partnerships, joint bodies of local authorities, cooperation across national borders, public-private partnerships, among others).”

Operating in a multilevel environment is complex and requires simultaneously building capacities for public investments (OECD, 2014) and for de-centralized governance (Charbit, 2011), addressing coordination challenges and whilst developing stronger engagement with stakeholders.

B. Key lessons from case-studies

We explored experiences in capacity-building for place-based policies in three EU countries characterised by different levels of centralisation:

- Romania, a highly centralised country8
- Eastern Macedonia and Thrace in Greece, where limited competences are devolved at the regional level9.
- Spain, in which development and innovation policies are highly regionalised10

The experiences all fall within the realm of Smart Specialisation, the place-based policy implemented in the European Union from 2014. The case studies show that:

- Engaging stakeholders is a resource-intensive activity, which requires structured methodologies as well as utmost transparency in the interaction. When stakeholders invest time in participating to public policy consultation, such time needs to be rewarded through clear communication on how their input will be used. In other words, there needs to be a clear and explicit objective in the engagement of stakeholders (for instance, exploring opportunities in a given area for development, understanding their vision for the future, understanding their challenges with respect to a given issue, among others.), if trust and long-term collaboration are to be sustained. Remarkably, such trust can be very fragile and can collapse quickly if promises are not kept or expectations not managed. Incidentally, engaging stakeholders must never be understood as “delegating” responsibilities for public choices, for which the public administration remains always politically and legally responsible.

- To build capacities for de-centralisation and place-based development a multi-dimensional intervention is necessary, one that comprises:
  - Exercises at the local level (mobilising local stakeholders and building skills).
  - Negotiations and interaction between the local and national level to develop new governance arrangements and understand the different local cultures and policy needs.

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8 See, for example, Ranga (2018); Marinelli, Edwards and Mironov (2017); Serbanica and Pupinis (2020); Szavics and Benedek (2020).
9 E.g., Chrysomalidis and Tsakanikas (2017); Marinelli, Boden and Haegeman (2016a); Marinelli and others (2016b).
10 E.g, Marinelli, Bertamino and Fernandez (2019).
− International openings to learn from peers.
− Training measures on monitoring, policy analysis, policy design, among others.

Such activities—as also highlighted in the STI, trade and FDI sections above—must be accompanied by institutional measures to create a robust innovation and entrepreneurial ecosystem, building new institutions/entities, or defining new mandates for existing ones (i.e., extending technology transfer capabilities in universities, or building a new cluster for a given sector). This is a complicated undertaking that will require time, resources, and political will.

- To build a multi-level governance system it is useful to think in three layers: strategic, operational/technical, and bottom-up.
- The **strategic level** refers to the political direction of a strategy, which needs to be carefully managed as multiple political and policy agendas need to be aligned for the strategy to move forward.
- The technical/operational level addresses the practical aspects of implementation such as coordinating policy instruments or exploiting synergies between them. Aligning timings of complementary instruments, ensuring swift communication with beneficiaries, developing mechanisms that facilitate the deployment of public measures is far from easy and requires knowledge of territory as well as of the administrative structure. A technical body, which is not subject to political cycled, is best placed to manage these aspects. Remarkably a key responsibility of such technical body, and one that is generally complex to implement, is that of monitoring policy implementations and effects.
- The bottom-up level refers to the need to ensure that policies respond to stakeholders’ needs and that reflect a joint understanding of the territory and a shared vision for the future, thus building consensus. Different configurations are possible for such type of engagement. At one end of the spectrum, we may find occasional consultations with local actors, whereas at the other (in more mature settings), the governance system would include stable and periodic interactions with pre-established stakeholders working groups organised by industry or by other criteria.

At the same time, it is important to build peer-learning networks as well as to open-up to international policy experiences and capacity-building processes.

### C. Key recommendations

As described in Chapter I, the Cuban model is currently characterized by a strong centralization and very limited autonomy at the subnational territorial level. Currently, the provinces and municipalities do not, in general, have the technical capabilities to plan and implement local development policies. As the country moves towards a new development model, which values decentralisation and place-based policies, it is important to develop action on three interrelated levels:

- To design a comprehensive approach to capacity building.
- To engage stakeholders, paying attention to the risks and mechanisms therein.
- To exploit networks of peers to move forward with the development agendas.

