



Cooperation between the EU and Cuba for economic and productive reforms

The challenges of economic reform in Cuba

José Antonio Alonso (Coord.)



CIDOB

BARCELONA
CENTRE FOR
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Jean Monnet Network

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The economic reform in Cuba: Stuck in the middle

José Antonio Alonso and Pavel Vidal

Over the past decade, the Cuban economy has launched a sequence of reforms and stabilising measures to correct macroeconomic imbalances and establish a new growth model on the island. Thus far, any success achieved has been relatively limited. After over three decades of reforms, the Cuban economy continues to grow at a very slow pace, social deficits are accumulating and it exhibits a notable vulnerability to external shocks. The reform's limited effectiveness to a large extent derives from its lack of comprehensiveness. Partial and fragmented in nature, the reforms have proven unable to produce sustained dynamism in the economy; and the necessary attempts to subsequently correct imbalances have tended to have recessionary effects that have damaged growth potential. For all these reasons, the Cuban economy appears to be trapped in a vicious circle. Escaping this trap means accepting more comprehensive economic reform that addresses the main distortions that prevent the market's proper functioning in the fields of exchange rates, the labour market and wholesale supply, among others. This chapter seeks to provide some interpretations and evidence of this process.

Revisiting the agrarian question in Cuba (1959–2018): A peasant alternative in the global era?

Elisa Botella-Rodríguez

In Latin America the issue of land has been underdiscussed in academic, social and political circles, but it is essential to understanding many of the socio-economic and political transformations of the 20th and 21st centuries. The agrarian question in Cuba has not been given in-depth consideration from a long-term perspective that unites the old land reform arguments of developmentalism with the new agrarian questions of the global era. This chapter explores the long process of land reform in Cuba (1959–2020), seeking to understand whether it is a paradigmatic and alternative case in the regional context. In this sense, the chapter analyses the interactions between the state and the Cuban peasant movement that have kept land claims on the political agenda since the revolution began.

Cuban tourism competitiveness: Anything beyond sun, beaches and son music?

Mario Raúl de la Peña, David Martín-Barroso, Jacobo Núñez, Juan A. Núñez-Serrano, Jaime Turrión and Francisco J. Velázquez

This chapter makes a comparative analysis of the Cuban tourism sector's competitive position in relation to its Caribbean environment. To do this, competitiveness analysis tools based on the behaviour of

international tourist flows are used to build a statistical model from which a counterfactual can be estimated for comparing real tourist flows. Short, medium and long-term competitiveness indicators are also calculated, as well as indicators on the growth potential of a destination's tourism sector and the intensity of the technical change that has taken place in the sector. The results suggest that Cuba has notably improved its competitive situation. The work also shows that important changes are underway in the Cuban tourism mix towards the international average, making it less dependent on the traditional "sun and beach" tourism, which may create greater potential for future tourism sector development on the island. In this sense, the need to develop tourist segments with greater added value and tourism potential is highlighted. Finally, the short-, medium- and long-term competitive results provide evidence of the significant increase in the country's tourism potential, which is undoubtedly due to a degree of technical progress.

Comparative analysis of the evolution of energy indicators in Cuba and Spain from 1990 to 2016

Emilio Cerdá, Diego Rodríguez and Miguel Sebastián

This work analyses the evolution of primary energy supply in Cuba and Spain between 1990 and 2016, using data from the International Energy Agency. The key aspects of each of Cuba's energy sources are set out, and the fundamental changes in the Spanish energy sector since 1990 are highlighted, within the European Union framework. The chapter goes on to calculate the values of eight crucial energy indicators for the two countries, and their evolution in the period is compared. Finally, the chapter presents each country's 2030 energy targets and plans.

Growth of the collaborative economy: What Cuba can learn from other Ibero-American experiences

Cipriano Quirós, Keynor Ruiz-Mejías, Sandra Madiedo, Roberto F. Erazo and Luis M. Barboza

This chapter addresses various aspects of the collaborative economy (CE). Firstly, given its novelty and the plurality of visions that have emerged in recent years, particular attention is given to the definition and delimitation of these activities. Secondly, the determinants of the use of these platforms in Spain are analysed. Despite the major differences between the two societies, Spain's results may serve to identify the factors that could stimulate and inhibit the establishment of the CE in Cuba. Thirdly, seeking to assist the design of the regulation of these activities in Cuba, the situation of CE platforms is presented in two Latin American countries, Ecuador and Costa Rica, where they arrived earlier. Fourth, digital passenger transport platforms in Cuba are analysed which, although at the early stages of development, compete with one another. Analysing all these aspects allows a general reflection to be made on the CE in Cuba: its delayed expansion gives the chance to learn from other experiences and to regulate in advance. This may slow the growth of new CE services, but it would forestall some of the problems seen in other countries.

The Cuban economy's transformation and the EU-Cuba Political Dialogue and Cooperation Agreement (PDCA)

Jordi Bacaria and Eloi Serrano

The Political Dialogue and Cooperation Agreement (PDCA) signed between the Republic of Cuba and the European Union in 2016 “aims to consolidate and strengthen links between the parties in the areas of political dialogue, cooperation and trade, on the basis of mutual respect, reciprocity, common interest and respect for their sovereignty” and derogated the European Union’s Common Position from 1996. The EU’s proposal for cooperation with Cuba, as set out in the PDCA’s objectives, involves “the process of updating the economy and society in Cuba by providing a comprehensive framework for dialogue and cooperation”. This cooperation framework focusses on the multilateral aspects of trade and Cuba’s international projection, with particular emphasis on modernising its economy. The prospects for European cooperation are examined by considering the tensions in the process of modernisation in the Cuban economy that may be produced by both internal and external factors.

This volume on cooperation between the European Union (EU) and Cuba for economic and productive reform presents some of the results of the collaborative research from the first year of the Jean Monnet Network Europe-Cuba Forum project, funded by the Erasmus+ programme for three years from 2018 to 2021. The Jean Monnet Network Europe-Cuba Forum takes an academic approach to the economic, political, social and institutional reform processes underway on the island, which are essential to increasing Cuba's global, regional and interregional integration. The project seeks to contribute to energising the new phase of constructive engagement in Cuba–EU relations following the signing of the Political Dialogue and Cooperation Agreement (PDCA) in December 2016. This agreement will facilitate greater Cuban integration in EU–Caribbean relations and in the regional programmes of the Strategic Partnership between the EU and the Community of Latin American and Caribbean States (CELAC). The PDCA makes the EU a strategic partner in promoting these reforms, which have become particularly crucial given the tricky conjuncture of a recessionary economic climate, a complex political environment aggravated by the Trump administration's hostility, and the crisis provoked by the COVID-19 pandemic, all of which combine to once again test Cuban society's resilience.

The project is divided into three thematic sections that are developed through joint multidisciplinary research. In the first year, the work focuses on the economic reforms needed for international insertion and the promotion of sustainable development. The second year addresses cooperation on institutional reform and social policies and, finally, inter-regional cooperation and global insertion is examined in the third year. For each section, an international seminar, a set of working documents, a policy brief and a book will be produced on each of the three topics.

This volume, coordinated by José Antonio Alonso, Professor of Applied Economics at the Complutense University of Madrid, addresses the subject of the first seminar and the results of the discussions of the working documents – in both the seminar itself and a later peer review process between the institutions in the consortium. *Cooperation between the EU*

and Cuba for economic and productive reform: The challenges of economic reform in Cuba. While all the authors are economics scholars, in both cases the research has benefited from interdisciplinary discussions with the project's other participants.

The Jean Monnet Network Europe-Cuba Forum is decidedly interdisciplinary in its approach. By bringing together a wide range of scientific communities, policymakers and professionals in Europe and Cuba, the boundaries of individual experience are broken down to draw on a range of political and academic fields, such as Economics, Law, Social Policy, Foreign Policy and International Relations. This multidisciplinary, collaborative approach also seeks to improve mutual knowledge and facilitate exchanges, strengthening Europe's constructive role in the island's economic and institutional reforms. Scientific collaboration is the project's foundation, but at its heart are human exchange and building alliances that outlast the project. Since its inception, it has aspired to act as a unifying force for thinking about Cuba's reality and its relations with Europe, fostering dialogue between a range of epistemic communities and economic, political and social actors. Its end goal is to identify cooperation priorities that guide public policies on shared Cuban and European Union agendas.

Anna Ayuso

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Since the start of the 1990s and the socialist bloc's collapse, Cuba has striven to redefine the country's economic model and reset its system of external relations. Numerous changes have been made over those three decades, but no satisfactory pathway has been found to guide the economy's future progress or to correct its recurring tendency towards macroeconomic imbalances, and no precise vision of the destination has been created. The most substantial reforms remain pending, while many of those carried out have had limited effect due to their fragmentary or incomplete design.

Of course, there are many reasons why this is no easy task. The country's changing surroundings, its peculiar place on the geostrategic map and the rigidities of its inherited economic and political model all partly explain why advances are soon followed by setbacks, experiments are abandoned and frequent changes of course go unexplained. But these difficulties aside the entire process has been conditioned by a lack of clarity (or consistency) about the sequence of the reforms and a calculated imprecision around the destination scenario towards which the changes are meant to lead. In each period of time, this imprecision has its own nuances.

In the first stage – the last years of Fidel Castro's rule – amid conditions of extreme vulnerability for the Cuban population, the reforms were understood as an inevitable but transitory evil. Fidel Castro himself emphasised that they would be reversed as soon as the economy recovered. Needless to say, improvisation and fruitless changes of direction were frequent at this stage. Pushing through reform processes is difficult enough when public officials identify with the change; when they try to prevent it, the task is all the more difficult. Even so, the need at that time to rebuild the battered foreign sector forced two strategic reforms to be adopted that remain in place today: the commitment to developing the tourism sector and the (partial) opening up to foreign investment. But it was known that these measures were insufficient and that Cuba would need to find new international partners and define a new economic model. Fidel Castro's 1995 visit to China and Vietnam, among other countries, may be read as part of this process of searching for reference points.

The way out of this particular labyrinth was provided by Hugo Chavez's unexpected ascent to the presidency of Venezuela, which held some of the world's largest oil reserves. The fraternal relations established between the two governments enabled the Cuban economy's operating model to be redefined, leaving it dependent on international relations as preferential as they were unsustainable in the medium term. Two new variables entered the equation: on the one hand, access to a strategic resource – oil – in clearly favourable conditions; and on the other, the international profitability of Cuba's professional capital, especially in the fields of medicine, education and telecommunications. Venezuelan support led Cuban foreign policy to turn more decidedly towards the Latin American region, while allowing the reform process to be slowed down and postponing (or setting aside) change processes that, although unavoidable, might produce costs or uncertainties that there was no intention to incur.

The reform effort was stepped up in the first phase of Raúl Castro's government, raising hopes that the Cuban economy was finally in a decisive and perhaps irreversible phase of change. The reforms were made in a very difficult context – with the economy on the verge of financial bankruptcy – and were accompanied by a stark review of the mistakes of the past, both of which made the endeavour more credible. However, the reformist impetus faded as the economy stabilised and decisions had to be made in more delicate and strategic areas, where uncertainty (and fear) was greater. In the second phase of Raúl Castro's government continuity was clearly favoured and the list of reforms undertaken was much reduced.

For the first time the conditions allowed a coordinated narrative on the reform process to be defined, and the sixth Congress of the Communist Party in 2016 approved the *Guidelines of the Economic and Social Policy of the Party and the Revolution for the period 2016–2021*. More than technical, this is a political document that outlines the aspirations that should guide the reform efforts. This first document was followed by others with a similar tone and focus such as the *Conceptualization of the Cuban Economic and Social Model of Socialist Development* and the bases of the *National Economic and Social Development Plan for 2030*. Only limited criteria of theoretical consistency and practical viability were applied to these documents, so while useful for internal debate, they did not contribute much in terms of effectively clarifying the reforms' destination or precise pathway.

Finally, Díaz-Canel's ascent to the presidency has not invigorated the rather flat, parsimonious tone that has characterised the reforms in recent years. Nevertheless, the signs are mixed: alongside recognisable advances there have also been backward steps that are difficult to understand and outdated measures have been reintroduced that are unlikely have any effect in the present. The anxieties caused by an increasingly adverse international environment, a global economic slowdown, a strategic partner in decline and an increasingly hostile powerful neighbour seem to favour those advocating an inward economic turn over those promoting a renewed reforming thrust.

Among the assets of the new phase are undoubtedly the normality with which the leadership changed hands, which also involved major genera-

tional change, and the successful process of consultation and approval of a new constitutional framework that grants legal recognition to many of the measures adopted in the reform process. The liabilities include the inability, for the time being, to face up to the reforms that are required to promote a path towards continuously increasing productivity and the doubtful effects of some of the economic measures adopted in recent months.

To promote the first of the mentioned objectives, it seems necessary for economic actors (both national and international) to have more freedom to act autonomously and to dissolve the web of perverse incentives (among them, the dual currency) that affect economic allocation processes. To progress along this path will require a certain boldness, not only to overcome internal resistance to the reform – clearly apparent in the governing party's complex bureaucracy – but also to gain the international (and financial) support needed to make the adjustment process viable.

Many analysts believe that once the adjustment has been made the Cuban economy has great prospects for recovering in a relatively short period of time. The problem is handling the costs of the adjustment before this growth emerges in an economy that is notably fragile, has little financial room for manoeuvre and large sectors of whose population have low purchasing power. Access to international finance is thus essential to making the process governable, but the Cuban authorities do not appear to be exploring this possibility, or preparing for potentially tricky international negotiations.

In sum, a stocktake of these last three decades of Cuban economic crisis reveals that, regardless of the mood of the period, a common desire persists to put off basic structural reforms in favour of an exhausting pathway of partial and fragmentary reforms, whose success – in terms of improved growth figures and living conditions for the people – has been limited. It is hoped that attracting foreign investment will free policymakers from the need to take structural decisions that are seen as costly (including to the political support of those obliged to take them). But this providential contribution from abroad has yet to arrive (and the future prospects of it appear doubtful), while the costs of repeatedly avoiding those decisions have increased over time.

It is in this context that the European Union decided to support the Jean Monnet Network, which brings researchers together from Europe and Cuba to work on Cuba's current predicament and the prospects of more active and profitable relations with the European Union. The network also seeks to establish collaborative, understanding relationships between the academic communities on both sides to encourage a more shared vision of existing problems and promote the exchange of methodologies and analytical approaches. *Cooperation between the EU and Cuba for economic and productive reform: The challenges of economic reform in Cuba* is the fruit of these efforts. It is a volume that seeks to unite diverse and complementary contributions on the challenges of the Cuban economic situation, the experience gained in the reform so far and some tentative ideas for possible future actions.

In addition to this introduction, this volume contains six other chapters. The first, by José Antonio Alonso and Pavel Vidal, analyses the costs of the sequence of fragmented reforms that have dominated the Cuban economy's recent history. The authors believe that this approach of continual stop-gap solutions not only hinders the dynamic capacities of the reform, it also fuels the recurrent worsening of macroeconomic imbalances, meaning repeated periods of stabilisation are required. The Cuban economy seems therefore to have fallen into a trap from which it is struggling to escape: the way the reforms are implemented leads to episodes of instability, and the repeated stabilisation therapies force the reforms to slow down. The solution the authors propose for breaking out of this vicious circle is to embark on an integrated and coherent reform process, with the swift application of substantial measures, including modifying the exchange rate regime.

Chapters 2, 3 and 4 examine three strategic sectors of the Cuban economy. The first, by Elisa Botella, looks at the agricultural sector. Despite the reforms undertaken in the Cuban countryside, little progress has been made in terms of the sector's productivity or the country's levels of self-sufficiency. However, the outlook for the Cuban countryside today is very different from that of a decade and a half ago. The changes relate not only to property regimes, but also to the representative value of certain forms of agrarian production as social models. Focussing on the latter, the author attempts to place the agrarian question in Cuba within a long-term framework that connects the land reforms of developmentalism with the new agrarian question in the global era. The chapter explores the long process of land reform (1959–present) in Cuba, seeking to understand if it is a paradigmatic and alternative case in its regional context, which obliges the author to consider the interactions between the state and the Cuban peasants' movement that have kept land claims on the political agenda since the revolution began.

Chapter 3, by Mario Raúl de la Peña, David Martín-Barroso, Jacobo Núñez, Juan A. Núñez-Serrano, Jaime Turrión and Javier Velázquez, makes a comparative analysis of the competitive situation of the Cuban tourism sector in relation to its Caribbean environment. They define a methodological framework for analysing competitiveness based on the behaviour of international tourism flows and the construction of a counterfactual based on that information. The results suggest that Cuba's competitive position is relatively good, especially when compared with the countries that follow the same tourism model. The work also shows that a major shift is underway in the Cuban tourism mix towards the international average, making it less dependent on traditional sun and beach tourism, which may create greater potential for future development of the island's tourism sector.

Finally, chapter 4, by Emilio Cerdá, Diego Rodríguez and Miguel Sebastián, makes a comparative study of the patterns of primary energy supply in Cuba and Spain between 1990 and 2016, using data from the International Energy Agency. The key features of each of Cuba's energy sources are set out, and the fundamental changes in the Spanish energy sector since 1990 are highlighted, within the European Union framework. Then, eight energy indicators that are central in the international literature are calculated for the two countries and their evolution over the period is compared. The aim is to provide relevant factual infor-

mation for diagnosing the sector in the two countries and to inspire appropriate policy changes in the energy field. The chapter ends by presenting each country's energy targets and plans for 2030, along with some evaluative conclusions.

The third section is formed of two chapters examining future challenges. Chapter 5, written by Luis M. Barboza Arias, Roberto F. Erazo Castro, Sandra Madiedo Ruiz, Cipriano Quirós Romero and Keynor Ruiz Mejías, aims to analyse the validity and prospects for the “collaborative economy” in Cuba. Given the novelty of this category and the plurality of activities it covers, the authors take time to define its characteristics and to analyse what determines people's use of collaborative platforms. As statistical information for Cuba was impossible to obtain, the analysis of the factors that determine their use is made using Spanish data. An assumption is therefore made that, despite the differences between the two countries, explanatory factors may be identified that are also relevant for Cuba. The chapter examines the regulatory responses to this type of activity in two Latin American countries – Ecuador and Costa Rica – and gives brief consideration to the passenger transport sector in Cuba where, despite its fledgling development, a set of local platforms have emerged that compete with each other. Finally, in light of the experiences and analyses presented, a reflection is made on how to tackle the design of regulatory responses in these fields, which may be of use for future decisions by the Cuban authorities.

Finally, the last chapter, by Jordi Bacaria and Eloi Serrano, looks at the prospects for the Political Dialogue and Cooperation Agreement (PDCA) signed in 2016 between Cuba and the European Union (EU) in the light of the most recent reform process in the Cuban economy. As the authors point out, the EU's proposal for cooperation with Cuba aims to accompany “the process of updating the economy and society in Cuba”. It is therefore important to understand how international cooperation can stimulate and support a process that is by necessity fundamentally endogenous. The cooperation framework places particular importance on the multilateral aspects of trade and Cuba's international projection, with particular emphasis on the modernisation of the Cuban economy. This will depend not only on the reforms undertaken in Cuba, but also on its capacity to insert its economy into the new global trade flows, which are based on value chains, and the importance of foreign direct investment.

This volume's engagement with the relevant issues in the relationship between Cuba's economic reforms and its framework of relations with the EU is by no means exhaustive. A second volume will help complete the perspective. But the six chapters presented here contain enough interesting material to demonstrate that joint academic endeavour can help better understand the Cuban economy's complex situation and shed light on some of the parameters that will frame future reform decisions.

A LOOK AT THE REFORMS

- THE ECONOMIC REFORM IN CUBA: STUCK IN THE MIDDLE

José Antonio Alonso and Pavel Vidal

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1. Stuck in the middle

a series of reforms and stabilisation measures of varying nature and scope have been implemented in the Cuban economy over the past decade. Many were obligatory responses to accumulated macroeconomic imbalances, but other reforms sought to lay the foundations for more vigorous and sustained future growth. For the time being, any achievements of this process appear insufficient and remarkably fragile.

In the last two decades *reforms* have been implemented. More precisely, progress has been made on consolidating a private sector (the self-employed and microenterprises) that is tremendously dynamic and creative, albeit confined to certain minor services and circumscribed by highly restrictive regulations¹; efforts have been made to increase the flexibility of central planning tools and to improve macroeconomic management; the financial system and the role of the central bank have been redesigned in a very idiosyncratic institutional context; a major obstacle to the country's access to international financing has been removed through the intelligent negotiation of its external debt with the Paris Club; and, finally, the regulations on agriculture and foreign direct investment have also been reformed, although in both cases significant restrictions remain. All these (partial) achievements should be recognised. But the truth is that the economy has failed either to launch a process of sustainable productive transformation, or to achieve a growth rate that may be considered acceptable.²

Proof of the unsatisfactory results of this process is that long-diagnosed problems with the Cuban economy persist, among which the decapitalisation of the economy is one of the most important. Midway through the past decade, the endowment of physical capital measured in dollars was 37% lower than in 1989 (Vidal, 2017) – consistent with remarkably low rates of saving and investment (between 10% and 15% of GDP). These low rates reflect the limited expectations of profitability in a regulatory framework that is both restrictive and insecure for investors, whether domestic or foreign. The context of low investment seriously undermines the capacity to undertake the productive change the Cuban

1. On the restrictions the private sector faces, see Mesa-Lago (2016), Díaz and Barreiro (2019) and Ritter and Henken (2015).

2. The economic reforms are evaluated in Alonso and Vidal (2013), as well as in *Miradas sobre la Economía Cubana*, produced by the Centro de Estudios de la Economía Cubana over a number of years.

The root of the Cuban economy's unsatisfactory functioning is the distorting persistence of monetary duality, which gives rise to multiple divided markets, hampers the competitive potential of domestic products and leads capacity to be diverted towards low-productivity activities.

economy needs, in order to increase the level of productive diversification and bring greater economic dynamism and competitive strength. One example is the inability to diversify the export supply, which has been seriously damaged in some fields by weakened competitiveness and the geopolitical changes in the country's surroundings. US sanctions – tightened by the Trump administration – have made it all the more difficult for the foreign sector to act as a lever for mobilising economic change.

The root of the Cuban economy's unsatisfactory functioning is the distorting persistence of monetary duality, which gives rise to multiple divided markets, hampers the competitive potential of domestic products and leads capacity to be diverted towards low-productivity activities. This is not the only area that requires urgent reform: this chapter covers the labour market and recruitment by national and international employers, better regulation of foreign investment to provide autonomy and security to investors, or the creation of wholesale markets to supply the private sector, among the pending reforms.

Finally, these long-term problems are added to other more recent ones that also affect the sustainability of the growth path. Increased inequality is one trend prompting concern as it tarnishes one of the Cuban regime's distinguishing features. The ageing population is also worrying. This demographic change is becoming consolidated and has highly diverse effects (not just economic) on the configuration of savings, the rigidity of public spending and the lack of dynamism in the Cuban economy.

The achievements in terms of stabilisation are equally ambiguous. In the first term of Raúl Castro's presidency (2008–2013), the financial crisis was overcome, inflation was kept under control and public accounts were strictly monitored in an attempt to arrest the drift towards a worsening state deficit. However, in the second period of the presidency (2013–2018) it became clear that the Cuban economy remained highly vulnerable to external shocks, particularly given the increasingly adverse international context. Lower international raw materials prices and the Venezuelan crisis have heaped pressure on Cuban external accounts over the past five years. More recently, these pressures have been added to by the impact of US sanctions on tourism and on the financial risk of the Cuban market. What is more, the economy's very configuration causes imbalances to worsen as growth rates slow, due to the central role the state plays in regulating the economic cycle, in debt management and in supporting family incomes. As a result, imbalances repeatedly emerge and the remedies employed become increasingly costly because of their recessionary effect, as a major part of the adjustment affects import capacity.

In fact, evidence from this last period suggests that the strategy adopted has created an underlying contradiction between the two purposes of the government's action: reform on the one hand and macroeconomic stabilisation on the other. Because they are gradual and partial, the reforms are unable to unleash the intended process of productive change and economic dynamism. This forces the state – in an adverse international context – to maintain a palliative policy that aims to protect revenues and contain prices (particularly the exchange rate). But in a context of a severe constraint of public resources, economic reces-

sions drive to exacerbate the macroeconomic and financial imbalances. Correcting these imbalances requires public spending to be contained and import capacity to be restricted, eliminating the limited possibilities of sustaining a continued economic growth rate.

Accounting for differences, this contradiction is present in all structural adjustment operations. Macroeconomic adjustment is expected to have some recessionary effects, but they are also expected to be short-term. It is hoped that, if well targeted, economic reforms will lay the foundations for healthier and more dynamic growth of the economy, producing an impact that ends up prevailing in the medium term. Cuba is a peculiar case because the reforms are not having this dynamic effect (or if they are the impact is very slight). Largely this is because the reforms are partial and fragmentary. The absence of a comprehensive approach prevent that certain measures deploy their effects because of the absence of other complementary reforms that would be equally required.

As a result, the Cuban economy appears trapped in a vicious circle. Recurrent imbalances oblige stabilisation measures to be imposed that inevitably damage the prospects of reform and economic growth. In turn, the partial nature of the reforms means they are unable to trigger the expected dynamism, which means palliative public action is required, creating new imbalances. The sequencing and partial nature of the measures adopted has left the Cuban economy in an undesirable situation in which past logic has been cast aside but no new economic rationale has been allowed to succeed. Cuba has for years appeared to be in no man's land, stuck in the middle of a process of change.

Overcoming these problems requires the Cuban economy to break out of the vicious circle in which it has been locked in recent years. A first condition for this is to design and implement a comprehensive programme of reforms in which the externalities of the measures to be adopted are weighed and the process is endowed with the ambition and coherence it has thus far lacked. This means accepting major institutional and regulatory changes in key areas, such as the exchange rate regime, factor markets (capital and labour) and economic regulation and allocation systems. Undertaking these reforms will temporarily have a potentially negative effect on the population's living conditions and on the government's scope for action. That is why it is important that the design and implementation of this plan is accompanied by broad social support and guaranteed access for the country to international financing in conditions and quantities that allow it to properly manage the transition.

The Cuban economy's high-quality human capital, relative health and safety advantages, experienced public bureaucracy, prosperous diaspora and location in a region of high tourist demand are all positive factors that can contribute to make a comprehensive process of adjustment and reforms successful, even if the US government's economic and financial sanctions are maintained. But this process of changes require both political will and far-reaching vision.

This chapter intends to provide some interpretations and evidence to help support the arguments made in the introduction. It is clear that Cuba has moved from a long first stage in which the reforms were

Lower international raw materials prices and the Venezuelan crisis have heaped pressure on Cuban external accounts over the past five years. More recently, these pressures have been added to by the impact of US sanctions on tourism and on the financial risk of the Cuban market.

understood as a necessary but reversible evil (1990–2008) to one in which the reforms are seen as desirable. But the process, until now, has lacked an integrated conception and a cumulative and dynamic sequence of change. It is important that this stage is concluded and that the reform is contemplated with the appropriate ambition for a simultaneous and comprehensive plan of action.

2. The difficulties of institutional change

All economic reform processes involve forcing through institutional change – modifying the framework of incentives in which economic actors operate. Understanding the difficulties of institutional change can help us interpret the resistance to economic reform in Cuba.³

In principle, the vision of institutional change seems in each case to be conditioned by the conception of the institutions. When identified with rules imposed exogenously on individuals, institutional change is taken to be a centralised process carried out by those with the capacity to define the rules (authorities, government, parliament). In such cases, the institutional change is deliberate and is normally accompanied by a struggle between the interest groups impacted by the reform (Ostrom, 2005).

This vision provides an accurate account of how legislative processes occur in a democratic society. But while potentially useful for explaining certain processes of institutional reform, this conception struggles to convincingly account for how informal institutions evolve and why, in some cases, formal institutions fail to effectively shape social action or to provide the results expected of them (Kingston and Caballero, 2009).

Other approaches insist that institutions should be conceived of as self-sustained equilibria in social interaction. In this case, institutional change is principally an evolving, decentralised process. When actors observe that the results of an institutional arrangement are not as expected, they modify their expectations and alter their behaviour. As the dissonance continues to grow, actors cease to behave in accordance with the established rules, which weakens their enforceability and effectiveness. In such cases, the opportunity opens up for endogenous institutional change (Greif, 2006).

An eclectic approach might accept that institutional change can be enacted in various ways that are not necessarily incompatible. While some changes may be produced by the explicit definition of new rules via a political process of negotiation and struggle between the interests at stake within society, in other cases institutional modifications will result from decentralised processes that are open to innovation and only partly intentional. Neither process of change requires it to be guaranteed that the capacity exists to define optimal institutions.

Whatever conception one adopts, it must be recognised that institutional change is a complex task, fraught with uncertainty and only partly controlled by the social agents that promote it. In order to clarify this, the distinction between informal and formal institution can be useful.

3. A canonical definition would understand “institutions” to be the rules of the game in a society or, more formally, the restrictions produced by human beings that shape social interactions (North, 1991: 97).