More specifically:
1. **Building capacities across the policy cycle and brace for the long-term**

The process of capacity building is complex, uncertain, and multi-dimensional. Moreover, building the capacities and the social capital for place-based policies is a long-term process, hence the expectation should be managed accordingly.

In attempting to build such capacities, it is important to tackle to the whole policy cycle, providing simultaneously opportunities for training and coordination across the whole policy cycle. Training is necessary to understand the new policy issues that need to be addressed. For instance, if sub-national authorities suddenly acquired the competence for innovation policies, training should cover the basics of the policy mix (for instance, looking at policy instruments by Technology Readiness Level, exploring the tools for university-industry collaborations, among others), of policy design (strategic analysis, methodologies for fieldwork, stakeholders’ engagement) as well as policy implementation, monitoring, and evaluation.

Whilst training is crucial to set the baseline, it is obviously insufficient. As new governance configurations arise, it is critical to build avenues for multi-level dialogue and coordination, both at the strategic and at the technical level. In the example above, in which innovation policy competences are being shifted to the regional level, this would imply creating working-groups and decision-making committees between the regional and national level, which should navigate and negotiate the new arrangements, exploring and addressing challenges as they arise.

2. **Engage stakeholders but be aware of the risks**

Engaging stakeholders in policy design requires developing skills and capacities both in the administration and across society. The process is necessary not only for trust building and transparency, but because it allows to devise more targeted policy instruments at the local level. However, as in all participatory processes, one needs to be aware of the risks involved in such practices, which may lead to the lower legitimacy of choices. Typically, these processes may be subject to elite capture, in which information is manipulated by strong lobbies that have special interests, conformism, when weaker participants tend to agree with stronger participants and paralysis, when discussions do not lead to any agreement.

3. **Access, develop and exploit peer-learning networks**

Peer learning within the country and with international organisations (in the case of Cuba, for example, the UN) needs to be stimulated, to build a common vocabulary and understanding of shared challenges. In the case studies analysed for this report, the role of the European Commission was instrumental in building capacities, by opening dialogue and learning opportunities between the local, regional, national, and supra-national level, providing a neutral space for tackling policy challenges. In the case of Cuba, such opportunities are more likely to arise from UN initiatives, which should be exploited to its fullest. It seems particularly important to build bridges with those Caribbean and Latin American countries that are also moving towards more decentralised models. Such peer-learning networks should build partnerships across similar administrative levels or similar type of actors (i.e., working groups for municipalities, or for regional administrations, or for clusters, among others).

For this area of capacity building—as said above horizontal to the other three revised above, i.e., DTI, Trade and FDI— the main policy indications are summarised in box 4.
Box 4
Decentralised governance for public investment: main policy lessons

(i) The capacity of local articulation of government to handle public investment underpins all other dimensions of development policy.

(ii) Building and strengthening capacities of the government workforce.

(iii) Place-based policies (smart specialisation strategies): addressing needs of a territory by focusing on multi-level governance, capacity building and stakeholders’ engagement. 3 principles:
- Localization: adopting a place-based approach, building on localised assets and resources.
- Prioritisation: identification and concentration of resources on a limited set of areas.
- Participation: bottom-up activities involving local stakeholders in strategy design and implementation.

(iv) Distributing responsibility for policy design and implementation among different levels of government and local institutions with special purposes (e.g., joint bodies of local authorities, international cooperation, public-private partnerships, among others).

(v) Engaging stakeholders: resource-intensive activity, requires transparency in the interaction and consultation; NOT to be understood as “delegating” responsibilities for public choices, for which the public administration remains always politically and legally responsible.

(vi) Building new institutions/entities or defining new mandates for existing ones (i.e., extending technology transfer capabilities in universities, helping cluster/EPZ formation for given sectors, creating FDI agencies).

(vii) Establishing peer-learning networks (e.g., UN, or other LAC countries experimenting decentralization).