Informal institutions lay on unwritten social norms or conventions rooted in the consciences of individuals, in their values and in their culture. They explain human behaviour by reference to deep and not always conscious factors. Because of their nature, these types of institutions tend to change slowly and gradually, responding to mutations in their environment or in the consciences of individuals that take shape over time. Informal institutions are likely to change in a decentralised and somewhat blind process that may be slow to spread from the groups that initially promote it to the social group. This makes it difficult to foster and even more difficult to control.

By contrast, formal institutions define explicit rules and establish clear sanctions for non-compliance. Their design is more deliberate (e.g. a law) and is subject to a more transparent process of definition and public scrutiny. They are therefore easier to deliberately change. Even so, the difficulties involved in this task are numerous. Among them we would like to highlight the following four:

- First, even when there is clear awareness of institutional failure, the alternative institutional arrangement that would provide a solution may be less obvious.
- Second, even if the alternative is clear, in order to motivate any institutional change, the inertia (resistance to change) in existing institutions must be overcome. This inertia is the product of highly diverse factors related to the interdependencies between institutions (to change one, associated others must also be changed), the network of explicit and implicit social commitments on which their operation rests, and the objectification of values, expectations and beliefs the institution promotes in the social fabric.
- Third, all institutional change involves altering pre-existing patterns of distribution, not only in the economic sphere, but also in terms of voice and power in society. For change to occur it is therefore necessary to overcome the resistance of those who feel potentially harmed (even in relative terms) by this process.
- Finally, a well-designed institutional alternative and overcoming the resistance put up by inertia and the action of sectors that oppose the change are not sufficient: it is also necessary to invest in disseminating the norm so that actors understand it and internalise it in their behaviour.

These factors explain the difficulties with institutional change. They also help understand why the costs of creating a new institution are higher than of preserving the immobile behaviour of existing ones, even when these are deficient. The conditions for change are created only when the advantages of the new (or the shortcomings of the old) are very marked.

Given the powerful inertia that characterises existing institutions, analysts have tended to conceive of institutional change as a sporadic process in which long periods of stability coexist with episodes of abrupt change. Overcoming this inertia is easier when society enters the episodes of social disruption or essential periods of change known as "critical junctures" (Capoccia and Kelemen, 2007; Acemoglu and Robinson, 2012). When major events disrupt a country's economic or political equilibrium, society is more likely to be willing to question its prior expectations and beliefs, facilitating the search for and acceptance of new institutional arrangements.

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Without detracting from these processes, it must be recognised that much institutional change does not fit the model of abrupt transformations concentrated in critical moments. Rather, change occurs through a (sometimes prolonged) sequence of gradual modifications. Mahoney and Thelen (2010) believe this process of change occurs fundamentally in three ways:⁴ i) *layering*, where new laws are introduced to reinterpret or condition existing ones; ii) *drift*, where laws are reinterpreted due to changes in the context; and iii) *conversion*, when the definition of existing laws is changed due to a strategic rearrangement of the rules.

Levitsky and Murillo (2014) offer a third option for institutional change, based on the study of a large number of Latin American countries. The authors cite cases in which institutions are built on fragile foundations and lack the necessary rooting in society due to high levels of social fragmentation and political instability. In such cases, institutions may undergo changes that are intense (as opposed to gradual) and continuous (rather than one-off), giving the institutional framework particular volatility: Levitsky and Murillo (ibid.) call this “serial replacement”. The consequence is that the institutions have a low degree of predictability and capacity to modulate people’s behaviour.

Finally, Alonso (2020) presents a fourth case, the inverse situation, in which particular institutional inertia means societies are unable to keep up with social change by modifying their institutional structure. This usually occurs in countries with rigid, authoritarian political structures, low levels of recognition of political and civil rights, and where traditional values have particular importance. Dissonance tends to grow progressively between a society that evolves (albeit slowly) and institutional structures that are reluctant to change, and to which only minor adjustments are made at critical moments. In these cases, a gap widens between society (its interests and expectations) and the existing formal institutions, which lose legitimacy as they appear increasingly maladapted to the needs of the moment. Arab countries provide good examples of this type of situation, as the “Arab Spring” revealed.

3. Institutional reform in Cuba

The previous section presented some examples that help understand the reform process in Cuba. With all its peculiarities, Cuba seems to be close to the last of the models discussed: institutional inertia is imposed on a society that has nevertheless undergone a notable change in its values, patterns of behaviour and expectations.

In the economic sphere, disparity appears to be growing between the formal institutional framework, where the changes have been incremental, and the growing demands (and expectations) for change in society itself. The most decisive factors behind the institutional inertia relate to the rigidity of the political structures and society’s limited capacity to autonomously transfer this demand for change to the institutional framework. Hierarchical bureaucratic decision-making processes prevail over more spontaneous, decentralised expressions of social demands and expectations. Often, the informal bottom-up dynamics that promote changes in behaviours and values end up colliding with top-down formal decision-making structures seeking to reproduce themselves. This does

4. The authors also consider a fourth type, displacement, in which existing rules are replaced by new ones. But this process is not necessarily “gradual”.

not mean institutional change is non-existent, but that it is conditioned by the requirements of the rigid political structures in which these changes are determined. Neither does it necessarily mean that public opinion is disregarded. But the degrees of autonomy with which it expresses itself are notably limited, as the issuing of opinion itself is centrally organised (as the referendum about the new Constitution, in 2019, shew).

The circumstances described have two important consequences that condition the effectiveness of the economic reform process: the absence of a recognisable goal and an its incremental, fragmented nature.

3.1. Absence of goals

The economic reform process proposed in Cuba lacks a defined destination scenario towards which efforts are guided. Acceptance exists that successive institutional changes are necessary, but a precise (and intellectually consistent) definition of the final goal of this reform process is omitted. Documents presented as strategies (*Los lineamientos de política económica y social del partido y la revolución para el período 2016-2021* and the *Plan nacional de desarrollo económico y social 2030 de Cuba*) are in fact political texts written in a declarative tone that are of little use for defining a recognisable economic model. Not even the *Conceptualización del modelo económico y social cubano de desarrollo socialista* fulfils that purpose, being a somewhat desiderative text that lacks precision in terms of strategies and defining the future economic framework.

The lack of definition of an arriving scenario drives to contradictory approaches. For example, official documents insist on preserving the socialist nature of the economic model in Cuba, but the reality shows that 30% of employment is already associated with private activities and that the door has been opened to investments with 100% foreign capital. In the official media, praise for the Chinese and Vietnamese models is mixed with criticism of the activities of the private sector. The international context, dominated by the crisis in Venezuela and the reaction of the Trump administration, does not help openly reformist attitudes to prosper within the government. And, finally, the sequencing of the decisions sows doubts about the objectives of the reforms. This is the case, for example, with some measures on the current president's economic agenda that resurrect transformations from the 1990s that appeared to have been consigned to the past, such as the partial re-dollarisation of certain markets and industries, in apparent contradiction with the long-proposed monetary unification.

The reform path therefore has a clear starting point (a past whose achievements are recognised, but to which return is not wanted) and some recognisable milestones, but lacks precise goals and timelines, which would impose discipline on public decisions and allow actors to adapt their behaviour and expectations to these reforms. The result is that in the absence of commitments on the pace of reforms, the authorities possess a high degree of discretion when it comes to decision-making. That discretion gives extra leeway to sectors that are resistant to change, enabling them to organise and attempt to delay or deprioritise the reforms they consider most damaging to their interests.

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What is more, in this uncertain environment, social actors are unable to anticipate changes: their attitude is one of permanent expectation, waiting for the confirmation of a new reform. Their uncertainty (which extends to international companies operating in Cuba) not only limits their effective involvement in supporting the reforms, but also damages their willingness to invest, given the absence of credible medium-term scenarios. No surprise then that levels of savings and investment on the island are low.

3.2. Partial reforms

The absence of a precise goal explains the lack of a systematic and comprehensive reform plan. Any overall logic is lost to stop-gap solutions: concatenated partial decisions taken when problems are detected, according to the political margins available for solving them. In some cases, decisions seek to advance previously postponed reforms (e.g. financial reform);⁵ in others, they look to correct inadvertent consequences or gaps left by previous interventions (for example, the agricultural sector's commercialisation system). At any rate, the process is governed more by piecing together partial actions than by the rationale of a comprehensive plan.

Seen as a whole, then, the problem is not that there are no reforms. Indeed, various – some far-reaching – have been adopted in recent years: among others, the authorisation to possess mobile phones (2008); the opening up of the real estate market (2008); the regulation of internet access (2009); the liberalisation of access to construction materials (2011); the liberalisation of international travel (2013); the various changes in the regulation of self-employment; the extension of the period of usufruct of state land; and the new regulation on the central bank and the financial system (2018). The problem is that many of these changes fail to achieve the intended effect because they are not accompanied by reforms in other complementary areas.

In this regard, it should be remembered that the institutional framework, far from being an aggregate of juxtaposed institutional arrangements, is formed of an articulated and hierarchical fabric of institutions. Within that fabric institutional aggregates exist – groups of intimately connected institutions, each of whose operational logics is highly dependent on those of the others. This reality conspires against the partial, fragmentary approach taken to the reforms in Cuba, because the impact of measures applied in one area is reduced by the absence of complementary reforms in others. Nevertheless, achieving partial successes is crucial, especially if a gradual, long-term path of reform is adopted. It allows the sequential broadening of social support for the process (reducing the space for sectors that are resistant to change) and extends the viability of the subsequent reforms. In the case of Cuba, the partial nature of the reforms means both objectives are achieved in a very limited way.

Three examples illustrate the argument. The first relates to *foreign investment*, the great hope of many Cuban political leaders, who believe that attracting investment is the main factor behind motivating productive change, improving the economy's productivity and competitiveness and encouraging growth. Over time, regulatory changes have sought

5. For a recent analysis of the financial system and its relationship with the private sector see Vidal and Viswanath (2019) and Pons (2016).

a degree of liberalisation in this area. In 2018, for example, the Cuban government modified Law 118 on Foreign Investment, supposedly with a view to accelerating the arrival of foreign capital. When making investment proposals, investors were no longer required to submit two documents to the Ministry of Foreign Trade and Foreign Investment, and the submission of a full feasibility study was dropped in favour of a simpler pre-feasibility study.

Nevertheless, the results of this liberalisation process are far from the expected and, on occasions, announced. At the root of this discrepancy are two factors that have yet to be subject to reform. The first relates to the previous point: foreign investors suffer from the uncertainty resulting from the absence of a credible reform plan that identifies the desired end scenario (economic model). These factors of uncertainty are overcome only in activities in which the location advantages are high (as with tourism) or where extraordinary revenues are on offer thanks to the absence of competition. The second factor relates to the limitation the Cuban authorities imposed on the free recruitment of labour on the island. State employment agencies constitute a restriction that affects not only the selection of personnel, but also their compensation and incentives. As long as factors such as these go unaltered, foreign investment is unlikely to arrive at the desired rates, even if other aspects of the regulations are made more flexible.

The second example is *agriculture reforms*. Once again this is a sector the authorities consider strategic, not only as a source of productive jobs (in an environment of increasing underemployment and informality), but also as a way to improve the levels of self-sufficiency and to reduce the high dependence on food imports. One of the star measures in this process is the regulation of access to the usufruct of land for the promotion of agricultural operations. Again, faced with limited results, the authorities had to amend the rule and lengthen the period of usufruct to give the investor greater security. However, as these updates did not bring about the dismantling of the centralised system of purchasing and allocating materials, the results continue to be disappointing. The usufruct time limit is undoubtedly a factor of uncertainty, especially in an area in which investments for productive improvement require long periods to fully mature. But, beyond this, low yields are influenced by the farmer's inability to control the productive cycle.⁶ Once again, we find measures that do not bear fruit due to the absence of complementary reforms.

The last example is the *policy to promote the competitiveness* of Cuban companies. The reform insists on the pre-eminence of state ownership and monopoly in most industries and – a little extra flexibility aside – retains the logic of resource allocation by a central plan. Once again, this is an area in which highly diverse formulas have been explored at different stages, for the most part experimentally, adjusting the degree of responsibility transferred to the employer in decision-making and the formulas for improving access to finance in foreign currency. The Raúl Castro government's commitment to restructuring the state business apparatus rested fundamentally on the creation of the Superior Organizations of Business Management (OSDEs), which failed to improve efficiency, make productive processes more flexible, or enhance the use of scientific potential, as the government had aimed.⁷

Achieving partial successes is crucial, especially if a gradual, long-term path of reform is adopted. It allows the sequential broadening of social support for the process (reducing the space for sectors that are resistant to change) and extends the viability of the subsequent reforms. In the case of Cuba, the partial nature of the reforms means both objectives are achieved in a very limited way.

6. Nova (2013) contains a full analysis of the Cuban agricultural sector.

7. See Decree 335 in the *Gaceta Oficial Extraordinaria* No. 58 of December 13th 2017. De Miranda and Pérez (2012) assess the challenges the economy faced in the first years of the Raúl Castro presidency; Triana (2016) characterises some of the distinguishing features of its reforms.

As yet, the process has failed to translate into an effective pathway of competitive improvement for the Cuban state company. The absence of reforms in two key fields lies behind these limited achievements: the possibility of employers optimising costs through free access to the input and factor markets; and the unification of the exchange rate and its external convertibility, establishing currency parity to make it possible to regain competitiveness and manage international operations. Under these conditions, trying to improve competitiveness by transferring decision-making responsibility to the employer is pie in the sky. Most of the state industries survive by paying very low wages and receiving subsidies – either explicitly from the budget, or implicitly from the overvalued official exchange rate. Keeping such state companies afloat reduces the average productivity of the state business sector, which conditions its low wages and leads to an inefficient allocation of the workforce – inexcusable given that Cuban demographics are characterised by emigration and an ageing population.

To sum up, the lack of a comprehensive reform plan and the fragmented, partial nature of the reforms mean that any changes produced have much less impact than expected. The consequences of the internal changes have failed either to reach the majority of the population that depends on state employment or is retired, or to improve the levels of competitiveness and growth of the economy on an aggregate scale.

4. Vulnerable international insertion

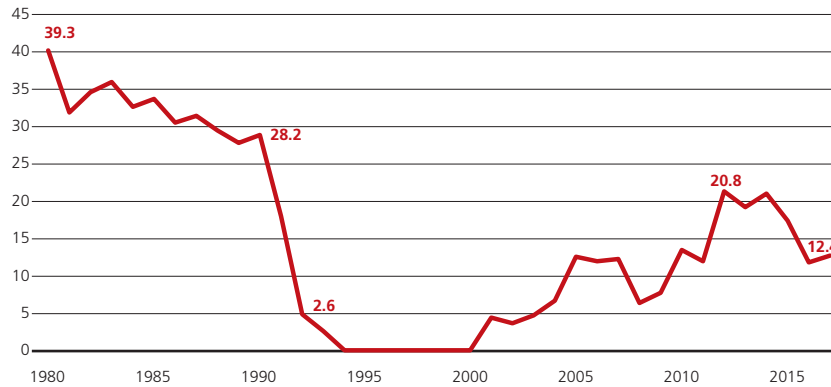
Since 2015, Cuba has been trying to assimilate the impact of the fall in trade with Venezuela (see Figure 1). Goods imports from Venezuela (including oil) have fallen by around \$4.5 billion. At the same time, Cuban exports of goods to Venezuela (including medicines and refined oil) decreased by around \$2 billion, while exports of professional services (including medical services) fell by another \$1.5 billion. These trends are fuelled by the progressive deterioration of the economic and political situation in Venezuela, with the country's GDP plummeting by about 60% between 2014 and 2019.

If there is regime change in Venezuela, trade agreements with the country are at risk of collapse. It is not possible at this stage to know exactly what will happen in Venezuela, but in all of the plausible scenarios, the Cuban economy will emerge further weakened. While Maduro remains in power, he will struggle to reverse the deterioration of the Venezuelan economy in the medium term. But the fall of the Maduro regime would have highly damaging consequences for incomes, family consumption and monetary and financial stability in the Cuban economy, even if the decline is less severe than that experienced in the Special Period in the 1990s (Mesa-Lago and Vidal, 2019).

Figure 1 shows the changes in Cuba's dependence on an "allied country" as a percentage of Cuba's GDP, taken at constant prices. For 1980–1993 this percentage is calculated for the trade with the former USSR and for 2001–2017 that with Venezuela is given. These periods correspond to the years in which special agreements existed between these nations and Cuba. For 1994–2000, the historical series is given zero value, as Cuba had no economic relations of the same nature with any country.

It can be seen that before the Special Period, trade relations with the USSR represented 28.2% of GDP, while they currently represent 12.4% with Venezuela, around 16 percentage points less. This single indicator suggests that while in principle severing ties with Venezuela should have a significant negative impact on the Cuban economy, it will be less than that experienced in the 1990s after the collapse of the USSR.

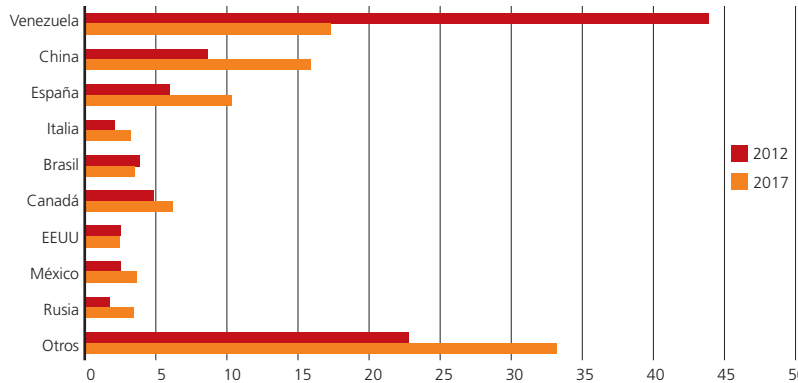
Figure 1. Cuba: Changing dependence on an "allied country"
(Trade with the country/Cuban GDP, at constant prices: with the USSR [1980–1993] and with Venezuela [2001–2017])



Source: Cuba Standard (2019).

Most of the state industries survive by paying very low wages and receiving subsidies – either explicitly from the budget, or implicitly from the overvalued official exchange rate. Keeping such state companies afloat reduces the average productivity of the state business sector.

Figure 2. Cuba: Trade in goods by country (% of total)



Source: Cuba Standard (2019)

Analysing the exchange of Cuban goods (exports plus imports) with its main trading partners shows that as trade with Venezuela fell, exchanges were increasing with China and Spain. China's share of total trade has almost doubled, rising from 8.8% to 16%, while that with Spain rose from 6% to 10.4% in the 2012–2017 period. Another country to increase its absolute and relative participation in Cuban trade was Russia, which grew from 1.8% to 3.4% in the period under consideration (Figure 2). However, these rises are not enough to compensate for the lost trade with Venezuela. Other markets (such as Italy, Canada and Mexico) increased their relative trade with Cuba, although this did not translate into an increase in trade values in absolute terms.

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In this context, the complex situation in Venezuela and the new actions taken by the Trump administration raise concerns about how new crises will be handled and the possible implications for the reform dynamics. That the starting point is more favourable than in the 1990s is acknowledged, but the economy is a long way from healthy. Otherwise, over these years Cuban society has been left exhausted by frustrated expectations of economic change and uncompensated social deficits that would make bearing a new period of severe crisis extremely difficult. Concern rises about the social and political impacts, as some families that depend on depressed state pensions and real state wages will struggle to survive a new adjustment. To summarise, even if the impact is less than in the Special Period, for families without access to remittances who are not connected to the private sector or to tourism, the social cost of inflation and product shortages in rationed markets could be extremely high, generating significant challenges in terms of social policy, as well as for the political management of the crisis.

5. The re-emergence of macroeconomic imbalances

In macroeconomic terms, three factors have partially offset the lost exports and imports with Venezuela: tourism, the private sector and remittances, and fiscal policy. But their sustainability is at risk. In 2018 and 2019, tourist arrivals and export earnings clearly slowed. Rates of growth in the private sector and inflows of remittances also fell. There is no certainty (at least in the short term) that either of these two factors can regain their previous rates of expansion. Finally, the tone of the previous fiscal policy is not sustainable either, considering the dimensions to which the fiscal deficit and public bonds accumulated by state banks have grown. The Cuban government therefore needs to find new buffers to face this potential crisis.

In this new scenario, the vicious circle in which the Cuban economy finds itself is exacerbated. The incomplete reforms and resulting low GDP growth combine with the effect of new external shocks, producing a new outbreak of macroeconomic and financial imbalances. The responses to these imbalances have clearly recessionary effects, as they worsen macroeconomic balances, increase indebtedness, reduce import capacity and multiply non-payments to international suppliers, which combine to undermine the potential for long-term economic growth. At the end of 2019, worrying signs were also appearing in the banking sector, which showed itself unable to meet the liquidity demands of certain savers. The operational capacity of Cuban banks suffers from the lack of convertibility of the Cuban convertible peso (CUC) and the financing of government budget deficits. Further bank instability would have fatal consequences for the Cuban economy's capacity to reorganise and recover.

There is no consumer price index (CPI) data for 2019, but informal information cites significant price increases in the markets for various products, including eggs, milk, meat and building materials, among others. In 2018, the official CPI figure in Cuban pesos (CUP) was just 2.4%. However, this CPI suffers from various calculation issues and leaves out the prices in CUC. Given the product shortages experienced since 2019, inflation could further accelerate in the immediate future.

In the past, the inflationary process was basically fuelled by supply factors (restrictions on the availability of goods), while an attempt was made to maintain a fiscal policy aimed at avoiding additional inflationary pressures. This was one of the flagship economic policies of the first years of Raúl Castro's presidency: in fact, to overcome the 2008–2009 financial crisis, a significant adjustment was applied to imports and the fiscal deficit was reduced from 6.7% in 2008 to 1.3% in 2013. These results, allied to a more even balance of payments and the renegotiation of the external debt (including with the Paris Club), seemed to denote healthy macroeconomic management that could contribute to creating a favourable climate for developing investment and trade projects with the island. However, the new external shocks led fiscal policy to undergo a change of tone, becoming increasingly expansionary after 2015. Fiscal expenditure rose to 66% of GDP and the fiscal deficit reached new highs: in fact, as a proportion of GDP, the 2018 fiscal deficit was the highest since 1993.

In the past, the preferred way of financing the public deficit has been the issuance of public bonds, which are purchased by state commercial banks. However, this mechanism is also beginning to show signs of saturation, reaching levels that may prompt concerns about their effects on financial and banking stability.

Against all predictions, as of August 2019 the Cuban government decreed a 68% increase in the average nominal salary for half of the employees in the state sector. As these salaries depend on the budgets, the decision implies an equivalent of 12% of total public spending, exceeding the size of the predicted deficit. The price effects seem inevitable: higher incomes will increase demand in a context of scarcity in consumer markets. To contain inflation, the Ministry of Finance and Prices issued a price cap on a wide range of goods in the state, private and cooperative business sectors. Salary increases without productive support and administrative price controls are not the measures needed to tackle economic stagnation and provide another example of the vicious circle to which we have referred throughout these pages.

In monetary terms, a new course has been embarked upon that seems to contradict the anticipated monetary unification. Since November 2019, some consumer markets have been organised to work in dollars that will be better supplied than the current CUC markets. State-owned companies that sell in these markets will be able to use the currencies to directly import their inputs without needing the approval of the central plan and without having to deal with the lack of convertibility of local currencies. Far from shifting the system towards monetary unification, this partial re-dollarisation of the markets is a response to the need for quick relief from the growing financial imbalances. It is, in short, another partial, fragmented transformation that is inconsistent with what should be the final objectives of the economic reform.

6. The immediate future

Despite the reforms undertaken in recent years, it must be recognised that the economic challenges faced by President Díaz-Canel, far from easing, have actually become more complex. In the coming economic

Faced with this adverse international environment, the Cuban economy needs to find new buffers to withstand the Venezuelan shock. Many have begun to look abroad again, seeking the redemptive partner to fill the space left first by the USSR and later Venezuela.

At this juncture, the Cuban government will continue to struggle with GDP stagnation/recession, the crisis of non-payment of external creditors and the continual shortage of basic products for families. The government will have to decide the speed and depth with which it continues the reforms begun by Raúl Castro, within the margins granted by the new constitution approved in February 2019. Added to this, in the international arena, tighter sanctions imposed by the United States government will have to be faced, along with the crisis in Venezuela, which puts the economy's capacity to attract capital and sustain its foreign income at serious risk.⁸

In everyday life, citizens face shortages of food products that form part of the usual Cuban diet, such as chicken and oil, as well as basic hygiene products, among others. Not only are food imports falling, the constraints also affect fuel and other inputs and productive equipment, which is having an effect on the normal functioning of domestic production.

Faced with this adverse international environment, the Cuban economy needs to find new buffers to withstand the Venezuelan shock. Many have begun to look abroad again, seeking the redemptive partner to fill the space left first by the USSR and later Venezuela. This is a chimera: no country is currently in a position to offer such favourable and concessional relations as those Cuba received from its previous strategic allies. As examined in Figure 2, increased trade with other trading partners has not yet been enough to offset the lost trade with Venezuela. Otherwise, experience shows that mitigating external risks depends less on the identification of a hegemonic and reliable preferential partner (whoever that may be) than on having a wide and diversified portfolio of relationships that can be shuffled in unforeseen circumstances.

It should also be emphasised that solving the problems of the Cuban economy seems to lie less in identifying the support that may be raised from abroad (important as that may be), than in the ability to implement a coherent and predictable process of productive and institutional transformations on the island that attract investment and boost the country's productivity. That aim forces the gaze to turn inwards rather than outward, to identify internal capacities rather than external concessions. The goal should not be to change as little as possible in order to preserve the inherited institutional framework, but to move consciously towards a new economic logic that allows the economy to escape the vicious circle in which it now finds itself, promoting a new institutional framework adapted to that purpose.

The country's leaders have yet to demonstrate such determination. The installation of a new head of state has led to new procedures and new – more transparent and collegiate – styles of government, but there has been no turnaround in the trend of incremental, fragmented reforms inherited from the Raúl Castro period. This fits the expectations of a president who reached power not by presenting his own agenda, but by being selected by the “historical” generation to give continuity to the programme defined by his predecessor in office.

The Cuban government continues to bank on attracting foreign investment. The problem is that foreign capital is not arriving in the required magnitude and speed; exports of goods and services are not growing,

8. See Pérez (2018) and Bye (2019) for an examination of the economic and political challenges of the Díaz-Canel presidency.

a trend that also affects tourism; and the most recent decisions on fiscal and monetary issues herald a re-emergence of fiscal imbalances and inflation. To all this must be added the new risks associated with financial and banking stability. The Minister of Economy and the official media appeal to the “reserves of efficiency” in the state sector, trusting that the therapeutic effect of a minor adjustment will not affect the receipt of external income. It does not look particularly promising, but we will have to wait to see whether, given the foreseeable worsening of the situation, the Cuban government decides to deepen the structural changes or maintain its policy of stop-gap solutions.

8. Final considerations

An attempt has been made over the previous pages to make three complementary cases. First, it has been pointed out that the Cuban economy has for years been trapped in a vicious circle from which it has been unable to emerge. The consequence of this process is a mediocre growth rate, with low productivity growth and a recurring trend towards macroeconomic imbalances. As a result of the reform process, most of the population has failed to see substantive and sustained improvements in its living conditions.

Second, the trap in which the Cuban economy finds itself has its roots in the partial and unsystematic nature of the reforms adopted. Being fragmented and partial the potential of these reforms cannot be unleashed without the complementary effects of other reforms that have not been carried out. Escaping this vicious circle means adopting an ambitious and comprehensive reform policy, which defines a precise destination timetable and scenario. Access to international financing to facilitate transit should be a central part of that process.

Finally, economic reform will not occur without concurrent change in the institutional frameworks that govern the economy and the collective decision-making processes in Cuba. The reluctance to adopt a more comprehensive reform plan can only be explained by the rigidity of the country's collective decision-making and government structures. They are insensitive to the need to give actors more space for autonomous decision-making. A more flexible and creative economy requires such spaces to be extended. Autonomous decision-making that responds to appropriately designed incentives must be favoured over hierarchical and administrative decision-making. This should be the goal.

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THREE STRATEGIC SECTORS

- REVISITING THE AGRARIAN QUESTION IN CUBA (1959–2018): A PEASANT ALTERNATIVE IN THE GLOBAL ERA?

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- CUBAN TOURISM COMPETITIVENESS: ANYTHING BEYOND SUN, BEACHES AND SON MUSIC?

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- COMPARATIVE ANALYSIS OF THE EVOLUTION OF ENERGY INDICATORS IN CUBA AND SPAIN FROM 1990 TO 2016

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1. Introduction

In Latin America, the issue of land has been underdiscussed in academic, social and political circles, but it is essential to understanding many of the socio-economic and political transformations of the 20th and 21st centuries. The 20th was the century of land reforms in Latin America, many of whose antecedents lay in the peasant struggles of the first half of the 20th century (Martín Cano et al., 2007). But the rebirth of social movements and their transnationalisation since the end of the 20th century has once again placed the agrarian question and access to land at the heart of the political debate for left-wing governments in Latin America. Land reforms returned to the political agenda, this time from the bottom up, and later received “top-down” support from the so-called *Marea Rosa* (Pink Tide) governments. So, far from being an anachronism, the movements of landless workers and peasants in Latin America have emerged as “modern and dynamic” social actors playing key roles in contesting the dominant development agenda in various settings (Petras and Veltmeyer, 2001).

Claims around access to land and the promotion of land reforms have also returned to the debate in the major international organisations. The *World Development Report 2008: Agriculture for Development* placed agriculture back on the World Bank’s agenda. Meanwhile, the global food crisis of 2007–2008 reintroduced agriculture and peasant autonomy to political programmes. Following the FAO’s declaration of the International Year of Family Farming in 2014, the role of small-scale producers in food security in developing countries seemed to be central. Internationally prestigious academic publications such as the *Journal of Peasant Studies* also dedicated monographic sections to food sovereignty and Vía Campesina’s “*diálogo de saberes*” (dialogue of knowledge) (2010–2014). At the time of writing, the most up-to-date contribution to agrarian and rural studies in Latin America is in *Journal of Agrarian Change*, vol. 17, no. 2 (April 2017).

In this academic rebirth, the agrarian question in Cuba has not been given in-depth consideration from a long-term perspective that unites

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the old land reform arguments of developmentalism with the new agrarian questions of the global era (Botella-Rodríguez, 2018). Is Cuba's long land reform process (1959–present) a paradigmatic and alternative case? Which elements does it combine of the old agrarian question in the region¹ and the land reforms enacted by left-wing governments in the global era? Is this a genuine process of re-peasantisation driven by the peasant movement and based on food sovereignty? These are the main questions this chapter seeks to answer. To do so, it explores the land reform process in Cuba (1959–2018) by analysing the interactions between the state and the Cuban peasant movement that have kept land claims on the political agenda since the revolution began. This positive interaction must be seen in the context of the restrictions in place in the country since the Special Period and above all since the 1993 food crisis that forced the island's inhabitants to start seeking alternatives (Vergara-Camus and Kay, 2017). First, the chapter explores the historical patterns of land distribution and the evolution of tenure systems in Cuba from the revolution's victory on January 1st 1959 to the fall of the socialist bloc in 1990. It goes on to analyse the political economy of Cuban land reform, understood as the relationship between the peasant movement and the state, and the degree of peasant autonomy in that process, as well as peasants' ability to acquire land and sustain their land claims over time, especially from 2008 onwards. The third section studies the alternatives adopted by the Cuban government, such as incorporating food sovereignty within state policy. The chapter ends with a reflection on the peculiarities of land reform in Cuba as an alternative model, and its capacity for evolution and adaptation to the economic adversity the island has faced since 1959.

2. The legacy of Cuba's historical land distribution patterns

1. Growth with equity, the limitations small-scale producers face compared to large estates and "top-down" land reforms (1960–70) that tend to simply/merely get the Alliance for Progress' funding.
2. Recent studies focus on this legacy of the agrarian structure in different Latin American countries. Piñeiro and Cardeillac (2017) explain how in Uruguay extremely fragile rural movements, coupled with a legacy of highly unequal agrarian structures since the beginning of the 20th century, led the Frente Amplio to continue promoting the interests of agribusiness. Martí i Puig and Baumeister (2017) also underline the legacy of the land reform of the Sandinista regime (1979–1990) as the basis for the subsequent agro-export model.
3. In rural areas, 200,000 families lacked access to land, there were 600,000 unemployed people and very limited access to electricity, health services and running water (Álvarez, 2004; Nova, 2006).

Redistributive land reforms are processes that involve the state taking control of land, but their meanings and implementation processes vary and may be based on several processes at once (Lipton, 1973, 1974 and 1977): a) compulsory acquisition of land, normally by the state, with partial compensation for large landowners; or b) cultivation of redistributed land to increase and exceed the returns prior to acquisition. The state may give, sell or lease this land for private cultivation in smaller units of production (redistributive reform); or the land may be cultivated jointly and its usufruct shared through cooperatives, or collective or state farms (collectivist reform) (Lipton, 1977, 2009).

A particularly significant aspect of land reform in Cuba is its legacy of historical land distribution patterns. This determines the capacity of the peasant sector to re-emerge and continue as an important political actor.² Since the victory of the revolution, the agrarian elite has vanished and the Cuban state has used a combination of both the redistributive and the collective to implement land reform.

Díaz-Briquets (2000) notes the existence of two Cubas before 1959. While the city of Havana was going through a considerable process of growth and urbanisation, in rural areas agricultural workers, landless producers and impoverished farmers lived in extremely poor conditions (Gastón et al., 1957).³ The country was dominated by large estates and

sugarcane plantations that were in the hands of both US and national owners. At the end of the 1950s, 9.4% of the owners accounted for over 73% of the land, while 25% of the country's agricultural land was owned by foreign capital. On the other hand, 90% of the small landowners held little more than 26% of the area (Nova, 2001). Of these small landowners, 85% worked the land in precarious lease and sharecropping arrangements (Regalado, 1979: 220; Castro, 1953). The estates were mainly in the hands of US companies,⁴ which controlled 25% of Cuban land, with very significant investments in sugar, tobacco and livestock. Around half of the island's sugar exports accounted for a third of US sugar imports (Álvarez, 2004; Kost, 1998): a clear framework of classic dependence on a single export product and a key trading partner for the Cuban economy (Botella-Rodríguez, 2015). The result was a lack of autonomy when designing economic/industrial policy, which was contingent upon agrarian policy and the island's trade relations, above all with the United States.

After the victory of the revolution on January 1st 1959, the government sought to transform the island's rural conditions, giving the land to the peasants through two consecutive land reform laws. The first Agrarian Reform Law was implemented in May 1959 and eliminated plantations of over 402 hectares and certain precarious forms of exploitation such as sharecropping. The new law guaranteed that the land would be owned by those who worked it, and sought to ensure a better use of resources with more efficient forms of production such as cooperatives (Álvarez, 2004). Two years after the implementation of the first Agrarian Reform Law in Cuba, 58.4% of the land was in private hands and the rest, 41.6%, under state control. However, the law did not divide up the huge sugar plantations and cattle ranches expropriated from US owners, which remained in state hands (Funes et al., 2002; *Gaceta Oficial*, 1959; Rosset and Benjamin, 1994). The second Agrarian Reform Law was enacted in October 1963 and expropriated the remaining estates of over 67 hectares. This second law did not redistribute the expropriated lands (Blutstein et al., 1971). After its implementation, only 30% of the arable land and 30% of the agricultural workforce remained in the private sector, while 70% of the land was under state control (Zimbalist and Eckstein, 1987).

Originally, the two agrarian reform laws were proposed alongside the revolution's commitment to transformation, diversification and industrialisation in order to reduce Cuba's dependence on sugar exports.⁵ In the early 1960s the government began an early attempt at agricultural diversification based on the substitution of imported foods such as rice, potatoes, onions, soya beans and peanuts (all the more important after the United States suspended its sugar quota with Cuba in the late 1960s). The Cuban government decided to reallocate a large amount of land dedicated to sugar cane to other types of crops (Blutstein et al., 1971; Deere, 1992). But the consequences of abandoning sugar cane cultivation were soon apparent (Deere, 1992). High production costs in the 1959–1961 period led sugar production to fall by 30% in 1962, compared to 1961 levels. That same year, Cuba faced a huge deficit that created tensions with foreign creditors (Deere, 1992; González, 2003). The balance of payments crisis led the government to abandon its initial attempt at agricultural diversification and food import reduction, and the island's historical dependence was maintained (Thomas, 1998; Zimbalist and Eckstein, 1987).

Since the victory of the revolution, the agrarian elite has vanished and the Cuban state has used a combination of both the redistributive and the collective to implement land reform.

4. Some large estates were also in Spanish, English and, of course, national hands.

5. In the context of its neighbouring countries' attempts at import substitution industrialisation (ISI). The high dependence on traditional exports of Caribbean and Central American countries meant that as well as promoting exports this was effectively "industrialisation by invitation". See Thorp (1998) and Dietz (1986) on the alternatives to ISI in Latin America.

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Cuba's inclusion in the Council for Mutual Economic Assistance (Comecon) in 1972 brought the island new, favourable commercial relations via subsidised import and export prices. The Soviet Union sold oil and other raw materials well below market prices in exchange for sugar, and provided Cuba with loans on very favourable terms.⁶ It was in this context that the Cuban government embarked on an ambitious plan of modernising agriculture by developing large capital-intensive industrial farms (agricultural "gigantism") specialised in sugar and livestock production. Following the principles of the Green Revolution, these farms produced and sold sugar through Comecon at highly subsidised prices (51 cents per pound compared to international sugar market prices of 6 cents in 1986) during the 1970s and 1980 (Álvarez, 2004; González, 2003; Kost, 1998). In just three decades (from 1959 to 1989), the use of pesticides multiplied by a factor of four, tractors by nine and chemical fertilisers by ten (Sáez, 1997).

Despite the major intensification and industrialisation of sugar production, the two agrarian reform laws enabled profound transformations to take place in the country's agrarian structure. The old estates and landed oligarchy vanished and a new type of giant state plantation and large-scale production for export grew up (Machín et al., 2010). But the two agrarian reform laws also allowed small producers to obtain ownership of the land (with definitive guarantees) and the possibility was opened up to them of creating cooperatives as a new form of productive organisation. Peasant associations were initially constituted as simple associative units for obtaining political and social representation and receiving guidance. In parallel, the Credit and Service Cooperatives (CCSs) aimed to socialise the management of the main services necessary for production with each family owning their own farm. In the second half of the 1970s, Agriculture Production Cooperatives (CPAs) were created, considered to be socialist economic entities formed with the land and other goods contributed by small farmers who united to work it, promoting collective production and cooperation, which was at its peak within the Cuban peasant movement. On the eve of the Soviet Union's collapse, 78% of the cultivated area was in state hands, 10% belonged to the CPAs and the remaining 12% to the CCSs and individual farmers (see Annex II). Large state-owned companies and CPAs were considered the fundamental pillar of conventional agriculture. But despite the notable influence of this model, peasant families and CCSs preserved traditional forms of production that included elements of sustainability that would prove key to the paradigm shift that occurred during the Special Period (Machín et al., 2010).⁷

3. The political economy of land reforms in Cuba. A necessary paradigm shift (1990–2008)

Rosset (2016) writes that where substantial advances have been made in land redistribution, both the state and structured, powerful peasant movements are able to carry out land reform processes on a national scale over decades. Borrás (2007: 64) points out that rigorous analysis of land reform requires the dynamics of state–society relations to be understood. Taking the land reform process in the Philippines as a starting point, Borrás (ibid.) shows how the successful implementation of redistributive policies does not centre on politicians imposing "top-

6. Between 1986 and 1990, Cuba received Soviet loans worth \$11.6 billion (González, 2003).

7. See Annex I for a detailed and comparative explanation of the different types of non-state agrarian structures in Cuba.

down” measures on passive social actors. On the contrary, distributive land reform policies are implemented in which the state interacts with a patchwork of social actors with different interests, often in competition and conflict.

Evans (1989) describes several different types of state. “Predatory” states are able to extract large surpluses and impede economic transformation (Zaire, now the Democratic Republic of Congo, could be considered archetypical). Other states, however, while not immune to rent-seeking behaviour, succeed in promoting, rather than preventing, transformation through their joint actions. These are considered to be “developmental” states, the clearest examples being the newly industrialised East Asian economies after the Second World War. Evans (ibid.) saw Brazil as a typical “intermediate” state, where the balance between predatory and developmental activities is not clear and varies over time and according to the type of activity. The variation in the state’s effectiveness as an agent of transformation in developing countries may be related to their contrasting internal structures and their external links. But the most effective states are characterised by what Evans calls “embedded autonomy”, understood as a set of connections that closely and decisively connect the state to particular social groups with whom it shares a joint project of transformation (1995: 50–59). This autonomy is the cornerstone of the developmental (and not developmentalist) state and shapes the effectiveness of any economic policy. All of these ideas focus primarily on the state’s ability to promote real structural transformation that results in industrial take-off and significant economic development. Nevertheless, we will apply Evans’s ideas to the land reform process as a fundamental state policy that is essential to a later development process given the agrarian roots of the industrial development model.⁸ In this sense, land reform is understood as a necessary but not sufficient condition for promoting equitable economic growth.

This is the second specific issue this chapter will analyse to try and understand whether Cuba is a paradigmatic example of land reform, understanding the political economy of land reform in Cuba as the relationship between the peasant movement and the state. Characterising the Cuban experience and the state’s role in the land reform process in this way fundamentally contributes to understanding its level of success or failure, as well as the peasant movement’s room for manoeuvre, degree of autonomy, and ability to acquire land and sustain its claims over time, particularly since the 1993 food crisis. Before the revolution, the state was clearly captive to the interests of the US and major landowners, representing what Evans (1989: 562) characterises as a “predatory state”.

However, the isolation produced by neoliberal policies on the one hand and the pressure to feed the population on the other, particularly after the 1993 food crisis, helped a consensus form in Cuba between the peasant movements – particularly the National Association of Small Farmers (ANAP) – and the state. This commitment became decisive from 2008 onwards, when Raúl Castro became president and the global food crisis hit. This allows us to reflect on what type of state intervention we find in Cuba: we are not looking at a developmentalist state, but neither is it a state that is captive to the interests of the landed elites. It appears to be a state that, in the process of land reform and especially since the

The old estates and landed oligarchy vanished and a new type of giant state plantation and large-scale production for export grew up.

8. Kay (2002: 1073) notes three principle reasons “why the East Asian NICs outperformed Latin America: 1) state capacity and policy performance or ‘state-craft’; 2) character of agrarian reform and its impact on equity and growth; 3) interactions between agriculture and industry in development strategies”.

Special Period seems to be “developmental”, because it is obliged to connect the interests of different social groups, particularly the peasants and the state.⁹

At the lowest point in its history, the Special Period, the Cuban state was forced to consider how to sustain its population without strategic imports from the Soviet bloc.¹⁰ This “Special Period in Times of Peace” consequently involved a dramatic shift from dependent development (on the Soviet bloc) towards domestic opportunities based on demonopolisation, deregulation and decentralisation (Botella-Rodríguez, 2011). It was an attempt to diversify the economy and attract foreign investment (and the required foreign currency) to different sectors of the economy (e.g. tourism) (Álvarez, 2004; Nova, 2006). Cuba was forced to seek solutions to feed its population and continue production without the inputs and oil imported from the socialist bloc. The main changes were in production patterns, which shifted towards alternative technologies such as biological pest control and organic fertilisers. A large number of small producers, encouraged by scientists and academia (and their previous research), focussed on a type of alternative agriculture based on two fundamental pillars: a) the replacement of imported chemical inputs with local alternatives at much lower costs; and b) the return to animal traction (Rosset and Benjamin, 1994; Wright, 2005).

At the same time, the state promoted land structure changes, favouring cooperatives and family farming. One of the key measures adopted to stimulate domestic food production was the conversion in 1993 (under Decree Law No. 142) of the old state farms into new agricultural production cooperatives called Basic Units Of Cooperative Production (UBPCs). The state gave UBPCs usufruct rights on the land, replicating the size and type of production of the CPAs. This land handover process was not entirely efficient, as many UBPCs inherited the characteristics, indebtedness, size and workers of the old state farms. But the new cooperatives – along with additional measures like Decree Law No. 191/94 on the creation of free supply and demand markets for agricultural products in 1994 – opened up spaces for small-scale producers to produce food for national consumption from the 1990s onwards (Botella-Rodríguez, 2012).¹¹

As a result, the structure of Cuba’s cultivated land underwent great transformations. The state sector fell from 75% in 1992 to 23.2% in 2008, with the non-state sector (made up of UBPCs, CPAs and CCSs) increasing by 50% during the same period (ONE, 2007). UBPCs, in particular, accounted for 39.8% of the total land in Cuba in 2008. While CPAs increased slightly from 10% in 1992 to 10.2% in 2008, private/individual forms of tenure such as CCSs and other land in usufruct almost doubled over the same period. From 1992 to 2008 the most significant change in land tenure was not only the creation of the UBPCs, but the gradual expansion of land ownership (mainly in usufruct) by small individual producers (see Appendix II).

The Special Period thus forced and encouraged a paradigm shift towards an alternative and more sustainable vision of agriculture. Lugo Fonte, president of the ANAP until 2013, says that necessity brought awareness (Machín et al., 2010). The interaction in this process should be highlighted between the peasant and organic agriculture movements

9. The term “developmental” is applied only to the state-peasants-academia interaction that placed a real process of redistributive land reform on the political agenda. Our reading is that the Cuban state is approaching an “intermediate” state, in which the balance between predatory and developmental activities is clear, has varied over time and depends on the type of activity in question.

10. At the start of the 1990s, the island’s trade fell by 75%, GDP fell by 33%, net domestic investment fell by 86% and the fiscal deficit shot up to 158% (Canler, 2000; ONE, 1996). The situation worsened with the new US economic sanctions. During the 1993 food crisis, the average daily calorie intake fell from 2908 kcal/person/day to 1863.

11. The prices of Acopio, a state-owned monopoly, were very low and unstimulating at the time.

and the state, and since 1999 with the urban agriculture programme. Some of the relative success of the peasant movement in Cuba is down to the ANAP itself and its effective policy of alliances. ANAP has taken advantage of and influenced the “top-down” policies and programmes promoted by the state, while at the same time working with various external actors, never forgetting the role of peasants in the process. Academia also played a key role in this process of interaction between the state and the peasant movement.¹² To a degree, this interaction allowed them to prepare to support and promote the peasant movement from the beginning of the 1990s onwards (Botella-Rodríguez, 2015).

By 2010, the agroecology movement promoted and begun by ANAP in 1997 had managed to bring together more than 100,000 peasant families across the island – over a third of the more than 250,000 Cuban peasant family economies – to significantly change their production systems through agroecology. ANAP is a member of the most important transnational peasant movement, *La Vía Campesina*, and has coordinated its International Commission on Sustainable Peasant Agriculture (Machín et al., 2010). Since its beginnings, the agroecological movement has benefited from a set of national programmes and state policies that have facilitated its rapid evolution and contributed significantly to the achievements made.¹³ These state programmes clearly show the interaction between the peasant movement and the Cuban state to be the cornerstone of the processes of re-peasantisation, land reform and peasant production on the island. Rosset and Val (2018) see this as a process of collective transformation, based on the high level of organisation of the Cuban peasantry through the ANAP, stimulated by a process of peasant-to-peasant horizontal learning and exchange, which has helped create a national grassroots organisation and an agroecological movement among peasants.

4. A new boost for land reform (2008–2018). Adopting food sovereignty and alternatives as state policy

To understand whether Cuban land reform is really a possible and paradigmatic case, this chapter discusses a third issue: the creation of alternatives and the inclusion of food sovereignty on the political agenda, which is especially interesting in light of recent land reform experiences in Latin America (Vergara-Camus and Kay, 2017). Ecuador provides a key example in this regard. Several of the main agricultural policies implemented during the Correa administration appear to include food sovereignty or “*Buen Vivir*” (good living) in the political agenda. Nevertheless, Clark (2017) shows that they barely extended beyond the rhetorical for this part of the Pink Tide. Extractivist neodevelopmentalism and the lack of influence of social movements in practice meant agribusiness expanded and agriculture intensified. While Cuba was not one of the countries that experienced the Pink Tide, it can offer some interesting and practical reflections on the national implementation of a real food sovereignty policy.

Food sovereignty has become more decisive on the Cuban political agenda since Raúl Castro came to power, and especially since the global food crisis. Since 2007–2008 the Cuban government has implemented a

From 1992 to 2008 the most significant change in land tenure was not only the creation of the UBPCs, but the gradual expansion of land ownership (mainly in usufruct) by small individual producers.

¹² In the early 1980s, a clear division emerged between younger scientists who favoured alternatives and older researchers or bureaucrats who held leadership positions in government and supported industrial agriculture (Funes-Monzote, 2008). In the late 1990s, sustainable agriculture became an official policy managed by the Cuban Association of Agricultural and Forestry Technicians (ACTAF). A more detailed analysis of the process is given in Botella-Rodríguez (2015).

¹³ The *Plan Turquino* in mountainous areas, the *Programa Nacional de Producción de Medios Biológicos*, the *Programa Nacional de Tracción Animal*, the *Programa Nacional de Producción de Materia Orgánica*, the *Movimiento Fórum de Ciencia y Técnica*, the *Programa Cultivo Popular del Arroz*, the *Programa Nacional de Agricultura Urbana*, the *Programa Nacional de Mejoramiento y Conservación de Suelos*, the *Programa Nacional de Lucha contra la Desertificación y la Sequía* and the *Programa Forestal Nacional* (Machín et al., 2010).

Food sovereignty has become more decisive on the Cuban political agenda since Raúl Castro came to power, and especially since the global food crisis.

series of transformations aimed at increasing the country's food self-sufficiency and reducing dependence on imports. These transformations include transferring usufruct rights on state lands to private producers (CCSs and dispersed peasants) and CPAs, price reforms, greater decentralisation of decision-making and gradually making the forms of commercialisation more flexible (Nova and González Corzo, 2015).

The transfer of land in usufruct approved by Decree Law no. 259 in 2008 deepened the process of decentralising and promoting peasant agriculture for food production initiated in 1993 with the creation of UBPCs. The new law distributed idle land on long-term contracts to anyone who wanted to cultivate it (especially individuals, cooperatives, small producers and even UBPCs) (*Juventud Rebelde*, July 18th 2008). Although in 2008 51% of under-exploited idle land was overgrown with sicklebush (*Dichrostachys cinerea*), this decision was an attempt to revitalise the agricultural sector in general and food production in particular. Over 170,000 peasants benefitted from Decree Law no. 259 throughout the country (MINAGRI, 2011). The suburban agriculture programme implemented on the island from 2010–2011 to improve access to food in rural areas represents another example of continuity in the land decentralisation process. Suburban agriculture sought to encourage food production by connecting rural producers with markets located within a 10 km radius of the island's capitals, municipalities and towns. Extending this to the peri-urban and suburban areas that house 75% of the Cuban population shows significant potential to reduce food imports (Rodríguez Nodals, 2008).

Since 2011, the Cuban economy has been immersed in an important process of economic, political and social transformations described as "updating the economic and social model". This process encompasses all economic sectors and has key economic, social and political implications for Cuba. The transformations were included in the "Guidelines for the Economic and Social Policy of the Party and the Revolution" approved at the 6th Congress of the PCC in April 2011 and ratified at the PCC Conference held in January 2012. The Guidelines constitute a profound reform with short and long-term objectives. The short-term objectives include controlling the balance of payments deficit, generating external income, and import substitution. Among the long-term objectives are sustainable development based on food and energy self-sufficiency, the efficient use of human potential, the competitiveness of traditional production, new production of goods and high value-added services (PCC, 2011). The transformations underway in the agricultural sector are the deepest of all, as the sector is economically decisive and strategic for the progressive substitution of imported food.¹⁴

In line with the Guidelines, Decree Law no. 259 was modified by number 300 in 2012, with the aim of establishing a free usufruct scheme to operationalise unproductive land initially estimated to comprise 18.6% of the country's agricultural area. The aim was to expand the number of areas available to people with working relationships with CPA and CCS. The measure was completed with a supportive credit and fiscal policy to encourage new producers to settle in rural areas in order to give national food production a clearer boost. By 2015, over 1,700,000 hectares of idle land had been given in usufruct to over 200,000 people, both by the already-repealed Decree Law no. 259 and its successor, Decree Law

14. Of the 313 directives in the Guidelines, 38 directly address agro-industrial policy, while another 138 in other chapters relate to the sector. The 2017 Guidelines contain 29 that directly relate to agro-industrial development (PCC, 2017).

no. 300 (Nova, 2013). According to the latest *Panorama sobre el uso de la Tierra* (ONEI, 2018), individual small farmers account for 40.1% of the entire cultivated area, more than the island's other agricultural structures (Nova 2013; ONEI, 2018). As Table 1 shows, farmland is distributed between four forms of organised production: UBPCs (30.2%); CPAs (9.8%) and small producers, including CCSs; individual landowners and beneficial owners (40.1%); and the state farms that in 1988 held 82% and now account for 19.9%. The significant increase in small farms stands out (Nova 2013; ONEI, 2018). The cooperatives (UBPCs, CPAs and CCSs) represent an agricultural area (depending on the form of management) of 32% compared to the 36% represented by small-scale farmers (see Annex III).

Table 1. Structure of the land in Cuba (percentage of cultivated land) (2007–2017)

Sector	2007	2017
State	35.8	19.9
Non-state	64.2	80.1
UBPC	36.9	30.2
CPA	8.8	9.8
Small-scale producers: CCSs, owners and beneficial owners*	18.5	40.1
Total	100%	100%

* Includes the beneficiaries of Decree Law no. 259 and Decree Law no. 300.

** Agricultural area: the land dedicated to agriculture in any form of production, which may be planted with a crop, either temporary and permanent, allocated to nurseries, seedbeds or natural pasture, as well as land that is unplanted and suitable for cultivation; includes cultivated and non-cultivated land. Cultivated land: the land dedicated to a crop, whether planted in preparation, resting or awaiting preparation for planting; includes roads, paths, irrigation canals, drainage and other areas that are essential for the land's use (ONEI, 2018).

Source: Nova (2013) and ONEI (2018).

It is true that all these land transfer programmes have been subject to a wide range of conditions, but the massive amount of state-owned idle land given in usufruct, mainly to small and individual producers, represents a very radical move by the Cuban state. As well as meaning food sovereignty is included within state policy, this process constitutes recognition by the government of the greater efficiency of small-scale food production in Cuba's "special conditions". It also means the state's longstanding paternalistic doctrine of the superiority of state farms based on large-scale production and mechanisation is a thing of the past (Hagelberg, 2010). In 2016, small producers and suburban farmers produced between 63% and 86% of the main crops for domestic consumption on the island, as well as 65% of the milk and 42% of the meat (ONEI, 2017).¹⁵

Concerns about insufficient food production and the growing role of small producers on the island show an increasingly unquestionable recognition of food security and sovereignty within state policy. The new Díaz Canel government declared Decree Law no. 358 on August 7th 2018 on the transfer in usufruct of idle state land was a tool for increasing agricultural yield when it entered into force in October 2018. Decree Law no. 358 replaces Decree Law no. 300 and doubles both the time periods and land areas. The maximum area to be transferred to people who own no land at all rose from 13.42 hectares to 26.84 hectares.¹⁶ This reduces the number of small agricultural areas transferred, which had been hindering the application of science and technology and the regulation of the

¹⁵. See Annex IV. More information on the substitution of imported food can be found in Botella-Rodríguez (2019).

¹⁶. See article 7.1.

Land transfer programmes have been subject to a wide range of conditions, but the massive amount of state-owned idle land given in usufruct, mainly to small and individual producers, represents a very radical move by the Cuban state.

land. The practical limitations on the application of Decree Law no. 300 have also led to an expanded, clearer definition of “usufruct” (especially for longer production cycles like tobacco, coffee and livestock).¹⁷ The new legal norm will provide incentives for the Cuban peasantry, as legal persons can request land for indefinite periods of time (the previous maximum was 25 years) and natural persons up to 20 years (previously 10 years). In addition, the period of validity can be extended successively for the same period of time (see article 8.1, *Gaceta Oficial*, 2018).

In short, despite all the problems Cuban agriculture is currently facing,¹⁸ in contrast to the global downward trend in the peasant sector, Cuba has experienced an increase in small-scale producers/peasants in the past 30 years. This is the result of a state policy focused on handing over idle land in permanent and free usufruct to natural and legal persons with an interest in working them and the possibility of doing so. The key objectives of this strategy have been to increase food production, support certain crops of economic interest, to improve the productive use of soil as a natural resource and to create employment (Machín et al., 2010). The agroecology embedded within the food sovereignty on the Cuban political agenda provides sustainability, sovereignty and food security and is adapted to the island’s specific conditions, where family farming offers more resilience against common adverse climatic conditions (hurricanes, droughts, floods, etc.), a greater capacity to repair soils degraded by the intensive use of agrochemicals, the production of healthier food, and higher land productivity, given the savings in foreign exchange, inputs and investments (Botella-Rodríguez, 2015 and 2019; Machín et al., 2010). All of this has been facilitated by the Cuban view (and of ANAP and La Vía Campesina) of food production as a social good and of food as a common good produced through collective social action, rather than a commodity (Rosset, 2006). Cuba, ANAP and La Vía Campesina are examples of what Vivero-Pol (2017 and 2018) calls the epistemological school of thought that understands common goods, in this case food, as social constructs defined by groups of specific communities, in this case peasants. This counter-hegemonic vision of food (Vivero-Pol, 2017) has permeated Cuba since the 1959 revolution (Funes et al., 2002; Benjamin et al., 1984; Enríquez, 1994; Rosset and Val, 2018).

5. Conclusions

There is no general formula to start and effectively execute major land reforms; rather, it must evolve and adapt according to the complex economic and political dynamics that characterize a particular country at a given time (Barraclough, 2007: 1).