Source: Prepared by the authors.
VI. Concluding remarks

In this last chapter, we report a few selected and brief summaries of the case-studies used for the full Reports. Boxes 5, 6 and 7 illustrate the main features of the comparative analysis conducted on Viet Nam, Costa Rica, and Romania, across the four areas of interest.

Box 5

Viet Nam: STI, Trade, FDI

Viet Nam is an example of a speedy trajectory for economic transition in relation to the areas of FDI, trade and STI policy. During the 1980s it undertook reforms to shift from a centrally planned to a market economy, adopting a gradualist approach. Key institutions have been the National Council for Science and Technology Policy (NCSTP) and the Ministry of Planning and Investment (MPI), with its implementing arm, the Foreign Investment Agency (FIA), helping coordinate and implement transition policies. The transition process took place in three stages.

Until 1986: closed economy, adoption of policies for reform and adjustment, collectively termed the ‘pha rao’ (fence-breaking), to create a better domestic policy environment; after 1986: ‘doi moi’ (new way) with new laws and policies for opening to investment and trade, coinciding with the end of US sanctions and normalised relations with regional neighbours; since 2007: integration in the global economy with accession to WTO. Overall, the Vietnamese case illustrates where innovation policies from the 1980s onwards have been combined with essential macro-economic reforms (related to monetary, price, financial, and fiscal systems), allowing for a combined growth of a new ‘private capitalist’ (SMEs) sector, and ‘state capitalist’ sector.

FDI attraction policies, including reforms to its relationship with MNEs, including tax exemptions and creation of SEZs allowed for gradual shifts from agricultural commodities to garments, textiles, and new electronics exports. However, geographical proximity to China is a non-replicable condition, and serious side-effects in terms of specialisation trap, and exclusion and marginalisation at both individual and spatial levels need careful consideration.

Source: Prepared by the authors.
Box 6
Costa Rica: FDI, STI

Costa Rica’s experience of economic transition combining both FDI attraction and STI policies is considered a cautionary tale. Following huge investment from the tech giant Intel at the end of the 1990s, the country became over-reliant on this large investor (with around 1/3 of FDI coming from the US), affecting long-term resilience. Despite success of Costa Rica’s FDI agency, CINDE, disinvestment of Intel in 2014 led to reappraisal of its performance.

Costa Rica’s FDI-led approach, combined with social policies including education, generated social goods such as the highest literacy rate in the LAC region. Because of prior investment, there has been funding for scientific research and education, with a substantial advisory role for an independent academic consortium (CONARE) and public research organisations.

Despite benefits of FDI attraction — driven by tax and fiscal incentives, and creation of SEZs — there are questions about harmful effects on the local economy, including an unequal playing field adverse to domestic firms and (lack of) knowledge transfer and spillovers. Only recently a shift is noted in investment structure away from electronic components towards manufacture of medical instruments, and the sustainability of the FDI trajectory is still to be supported by evidence.

The variegate typology of incentives compared to other LAC countries, on the other hand, stresses as positive lessons the sector specific regulations, such as those in eco-tourism (e.g., community-based rural tourism) and in Mining (e.g., Mining Code).

Source: Prepared by the authors.

Box 7
Romania: FDI, Governance for Public Investment

Romania started its long process of economic reform in 1989 culminating in it joining the EU in 2007. Like many of its CEE neighbours, Romania attracted large FDI inflows as its economy transitioned. Under the current FDI regime there are clear procedures and governance, a low-tax environment, and relatively favourable labour costs and skill levels which have led to rising FDI inflows in recent years.

However, Romania was still slow to implement institutional reforms, leading to a loss of its FDI attractiveness in the 2010s. Significant outward FDI started in 2015 both for integration in GVCs and relocation towards developing economies. A consequence of Romania’s FDI approach has been huge geographical concentration of investment in Bucharest, severely limiting the potential benefits, though free trade zone and industrial park policies, with associated incentives, are potentially aimed at redressing the increase of regional disparities.