The land reform undertaken in Cuba shows a process of evolution and adaptation to a complex economic and political reality that has experienced changes from 1959 to the present. Initially, it seemed to be a circumstantial experiment (a necessary response to the fall of communism in 1990), but the land delivered in usufruct has evolved into a consistent project that is shared by the peasantry (mainly gathered in the ANAP) and the state (through various Decree Law such as 259, 300 and 358). This process has clearly been accelerated by the need to reduce food imports. The Raúl Castro administration (2008–2018) gave priority recognition to the importance of peasant agriculture and the substitu-

17. See article 1.1. *Gaceta Oficial*, 2018.

18. Nova and González Corzo (2015) note three fundamental obstacles to increasing production and productivity in the agricultural sector that remain unresolved: 1) the need to better define the property of beneficial owners (partially dealt with by Decree Law no. 358 of 2018); 2) the recognition and acceptance of the market as a complementary mechanism of economic coordination; and, 3) the absence of a systemic approach to successfully achieving the complete agricultural production cycle.

tion of imported food, as well as the key relationship between the two phenomena (Machín et al., 2010). Díaz Canel appears to be continuing this through Decree Law no. 358 of August 2018.

With the emergence of the anti-globalisation movement and the World Social Forum at Porto Alegre (since 2001), in which rural movements have played a crucial role through La Vía Campesina, academics and activists have stopped talking about “resistance to neoliberalism” and begun to speak of “alternatives to neoliberalism” (Vergara-Camus, 2017). Far from idealising the Cuban experience, this chapter seeks to characterise it as an alternative model in the neoliberal era. It is an active land reform laboratory in Latin America that is based on a clear dichotomy between the market (individual production) and collective forms of production (the state) and consumption. Little-studied from a long-term perspective, it is a process that contains elements of the old and new agrarian questions. In light of the most recent land reform processes carried out by leftist governments in Latin America, post-Soviet Cuba shows certain key and paradigmatic elements of a significant land reform process (in 2018, 31.1% of the agricultural area in Cuba was in the hands of beneficial owners) (ONEI, 2018). This reform, which began in 1959 by putting an end to the legacy of land tenure, has benefitted from the interaction between the state (partially “developmental” and compelled by the difficulties of the Special Period) and a peasant movement with the capacity to raise its demands for land and food to the country’s political agenda and keep them there. Among those demands was food sovereignty, which has gone on to become part of state policy, especially since 2008.

Initially, it seemed to be a circumstantial experiment (a necessary response to the fall of communism in 1990), but the land delivered in usufruct has evolved into a consistent project that is shared by the peasantry (mainly gathered in the ANAP) and the state.

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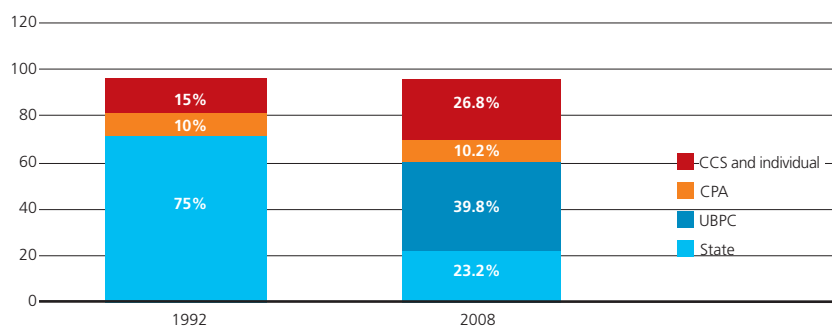
ANNEX I

Non-state sector in Cuba (1993–2018)			
	Type	Characteristics	Type of tenure
Collective farms of large, medium or small size depending on the sector/activity	UBPC	<ul style="list-style-type: none"> Former state farms Much smaller than state farms Mimic the size and family production patterns of CPAs in the 1990s Buy tools, animals, etc. 	Collective usufruct of land
Collective family farms	CPA	Voluntary associations of small producers in cooperatives to share production and technology	Voluntary association and transfer of the land to the cooperative
Private family farms	CCS, individual/dispersed small producers and beneficial owners	<ul style="list-style-type: none"> Tenants, agricultural employees, sharecroppers, owners who form a cooperative to organise agricultural work and obtain credits and services from the state. Plots for growing coffee, cocoa and tobacco, for example Land in usufruct since 2008 (Decree Laws nos. 259, 300 and 358) 	They own the land (private lands) in usufruct for determined periods and under specific conditions (at least ten years prior to the entry into force of Decree Laws nos. 259 and 300, which are much more specific about these conditions)

Source: Funes, 2008; Martin, 2002.

ANNEX II

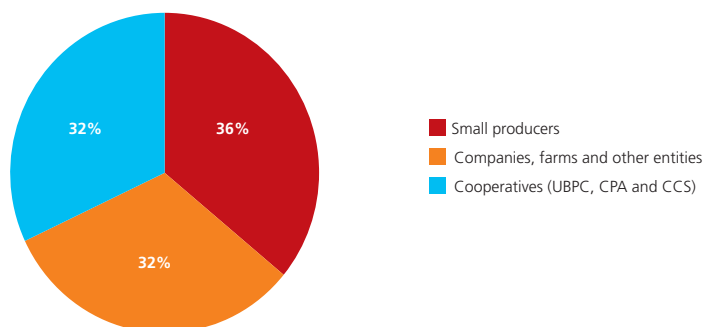
Changes in the distribution of cultivated land by type of tenure in Cuba (1992–2008) (in percentage terms)



Source: Produced by author using ONE data (1993, 2008).

ANNEX III

Percentage of agricultural area by form of management



Source: ONEI, 2018.

ANNEX IV

Production of small-scale farmers in the non-sugar sector January–December 2008–2015 (Percentages of total/1,000 metric tonnes) *

Crops	Small-scale producers: CCS and beneficial owners ** 2008	Small-scale producers: CCS and beneficial owners ** 2015
Tubers and vegetables	50.0%	74.6%
Potatoes	6.1%	6.3%
Bananas	51.1%	70.7%
Vegetables	64.1%	72.1%
Tomatoes	68.0%	83.6%
Rice	36.0%	64.1%
Maize	82.0%	86.1%
Peas	81.0%	79.6%
Citrus fruit	15.0%	29.5%
Tropical fruit	74.0%	81.2%

Source: ONEI, 2009, 2016; in Botella-Rodríguez, 2019.

* Excluding sugar, plots and patios.

** Includes CCSs and small private/individual producers.

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1. Introduction

Cuba has a long tradition as a Caribbean tourist destination. But the current configuration and economic importance of the Cuban tourism industry were defined by the fall of the Iron Curtain and consequent end to subsidised trading with the USSR, and the tightening of the United States' economic embargo following the Cuban Democracy Act. These events led the Cuban economy to collapse in the early 1990s, when its GDP fell by 36%. This is the context in which the international tourism sector has been seen since 1989 as one of the few productive alternatives able to partially compensate for the income lost from the breakdown of the Cuban economy and of the sugar sector in particular – hitherto one of its main engines (Fitzgerald, 1994; Simon, 1995; Martín de Holan and Phillips, 1997; Mundet and Salinas, 2000; Pérez-López and Murillo, 2003).

The available information shows that in the mid-1990s the incipient tourism sector managed to attract around 800,000 international tourists. Today it is five times larger, even without counting the nearly 800,000 excursionists, almost all of whom are cruise passengers (UNWTO, 2018; Xinhuanet, 2019). This economic activity accounted for almost 11% of GDP in 2018 and close to 10% of total employment in the Cuban economy, and two-point growth is expected in these relative weights in the next decade (World Travel & Tourism Council, 2019). However, the tentative liberalisation of US tourist flows begun in President Obama's second term was cut short when President Trump announced the revival of Title III of the Helms-Burton Act in 2019. The sanctions on foreign companies operating on property confiscated from Americans during the Cuban Revolution are particularly damaging, and the act puts most cruises and some tourism from the US at risk. Indeed, as of November 2019 the number of visitors (both tourists and excursionists) had fallen by 8.5% (ONEI, 2019).

In these conditions, the structural health of one of the country's key economic sectors becomes relevant. Indeed, the Cuban economy's economic growth over coming decades may hinge on it (Brundenius, 2003).

international tourism sector has been seen since 1989 as one of the few productive alternatives able to partially compensate for the income lost from the breakdown of the Cuban economy and of the sugar sector in particular.

Regardless of internal conditions, international tourism operates as a large market in which various destinations seek to leverage their particular advantages and attractions to attract greater numbers of tourists. It therefore seems appropriate to analyse the competitiveness of the Cuban international tourism sector compared to other destinations around the world and particularly those in its Caribbean neighbourhood. The result is an initial comparative view of Cuba's competitive strengths and weaknesses in this activity.

The reality is that many middle-income countries and a large majority of those located in the Caribbean area in particular have made the tourism sector the fulcrum of their economic transformations. Notable among its positive effects on economic growth is tourism's global significance: considered the largest productive sector, its increasing importance derives from higher rates of growth than the average in the economy. It also contributes to external sustainability, as its contribution to domestic income and above all domestic savings means the growth process hinges on it. All of this seems to validate the tourism-led growth hypothesis (Balaguer and Cantavella-Jordá, 2002; Brida et al., 2016).

Nevertheless, other work questions this central role of the tourism sector in the economic development of countries as it is a low-productivity activity whose growth is limited by the resources it absorbs, a product of its low capacity for innovation. The levels of pay and qualifications required for its workers consequently tend to be relatively low. It is also worth noting that ownership, revenues and access to consumers tend to be highly concentrated, particularly in the international market. Combined with low levels of regulation, this prevents it from operating in conditions that resemble free competition. The sector's major environmental impact has also become clear.

All these aspects are important, but more significant is the fact that international tourism is subject to more pronounced economic cycles than the economy as a whole. As its high growth rate is more related to demand factors than to supply, this means that tourism in a destination depends on the situation in its tourists' economies of origin. Nevertheless, in recent years, technological advances in the sector, the ageing of the population, and the greater preference for spending on leisure activities are changing many of these negative aspects (see the growth prospects for the international tourism market over the coming years in UNWTO, 2011).

For better or worse, today the tourism sector is undoubtedly an essential part of Cuba's economic jigsaw and its possibilities for growth over the coming years. This work aims to analyse the competitive situation of the Cuban tourism sector based on the recent behaviour of its tourist flows, particularly tourist numbers.

Analysing the competitiveness of international tourist destinations is a complex task. Numerous theoretical models have been developed and some have even tried to capture these ideas empirically. The best known is probably the World Economic Forum's *Travel and Tourism Competitiveness Report*, which applies the methodology and many of the indicators from the *World Competitiveness Report* to the international tourism sector (see, for example, the latest edition: WEF, 2019).

But analysing a destination's tourism competitiveness with such methodologies usually requires a significant amount of information. First, because a broad set of elements must be considered that are not always easy to quantify and analyse, meaning synthetic indicators need to be constructed. Second, because they must be compared to other economies. This work therefore does not seek to perform a detailed analysis of all the elements that contribute to tourism competitiveness. It aims to diagnose the behaviour of international tourist flows. That no prior examples exist of results-based destination analysis makes any subsequent comparative examination difficult. As stated in De la Peña et al. (2019 and 2020), something is clearly – and surprisingly – missing from all the literature on international tourism competitiveness: indicators based on the behaviour of tourist flows in each destination.

In the two articles mentioned, a specific tool is proposed for analysing international tourist flows. The verification of a depletion in the appeal of the different tourist destinations allows their trajectory to be estimated with a convex (downward) equation similar to the expression of conditional beta-convergence. Specifically, these types of equations allow an upward growth path to be estimated, but with decreasing growth rates that tend to zero, giving a maximum that will be called tourism potential. The proposal also allows us to take into account country size, the destination's level of maturity and other idiosyncratic elements.

However, not all international tourist destinations have the same tourism model or mix and therefore show different growth patterns. A modification to the proposed tool allows each destination to adjust the evolution of its tourist flows to a specific parameter of convexity: in other words, a parameter that indicates its speed of convergence towards its tourism potential, or what is equivalent, the exhaustion of its growth. Whichever version of this instrument is chosen, it certainly makes it possible to analyse the competitive situation of a tourist destination by comparing real tourist flows with a counterfactual obtained from the flows predicted by the model. The comparison is not therefore made with the trajectory of other destinations, but with the counterfactual constructed for the destination itself, with estimates of all its idiosyncratic effects. To be sure, information from all global estimates is used to estimate the base model on which the counterfactual is built: this is the comparative element that any competitiveness analysis must include.

The procedure used also allows tourism potential to be estimated. More than a prediction, this proposes the maximum number of tourists a destination could reach if nothing in its model changes. A bigger gap between the real flow and the tourism potential should be interpreted as greater capacity for growth in this destination and, consequently, a lower level of exhaustion of the tourist activities currently taking place in it. In this sense, this indicator becomes a qualitatively differentiating element between destinations that helps us understand not just the sector's past or present, but its potential in the near future in each specific destination. Specifically, the evolution of this tourism potential in recent years can be read as a measure of the technical change that has taken place in the international tourism sector, or of

International tourism is subject to more pronounced economic cycles than the economy as a whole. As its high growth rate is more related to demand factors than to supply, this means that tourism in a destination depends on the situation in its tourists' economies of origin.

A bigger gap between the real flow and the tourism potential should be interpreted as greater capacity for growth in this destination and, consequently, a lower level of exhaustion of the tourist activities currently taking place in it.

how changes of all kinds in this sector have affected the potential chances of attracting tourists to a specific destination. So, calculating these competitiveness indicators for the Cuban economy and its surroundings will facilitate a comparative diagnosis that allows an assessment to be made of how the Cuban tourism sector's changing course in recent years has impacted on its competitive situation, as well as assessing its strength to face the near future.

To meet this objective, the following section presents a brief discussion of both the concept and the approaches to measuring tourism competitiveness, as well as the need to use the mentioned tool. It also reviews the main features of the underlying theoretical model and its empirical implications. The third section presents the database used in this work. As any measure of competitiveness – and especially the one used here – must have a comparative aspect, data for a broad set of countries was obtained from the United Nations World Tourism Organization (UNWTO). The fourth section gives the results from the estimates of the proposed models and discusses the specific results for Cuba and its immediate Caribbean neighbourhood, especially the three other major destinations in the area – the Dominican Republic, Jamaica and Puerto Rico. The chapter ends with conclusions and final considerations, as well as some implications of the results presented here for tourism policy.

2. Measuring tourism competitiveness

A simple definition of tourism competitiveness, taking in a range of visions, would be: a destination's capacity to attract tourists, the determining factors of that attraction, and the impact on the level and quality of life of the economy in question. As stated in De la Peña et al. (2019), this definition unites three different but interconnected aspects: results or behaviour, determinants and impacts.

Initially, there was a temptation to analyse tourism sector competitiveness as if it were a good and to apply the theoretical models and indicators used for international goods markets, focussing on studying determinants and results. But many aspects differentiate the tourism and manufacturing sectors from one another, and two above all. The first is tourism's problem of being segmented into different subsectors and, by extension, its large size. The second is that the final consumer travels to the country of production to consume the tourism product, generating an impact on its economy and environment that may influence the determinants of tourism and condition future destination attractiveness.

A particular group of works marks the beginning of a new integrated conception of tourism competitiveness analysis. Crouch and Ritchie (1999) and Ritchie and Crouch (2000) proposed a conceptual model of analysis of difficult empirical application. It was Dwyer and Kim (2003) who began the task of making this analysis materialise in a tangible set of indicators. However, Enright and Newton (2004 and 2005) are considered to be the true architects of tourism indicators that can be evaluated.

All these models include indicators for determinants, results and

impacts, although under different names and above all with an almost total predominance of determinants, marginalising impacts and all but ignoring results. An obvious example of the advance of this type of approach to analysing tourism competitiveness can be found in the development of indicators proposed by the OECD (Dupeyras and MacCallum, 2013), the culmination of which are the influential reports by the World Economic Forum (2019) called the *Travel & Tourism Competitiveness Report*.

These analyses are undoubtedly very complete and complex, but they give a surprisingly marginal role to tourism results as manifested in tourist flows to each destination, despite such flows providing clear evidence of how these determinants of competitiveness end up affecting destination attractiveness. Seen over the long term, at least, tourist flow behaviour reveals each specific destination's attractiveness, in other words, its revealed competitiveness. Without dismissing composite tourism competitiveness indices, the following analysis focuses on obtaining indicators from the trajectory of these flows, specifically the number of international tourists the destination receives.

The basic idea of the results-based tourism competitiveness analysis presented in De la Peña et al. (2019; 2020) is the verification of the existence of a generalised inverse relationship between the volume of tourists a tourist destination receives in one year and the growth rate of that flow in the following year. Figure 1 shows this relationship for the specific case of Cuba. As a structural feature, tourist flows could be said to follow a trend that can be captured by a convex (downward) expression similar to that shown by the expression of conditional convergence. Each country or destination under consideration is permitted to present a different convexity coefficient, although an attempt is made to group the destinations into m -groups of apparently similar behaviour:

$$\ln F_{imt} - \ln F_{imt-1} = \alpha_0 + \beta \ln F_{imt-1} + \sum_m \rho_m d_m \ln F_{imt-1} + \sum_i \gamma_i d_i + \sum_t \delta_t d_t + \varepsilon_{it} \quad [1]$$

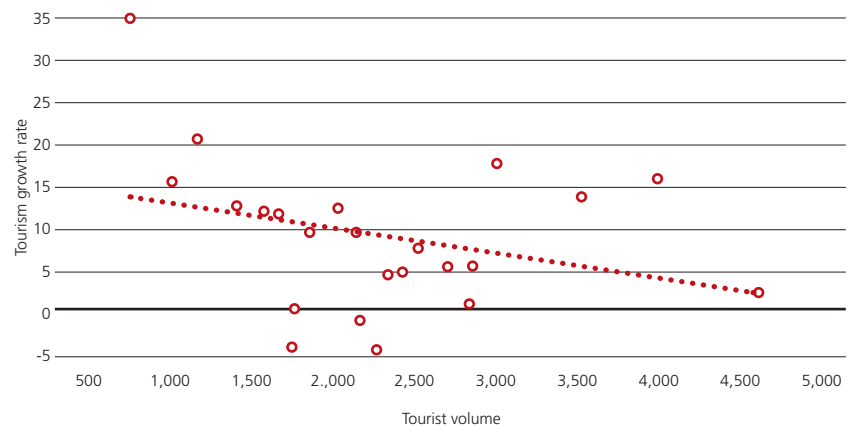
Where F_{it} is the tourist flow of destination i , which belongs to group m in period t ; α_0 is a constant term that is equal for all tourist destinations; and d_i and d_t refer to tourist destination and year dummies, respectively; and, therefore, parameters β and ρ_m capture the individual effects of tourist destination and time, eliminating one of them from each of the groups of dummies to avoid perfect multicollinearity with the constant term and between them. ρ_m is the homogeneous convexity coefficient between countries that indicates the relationship between tourist flow level and tourist flow growth, estimated using the logarithmic difference between the flows. Finally, γ_i represents the dummies for international tourist destination i belonging to tourism model m . As such, the convexity parameter for tourist destination i that belongs to tourist model m is $\rho_m \gamma_i$.

A specific and more restrictive case of the previous model would be if all of the countries in the world followed a single tourist model, making the previous expression:

$$\ln F_{it} - \ln F_{it-1} = \alpha_0 + \beta \ln F_{it-1} + \sum_i \gamma_i d_i + \sum_t \delta_t d_t + \varepsilon_{it} \quad [2]$$

In this sector, the final consumer travels to the country of production to consume the tourism product, generating an impact on its economy and environment that may influence the determinants of tourism and condition future destination attractiveness.

Figure 1. Relationship between tourist volumes and tourism growth rates Cuba (1995-2018)



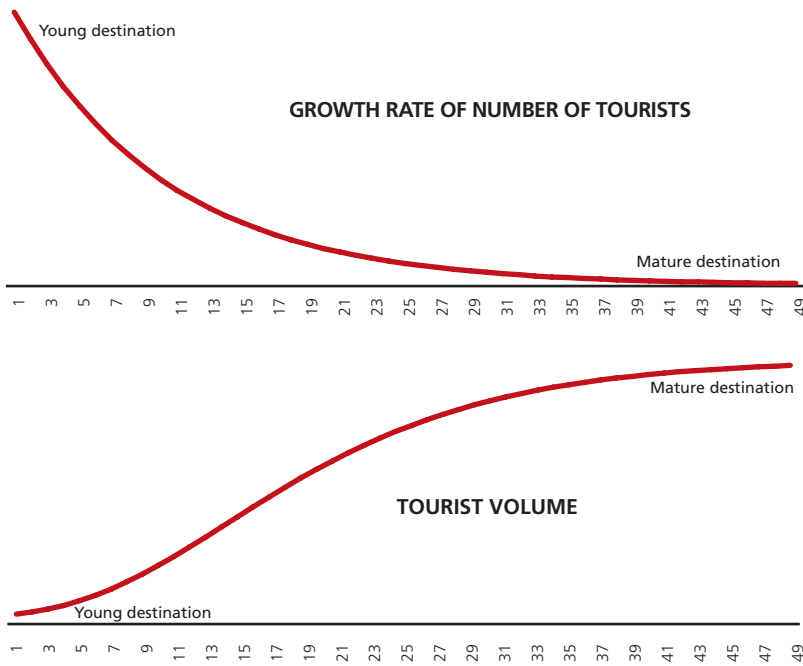
The model described establishes a relationship between the tourist flow in one year and the growth rate for the following year. If, as expected, some loss of destination appeal occurs, the convexity parameter will be different from zero and negative, as the possible cyclical effects produced in the tourism market with temporary impact have been isolated. Figure 2 is a stylised presentation of the evolution over time of the relationship between tourism growth rate and tourist flow for a prototypical tourist destination. However, even where this negative relationship exists, it permits each country to be at a different stage of this process of losing attractiveness based on individual destination effect and deviations from the path caused by the economic cycle are captured by year effects. A higher convexity parameter therefore indicates a faster loss of destination attractiveness and, as a result, lower growth potential. Being a structural parameter, it would be possible for each tourism model or tourism mix to be characterised by a different value.

The existing “pure models” of tourism – sun and beach, urban, culture, nature, health, congresses, and so on – will not be used. What is proposed is a more abstract definition, in which the countries are to be grouped according to the convexity parameter of expression [2]. This way of grouping tourist destinations has one major advantage: a significant amount of information is not needed, simply the evolution of international tourist flows. Obviously, this is also its main weakness: the grouping ends up being “statistical” rather than being based on the variables of its tourist attractiveness. Moreover, the grouping formed could be the basis of an ex post explanation of the tourism mix present in each of the resulting *m*-groups.

After estimating expressions [1] and [2], counterfactuals can be constructed for tourist flow to set against the real data and enable an assessment to be made of whether the tourist flows in a certain destination perform better or worse than expected. As explained in De la Peña et al. (2019) this counterfactual can be constructed in the short, medium or long term, depending on the period taken as a reference for constructing the scenario (the previous one, five or ten years). Once the counterfactual has been obtained, it is possible to compare the real flows against these hypotheticals and obtain indicators of tourism com-

petitiveness with short, medium or long-term results. The longer-term indicators are more structural and, as a result, more reliable and less affected by cyclical situations. The short-term indicator may also have a mean reversion problem.

Figure 2. Stylised evolution of tourism growth rates and tourist volume for a prototypical tourist destination



The indicators obtained from the two counterfactuals – from equations [1] and [2] – offer an additional aspect of analysis. The comparison of the real flow a particular tourist destination presents versus the counterfactual obtained after estimating equation [1], $IC_{it}^{(1)} = \frac{F_{it} - F_{it}^{(1)}}{F_{it}^{(1)}}$, gives an idea of the destination's competitiveness compared to the tourism model of the countries with which it was grouped. By contrast, comparison with the counterfactual calculated from [2], $IC_{imt}^{(2)} = \frac{F_{it} - F_{imt}^{(2)}}{F_{imt}^{(2)}}$, is interpreted as a comparison against the global average. The difference between the competitiveness indicators derived from both cases therefore also quantifies the extent to which a country's competitive situation is conditioned by its tourism model and the extent to which it generates a "premium" or "penalty" $IC_{imt}^{(m)} = IC_{it}^{(1)} - IC_{imt}^{(2)}$.

$$IC_{it}^{(1)} = \frac{F_{it} - F_{it}^{(1)}}{F_{it}^{(1)}} \quad [4a]$$

$$IC_{imt}^{(2)} = \frac{F_{it} - F_{imt}^{(2)}}{F_{imt}^{(2)}} \quad [4b]$$

$$IC_{imt}^{(m)} = IC_{it}^{(1)} - IC_{imt}^{(2)} \quad [4c]$$

$IC_{it}^{(1)}$ and $IC_{imt}^{(2)}$ are the competitiveness indicators compared to the world tourism model and the specific tourism model followed by the mentioned destination, respectively. Therefore, $IC_{imt}^{(m)}$ is the premium or penalty this tourist destination receives in the competitiveness indicators calculated against its current model. The interpretation is clear: destinations

A country specialised in sun and beach tourism may have a positive competitive position compared to the group of countries in this segment of the tourism market and negative compared to the global group, indicating that the destination has a problem caused by the tourism model it follows.

with better values in $IC_{imt}^{(2)} = \frac{F_{it} - F_{im}^{(2)}}{F_{im}^{(2)}}$ than $IC_{it}^{(1)} = \frac{F_{it} - F_{it}^{(1)}}{F_{it}^{(1)}}$ have a better relative situation compared to the countries that share its tourism model than compared to the global average. In other words, the tourism model is limiting its growth capacity – the limitation is the opposite of the premium.

For example, a country specialised in sun and beach tourism may have a positive competitive position compared to the group of countries in this segment of the tourism market and negative compared to the global group, indicating that the destination has a problem caused by the tourism model it follows, notwithstanding some success with it. This difference is important when it comes to guiding tourism policies. If the problem is specific to the country – in other words if the result compared to its model is negative – policies will have to be oriented towards improving tourist attractiveness. On the contrary, if it is found that competitiveness problems are caused by the tourism model pursued – when the country performs well against its model but poorly against the global model – the tourism mix should be modified by promoting other types of tourism.

On the other hand, two expressions can be obtained from [1] and [2] for the tourism potential in both cases, simply by assuming that the growth rate is zero (the left part of each equation) and that the flow therefore remains unchanged between $t-1$ and t .

This tourism potential should not be interpreted as a prediction, but rather as the maximum number of tourists a particular destination could receive if none of the factors that influence its evolution change over time. However, it is known that tourist attractions change over time, strengthening, deteriorating or incorporating new ones. Added to all this are changes to demand, both in the type of tourism model, as well as in the propensity to travel, both of which affect the number of potential tourists. All of the changes within the tourism sector that modify the tourism potential over time will be called “technical change”.¹

To quantify this technical change, expressions [1] and [2] are estimated, but for different time periods. In other words, if we have a sample with information for T periods, estimates are made for $T-q$, $T-q+1$, $T-q+2$ first periods and so on. They are then used as the basis for calculating the different tourism potentials.² The growth rate of the potential flows achievable by each destination will be attributed to the existence of this technical change in the sector. The existence of this movement in each destination’s tourism potential may mean that, despite the growth (decrease) in tourist flows, the growth potential of each destination does not decrease (increase) by the same amount, but may even increase faster than the flows themselves.

3. Data

The basic information used for this work comes from the UNWTO. In this case the number of international tourists is used as the most representative measure of tourist flow. Broader physical definitions exist, such as visitor numbers, as well as those of a different nature, such as overnights or tourist income. But, despite its relevance, tourist number was excluded because it also includes excursionists who, although significant in some destinations (e.g. cruise passengers), are different in nature

1. The term is used slightly differently to how it is with economic growth, where it focuses exclusively on changes in supply and is technological in nature.
2. For reasons relating to the construction of competitiveness scenarios and indicators, which are detailed in De la Peña et al. (2019), a sample period is required with information for at least 15 years.

both because of the temporary nature of the stay – they do not stay overnight – and because in some countries they may reflect cross-border tourism. In relation to overnights, the information is of poorer quality than that relating to tourists, both in terms of quantity and in the variety of definitions.³ On the other hand, De la Peña (2019) uses the income from international tourism as well as tourist numbers. That work concludes that this variable, while of great relevance, offers results similar to those obtained from using tourist flows. It has therefore been decided that income may be dispensed with in this work to avoid potential problems with exchange rate fluctuations and currency deflation.

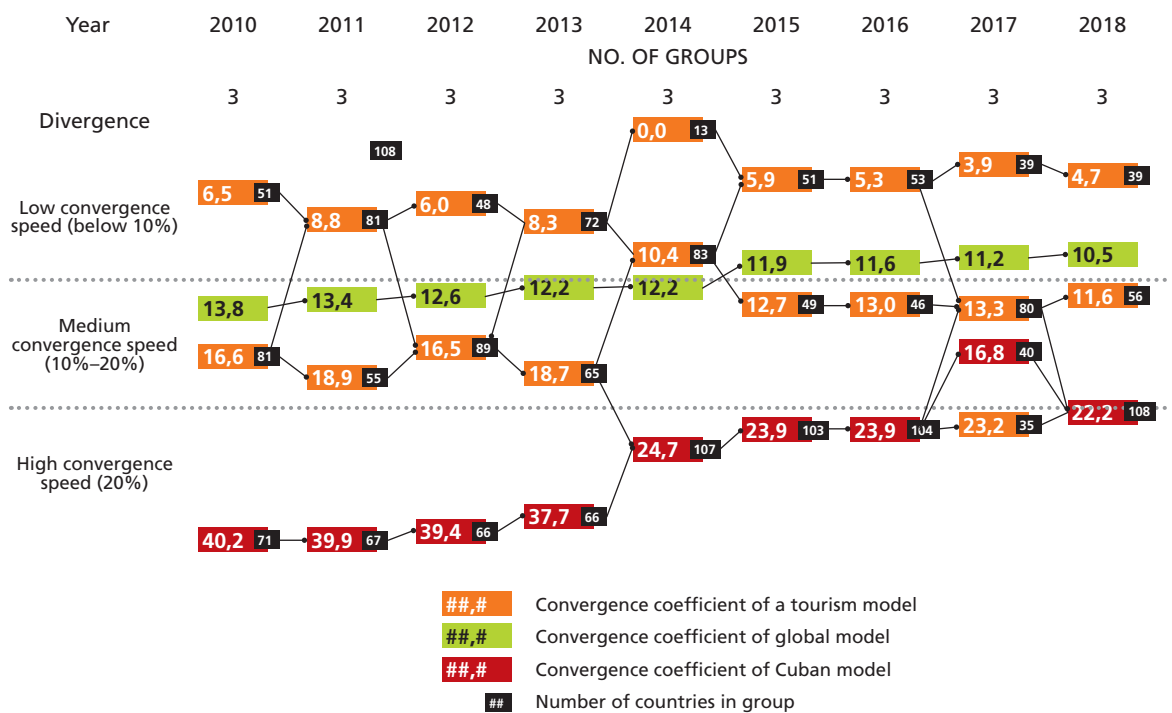
UNWTO provides information for a total of 222 tourist destinations of which 19 have been excluded for lack of information.⁴ The information covers 1995 to 2018.⁵

4. Results

Equations [1] and [2] are estimated using weighted least squares. The weighting for each observation is the average weight of that destination in the international tourism market for the period covered by each sample. It is presumed that equal convexity parameters exist for of the all countries in the world or for groups of countries (tourism models), as explained above. Both estimates are made for different sample periods, all of which begin in 1995. The first finishes in 2010 and each of the different samples incorporates an additional year until 2018, meaning for each of the equations up to nine different estimates are obtained.

3. Using this information would have drastically reduced the destination sample. On the other hand, Cuba only provides this information for tourists staying in tourist establishments.
4. The countries excluded are: Afghanistan, Bangladesh, Bonaire, Djibouti, Equatorial Guinea, Gabon, Iraq, North Korea, Liberia, Libya, Mauritania, Nauru, Pakistan, Saba, St. Eustatius, Somalia, South Sudan, Syria and Turkmenistan.
5. For the vast majority of destinations, data for the 1995–2017 period come from the *Compendium of Tourism Statistics* (UNWTO, 2018). Those for 2018 were taken from the UNWTO Barometer, September 2019 edition (UNWTO, 2019).

Figure 3. Estimated convergence speeds for average global tourism model and for each country group (tourism model) (samples run from 1995 until the year indicated)



The first thing observed is that the convexity parameters⁶ for the international average model (green bubbles) have decreased from 13.8% to 10.5% (around 24%), as Figure 3 shows. This result could be caused by a number of phenomena: (a) greater divergence between the different tourism models, meaning countries presented higher heterogeneity and therefore less convergence; b) slowdown in the process of reaching tourism potential as a result of the process of exhaustion of the international tourism model; or (c) the international tourism sector modifying its model and organisation to enable greater tourism potential.

Of the three possible explanations mentioned above, the first (greater divergence between models) must be ruled out because a degree of stability is noted in the number of country groups with homogeneous behaviour, as well as a greater concentration in the past five years than the previous ones, depending on their convexity parameters. The second reason given (slowdown due to exhaustion) also seems not to explain this behaviour because tourist flows were on an upward curve in this period: between 2009 and 2018 the aggregate number of tourists grew by around 5.5% annually (cumulative average annual rate), significantly higher than the 3.6% of the previous 10 years (1999–2009). It therefore seems that the cause of this development is the technical change that has taken place in the tourism sector, which has increased the global tourism potential.

For its part, Cuba presents some negative and other more hopeful results (the bubbles of Cuba's group have brown edges). Among the first is that for most years (except for the outlier of 2017) its convexity parameter places it among the countries with the highest value. This group is characterised by tourism models that are clearly showing symptoms of exhaustion and high degrees of maturity in their tourism product. This is probably a consequence of the dominance of the sun and beach model in the Cuban tourism mix. These two rather negative character traits contrast with others that are extremely positive. Thus, in the period of analysis, Cuba seems to be moving towards reducing the convexity parameter, well beyond even the global average (45% reduction), with its group falling from 40.2% to 22.2%. This result shows the significant effort made in the Cuban tourism sector to modify its tourism mix towards a greater presence of urban and cultural tourism (especially around the city of Havana), and of high quality and other types of tourism (congresses, ecotourism, health tourism, etc.), which can attract tourists with higher purchasing power. Sun and beach tourism nevertheless continues to predominate. The literature is extensive, but a summary of the various gambles and shifts in the Cuban tourism model may be found in Goodrich (1993), Bailey (2008), Taylor and McGlynn (2009) and Babb (2011).

Table 1 shows the groups containing the various tourist destinations in the Caribbean area and their American surroundings. Most destinations are in the same group as Cuba, probably indicating a continuing similarity in their tourism specialisation and possibly the lack of differentiation between them.

6. Here, what we call the convexity parameter is the convergence speed calculated as the parameter obtained in each equation multiplied by -100. Consequently, a positive (negative) convexity parameter implies a negative (positive) parameter and therefore the existence of a process of convergence (divergence) towards the tourism potential.

Table 1. Countries grouped by convergence speed (tourism models 1995–2018)

Country group	Convergence speed LOW	Convergence speed MEDIUM	Convergence speed HIGH	
	4.7	11.6	22.2	
Caribbean countries	Bahamas	Curaçao	Antigua and Barbuda	Turks and Caicos Islands
	Bermuda (UK)		Puerto Rico	Jamaica
	Guadeloupe		Montserrat	Dominican Republic
			Aruba	Saint Vincent and the Grenadines
			Saint Martin	Barbados
			Anguilla	Virgin Islands
			Cayman Islands	Martinica
			Cuba	Saint Kitts and Nevis
			Dominica	Saint Lucia
			Granada	Trinidad and Tobago
			Haiti	Virgin Islands
Other American countries surrounding the Caribbean	Mexico	Colombia	Guatemala	
		Guyana	Honduras	
		Costa Rica	Brasil	
		Panama	El Salvador	
		Nicaragua	Venezuela	
		French Guiana	United States	
		Suriname		
		Belize		

Using both the estimated coefficients for the global model and those for its country group, in both cases for the full sample of years (1995–2018), it is possible to calculate the respective counterfactuals for international tourist flows and, using the methodology set out in the second section, obtain the short, medium and long-term indicators of tourism competitiveness (Figure 4). Thus, Cuba shows remarkable improvement in international tourism competitiveness indicators in both cases. Compared to its tourism model (that of the group of countries within which it fits) its medium and long-term indicators – the most structural and of greatest interest – show a positive competitive situation (i.e. the flow of tourists received is greater than what would be expected from its tourism model) since midway through the last decade (since 2015 in the medium-term indicator and 2016 in the longer term). By contrast, when compared to the results that would be obtained using the global model the situation appears much worse. In fact, in the long term, despite the improvement, the value remains negative. One reading of these results is that, while Cuba is experiencing a clear competitive improvement, its main problem is its tourism mix, which has, predictably, a preponderance of sun and beach tourism.

Considering Cuba's competitive situation in the long term – the most logical period for assessing its tourism model – by comparison with the other three major tourist destinations in the Caribbean and the aggregate of the area (Figure 5), its situation and evolution are clearly better than those of its peers. Indeed, in 2009 Cuba had the worst competitiveness indicator of all the destinations analysed, which was indicative of a very poor competitive situation (real tourist flows

below 15% of those estimated in the respective models). However, from that point on, an improvement began that has been especially strong since 2014, culminating in a clearly improved structural situation compared to the rest, with an upward trend replicated (and only partially) by the Dominican Republic. This competitive situation is obtained using the current tourism model: compared to the global average these four countries' levels decrease in a similar curve, although the difference is particularly strong in the Cuban case. A possible interpretation of all these results indicate that the change in the tourism model towards the global average might benefit Cuba more than any of the other destinations indicated.

Figure 4. International tourism competitiveness indicators for Cuba (1996-2018)

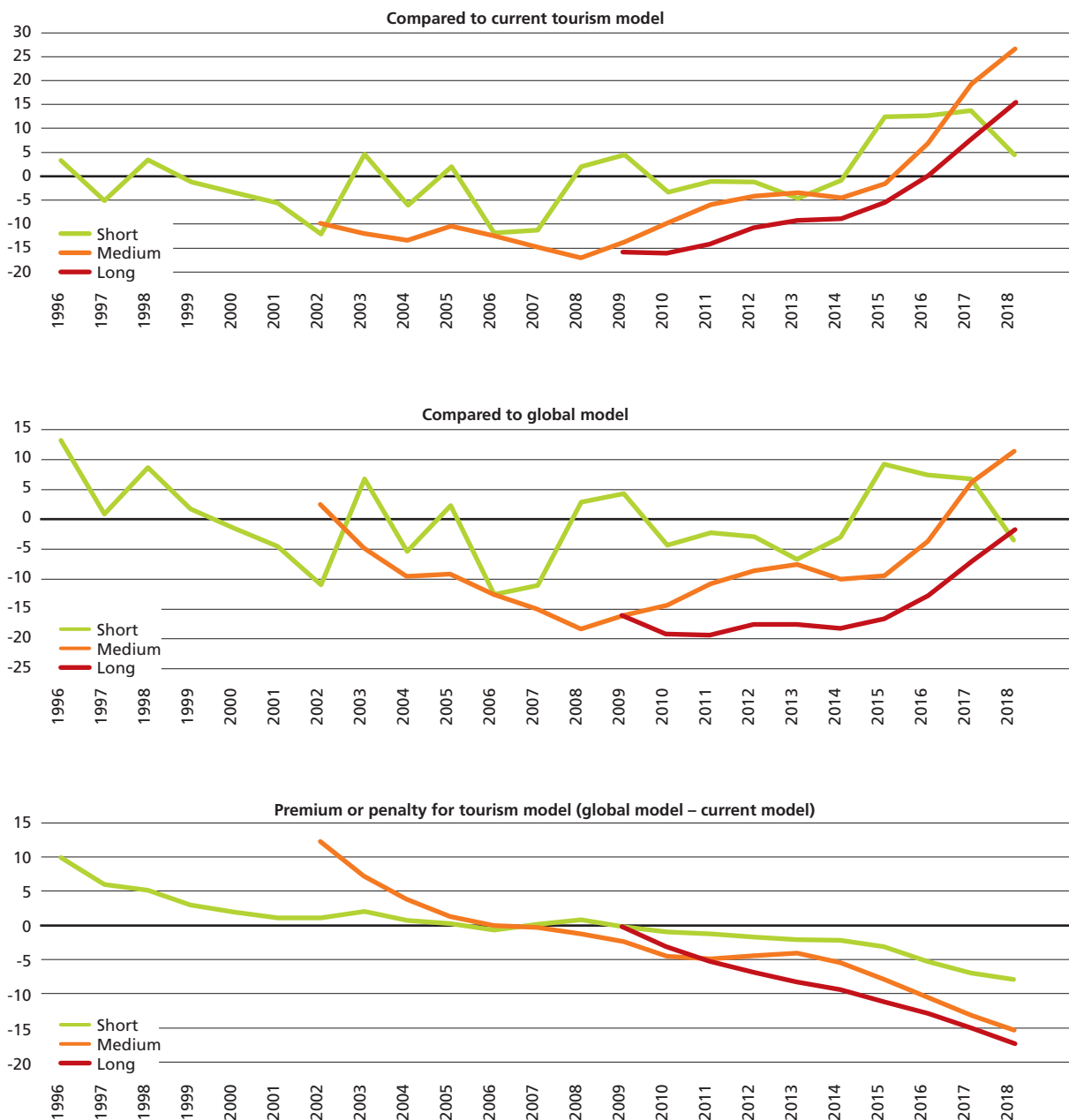
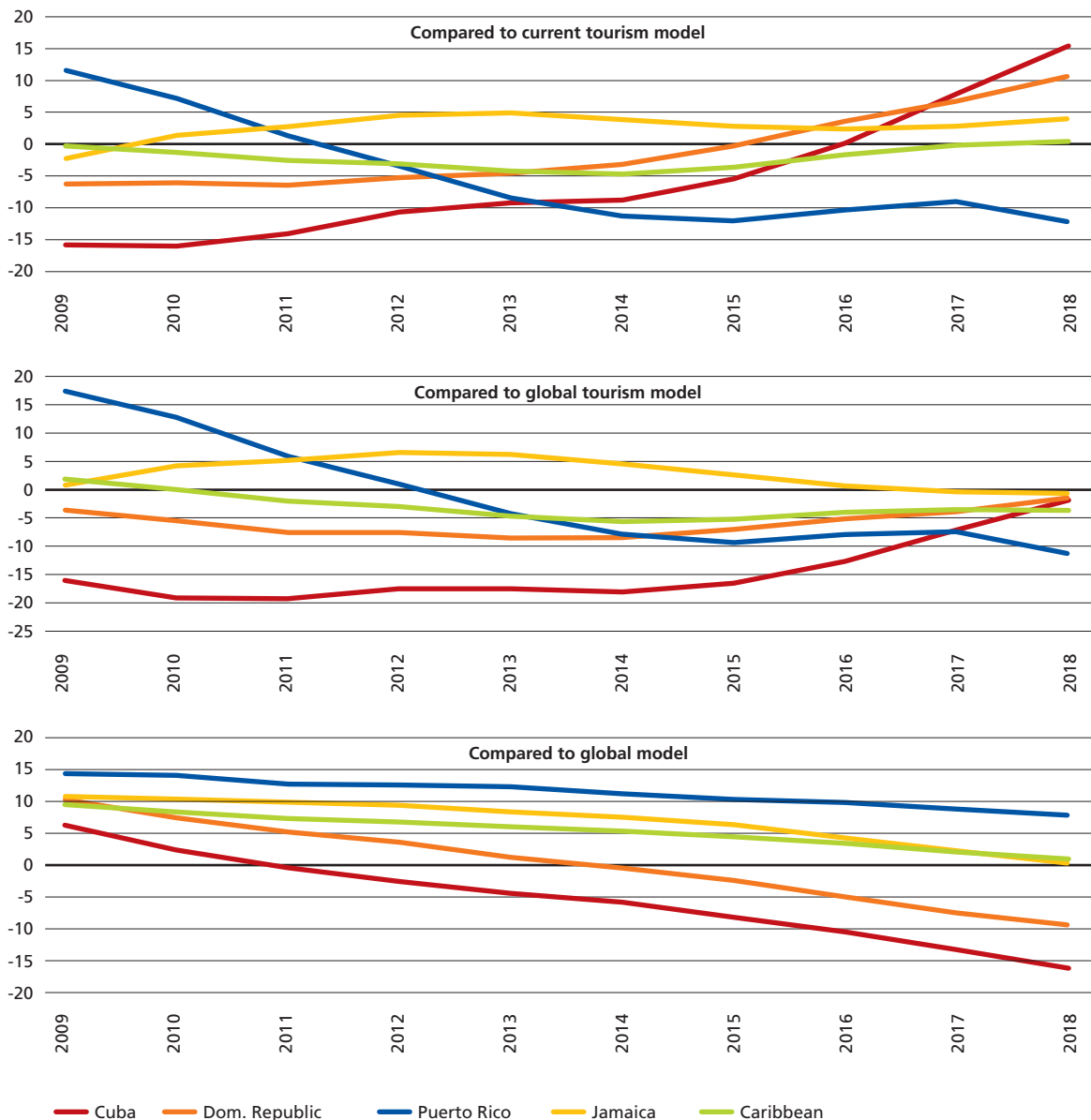


Figure 5. Long-term competitiveness indicators for the major Caribbean destinations (2010–2018)



Now, using each of the models and the data for each country, we calculate each destination's tourism growth potential by comparing the real data with the tourism potential calculated. Of course, this measure should not in any way be interpreted as a prediction. It is simply the potential growth capacity of a given tourism model if no change occurs to global tourism supply and demand. The results (Figure 6) show that the tourism sector growth potential in all of the Caribbean countries analysed is lower with the model they follow than if they adopted the global model. In both cases, Cuba leads the ranking. Thus, with its current model, Cuba's growth potential is 23%, higher than the Dominican Republic's 16% and some way above the 9% of Jamaica. With the global model, the figures notably increase, multiplying by almost four in the case of Cuba, and by three in Jamaica and the Dominican Republic.

Figure 6. International tourism growth potential in Cuba and the major Caribbean destinations (2010–2018)

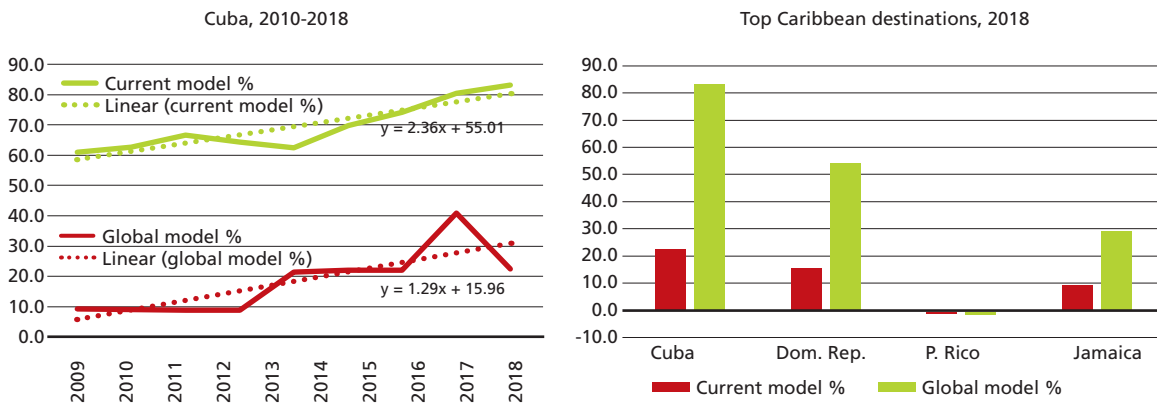
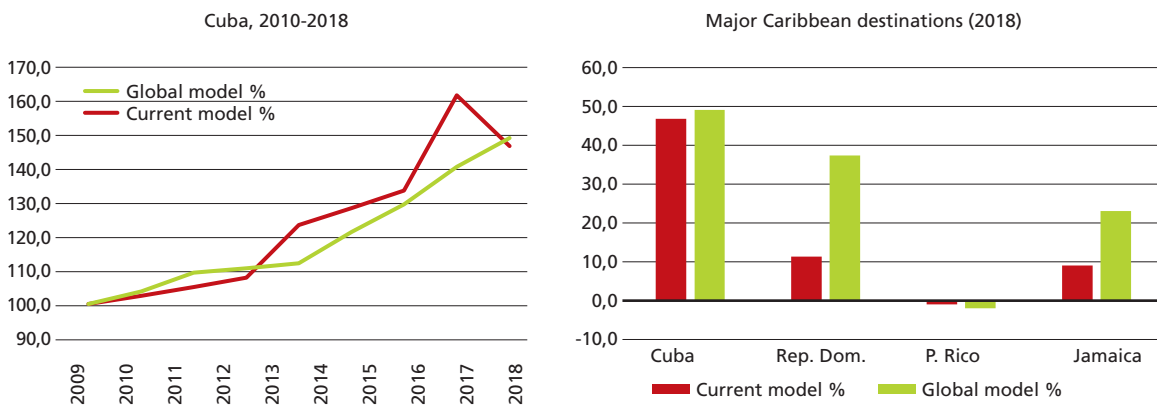


Figure 7. Quantification of technical change in the international tourism sector in Cuba and the major Caribbean destinations (2010–2018)



This significant potential increase in tourism in these countries is occurring in an international context of growing tourist flows, which is due to the significant change, in absolute terms, of tourism potential itself in recent years. Specifically, as Figure 7 shows, in the case of Cuba the increased potential was almost 47% (somewhat higher if the global model is taken into consideration). Once again, Cuba leads the ranking of countries, with both the Dominican Republic (significant increases of between 11% and 37%, depending on the model followed) and Jamaica (between 9% and 23%) some way behind, despite also showing significant changes.

Finally, it should be noted that the results for Puerto Rico should be viewed with caution. Hurricane María, which hit in 2017, seriously affected Puerto Rican hotel infrastructure and caused tourist arrivals to fall by more than 18% in 2018 compared to 2016. This conditions the entire analysis and only when its effects are fully resolved or become structural can the destination's competitive situation be analysed with greater rigour.

5. Conclusions and final considerations

This work has presented the results obtained for Cuba and the Caribbean area from the application of a set of tools developed in De la Peña et al. (2019; 2020) for the diagnosis of the competitive situation of international tourist destinations based on analysis of the flows of international tourists received by each destination.

Applying these tools has produced a set of results that describe the competitive situation of the Cuban and Caribbean tourism sector in comparison with the rest of the world and with the countries that share their tourism models, which can be summarised in the following points:

- The undoubted improvement registered in the Cuban tourism sector's competitive situation is notable, especially since 2010, leading the indicators to change from showing a poor competitive situation to a good one since the middle of the last decade.
- The results show Cuba's improved competitive situation compared to its Caribbean environment: in fact Cuba's trajectory is the best in the group. This is the result of the changes undertaken in the Cuban tourism mix towards the development of tourism segments with greater added value and tourism potential, as well as the introduction of other types of tourism in which Cuba has a competitive advantage.
- Meanwhile, despite the significant increase in tourist flows received by Cuba, its growth potential is shown to have markedly increased, well above the potentials of its Caribbean competitors.
- This is a consequence of the strong increase in the absolute potential of the Cuban tourism sector. "This technical progress has made it possible to maintain, and even increase, the gap between tourism potential and the current situation"
- In all of the above indicators, Cuba shows greater capacity for improvement when the results obtained with its current tourism model are compared with the potential results if it followed the global average. This shows the capacities of the Cuban economy, as well as its comparative and competitive advantages, which, if properly used, could significantly improve its tourist flows.

As stated in the opening sections of this chapter, the tool used enables relevant results to be obtained for carrying out a competitive diagnosis. However, a full assessment of tourism growth potential and tourism models should analyse many of these results alongside the other determinants and effects of tourism in the host economies.

It is true that the recent changes undertaken by the Cuban authorities seem to be oriented towards giving scope for the participation of private initiatives, allowing a greater presence of foreign capital and creating a job market of sorts. They are therefore able to promote the production of more hotel supply, increase its variety and, above all, that of ancillary tourism services. It should not be forgotten that, sometimes the tourism offer itself can become a very important tourist attraction (competitive advantages). Nevertheless, serious economic uncertainties produced by geostrategic issues still affect Cuba and its political-economic regime remains idiosyncratic. This sometimes acts as a hindrance to attracting the foreign capital that is so necessary for economic growth in general and the expansion and

Results show the significant effort made in the Cuban tourism sector to modify its tourism mix towards a greater presence of urban and cultural tourism (especially around the city of Havana), and of high quality and other types of tourism (congresses, ecotourism, health tourism, etc.), which can attract tourists with higher purchasing power.

Despite the significant increase in tourist flows received by Cuba, its growth potential is shown to have markedly increased, well above the potentials of its Caribbean competitors.

improvement of tourist infrastructure in particular. The recent measures adopted by the United States administration, tightening the economic embargo, may affect the sector's evolution at least in the short and medium term, especially cruise tourism.

The results of this study place Cuba at the vanguard of the changes in the tourism sector in the Caribbean. An undoubted factor in this was the tentative liberalisation of tourist flows from the United States begun in 2014 which, if the restrictions were removed, could double Cuban tourist flows. However, as mentioned, the US position on Cuba has shifted. The economic embargo has been stepped up, scuppering any chance of higher tourist flows from the country. The changes implemented to expand and improve the sun and beach hotel offer – the introduction of a diversified tourism offer in Havana, with the reconversion of architectural jewels from the colonial era into hotels or restaurants, the offer of ecotourism and health tourism, and the authorisation granted to small restaurants and other businesses run by the self-employed – have notably improved the tourism offer and have created space for high-quality tourism.

However, the considerable rise in the renting of rooms in private homes, protected by the new government measures, has led to an uncontrolled supply on the market that sometimes lacks the necessary quality guarantees. So, while this new supply creates opportunities for both Cuban citizens and visitors, it may produce unwanted reputational effects if the offer does not meet the standards of quality tourists expect. It would be advisable to create a quality classification for this new offer – similar to stars for hotels – based on certain standards and evaluation through inspections, as a way to solve potential consumer uncertainty.

This problem of standards of quality also applies across the tourist offer, although perhaps to a lesser degree. A commitment to quality and reputational aspects, an essential ingredient in the shift towards a different type of tourism, imposes greater demands on organisational and management systems, the treatment of clients, the levels of upkeep of tourist infrastructure, the diversification and innovation in the supply of services, and so on. In this sense, attention should be paid to the sometimes excessively hierarchical and rigid protocols that give workers in the sector little room for manoeuvre, as they, ultimately, are the visible face of the tourism service.

Finally, it should be noted that, although the results presented in this work may be read positively, the correct interpretation is one that is hopeful but highly dependent on the policies and measures implemented in the coming years. Cuba has a long way to go if it wants to remodel its tourism sector to make its productive structure and growth potential permanent. In tourism, as in other productive activities, fashions and preferences change quickly. In good times necessary changes must be implemented, because in the bad times there is only scope to tackle what is urgent.

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1. Introduction

This chapter aims to make a comparative analysis of the evolution of some basic energy indicators in Cuba and Spain from 1990 to 2016. In this period of profound changes in energy generation technologies around the world, two in particular stand out. First, the breakthrough of renewable electricity generation technologies (wind and solar) led their generation costs (investment, operation and maintenance) to fall dramatically. While in 1990 they were practically non-existent, by 2016 they were already clear competitor technologies to other generation alternatives. In this process, while most countries initially opted to provide significant regulatory support for these technologies (in the form of feed-in tariffs), it was gradually withdrawn across the board once the journey through the learning curve made them competitive.

Second, liquid hydrocarbons and to some extent coal have partially been replaced by natural gas. This has been highly evident in industrial sectors, which often require a heat source for many production processes. Use in the residential sector has also spread, although to a large extent conditioned by each country's climatic conditions and heating needs. Natural gas has also become the alternative to coal and oil derivatives in electricity generation, through combined cycle plants. Nevertheless, oil is still generally used where its replacement is not straightforward, particularly in transport.

In this global technological context, Cuba and Spain's energy trajectories differ in crucial aspects. Of particular importance is the institutional context. In Spain, the energy pathway is determined by European regulations on the creation of the single energy market and the international commitments acquired first in the Kyoto Protocol and since December 2015 in the framework of the Paris Agreement within the United Nations Framework Convention for Climate Change (COP21). Cuba also has an ambitious target for renewable generation penetration based on meeting the commitments of the Paris Agreement. While starting from a very low base, it has considerable potential for growth due to natural conditions.

Obviously, it is impossible to summarise all the particularities of the energy evolution over such a long period in a few pages. This chapter

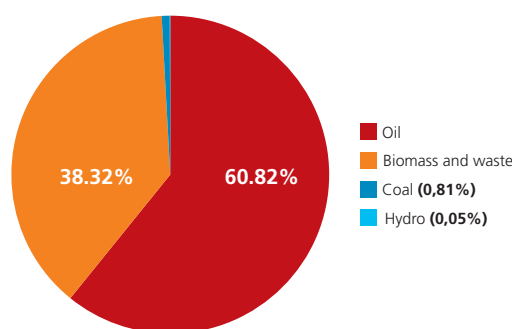
In this global technological context, Cuba and Spain's energy trajectories differ in crucial aspects. Of particular importance is the institutional context.

therefore describes the general features of the energy evolution in both countries since 1990, focusing mainly on primary energy consumption and the electricity generation mix, but also pointing out some specific features of the use of the different energy vectors and the institutional and regulatory context. This allows a comparative analysis of some interesting energy indicators to be conducted in the final part of the work.

2. Energy evolution in Cuba from 1990 to 2016

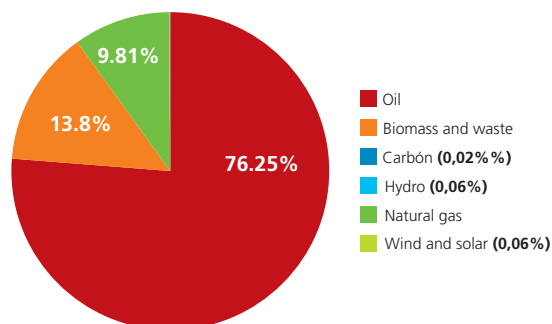
Figures 1 and 2 show the total amount of primary energy used in Cuba, indicating the percentage for each of the energy sources for the years 1990 and 2016, respectively. The time period studied begins in 1990, the starting point for the International Energy Agency data used in this study.