Romania’s reliance on foreign creditors and currencies have also led to risks for financial and macroeconomic stability, with a sizeable mismatch between debtor companies’ revenues (local currency) and the debt service (foreign currency). To address regional disparities, in the 2010s Romania implemented policies to strengthen regional development agencies (RDAs), part of the “Targeted Support to Smart Specialisation Romania” (2016-2020) programme funded by the European Parliament.

Key areas included promotion of entrepreneurial discovery processes (EDPs), development of monitoring capacities, support to governance and coordination between regional and national authorities and consolidating skills and competences of RDAs staff.

Source: Prepared by the authors.
As said above, even among these three examples, there emerges a huge array of geography, size, political economy, development trajectories, historical and cultural backgrounds, among others. The aim of the overall comparative exercise was to offer a base for reflecting on the insights to be learnt in relation to a variety of aspects relative to the four dimensions under study. While not standardised, and solely informed by desk-based research, the case studies provide an overview of relevant policy experiences which can help inspire and uncover important positive and negative lessons applicable, with due distinction, to the Cuban future economic development model.

To conclude, four main tenets can be extracted from the four Reports:

- In trade, it is important to consider what, where, who and with whom exchange occurs, to design policies that lead to sustainable development.
- In FDI, similarly, it is important to consider the balance between the positive externalities and the disruptive impact that it can have on the local economy.
- In STI, while promoting innovation and structural change, it is crucial to ensure inclusiveness: bottom-up need complement mission-oriented approaches.
- Multi-level governance for public investment and place-based policies have shown effectiveness in balancing those positive and negative impacts of such disruptive transformation induced by trade, FDI and innovation.

### Box 8

**Main Policy Guidelines**

(i) Designing policies supporting STI, internationalization and governance for public investment requires ex-ante evaluation to map expected outcomes, opportunities, and risks: in depth SWOT analysis is a good starting point, but a solid and transparent information base is urgently needed.

(ii) Coordinating policy action: selection of a few priority objectives, with tools that complement and reinforce each other.

(iii) Paying attention to both policy design and policy implementation.

(iv) Achieving synergic view between innovation, economic development, and social policies.

(v) Starting off with identifying relevant opportunities for endogenous local innovation by ensuring scalability and persistent transformation. E.g., local embeddedness to be prioritised over entering GVCs prematurely.

(vi) Clearly articulating, integrating, and communicating scientific, technological, and socio-economic objectives related to investments, internationalisation, technology transfer, sectoral specialisation choices.

(vii) Identifying needs at different geographical scales by focusing on multi-level governance, capacity building and stakeholders' engagement: accountability to the socialist civil society to obtain consensus.

(viii) Understanding state of the art on the wedge between scientific know-how, human capital formation and drain.

(ix) Creating a system of incentives, financial and not, to retain young human capital.

(x) Providing adequate assistance to private entrepreneurial activity, allowing for diverse groups of actors in different cities and regions to be part of the transformation process. E.g., monitoring remittances, adequate taxation of high profits.

(xi) Strengthening rule of law.

Source: Prepared by the authors.
Taken together, the lessons learned through the literature and review of cases studies suggest a careful mix of development principles and policies (some overall main directions, horizontal to the four areas of investigation, are reported in box 8 below) that balance risks and opportunities of opening to international trade and FDI, and help learning from foreign partners and experiences, enhancing productivity and skills, retaining human capital. A policy mix with clear priorities and strong implementation capacity can support Cuban firms (public and private) through STI investment and targeted sectoral interventions, while inclusive regional policies may provide an opportunity to all individuals, organisations, and places to be involved in socio-economic transformation. This can be done by achieving a Cuban-specific model of governance that link the national, regional, and local levels by building capacities and engaging all stakeholders across the country.
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As part of the activities of the Joint Program “Support for the development of an Integrated National Financing Framework for SDGs in Cuba” (CIFFRA), a comprehensive review of international policy lessons was carried out in four development financing key areas: (i) export promotion; (ii) attraction and channeling of foreign direct investment (FDI); (iii) promotion of science, technology and innovation (STI); and (iv) governance and public investment.

Five reports were drawn up and two compilations with 11 case studies on policies to promote exports and attract FDI by international consultants. This integrated report summarizes the outcome of the five reports, offering cross-cutting learning and policy recommendations.