Figure 1. Primary energy supply in Cuba in 1990: 17.41 Mtoe*



* Million tonnes of oil equivalent.
Source: International Energy Agency (IEA).

Figure 2. Primary energy supply in Cuba in 2016: 9.60 Mtoe



Source: International Energy Agency.

A strong dependence is noted on oil and biomass, with an almost total absence of other primary energy sources.

Comparing Cuba's primary energy supply data for 1990 and 2016 shows that:

- The total supply of primary energy decreased by 44.8% – from 17.41 Mtoe in 1990 to 9.60 Mtoe in 2016 – very different from what has taken place in the rest of the world.

- The percentage contributed by oil has grown considerably, rising from 60.82% in 1990 to 76.25% in 2016, which is also unusual when compared with the OECD and global totals.
- The proportion of biomass and waste decreased significantly, from 38.32% in 1990 to 13.8% in 2016.
- The share of natural gas, minimal in 1990, rose considerably and contributed 9.81% in 2016.
- The share of coal decreased (from 0.81% to 0.02%), the proportion of hydroelectric energy is steady (from 0.05% in 1990 to 0.06% in 2016) and wind and solar emerged, but at almost negligible levels (together they represented 0.06% in 2016).

In short, the energy mix in Cuba is very different from that found around the world. That it is an island (both geographically and energetically) goes some way towards explaining this different pattern. In general, isolated territories have less diversified generation mixes and a greater presence of hydrocarbons in the mix. In the case of Cuba, this is compounded by the irrelevance of hydroelectric generation, the lack of nuclear generation and, most strikingly, the near absence of wind and solar generation.

Next, some features of the evolution of primary energy consumption and the generation mix in Cuba are studied in depth.

2.1. Total amount of primary energy

Cuba's primary energy use peaked in 1990 and its low-point came in 2016. However, the trajectory is not constantly downward throughout the period under study, as will be seen later.

The precursors to the early 1990s collapse of the Cuban economy were the fall of the Berlin Wall in November 1989 and the dissolution of the Soviet Union in December 1991: trading oil for sugar with the Soviet Union had played a very prominent role over the previous three decades (Alonso and Galliano, 1999). In 1991, primary energy supply in Cuba fell by 17.23% compared to 1990, and the decrease between 1990 and 1993 was 39.46%. In the same years, Cuba's GDP fell in real terms by 10.7% between 1990 and 1991 and by 32.8% between 1990 and 1993. These years fit squarely within what is called the "Special Period" (Worsham and Vargas Esposito, 2017). Piercy, Granger and Goodier (2010) analyse the changes made in Cuba to adapt to the new situation in terms of transport, agricultural production, and electricity generation and consumption policies.

2.2. Oil

In each year of the period under consideration, oil is by far the most used primary energy source in Cuba. The highest level was in 1990 (10.6 Mtoe), followed by 2010 (9.2 Mtoe), with 1993 the year in which least was used (6.5 Mtoe).

The amount of imported oil fell from 10.06 Mtoe in 1990 to 8.01 Mtoe in 1991, 6.1 Mtoe in 1992 and 5.5 Mtoe in 1993 (54.7% of the quantity imported in 1990).

Isolated territories have less diversified generation mixes and a greater presence of hydrocarbons in the mix. In the case of Cuba, this is compounded by the irrelevance of hydroelectric generation, the lack of nuclear generation and, most strikingly, the near absence of wind and solar generation.

Cuba's own production has been increasing considerably since 1993. Its peak oil production was 3.84 Mtoe in 2003, and its highest share of the total oil used was 47.3% in 2002.

In October 2000, the presidents of Cuba and Venezuela, Fidel Castro and Hugo Chávez, signed a Comprehensive Cooperation Agreement. Cuba would provide support and cooperation through services and programmes for the social development of Venezuelans, and in return Venezuela would provide Cuba with oil in highly favourable economic and financial conditions (Worsham and Vargas Esposito, 2017; Corrales et al., 2005).

Data from the International Energy Agency indicate that between 2006 and 2016 Cuba exported approximately 2 Mtoe of oil every year from 2010 to 2015 (peaking in 2012), and lower amounts in the other years.

2.3. Natural gas

As mentioned, natural gas went from having a minimal presence in the Cuban energy mix in 1990 to contributing 9.81% in 2016. Cuba produces the natural gas it uses.

Natural gas production in Cuba was 15,000 TOE (tonnes of oil equivalent) in 1996. In the following years (1997, 1998, 1999 and 2000) this amount multiplied, respectively, by 2, 6.6, 24.3 and 30.4. It continued to grow until 2007, when it reached 968,000 TOE. From there it decreased until 2011 (810,000 TOE), increased to reach its highest level in 2015 (989,000 TOE) and fell again in 2016 to 942,000 TOE.

In 2016, 65.76% of the natural gas was used to generate electricity, 28.67% was used in industry, 5.17% in the residential sector and 0.40% for unspecified uses.

2.4. Coal

According to International Energy Agency data, Cuba supplied 140,000 TOE from coal in 1990, a figure that fell significantly in the following years towards a 50% reduction by 1994. This decline continued, with consumption in 1999 of 30,000 TOE and a steady decrease from 2000 to 2016 to stand at 1,000 TOE in 2014, 5,000 TOE in 2015 and 2,000 TOE in 2016.

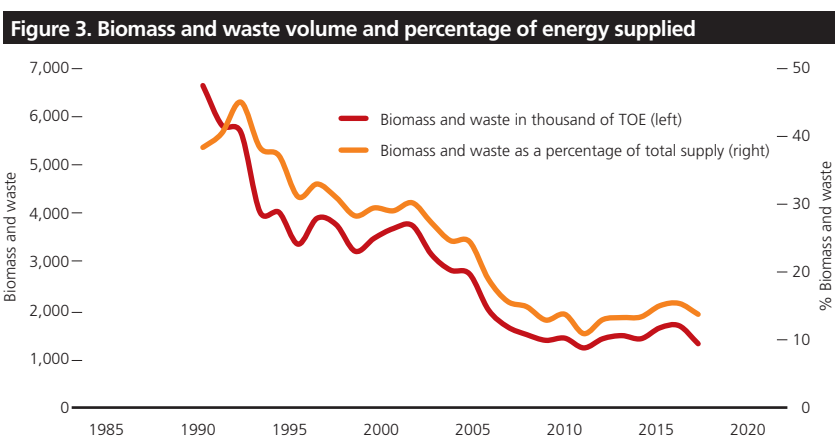
All the coal used (entirely anthracite) in the period was imported and used in industry, and never in the production of electricity.

2.5. Biomass and waste

Figure 3 shows the evolution of the contribution of biomass and waste to the supply of primary energy in Cuba in the period studied. As the graph clearly shows, the contribution of biomass and waste has been decreasing over the years, from 38.2% of the primary energy used in 1990 to 13.8% in 2016.

Currently, biomass represents 99.3% of total energy from renewable sources in Cuba. It is likely to continue dominating in this area for the foreseeable future due to the amount of waste produced by agriculture and agricultural product processing, such as by-products of the sugar industry, sawmills, wood brushing, coffee and rice, and other waste like firewood, chips, pellets, charcoal and plants that can be used to obtain biofuels (Suárez et al., 2016).

Currently, the potential energy production from biomass comes from sugar cane bagasse (48.2%), wood fuels (31.3%), biogas (10.15%), sugar cane straw (6.7%), charcoal (2.25%), rice husk (1.3%), sawdust (0.06%) and coffee husk (0.04%) (ibid.). However, as the authors themselves point out, not all the potential is exploited.



Source: Produced by the authors using International Energy Agency data.

Table 1 provides data on sugar cane cultivation's use of agricultural land, its production and the amount of bagasse obtained in Cuba in each of the years analysed. The data in Table 1 are closely related to the data on the amount of energy obtained from biomass and waste in Figure 3. From 1990 to 2016, the amount of energy obtained in Cuba from biomass and waste fell by 80%, the agricultural area in which sugar cane was grown decreased by 70%, the production of sugar from sugar cane dropped by 81% and the amount of bagasse obtained fell by 84%. In the period under consideration, the amount of energy obtained from biomass and waste reached its lowest point in 2010, the same year the quantity of bagasse fell to its lowest. Regarding sugar cane production, the lowest volume was reached in 2005, followed by 2006 and 2011.

Sugar exports fell by 48.9% between 1990 and 1993, and 55.64% between 1990 and 1995 (Alonso and Galliano, 1999). Exports grew by 47% from 1995 to 1996, and have not reached that year's level since. On the other hand, non-sugar agro-exports have grown since 1993, reaching and even later exceeding the levels of 1990. The balance of agricultural foreign trade in Cuba was positive between 1958 and 2000, reaching its highest value in 1990 and was negative from 2001 to 2017 (García and Anaya, 2019).

From 1990 to 2016, the amount of energy obtained in Cuba from biomass and waste fell by 80%, the agricultural area in which sugar cane was grown decreased by 70% and the production of sugar from sugar cane dropped by 81%.

Year	Harvested area (ha)	Production (tonne)	Bagasse (tonne)
1990	1,420,300	83,646,720	23,261,900
1991	1,452,200	79,698,330	19,473,800
1992	1,451,700	55,253,520	10,093,300
1993	1,211,700	44,960,400	12,921,200
1994	1,248,900	40,738,040	12,902,700
1995	1,177,400	35,468,250	10,208,100
1996	1,244,500	41,377,160	12,423,200
1997	1,246,300	32,713,200	11,859,500
1998	1,048,500	31,168,540	10,070,300
1999	995,800	35,494,690	10,673,300
2000	1,040,900	35,852,760	11,038,700
2001	1,007,100	32,693,680	11,599,000
2002	1,041,200	21,438,540	8,952,000
2003	643,800	22,672,300	7,100,700
2004	661,000	18,619,200	6,950,500
2005	517,200	8,895,040	4,787,300
2006	397,100	9,226,000	3,605,800
2007	329,500	13,728,830	3,415,100
2008	380,300	17,953,110	3,863,300
2009	434,700	14,797,020	3,719,000
2010	431,400	13,512,870	3,027,300
2011	506,100	11,272,560	3,949,600
2012	361,300	15,971,970	3,959,900
2013	400,300	16,329,560	3,637,100
2014	405,200	19,300,000	4,604,200
2015	435,600	19,297,080	4,942,000
2016	-	15,806,667	3,793,600

Source: Sagastume et al. (2018b).

2.6. Hydroelectric energy

International Energy Agency data indicate that the production of hydroelectric energy in Cuba was 91 GWh in 1990 and 64 GWh in 2016, and varied in that period between 48 GWh in 2015 (lowest) and 151 GWh in 2009 (highest).

The first hydroelectric power generation plant in Cuba, with a capacity of 800 kW, was installed on the Guaso River in the province of Guantánamo in 1917. Currently, the Hanabanilla hydroelectric plant, located in the province of Cienfuegos, with an installed capacity of 43 MW (approximately 74% of country's total hydroelectric capacity), is the largest in Cuba (Suárez et al., 2016). In total, 180 hydroelectric power plants have been built, reaching a total capacity of 58 MW in 2009. The production of 151 GWh in one year represents an annual saving of 12,970 TOE (ibid.).

2.6. Wind energy

The first wind farm in Cuba, located on the island of Turiguano in the province of Ciego de Ávila, was built in 1999. The park has two 225 kW turbines (model: Ecotecnia 28/225, Spain) (ibid.).

The second is located in Los Canarreos in the Isla de la Juventud municipality and has been in operation since February 2007. It has six 275 kW turbines (model: Vergnet GEV-MP 32/275, France) (ibid.).

The third farm (Gibara 1) is located in Gibara in the province of Holguín. It was built in 2008 and has six 850 kW turbines (model: Gamesa, Spain), giving a total capacity of 5.1 MW (ibid.).

A fourth park (Gibara 2) was in construction in Punta Rasa near the city of Gibara with six 750 kW turbines (model: Goldwing, China) (ibid.).

On the other hand, there is a long tradition in Cuba of using wind energy to pump water mechanically. There are currently over 4,850 established mills, enabling a saving of approximately 340 TOE per year, although not all of them are operational due to breakdowns, maintenance failures or the lack of spare parts (ibid.).

2.7. Solar energy

At latitudes between 20° 12' and 23° 17', Cuba's location gives it great solar energy potential. Its average annual number of hours of sunshine is 1,700 and average annual solar radiation is 5.5 kWh/m² per day, enough to provide adequate energy for photovoltaic and thermal applications (ibid.).

Until 2012, photovoltaic facilities totalled less than 3 MW in around 9,000 low-power photovoltaic systems, almost all in remote locations the electricity grid did not reach (schools, clinics, houses and cultural centres with significant social impact). The driving force behind global photovoltaic development is grid-connected photovoltaic energy and in 2013, Cuba made a leap forward with the installation of 11 MW in grid-connected photovoltaic parks (Stolik, 2014).

Solar thermal energy has been used in Cuba for several decades to heat water in homes and to dry wood, various crops such as coffee, tobacco, coconut, cocoa and seeds, as well as fish and medicinal plants, allowing diesel to be saved and helps avoid greenhouse gas emissions (Suárez et al., 2016).

3. Evolution of energy in Spain 1990–2016

Figures 4 and 5 show the total amount of primary energy used in Spain, indicating the percentage for each of the energy sources for the years 1990 and 2016, respectively. The series starts in 1990 so that the comparison may be drawn with Cuba.

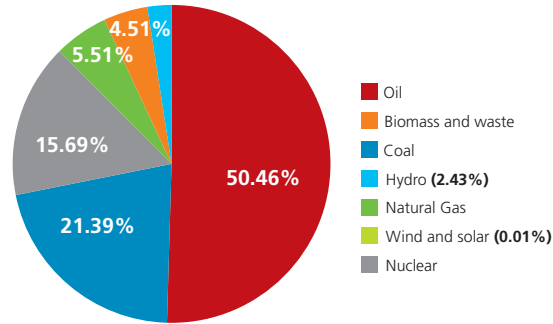
Comparing the primary energy supply data for Spain from 1990 to 2016 shows that:

- Total supply has increased by 32.3%, rising from 90.1 Mtoe in 1990 to 119.2 Mtoe in 2016.
- The contribution of oil has decreased, from 50.46% in 1990 to 42.54% in 2016. Coal use has also been reduced – from a 21.39% share to 8.8%; and nuclear has also fallen: from 15.69% to 12.82%.

Solar thermal energy has been used in Cuba for several decades to heat water in homes and to dry wood, various crops such as coffee, tobacco, coconut, cocoa and seeds, as well as fish and medicinal plants, allowing diesel to be saved and helps avoid greenhouse gas emissions.

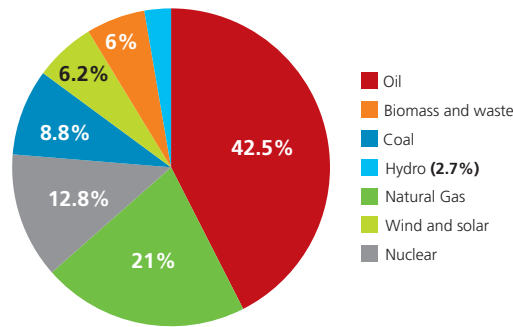
- The share of natural gas increases considerably (from 5.51% to 21%).
- Renewable energy use increases considerably, from 6.95% to 14.9%. Above all, the contribution of wind and solar has increased (from 0.01% to 6%). Biomass and waste rise (from 4.5% to 6%) as does hydro, albeit slightly (from 2.4% to 2.7%).

Figure 4. Primary energy supply in Spain in 1990: 90.1 Mtoe



Source: International Energy Agency.

Figure 5. Primary energy supply in Spain in 2016: 119.2 Mtoe



Source: International Energy Agency.

3.1. Changes in the Spanish energy sector within the European Union framework since 1990

The Single European Act approved in February 1986 set the date of January 1st 1993 for achieving a single internal market in the European Union and a single market in the energy sector. This market was presented as a way to appropriately allocate resources, reduce the cost of energy and contribute to providing security of supply through competition between companies (UNESA, 2010).

In Spain, the process of liberalising the electricity sector began in December 1996 with the signing of a protocol between the companies in the sector, supervised by the government, which established the main points of the framework in which competition would take place from January 1st 1998 (Sáenz de Miera, 2009).

Law 54/1997 on the electricity sector is the transposition of Directive 96/92/EC, which establishes the "common rules for the internal market in electricity". Among the main elements the law introduces, several

should be highlighted: the establishment of an authorisation regime for new generation plants, with the bidding process ruled out; the creation of a mandatory organised daily market for most generation facilities; the express authorisation of commercialisation activity, and the creation of a single operator for the entire transmission network with responsibility for the safety and technical quality of the electricity supply, which is also the main transmission company (Red Eléctrica de España) (ibid.). The law introduced the principle of the vertical separation of activities between generation, transmission/distribution and commercialisation, a principle that would be developed in regulation over subsequent years. The idea is that generation and marketing are market activities, while transportation and distribution have the features of natural monopolies, justifying their treatment as activities subject to regulated remuneration.

Two new institutions were also created in 1997: the Spanish electricity market operator, responsible for matching electricity supply and demand every day, with its market rules, matching algorithms, and communication and settlement procedures; and the National Commission of Energy, a regulatory body of an advisory nature with competence in the electricity, gas, oil and derivatives markets (created based on Law 54/1997 on the electricity sector and Law 34/1998 on the hydrocarbons sector). In 1998 the first agreement was made between the governments of Spain and Portugal to establish the Iberian Electricity Market (MIBEL).

The purpose of Law 34/1998 on hydrocarbons was to renew, integrate and standardise the different regulations in force on hydrocarbons. The intervention of public authorities in the markets was limited to emergency situations. Regulation should expand the scope for entrepreneurship. The law introduced environmental protection criteria. Consideration of the gas sector as a public service was abolished. The state established obligations for the maintenance of minimum security stocks of oil and gas products.

The White Paper on renewable energy sources published by the European Commission in November 1997 set an indicative target of a 12% renewable energy contribution to primary energy consumption in 2010, compared to the 6% of that time.

The Plan for the Promotion of Renewable Energies in Spain of December 1999 was drawn up in response to the commitment stemming from Law 54/1997 on the electricity sector. It set a target of 12% of renewables in total primary energy consumption in Spain for 2010 (the same target the White Paper established for the whole of the EU). This plan primarily commits to biomass and, secondly, to wind energy.

Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources in the internal electricity market set indicative targets of 12% primary energy consumption from renewable sources in 2010 in the EU and 22.1% for electricity production. This target (of 22.1%) for the EU-15 became 21% for the EU-25. Member states were obliged to set their own targets for a time horizon of ten years, taking into account the European objective and the national commitments made in the Kyoto Protocol. According to EurObserv'ER, the share of renewable energies in electricity generation was 19.8% in 2010, thereby achieving 94.3% of the goal set in the directive. Spain was among the countries to meet its target in this regard.

In Spain, the process of liberalising the electricity sector began in December 1996 with the signing of a protocol between the companies in the sector, supervised by the government, which established the main points of the framework in which competition would take place.

Directive 2003/30/EC of the European Parliament and of the Council on the promotion of the use of biofuels or other renewable fuels for transport to replace petrol and diesel establishes an indicative target for the EU of 5.75% replacement of conventional transport fuels with biofuels by December 2010. A level of 4.7% was achieved, 82% of the target set in 2003.

Furthermore, Directive 2003/87/EC was transposed in 2004, establishing a regime for trading in greenhouse gas emission rights in the EU. The EU Emissions Trading System (EU ETS) has become the largest such system in the world, followed in recent years by the development of regional equivalents in Canada, the United States and China.

Spain's first Energy Saving and Efficiency Plan 2005–2007

Spain's Renewable Energy Plan (PER) 2005–2010 was a revision of the Plan for the Promotion of Renewable Energies in Spain 2000–2010 that made significant downward revisions for biomass and upwards for wind and above all photovoltaic solar energy.

Royal Decree 1370/2006 approved the 2008–2012 National Allocation Plan establishing a limit of 54.6 Mt of CO₂ for the electricity sector, 11.2% lower than the reference year of 1990.

In the Europe 2020 strategy, the following binding energy and climate targets were set to be achieved in the EU by 2020: reduce greenhouse gas emissions by 20% compared to 1990 levels, achieve 20% of energy production from renewable sources in final energy consumption and increase energy efficiency by 20%.

The Renewable Energy Plan 2011–2020 approved in November 2011 establishes targets in line with Directive 2009/28/EC on the promotion of the use of energy from renewable sources.

In December 2016 the European Commission launched “Clean energy for all Europeans”, an in-depth review of the entire legislative body on energy in the European Union, shaped by the commitments acquired in the context of the 2015 Paris Agreement. The various directives, regulations, guidelines and associated communications were approved between 2017 and 2019. Among many other changes, new renewable generation penetration and efficiency targets were set for 2030 in an ambitious strategy to achieve net zero CO₂ emissions by the second half of the century. Of singular importance is the fact that member states are obliged by the new Governance Regulation to develop integrated energy and climate plans under European Commission supervision and subject to evaluation and modification mechanisms.

3.2. Evolution of renewable energy in Spain in recent years within the EU framework

Table 2 shows renewable primary energy production in Spain by technology in 2005 and 2017, using Eurostat data. Hydropower production varies according to the rainfall in the year in question, meaning that in 2016 hydro-electric energy production was 3.12 Mtoe, while in 2017 it was 1.61 Mtoe.

Table 2. Renewable primary energy production in 2005 and 2017 by technology in Spain measured in Mtoe

	2005	2017
Bioenergy*	4.9 (58.4%)	7.28 (44.15%)
Hydropower	1.6 (19.1%)	1.61 (9.79%)
Wind Power	1.8 (21.5%)	4.22 (25.62%)
Solar	0.06 (0.7%)	3.36 (20.32%)
Geothermal	0.007 (0.1%)	0.02 (0.12%)
Total	8.4 (100%)	16.49 (100%)

* Bioenergy includes solid biomass, biogas, the organic fraction of urban solid waste and biofuels.

Source: Produced by the authors with Eurostat data.

Table 3 shows the share of renewable energy in gross final energy consumption in the European Union and in Spain for 2005 and 2017. The combined figure shows that both the EU and Spain are approaching the target of 20% foreseen for the year 2020. Spain is above the EU level in renewable electricity, but lags in its use for heat production and transport.

Table 3. Renewable energy as a percentage of gross final energy consumption in 2005 and 2017

	Year 2005		Year 2017	
	European Union	Spain	European Union	Spain
Combined	9%	8.4%	17.52%	17.51%
In electricity	14.9%	19.1%	30.75%	36.34%
In heat and cooling	10.8%	9.4%	19.50%	17.52%
In transport	1.4%	1%	7.4%	5.9%

Source: Sagastume *et al.* (2018b).

4. Comparison of some energy indicators for Cuba and Spain in the 1990–2016 period

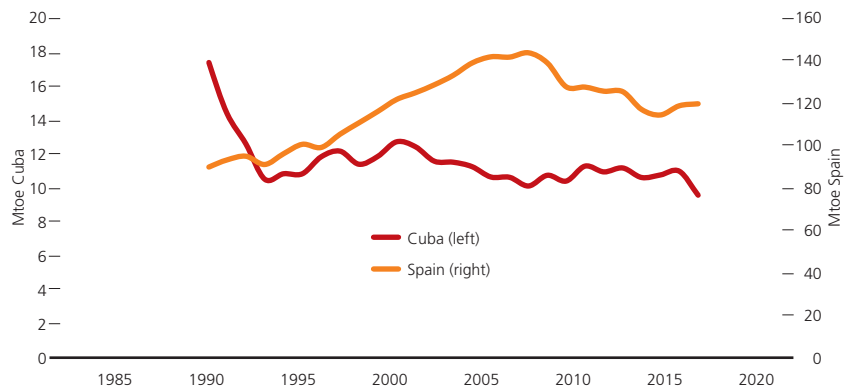
4.1. Total primary energy supply

Figure 6 presents the data for the total primary energy supply in Cuba and Spain between the years 1990 and 2016.

In the case of Cuba, the highest amount in the series corresponds to 1990 and the lowest to 2016. There is a very marked decrease between 1990 and 1994 (years corresponding to the so-called “Special Period”). Then levels rise slightly between 1995 and 2001, only to fall again as of that year, with some minor fluctuations.

In Spain, the amount of energy grows from 1990 to 2007, with minor exceptions in 1993 and 1996. In this case, it is an evolution that closely follows the economic expansion in that period. The high-point in the series is in 2007, with the low in 1990. The effect of the economic crisis is very clear, starting in 2008.

Figure 6. Total primary energy supply in Cuba and Spain from 1990 to 2016



Source: Produced by the authors using International Energy Agency data.

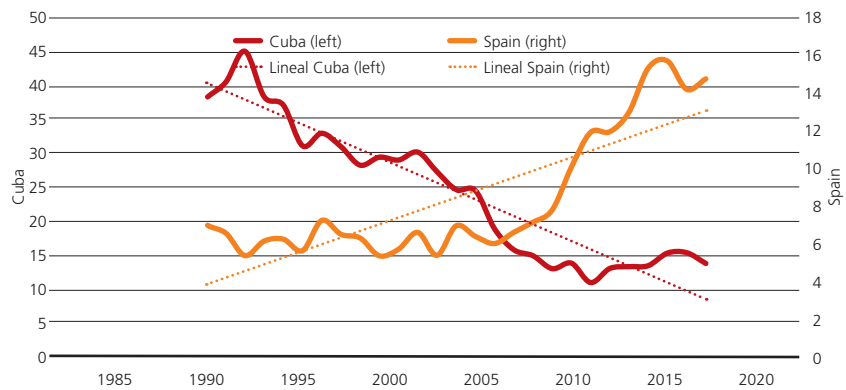
4.2. Renewables as a proportion of total supply (in percentage)

Renewable energy as a share of total primary consumption shows a downward trend in the case of Cuba and an upward trend in the case of Spain, as Figure 7 shows. The percentage, very far apart at the beginning of the period under study, is tending to even out, as Spain increases and Cuba decreases.

In 1990, the percentage of renewable energy as a share of the total was 38% for Cuba (due to the contribution of biomass and waste) and only 6.95% for Spain. However, in 2016 the corresponding percentages were 13.46% for Cuba and 14.74% for Spain. Cuba's change seems to be based almost exclusively on biomass, while in Spain the supply of primary energy from wind and solar sources is gaining importance.

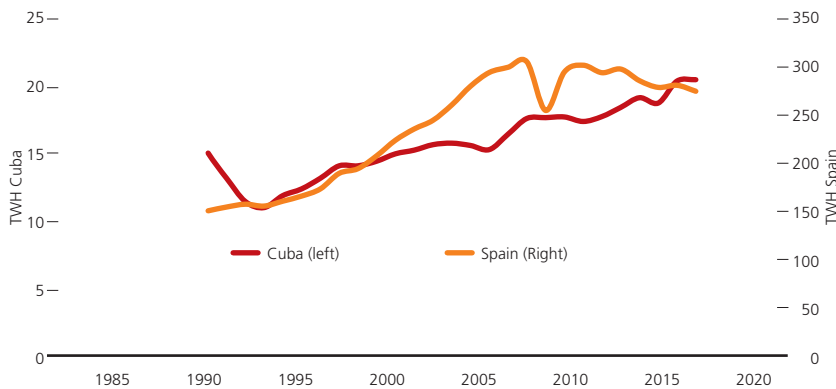
Cuba's highest percentage was reached in 1992, with a 45% share of renewables, while the lowest was 11% in 2010. For Spain, the highest percentage (15.68%) was reached in 2014 and the lowest was 5.40% in 1999.

Figure 7. Renewables as a share of total supply (in %) in Cuba and Spain from 1990 to 2016



Source: Produced by the authors using International Energy Agency data.

Figure 8. Electricity generation in Cuba and Spain (in TWh) from 1990 to 2016



Renewable energy as a share of total primary consumption shows a downward trend in the case of Cuba and an upward trend in the case of Spain.

Source: Produced by the authors using International Energy Agency data.

Table 4. Energy mix used in electricity generation (in percentage) in Cuba and Spain in 2016

	Cuba	Spain
Oil	81.7%	6.16%
Natural Gas	14.3%	19.22%
Biomass and waste	3.4%	2.34%
Hydroelectric	0.3%	14.51%
Solar	0.2%	4.97%
Wind Power	0.1%	17.80%
Coal	-	13.66%
Nuclear	-	21.34%
Total	100%	100%

Source: Produced by the authors using International Energy Agency data.

4.3. Electricity generation

Figure 8 presents the data for electricity generation (in TWh) in Cuba and Spain between 1990 and 2016.

In Cuba, the amount of electricity produced fell between 1990 and 1994, after which it followed an upward trend for the rest of the period. In Spain, the trend clearly rises until 2007, with a significant decline in 2008 as a result of the impact of the economic crisis. There is some recovery in 2009 and 2010, and another decrease after that.

Table 4 shows the energy mix for electrical power generation in Cuba and Spain for 2016. What is most striking is the contribution of oil in electricity generation in Cuba, which is 81.7%, when for the same year, 2016, the global figure for the contribution of oil to electricity generation was 3.7%. In Spain, oil plays too large a part (6.16%) compared to the worldwide data. This is due exclusively to the use of the fuel in electricity generation in non-peninsular electrical systems (Canary Islands, Balearic Islands, Ceuta and Melilla), since liquid hydrocarbons are not used for electricity generation on the peninsular.

The data in Table 4 indicate that the energy mix for electricity generation in Spain is much more varied and balanced than in Cuba. As noted above, larger and more connected systems also facilitate a more diversified generation mix.

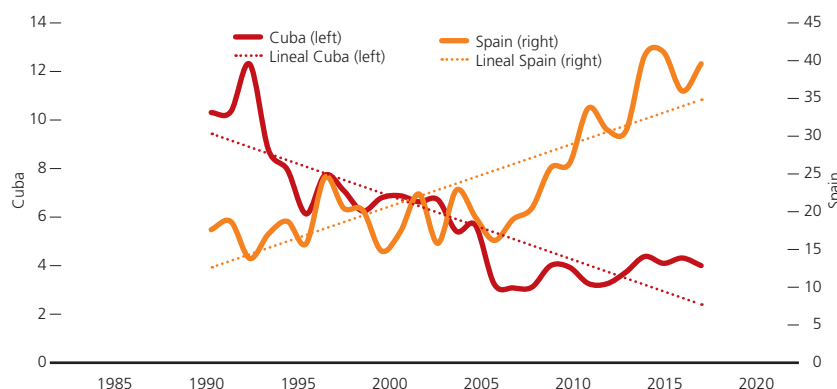
4.4. Electricity from renewable sources as a proportion of the total electricity generated (in percentage)

As with the percentage of renewables as part of the total energy supply, the trend lines showing electricity from renewable sources as a proportion of the TWh of electricity generated are rising for Spain and falling for Cuba (Figure 9).

In this case, unlike the situation studied in part 2 of this section, the starting point for Spain (17.7%) was higher than for Cuba (10.3%).

Cuba's highest percentage in the period studied was 12.3% in 1992, while the lowest was 3.04% in 2006. For Spain, the maximum percentage was 41.2% in 2014 and the minimum was 13.7% in 1992. The graph shows a significant increase starting in 2005, in line with the incorporation of wind (which started a few years before) and solar generation (both photovoltaic and concentrating or thermosolar).

Figure 9. Electricity from renewable sources as a share of total electricity generated in Cuba and Spain from 1990 to 2016



Source: Produced by the authors using International Energy Agency data.

4.5. Energy intensity

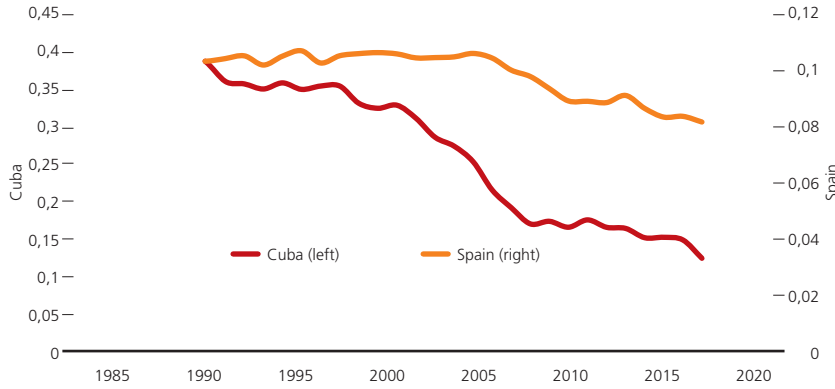
Energy intensity is an indicator that is related to the efficiency with which an economy uses its energy resources. It is defined as the amount of energy used in an economy divided by GDP. Improvements in energy efficiency are reflected in smaller and smaller values.

Figure 10 shows the trajectories of the respective energy intensities of Cuba and Spain in the time frame analysed.

As Figure 10 shows, over time the indicator improves for both countries. The improvement is more pronounced in the case of Cuba, as it changed

from 0.39 in 1990 to 0.12 in 2016, while in Spain it improved from 0.10 in 1990 to 0.08 in 2016.

Figure 10. Energy intensity (TOE/GDP [in thousands of 2010 USD]) in Cuba and Spain from 1990 to 2016



Source: Produced by the authors using International Energy Agency data.

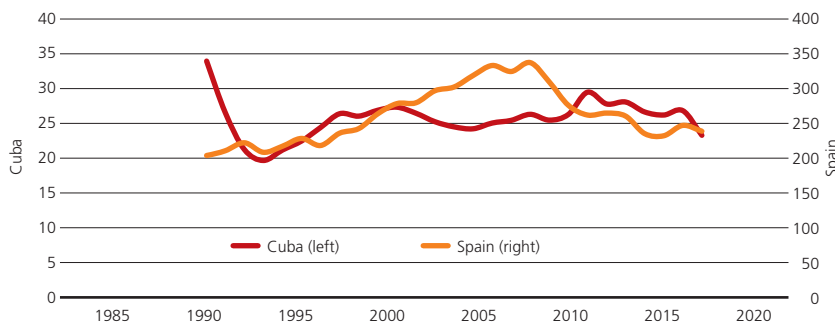
The most recent Eurostat data for the European Union, referring to 2017, indicate that Spain has an energy intensity similar to that of the EU-28 as a whole, and higher than that of the group of eurozone countries and countries such as Germany, Austria, Denmark, France, Ireland, Italy, Luxembourg and the United Kingdom.

4.6. CO₂ emissions (combustion only)

Figure 11 shows the data for CO₂ emissions (combustion only).

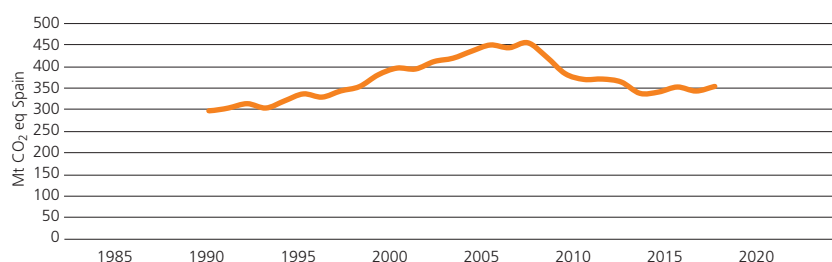
For Cuba, the first year in the series, 1990, shows the highest emissions, with 34.12 million tonnes, while 1993 is the year with the lowest (19.64 Mt). In Spain, these data once again reflect the enormous impact of the economic crisis, which caused a significant reduction in emissions from 2008. Emissions grow until 2007 and decrease after 2008.

Figure 11. CO₂ emissions (in millions of tonnes) from combustion only in Cuba and Spain from 1990 to 2016



Source: Produced by the authors using International Energy Agency data.

Figure 12. Greenhouse gas emissions (in million tonnes of CO₂ equivalent) in Spain from 1990 to 2017



Source: Produced by the authors using Eurostat data.

Figure 12 presents the Eurostat data on all greenhouse gas emissions (in millions of tonnes of CO₂ equivalent) for Spain between the years 1990 and 2017.

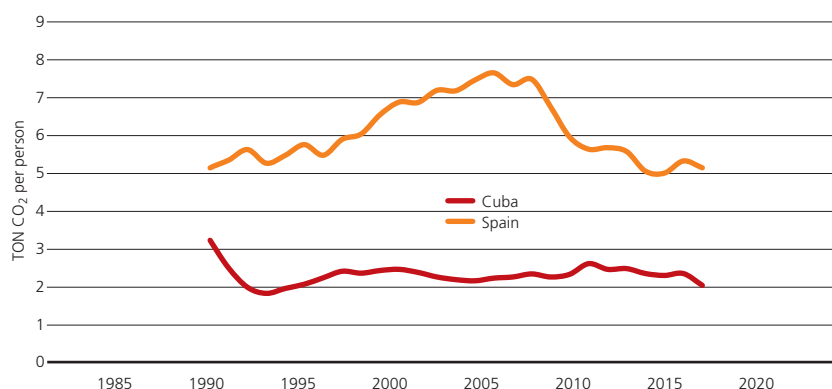
The emissions trajectories shown in Figures 11 (the part corresponding to Spain) and 12 are very similar from 1990 to 2016. The figures for greenhouse gases in Spain correspond to the respective values from CO₂ emissions (from combustion only), showing an increase that ranges between 39% and 44%, approximately.

4.7. CO₂ emissions (combustion only) per person

Figure 13 shows the trajectories for tonnes of CO₂ emitted per person (from combustion only). The amounts were obtained by dividing the emissions by the population.

Spain's trajectory is very similar to those observed in Figures 11 (for Spain) and 12. Cuba's trajectory is very similar to that in Figure 11, although in this case it appears smoother.

Figure 13. CO₂ emissions per person (in tonnes per person) from combustion only in Cuba and Spain from 1990 to 2016



Source: Produced by the authors using International Energy Agency data.

If, instead of dividing the emissions by the population we divide by GDP (kg of CO₂/2010 US\$) the following results are obtained:

Cuba starts with a value of 0.76 in 1990, which decreases to 0.6 in 1992, grows until reaching 0.77 in 1997 (highest in the period), decreases to 0.41 in 2008, grows to 0.46 in 2010 and falls to its lowest point in the period (0.3 in 2016).

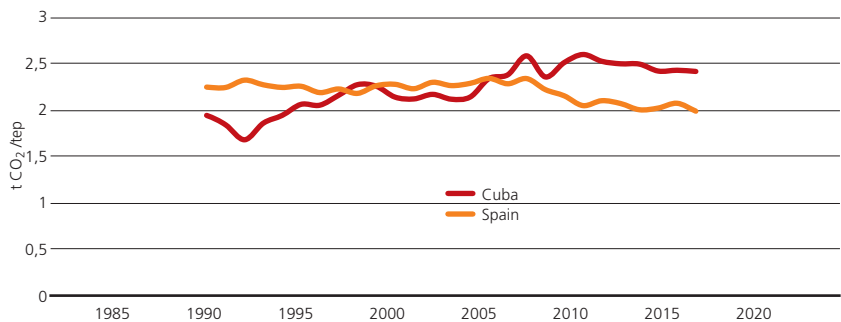
For Spain it falls from 0.23 in 1990 to 0.16 in 2016 (the lowest value in the period analysed). The highest value reached is 0.25 in the years 1992 and 2005.

4.8. CO₂ intensity of the energy mix

Figure 14 shows the values for the corresponding indicator for Cuba and Spain between 1990 and 2016.

The indicator is obtained by dividing CO₂ emissions (in this case from combustion only) by the corresponding amount of energy supplied. With this indicator lower values are therefore better for the economy and the environment.

Figure 14. CO₂ intensity of the energy mix (in tCO₂/toe) in Cuba and Spain from 1990 to 2016



Source: Produced by the authors using International Energy Agency data.

The indicator is more stable for Spain than for Cuba. In Spain, the value ranges between 2.35 in 2005 and 1.99 in 2016. In Cuba, the value of the indicator ranges between 2.60 in 2010 and 1.68 in 1999.

The trajectories of the indicators for Cuba and Spain intersect in the years 1997, 1999 and 2005. At the beginning of the time period the indicator is more favourable for Cuba, and more favourable for Spain at the end of the period analysed.

5. 2030 energy visions in Cuba and Spain

This section presents the energy targets for 2030 for Cuba and Spain.

5.1. Cuba

On November 19th 2015, Cuba presented its Intended Nationally Determined Contribution (INDC) as part of the United Nations Framework Convention on Climate Change, which contained specific references to adaptation and mitigation.

The specific measures proposed on climate change adaptation are not directly related to energy.

Specific mitigation measures:

Based on the potential renewable sources available in the country, the installation of 2,144 MW of power connected to the national electricity grid is envisaged, including the construction of:

- 19 bioelectric facilities attached to sugar plants, producing 755 MW from sugar cane and forest biomass;
- 13 wind farms with 633 MW capacity;
- 700 MW photovoltaic capacity;
- 74 small hydroelectric plants.

It is estimated that implementing these programmes will enable over 7,000 GWh to be generated per year from renewable sources, a saving of over 6 million tonnes of CO₂ of atmospheric emissions.

Work is also ongoing on other projects, including:

- The installation of 200,000 m² of solar heaters in the residential and industrial sectors;
- The installation of solar pumps in agriculture;
- The use of organic waste for biogas production and to obtain biofertilisers to replace chemical fertilisers, which will contribute to reducing emissions and the pollution of hydrographic basins and bays. Particular attention is given to waste from animal production, industry and urban solids.

On the other hand, to increase energy use efficiency the new energy policy envisions, among other actions:

- The installation of LED technology through the distribution of 13 million lamps in the residential sector and 250,000 luminaires for public lighting.
- The replacement of 2 million electric cookers with induction cookers.

The time horizon for the national contribution is 2030.

As Table 4 shows, in 2016 4% of Cuba's electricity generation came from renewable sources, in the following forms: biomass and waste 3.4%; hydroelectric 0.3%; solar 0.2% and wind 0.1%.

With the specific mitigation measures expressed in Cuba's Nationally Determined Contribution, it is estimated that in 2030, 24% of electricity generated will come from renewable sources, distributed in the following way:

- Biomass and waste, 14%
- Wind, 5%
- Solar, 4%
- Hydroelectric, 1%.

(Morales Pedraza, 2019; Sagastume et al., 2018a; Vázquez et al., 2019).

5.2. Spain

The Spanish energy and climate policy framework is determined by the European Union. In 2016, the European Commission presented the so-called “winter package” Clean energy for all Europeans (COM2016 860 final). This has been developed through various regulations and directives, including legislative revisions and proposals on energy efficiency, renewable energies, electricity market design, security of supply and governance rules for the Energy Union, all of which aim to reduce greenhouse gas emissions, increase the proportion of renewables in the system and improve energy efficiency in the EU by 2030 (Ministry for Ecological Transition, 2019).

The EU regulatory framework sets the following binding targets for the EU for 2030:

- 40% reduction in greenhouse gas emissions compared to 1990;
- 32% share of renewables in the total gross final energy consumption for the whole EU;
- 32.5% improvement in energy efficiency;
- 15% electricity interconnection between member states.

To this must be added that on November 28th 2018 the European Commission updated its roadmap towards a systematic decarbonisation of the economy with the intention of making the European Union carbon neutral by 2050.

In Spain, the National Integrated Energy and Climate Plan proposes the following targets for 2030:

- 21% reduction in greenhouse gas emissions compared to 1990;
- 42% of renewables in the final use of energy;
- 39.6% improvement in energy efficiency;
- 74% renewable energy in electricity generation.

In 2050 the objective is to achieve climate neutrality, with the reduction of at least 90% of greenhouse gas emissions and in coherence with the European Commission. In addition, a 100% renewable electricity system is proposed to be achieved by 2050 (ibid).

Conclusions

The analysis in this work reveals the different energy consumption trajectories of Cuba and Spain. The two countries’ situations at the starting point in 1990 are relatively similar if one takes into account, among other features, their different sizes and energy interconnection

With the specific mitigation measures expressed in Cuba's Nationally Determined Contribution, it is estimated that in 2030, 24% of electricity generated will come from renewable sources.

capacities. As noted, smaller isolated systems tend to show less energy diversity, particularly in the field of electricity generation.

However, their courses since 1990 differ markedly. In Cuba, the fall in the relative share of the use of biomass – basically taking advantage of agricultural waste – has not been offset by an increase in renewable wind and photovoltaic generation, which is practically non-existent. The positive aspect of this situation is that Cuba possesses substantial renewable resources that it could incorporate now that the costs of wind generation and, especially, photovoltaic technologies, have dramatically reduced in cost and become the most competitive of all. Given the possibility of scaling up generation (from self-consumption to large centralised facilities) and developing the transport and distribution networks usually required to integrate them, these technologies are particularly important in the Cuban case. Cuban electricity generation, which continues to revolve largely around liquid hydrocarbons, is a high emitter of CO₂ and environmental pollutants with local effects. This shift would therefore allow rapid progress towards decarbonisation targets.

The case of Spain is configured by the European context (although notable differences exist between European Union members), characterised by a very solid commitment to the process of decarbonising energy consumption. The Spanish experience has not been without problems, but it shows a way forward that with some adaptations could be of use in Cuba.

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FUTURE CHALLENGES

- GROWTH OF THE COLLABORATIVE ECONOMY: WHAT CUBA CAN LEARN FROM OTHER IBERO-AMERICAN EXPERIENCES

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- THE CUBAN ECONOMY'S TRANSFORMATION AND THE EU-CUBA POLITICAL DIALOGUE AND COOPERATION AGREEMENT (PDCA)

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1. Introduction

The collaborative economy (CE) is not a new concept: sharing goods and services is as old as humanity. But what accounts for the extraordinary recent expansion of CE platforms? According to Cramer and Krueger (2016) and the OECD (2017), two elements seem to be important in their growth. First, communication technology advances have helped spread internet connections. More specifically, the success of many of these platforms is linked to the permanent use of the mobile internet enabled by smartphones, and to the generalisation of software applications created for them (Shaheen et al., 2017). All this has expanded the population base likely to participate in the CE.

The second element is trust. Secure means of payment, provider identity verification, interaction between users and suppliers, and sharing the opinions of previous consumers are key factors in the CE's success. But as with electronic banking and commerce, the first trust barrier that has to be overcome before using these new and unconventional forms of consumption is seeing the internet as a tool for interaction and exchange. The generalisation of so-called "digital skills" among consumers reduces distrust and, as we shall see, plays an important role in the use of CE platforms.

The two elements discussed above seem to have been key to the spread of the CE, but its rapid growth was undoubtedly also conditioned by two developments. First, digital platforms linked to the consumption of online services and e-commerce spread and were consolidated. In fact, the CE can be considered to be part of this broader digital platform economy. Second, the CE's significant growth coincided with the great recession that began in 2008. It is common for economic crises of this intensity to usher in groundbreaking disruption and innovation, and the success of certain CE projects can be linked to this.

Secure means of payment, provider identity verification, interaction between users and suppliers, and sharing the opinions of previous consumers are key factors in the Collaborative Economy's success.

But as well as its economic importance, the CE is a controversial subject of analysis. Two books exemplify this: Botsman and Rogers' *What's mine is yours* (2010); and Slee's reply *What's Yours Is Mine: Against the Sharing Economy* (2017). Antagonistic visions of this business model are presented. The first came out when initiatives like Airbnb began their rapid growth. Such activities were presented as a new economic and social model, a kind of overthrow of consumerism that incorporated solidarity or ecological values or the like. Slee's book (2017), on the other hand, was written after the global expansion of many of these platforms and presents the CE as a mere badge that many companies wear to make themselves appear different and attractive. This facade of solidarity and ecological values hides the restoration of old models of deregulated industrial relations.

This chapter covers various aspects of the CE. Firstly, given its novelty and the plurality of visions that have emerged in recent years, particular attention is paid to the definition and delimitation of these activities. Second, the determinants of individuals' use of these platforms are analysed. As it proved impossible to obtain statistical information for Cuba, this analysis was carried out for Spain. Major differences exist between the two societies, but Spain's results may serve to identify the factors that could stimulate and inhibit CE implementation in Cuba. Thirdly, seeking to assist the design of the regulation of these activities in Cuba, the situation of CE platforms is presented in two Latin American countries, Ecuador and Costa Rica, where they arrived earlier. The market structure produced and the initial regulatory steps taken are observed. Fourth, digital passenger transport platforms in Cuba are analysed. Although incipient in their development, a set of competing local platforms have emerged. Finally, a reflection is made on some of the issues public policies should address when promoting and regulating these activities in Cuba in the light of the experiences and analyses presented.

2. Definition and measurement

Finding a single definition to cover all the different activities we encounter under the CE umbrella is a complicated task. First, because the term "collaborative" is deployed as a distinguishing feature in the marketing strategies of numerous enterprises without the need for it to confirm specific characteristics or be backed by any public institution. Second, the characteristic "informality" of the provision of these activities blurs many contractual aspects.

When attempting to measure the weight of the CE in European countries, the European Commission (2018) identified three stakeholders: online platforms that act as intermediaries; consumers and private users; and service providers who share their assets, resources, time or skills. When it comes to classifying an activity as collaborative, it is around the latter group that discrepancies emerge. Where individuals offer their services on an occasional basis, the literature speaks of P2P exchanges (peer-to-peer or pure exchange). This category includes platforms like Blablacar.

In the case of service providers acting within their professional capacity we find ourselves in a grey area: platforms like Uber are in this space.¹

1. In the case of Uber, providers are professionals who hold private hire vehicle (PHV) licences and compete directly with taxi services in large cities.

Finally, when the service provider is a company, the activity is excluded from this definition and is not therefore included in the measurement.² The difficulty with this characterisation relates to self-employed professionals as CE service providers. In many cases, it is difficult to distinguish these initiatives from traditional ones that also operate through digital platforms.

CE activities can be divided into four groups. Those related to passenger transport and holiday accommodation are the best known, and are the focus of most of the analyses in this chapter. But, although less visible, two other groups of activities appear in this area. On the one hand, there is what is called “collaborative finance”, which includes the crowd-funding initiatives expanding in many countries in recent years. Finally, there are professional services activities that compete with companies offering similar services. In this area the difficulties mentioned above with defining CE activities are exacerbated.

The European Commission (2018) study estimated that all these platforms account for around 0.2% of overall GDP and employment in 2017 in the European Union as a whole. The figure for Spain is close to these average figures. Only in a few countries like Estonia is the weight significantly higher (about 1% of GDP and employment). These CE figures may be considered to be particularly conservative, given the restrictive criteria the report applied to the inclusion of activities in the category. Other studies, such as that made by the EY Foundation and the Spanish Association of Digital Economy, give Spain the higher figure for the same year of 1.4% of GDP.³

However, the above figures on the importance of CE in Spain and Europe are a long way from some estimates for countries like China, where growth has been very high in the last decade. According to China’s State Information Center, CE activities are estimated to have accounted for 6% of GDP in 2017 and their share is expected to rise to 10% in 2020. While it is likely that these studies use a lax definition of CE, the figures nevertheless confirm the sector’s emergence in the country, where initiatives are found in many economic sectors and activities. Buenadicha et al. (2017) discusses the importance of CE in Latin America but, despite noting the growing importance of these platforms, current information does not allow figures to be obtained for either their share of GDP or the overall employment generated in the region.

3. Determinants of the use of the collaborative economy in Spain

In spite of the current importance of the collaborative economy, there is a shortage of empirical work analysing the determinants of its use. The attention received has focused on theoretical works that emphasise the conceptual differences between CE and traditional forms of business and consumption. Belk (2014), Lawson et al. (2016), Milanova and Maas (2017) and Zhang et al. (2019) confirm the enormous spread of CE initiatives since the 2008 crisis, comparing them with the traditional ones. These studies highlight the changes in consumer values and attitudes involved in these forms of shared consumption with respect to what some authors call the “culture of ownership”.

The term “collaborative” is deployed as a distinguishing feature in the marketing strategies of numerous enterprises without the need for it to confirm specific characteristics.

2. Platforms such as Netflix or Spotify are excluded, for example.
3. This divergence in the figures for the same country and year illustrates the difficulties of measuring the CE’s share of economic activity.

A high level of education (university and master's degrees) substantially raises the probability of CE use, especially accommodation platforms.

This paper presents the results of empirical analyses of the determinants of the use of two types of collaborative services – those linked to transport and those associated with accommodation (Table 1) – based on the data from a 2017 INE survey on ICT equipment and use in Spanish households. To be sure, Spanish society has its own characteristics, but identifying factors that stimulate or inhibit the expansion of the CE may serve as a useful reference for Cuba's economy and society, once the differences between the two countries are taken into account.

Determinants of the use of collaborative economy platforms in Spain in 2017*		
	Accommodation	Transport
Sex (Male = 1)	-12	-15
Young people (16–30)	13	79
Adults (31–45)	NO	NO
Seniors (+61)	-31	NO
Low income	NO	NO
Middle income	21	NO
High income	30	NO
Secondary education	32	21
University education	84	48
Digital skills index (0–10)	20	16
Trust in the internet	30	NO

Note: *These figures correspond to odds ratio values. Assuming no change in the other variables, the interpretation of the odds ratio for each should be taken as an approximation of the changes in the probability of use in the dependent variable. "No" indicates non-statistically significant variables.

Starting with sociodemographic variables, the first thing that stands out is that sex (male = 1) is negative and significant for both types of CE. As such, the estimate suggests that being female increases the likelihood of using these platforms by between 12% and 15%. Regarding age, the most notable thing is that while younger people are much more likely to use transport platforms (79%), the difference is reduced when it comes to accommodation platforms, where they are 13% more likely. For their part, people over 61 years of age are 31% less likely to be platform users than the age group immediately below them, but only in accommodation activities. In this case, it is surprising that advanced age does not influence the use of passenger transport platforms.

Income levels do not show statistical effect on the use of transport platforms. Neither do low incomes reduce the likelihood of using CE accommodation. However, the probability of using accommodation platforms does increase with medium and above all high incomes (21% and 30%, respectively). Finally, the fourth group of sociodemographic variables in this analysis – education level – shows a clear relationship with the use of both types of collaborative services: a high level of education (university and master's degrees) substantially raises the probability of CE use, especially accommodation platforms (84%).⁴

However, the sociodemographic variable with greatest explanatory effect on the use of these platforms is the digital skills index.⁵ An increase of one unit in this index implies a 20% increase in the proba-

4. As seems logical, the results for level of education are related to those for income group.
5. For each individual the index gives a value of between 0 and 10.

bility that individuals use CE for accommodation and 16% for transport. Compared to individuals with low scores in the index (e.g. 0), those with very high scores (e.g. 10) are 200% and 160% more likely to use CE accommodation and transport services, respectively. Finally, the effect of the variable that measures the degree of trust when using the internet varies according to the type of collaborative service in question. While it has a strikingly significant influence on the probability of using accommodation platforms, it almost vanishes when it comes to transport platforms.

4. Regulation of the collaborative economy in Ecuador⁶

As in other Latin American countries, the CE has grown in Ecuador even as legal gaps in its operation persist. Despite being one of the countries with the smallest number of platforms – just 1% of the Latin American total (IEM, 2016) – it has thus far hosted over a dozen international enterprises: Airbnb, Couchsurfing and Homeaway in the accommodation sector; Uber and Cabify in the passenger transport sector, where they are the clear leaders; and others such as Glovo, OLX, Busuu and Freelancer.

Picker stands out among the CE platforms developed in Ecuador.⁷ Competing in the (mainly food) delivery service market with multinationals such as Uber Eats, Glovo and Rappi, in the space of two years it has reached 50,000 users and 1,200 service providers. Another example is Mutua, which could be defined as the “Uber of and for women”, and which connects drivers with passengers. This interesting initiative is a response to many women’s demands for greater security when using transport services. Some studies show that 17% of women cite the lack of female drivers as a reason for not using platforms like Uber more frequently, and 40% would prefer a woman driver when travelling alone or at night (World Bank, 2018).

4.1. Regulation: Ecuador vs Spain

In what follows, some of the features of the regulation applied in Ecuador in three areas (transportation, accommodation and crowdfunding) are presented and compared with Spain, where regulation occurred earlier.

Starting with transportation, the two main platforms, Uber and Cabify, may be considered providers of clandestine private hire vehicle (PHV) services in Ecuador. Clandestine because the Ecuadorian legal system requires land transport to be conducted by legal persons with permission for transport operations and not by individuals. However, despite the threat of significant penalties,⁸ the increased demand for this service means the number of drivers (those potentially subject to these penalties) continues to grow. As in other countries, taxi drivers in Ecuador have strongly opposed the legalisation of the activity of these platforms through the Federación Nacional de Operadoras de Transporte en Taxis. As will be discussed later, a national regulation is being prepared that allows platforms to be taxed on income, which would indirectly entail their legalisation.

Some studies show that 17% of women cite the lack of female drivers as a reason for not using platforms like Uber more frequently, and 40% would prefer a woman driver when travelling alone or at night.

6. This section was prepared by Roberto F. Erazo Castro.

7. See: <https://www.eluniverso.com/noticias/2019/12/04/nota/7634597/picker-aplicacion-ecuatoriana-envios-que-quiere-competir-uber-glovo>

8. According to art. 386 of the Comprehensive Organic Code, any driver who transports passengers without possessing the corresponding licence will be fined 772 dollars, lose ten points from their driver’s licence (of 30 total) and have their vehicle confiscated for a minimum of seven days.

Taxing digital platforms, including Collaborative Economy projects, is a priority concern in many countries, particularly in Latin America.

In Spain, this activity has recently been regulated in regions where its presence is significant. However, as the Autonomous Communities and city halls have competence for these activities, notable regulatory variation has resulted. In Barcelona in 2019 an obligation was established to pre-contract this type of service with at least 15 minutes notice. As it hindered their operation, this caused Uber and Cabify to leave. On the other hand, despite protests from taxi drivers the Community of Madrid has not introduced operating restrictions for these platforms, whose user numbers continue to grow.

In terms of CE accommodation platforms, Ecuador developed the Regulation of Accommodation in Real Estate for use in Tourism in 2019 with the aim of protecting tourist safety and reducing informality in these accommodation services. According to the regulations, people wanting to rent their property through these platforms must possess a tourism registration, the single annual operating licence and be subject to the horizontal property regime.

In Spain, as with transport, competences in the accommodation sector are decentralised. In Madrid, both the city council and the Autonomous Community approved new control rules in 2019 for platforms like Airbnb and Homeaway, which limited the accommodation supply and regulated to enable certain quality standards to be maintained.⁹ In the case of Barcelona, the regulations have even permitted substantial fines to be imposed on the platforms themselves for failing to share requested information.

With respect to crowdfunding, Ecuador is preparing a law on entrepreneurship and innovation that seeks to promote such platforms as alternative sources of financing for investment projects. The regulation of this type of financial activity in Spain has a longer history and it was included in Law 5/2015 on the Promotion of Business Financing, which contains a legal framework for collaborative finance platforms.

4.2. Taxation and labour model

Taxing digital platforms, including CE projects, is a priority concern in many countries, particularly in Latin America (ECLAC, 2019). The Ecuadorian government intends to regularise digital platforms like Uber, Cabify, Glovo and Airbnb in exchange for their paying 12% VAT. The proposal to tax digital platform services with VAT was included in the Tax Simplicity and Progressivity Law approved by the National Assembly on December 9th 2019. The consumer would pay the charge when booking by credit or debit card. It is expected to collect approximately \$11 million a year. In Spain, these activities are subject to the same tax regime as other similar service provider activities.

A final but particularly important aspect of the operation of these platforms is the labour model. The International Labour Organization (ILO) identifies the non-regulation of these platforms as the first barrier to a fair employment relationship. Furthermore, as mentioned elsewhere in this chapter, whether service providers are considered to be workers linked with the platforms or independent or self-employed workers is a key part of the employment relationship. The chances of establishing a basic salary,

9. See: https://elpais.com/ccaa/2019/04/10/madrid/1554904148_942149.html

maximum working hours and social rights, among other factors that can cause precarious labour situations, depends on this (Eisenmeier, 2018). In Ecuador, the Ministry of Labour has indicated that digital collaborative economy platforms will be included in the labour reform being prepared for 2020. In Spain, a legal debate is ongoing about whether the providers of these services are employees of the platforms or self-employed professionals.

5. The main digital collaborative economy platforms in Costa Rica¹⁰

Since Uber arrived in Costa Rica in 2015, the market for digital collaborative economy mobility platforms has shown great dynamism. A turning point came in 2018 when Beego, founded in France, inDriver, founded in Russia, and Glovo, founded in Spain, began operating in the Costa Rican market.

The development of various national mobility applications also boomed in the country. Initiatives like Dame Ride and WorkRide use digital platforms to provide mobility services in the form of a corporate carpooling scheme. The aim is to provide a mobility alternative to corporate clients, mainly companies, with the aim of promoting shared transport. Unlike the collaborative economy digital platforms analysed in this study, the main characteristic of corporate carpooling is that it works as a private network that allows exclusive use of the application. In other words, a company interested in using the service hires the digital platform's administrators and an agreement is made that determines the conditions of its use.

Other examples include the Costa Rican-owned company Onux set up in January 2019 as a multi-service platform that includes passenger transport and domestic services within its activities. At the end of 2019, DiDi also launched another mobility alternative in the country.

Uber/Uber Eats has replicated its global leadership position at the national level, with around 783,000 user-consumers and 22,000 service providers. Costa Rica is also home to Uber's second-largest centre of excellence, which gives support to service providers in Latin America, and directly employs 750 people (54% of whom are women). On average, about 150,000 user-provider and customer inquiries are processed each month.

Costa Rica is the third largest market for Beego and Glovo. In the former case, Costa Rica is also key to its operational development, as the only country in Latin America in which it has a presence. Its commercial manager for Latin America, says that Beego creates direct and indirect employment, as it contributes to dynamising support services, such as car washes, mechanical assistance and vehicle maintenance centres. The company currently has seven direct employees who provide advice through the platform.

Glovo, on the other hand, reports close to 50,000 active users in Costa Rica and nearly 2 million orders placed by December 2019. The company has 25 direct employees who are in charge of communicating with the "glovers", as the platform's user-providers are known. According to Glovo's representative in Costa Rica,¹¹ the company is in the expansion stage in the country. By 2020 they plan to extend their operations to

Technological intermediation is producing major changes in labour relations. Largely, this is due to the emergence of the figure of the user-provider, whom the platforms call a "collaborating partner", who is the person providing the service to a user-consumer who requests one of the services offered.

¹⁰. The authors of this section are Keynor Ruiz Mejías and Luis Miguel Barboza Arias, researchers at the International Center of Economic Policy (CINPE) of the Universidad Nacional in Costa Rica.

¹¹. In an interview for *El Financiero* (September 2019).

other areas within the national territory and incorporate other services, such as Fintech and Dark Kitchens, trends being incorporated by the company in the European market.¹²

General profile of the largest digital collaborative economy platforms operating in Costa Rica (2019)						
Company name	Country of origin	Cities/countries where they operate	Main markets	Direct CR collaborators	Service providers	Active users in CR
Uber	United States	700 cities, 70 countries	United States, Mexico, Brazil	750	22,000	783,000
Beego	France	Europe, Costa Rica	France, Belgium, Costa Rica	7	3,800	133,800
inDriver	Russia	300 cities, 26 countries	Mexico, Colombia, Russia	0	Withheld	Not available
Uber Eats	United States	50 cities, 13 countries	Not available	750	10,000	Not available
Glovo	Spain	270 cities, 26 countries	Argentina, Ecuador, Costa Rica	25	1,000	50,000
Onux	Costa Rica	Costa Rica	Costa Rica	4	18,000	45,000
WorkRide	Costa Rica	Costa Rica	Costa Rica	7	Corporate model	Corporate model
Dame Ride	Costa Rica	Costa Rica	Costa Rica	0	Corporate model	Corporate model

Source: Compiled by the authors.

inDriver began operating in Costa Rica in 2019. Unlike the previous platforms, this company does not have direct employees in the country, as all its activities are carried out from Mexico, including answering queries and communication with user-providers. Although the application originated in Russia, the operations base is in the United States. According to the public relations manager of inDriver for Latin America, the company sees itself as a technology application that relies on connectivity tools to facilitate communication between drivers and passengers. It defines itself as an intermediary company, explaining that the company does not set prices or rates for journeys. Unlike Uber and Beego, which establish the fare charged to the passenger using standardised algorithms, inDriver fares are the result of agreement between drivers and passengers at the time of negotiating the conditions of a requested trip.

Costa Rican-owned Onux has four direct employees. Since it began operating in January 2019, 45,000 users of the platform have been registered, of whom 18,000 are service providers. This company provides multiple services, including home repairs, cleaning, health care and massages, among others, and 5,200 of the user-providers engage exclusively in passenger transport.

When it comes to accommodation services platforms, it should be noted that Airbnb's arrival in a country with a tourist tradition like Costa Rica contributed significantly to revitalising this type of service. In 2017, approximately 14,000 accommodation options were available in the country,¹³ while between May 2016 and May 2017 a total of 260,000 tourists used Airbnb, 40% of whom were Costa Rican. The average

12. The Fintech consists of cash delivery services, while Dark Kitchens consist of investing in a restaurant's infrastructure and marketing campaigns to provide dishes that are offered only through the platforms.

13. According to a report published in *El Financiero* (September 2017).

rental time per property in Costa Rica is estimated to be 23 days per year.

In terms of providers, it is estimated that income per host reached an average of \$2,600 per year. The age group of these providers is another interesting feature. According to some estimates,¹⁴ around 16% of the hosts in Costa Rica in 2019 were over 60 years old, about 2% higher than in 2018. Most of these people are retired and have a basic command of technologies and social networks.

5.1. Reflections on the regulatory framework in Costa Rica

According to those running the digital collaborative economy platforms analysed, Costa Rica has made significant progress in identifying a desirable institutional and regulatory framework for these activities. However, in general terms, all the platforms continue to operate without the support of an institutional and regulatory framework, and even at the limits of legality, given the absence of a definition of whether or not the user-providers are employees of the digital platform companies.

Mobility digital platforms are meanwhile at a crossroads, as Costa Rican legislation has not granted any of the companies (Uber, inDriver, Beego and DiDi) the formal status of a legal commercial activity.

As well a fee, traditional taxi drivers must pay for biannual vehicle inspections and a driving licence, which adds up to \$595 a year. Since January 2019 a project has existed to charge the platforms a registration fee; but the amount has been subject to dispute and no agreement has been reached. However, it is expected that in the coming months credit or debit card issuers will begin collecting the VAT on any trip made in Costa Rica using the transport service platforms, which indirectly gives the activity recognition and a path to legality.

Technological intermediation is producing major changes in labour relations. Largely, this is due to the emergence of the figure of the user-provider, whom the platforms call a “collaborating partner”, who is the person providing the service to a user-consumer who requests one of the services offered. Both connect to an application managed by a third party that obtains profits from its use. This situation leaves people who work with any of the collaborative economy platforms in a state of employment uncertainty, because while it is true that they use the platforms, and that the sum charged includes a percentage for the platform, it is not entirely clear whether their employment relationship is that of an independent worker or a dependent worker (employee of the platform). In any case, there is no generalised social security coverage for the workers, and although many providers include coverage for the driver and occupants in the event of an accident in their vehicle insurance, there is no coverage for illness and other social rights are not generated.

The people who provide product delivery services of the Uber Eats type do not necessarily acquire social security or any other insurance. Those travelling by bicycle or motorcycle are therefore especially vulnerable in this work activity – faced with an accident or health problem they would have no form of coverage, meaning not only lost income, but also burdening their families.

14. See: <https://amprensa.com/2019/11/en-costa-rica-cada-vez-mas-adultos-mayores-comparten-su-hogar-a-traves-de-airbnb/>

The emergence of a number of digital mobility platforms, especially in Havana, may present a large number of Cubans who have their own vehicle with a way to earn additional income to their main job.

Regarding accommodation services platforms, a bill is under consideration that seeks to regulate the use of non-traditional forms of hosting such as Airbnb. It is important to bear in mind that traditional hoteliers pay 13% VAT, 10% service tax and a percentage tax on their income. The bill would tax Airbnb activities with 13% VAT and an additional 3% for the Costa Rican Tourism Institute. A special contribution (which would function as a commercial patent) would also be made to the corresponding municipality in order to engage in profit-making activity and clear guidelines would be established for complying with the provisions of Law 7600.¹⁵

This analysis of Costa Rica concludes with a reflection that may be generalisable to other Latin American countries that have yet to regulate these activities: digital platforms are here to stay. Almost any service or product that can be brought to a consumer can be managed with a digital platform. Faced with this reality, it is crucial to address the employment situation of the people involved, since it is neither acceptable nor convenient for them to go without protection by the social security systems; especially when it comes to those working in the most vulnerable conditions.

6. Situation of collaborative urban transport platforms in in Cuba¹⁶

As mentioned above, CE development requires clients, providers and platforms to have fluid access to the internet, something that reached Cuba some time later than other countries. Along with increasingly widespread wi-fi access, since December 2018 it has also been possible to connect via mobile data, although the high cost of mobile plans still prevents their generalised use among the Cuban population. These developments are enabling the incipient emergence of some CE initiatives. Although the multinational Airbnb has been operating in Cuba's accommodation field for a few years now, we have preferred to focus this case study on transport platforms. This is because a large group of competing local platforms has recently been emerging in this field in Cuba.

The emergence of a number of digital mobility platforms, especially in Havana, may present a large number of Cubans who have their own vehicle with a way to earn additional income to their main job. At the same time, as the study on developing countries noted (World Bank, 2018), and as the experience of Ecuador's Mutua showed, these platforms can play an important role for a broad group of women who are unlikely to enter the labour market and who need significant time flexibility.

As Table 3 shows, the initiatives seeking to find space for themselves in this market remain in their very early stages. Figures on the use of these platforms do not currently exist, due to this newness. To estimate their importance, the number of downloads of each of their applications has been compared and the downloads made from Google Play, Cubapk and Apklis have been added.

15. Law of Equal Opportunities for People with Disabilities.

16. This section was prepared by Sandra Madiedo Ruiz.

Startup	Form	Reach	Year	Downloads
Yotellevo	Private	National	2014	N/A
Pickocar	Private	West and Centre	2018	N/A
TaxinHavana	Private	National	-	N/A
Sube	Private	Habana	2019	6,000
Cuber	Private	National	2019	1,000
Bajanda	Private	Habana	2019	7,000
La Nave	Private	Habana	2019	3,000
D'Taxi	Estate	National	2019	12,000

Source: Compiled by the authors.

6.1. Legal framework for the “Cuban Ubers”

As discussed already, in Ecuador, Costa Rica and other Latin American countries the activity of Uber drivers is considered illegal or irregular and heavy fines may be imposed on the drivers identified. As Cuba is one of the few countries in the region where Uber does not operate, the alternatives are 100% Cuban and must fight for legal support for their startups.

As no specific legislation exists for them, that on related activities is applied. In the case of these online platforms, which do not own vehicles and whose activity is to connect customers with providers (Bravo, 2019), various types of licence have appeared. Among those used are the Computer Equipment Operator Licence (LOEC) and Transport Operation Licence (LOT; *Gaceta Oficial*, 2019. no. 85, p. 1,880). In other cases, given the gaps in the legislation, courier and general self-employment licences are being used.

An interesting aspect of regulation is the comparison between taxis with and without digital platforms. Table 4 presents some of the differences between the two types of service.

Characteristics	Traditional taxis	Platforms
Transport Operation Licence (LOT)	Regular type	Various alternatives
Driver–passenger matching process	Street pick-up	On demand, at the point chosen by the customer
Rate of use	Low/Medium	High
Fee and methods of payment	Max. price limit according to administration	Algorithm of each platform
GPS	No	Yes

Considering the differences between the regulatory and operating conditions of the two types of services, we note that the activity of taxi drivers is more constrained by the conditions of transport licences. Among other things, the setting of maximum prices is mentioned, as well as a daily maximum time for providing the services. Platforms, on the other hand, set a rate that may vary but is around 15% of the price charged for each trip. The price of each trip is set by platforms using an algorithm

The lack of specific regulation on the security and protection of the users of these services leaves a gap that can produce uncertainty among potential users.

that takes into account various factors such as distance, type of car and existing traffic conditions. Given the difficulties of paying by card in Cuba, payment is made in cash for all of them, although some offer the possibility of advance online payment of fares for long journeys to non-residents or visitors to the island.

One of the features platforms like Bajanda and Upload champion are flexible timetables for drivers working using their applications.¹⁷ But this greater flexibility also conceals some of the dangers mentioned in the introduction – and which were observed in Ecuador and Costa Rica – with regard to the working conditions of many service providers on collaborative platforms (Angulo, 2019). This was graphically denounced in a campaign drawing attention to these risks in Chile “My boss is an app and he exploits me” (Bravo, 2019; CEPAL, 2019). Finally, the lack of specific regulation on the security and protection of the users of these services leaves a gap that can produce uncertainty among potential users.

While this section focuses principally on passenger mobility activities, it is worth noting that the main global platform for shared accommodation, Airbnb, has been present in Cuba since 2015. Since then the number of accommodation offers through this platform has grown and exceeded 30,000 in 2018.¹⁸ That this represents about half of the hotel offer on the island gives an idea of the important role this platform plays in meeting the accommodation needs of the almost four million people who visit Cuba annually. It must also be borne in mind that this growth, which is expected to continue, has occurred despite internet access restrictions and hosts’ difficulties charging through the platform.¹⁹

6.2. The future of online platforms in Cuba

According to Morales (2019), while calm waters favour large entities, troubled waters give more opportunities to startups. This could describe the expansion of these novel and in part disruptive platforms in Cuba. But when these regulatory gaps are not addressed, the laws end up punishing disruptors that bring benefits to users (Miranda, 2019). One of the platforms operating in Cuba is D-Taxi, which has the backing of the state company TaxisCuba, whose vision is to be the leader in the sector. The starting conditions for this platform are clearly different from its competitors in what remains a new market and the institutional framework must therefore ensure that the conditions are maintained that allow effective competition between them all (Madiedo, 2019).

The next few years will be vital for the development of platforms of this type, both those analysed here, related to passenger transport, and those related to accommodation and other still-underdeveloped areas in Cuba. In the first place, because of the expected growth in wi-fi access and especially mobile access, which will greatly facilitate online interaction. The prices of data plans are expected to fall, which would facilitate use for both visitors and Cuban residents.²⁰ Second, new regulations are in the pipeline that will affect the digital environment, such as the Data Protection Law and the Consumer Protection Law (Castillo, 2019). And thirdly, regulations on telecommunications, information technologies, communication and the use of the radio spectrum are expected

17. See: <https://caplatam.com/bajanda-app-cuba-conductores/>

18. See: <https://www.cnet.com/es/noticias/airbnb-32000-viviendas-cuba/>

19. See: <https://www.radio-televisionmarti.com/a/cuba-airbnb-y-vacuba-crisis-atrasopagos/142720.html/>

20. Recent campaigns by ETECSA (January 2020) show a significant reduction in the prices initially set for mobile internet access.

to be approved in February 2021.²¹ Hopefully, the country will be able to discuss and evaluate this, as Cuba needs to weigh up and implement a digital agenda that takes in all sectors, including the nascent digital platforms field.

7. Conclusions and final discussion

This work makes a brief overview of what the collaborative economy represents in today's economy and society. The difficulties defining and measuring it stem largely from its informal nature, as figures differ greatly between sources. It is the source both of its virtues and its dangers. Platforms like Airbnb and Blablacar are examples of emerging companies that spread rapidly with low initial investment. But the precarious employment situations of those providing services through some of these platforms embody the threat of deregulated labour relations we believed had been overcome.

An empirical analysis was made of the determinants of the use of these platforms by individuals in Spain, as it was the only case for which adequate information was available. Despite the differences between Spanish and Cuban societies, this information may serve to identify stimulating and inhibiting factors for the spread of the CE in Cuba. The use of CE platforms varies according to the type of service analysed, of course, but factors such as being a woman, a young person or having a high level of education seemed to favour the use of these platforms. CE's expansion is also strongly linked to the spread of digital skills among the potential user population.

That Cuban young people have higher educational levels than many of the surrounding countries favours the growth of the CE in the country. On the other hand, the lack of widespread access to the mobile internet may hold back progress in the coming years both because it reduces the immediate possibilities of using the CE, and because the development of digital skills among much of Cuban society will be delayed. Finally, although it is not explicitly included in the aforementioned study, extending the use of credit cards is an element that would facilitate the operation of these platforms.

The inclusion of the two case studies from Ecuador and Costa Rica (where tourism is a major component of the economy as it is in Cuba) allows us to observe the growth process of these platforms in an initial phase, but also the attempts to regulate to solve the problems raised by this unregulated entry. Although various types of CE services are presented for both countries, the analysis focuses on passenger transport. What lessons can be drawn for Cuba from the experiences of Ecuador and Costa Rica?

First of all, leading international foreign companies like Uber tend also to be leaders in the countries where they establish themselves. Secondly, despite the unquestionable improvement in urban mobility services they produce, the deregulated situation in which they operate in the first years has negative effects. On the one hand, associations of companies that provide similar services protest that these platforms constitute unfair competition. On the other hand, this situation of illegality implies signifi-

The lack of widespread access to the mobile internet may hold back progress in the coming years both because it reduces the immediate possibilities of using the CE, and because the development of digital skills among much of Cuban society will be delayed.

21. See: <https://eltoque.com/107-normas-juridicas-que-se-aprobaran-en-cuba-hasta-2028-cronograma-legislativo/>

cant lost tax revenues, while at the same time placing the users of these services in a situation of vulnerability. And, finally, the labour relations generated leave service providers in a situation of helplessness and vulnerability that public authorities should not ignore.

Can the CE model aid the development of the Cuban economy and society? Cuba has a long tradition of resource-sharing activities, although they did not previously rely on digital connections. Networks of “private houses” and the shared taxis in Havana are just some well-known examples. Leaving aside initiatives related to accommodation, where Airbnb operates in a state of near exclusivity, and where statistical information did not allow further analysis, the recent experience in urban transport is of great interest. The emergence of initiatives in this area in a very short time shows the possibilities for CE expansion in Cuba, especially taking into account the serious limitations on internet access that presently exist.

Several factors will determine whether the initial involvement of service providers in this market is maintained when demand for these services rises. The possible entry of Uber or Cabify would play an important role. A balance must be found between efficiency and competition in the markets and empowering local initiatives and service providers’ employment rights. Although the participation of international platforms would cause an increase in competition and a foreseeable drop in the prices of urban mobility services, this should not be at the cost of driving out local platforms or increasing job insecurity.

Finally, one general reflection on CE in Cuba: arriving late also has its advantages. Most countries have regulated the conflicts and sometimes undesirable situations caused by the arrival of these digital platforms after the fact. Cuba therefore has the advantage of being able to learn lessons from other settings and to regulate based on past experience. This may slow the growth of new CE services, but it would forestall some of the problems seen in other countries.

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THE CUBAN ECONOMY'S TRANSFORMATION AND THE EU-CUBA POLITICAL DIALOGUE AND COOPERATION AGREEMENT (PDCA)

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1. Introduction

The agreement signed in 2016 between the Republic of Cuba and the European Union (PDCA) “aims to consolidate and strengthen links between the parties in the areas of political dialogue, cooperation and trade, on the basis of mutual respect, reciprocity, common interest and respect for their sovereignty” (*OJEU*, 2016). The agreement repealed the Common Position, the EU’s policy towards Cuba since 1996, which had blocked relations between the actors.¹ That same Common Position, however, left the door open for the possible negotiation of a cooperation agreement with Cuba – the very loophole used for the new agreement to prosper.

The change on the EU’s part has been clear. While the Common Position began: “The objective of the European Union in its relations with Cuba is to encourage a process of transition towards a pluralist democracy and respect for human rights and fundamental freedoms” (*OJEU*, 1996); the first preambular paragraph of the new agreement expresses the “desire to consolidate and deepen their links by strengthening their political dialogue, cooperation, and economic and trade relations, in a spirit of mutual respect and equality” (*OJEU*, 2016). In the *Joint Proposal for a Council Decision* of September 21st 2016 the High Representative of the Union for Foreign Affairs and Security Policy stated that: “The relationship will be geared to supporting the modernisation of the Cuban economy and society, cooperating bilaterally and in international fora with a view to strengthening human rights and democracy, countering discrimination and achieving the sustainable development goals” (European Commission, 2016). The change in the EU’s priorities is therefore clear. With the 2016 agreement, support is prioritised for the modernisation of the Cuban economy and society, without giving up on strengthening democracy within the framework of dialogue.

This chapter analyses the possibilities for European cooperation as set out in the PDCA, considering the tensions in the Cuban economy’s modernisation process due to both internal and external factors, and in the light of the European Union’s obligations to defend multilateralism

1. Council Decision (CFSP) 2016/2233 of 6 December 2016 repealing Common Position 96/697/CFSP on Cuba.

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and the values of the union. First, the economic prospects of the PDCA are considered. Then the possibilities of modernising the Cuban economy are addressed, before the discussion moves on to the internal and external determinants of transforming the economy. The final reflections indicate the problems the EU may face in ensuring the agreement develops in line with the planned objectives.

2. The economic prospects of the PDCA

Negotiations over the Political Dialogue and Cooperation Agreement (PDCA) between Cuba and the EU began in April 2014 and concluded on March 11th 2016. Following approval by the Council of the European Union, the PDCA was officially signed on December 12th 2016 and approved by the European Parliament on July 5th 2017. On November 1st 2017, following a decision by the Council, most parts of the agreement began to be provisionally applied, with full application subject to ratification by all EU member states.

The agreement was concluded ten days before Barack Obama's historic visit to Havana (March 20th 2016), which marked the beginning of an unprecedented period in bilateral relations with the United States. However, since the presidency of Donald Trump began in January 2017, the political context has changed substantially in Europe and the Americas and the optimism around the Cuba–EU bilateral relationship has faded, both due to potential tensions produced by the United States and those that may emerge within the European Union. Russia's geopolitical gambits in Latin America also require consideration. Since the beginning of this century, Russia has been extending and deepening its diplomatic relations with the countries of Latin America and the Caribbean (LAC). In fact, LAC countries share Russia's aim of defending a multipolar world. Russia is entering LAC markets with the sales of arms and technology and has established energy cooperation, all of which the United States may see as threatening its economic interests (Tirado and Caballero, 2019).

Three pillars structure the agreement, of which one is economic:

- trade and trade cooperation (Part IV): this Part codifies the conventional (WTO-related) basis for EU-Cuba trade. In addition, it includes provisions on trade facilitation and cooperation in areas such as technical barriers to trade and standards, with a view to improving the prospects for deeper economic relations. It also includes a clause envisaging the future development of a stronger framework for investments (OJEU, 2016).

Reference is also made in article 37 of the PDCA to “economic policies with a social vision oriented to a more inclusive society with a better income distribution in order to reduce inequality and inequity”, “trade and investment policies, bearing in mind the link between trade and sustainable development, fair trade, the development of rural and urban State and nonState enterprises and their representatives’ organisations and corporate social responsibility” and “the fulfilment of the objectives of the 2030 Agenda for Sustainable Development and of the internationally agreed objective of promoting decent work for all” (European Commission, 2016).

The agreement expresses concern for developing sustainable policies in the environmental, social and economic fields:

- Part III refers to cooperation and dialogue on sectoral policies and in its articles it states that the parties must agree on cooperation actions that will include sustainable development and gender perspective as “horizontal and strategic vectors for development” (art. 20) and will seek to promote transparent, accountable, efficient, stable and democratic institutions, as well as “promoting exchanges of best practices concerning good governance, accountability and transparent management at all levels” (European Commission, 2016: art. 23).

The EU’s proposal for cooperation with Cuba, as established in the PDCA’s objectives, involves accompanying “the process of updating the economy and society in Cuba by providing a comprehensive framework for dialogue and cooperation” (European Commission, 2016: art. 2). This cooperation framework concentrates on the multilateral aspects of trade and its international projection, with particular emphasis on the modernisation of its economy. Although the PDCA only refers to “updating the economy” and uses “modernisation” to refer for example to public administration, transport and customs, the *Joint Proposal for a Council Decision* says that the “relationship will be geared to supporting the modernisation of the Cuban economy and society” (European Commission, 2016: 2).

The Cuban economy’s modernisation depends to a large extent on the possibilities of carrying out the reforms envisaged in the new Constitution of Cuba. But also on the country’s geostrategic integration, in the context of the new global trade flows based on value chains that enable fragmented production and technology transfer absorption in advanced production processes. The focus on cooperation in the multilateral aspects of trade is a response to the EU’s trade strategy criteria as set out in *Trade for All* (European Commission, 2014). This strategy, in turn, is a response to the projection of both EU interests and values. These include the development of the poorest countries, strict social and environmental standards, and respect for human rights around the world. Another important point that is reflected in the PDCA is the defence of the multilateral system as the cornerstone of the EU’s trade policy.

Part IV of the PDCA on the regulation of trade between Cuba and the EU and the agreements related to the WTO is where Cuba will have to make an effort to adapt. Because while the PDCA pledges EU support, it also demands that the Cuban authorities make major changes to their trade policy. The Spanish Institute for Foreign Trade (ICEX) points out that while Cuba was a founding member of the General Agreement on Trade and Tariffs (GATT), is a member of the WTO and has signed most of its agreements, such as the General Agreement on Trade in Services (GATS), the minor role played by the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and the apparent lack of meaningful efforts to liberalise that framework is problematic, given that its trade regime includes numerous peculiarities that seem incompatible with multilateral discipline (ICEX, 2019). If changes to improve compatibility with multilateral discipline are not made, this could be a major obstacle to compliance with the PDCA and to Cuba’s relations with the EU.

The focus on cooperation in the multilateral aspects of trade is a response to the EU’s trade strategy criteria as set out in “Trade for All”.

Both internal and external factors determine the prospects of Europe joining in with the Cuban transformation towards integration in production fragmentation processes, accessing global markets and attracting foreign direct investment (FDI). The Cuban economy appears to have comparative advantages (tourism, maritime transport hub, food production) when it comes to connecting to global value chains, but its transformation requires increased private activity (regulated and des-tatified) and cooperation to develop alliances that help invigorate the economy based on the social economy and cooperativism.

The prospects for success and the purposes of European cooperation will in part depend the Cuban economy's evolution and the EU's commitment to supporting its modernisation. Part will therefore depend on the Cuban government and its economic decisions, as well as on Cuban society itself and its willingness and ability to participate in the modernisation. Factors that are external and exogenous to this relationship must also not be forgotten. Cuba's relations with the United States are one example, especially at a time when the Donald Trump administration generally adopts protectionist rather than multilateral positions.

The improvements in US–Cuba bilateral relations under the Obama administration were undone when it ended, causing potential harm to investments by foreign companies with interests in the United States, due to the extraterritorial effects of the Helms-Burton Act. This situation has worsened since the Trump administration announced on January 16th 2019 that it would shorten the deadline for the effective application of Title III of the law to just 45 days, instead of the habitual 180. There was a chance of the law being repealed by the United States Congress under the Obama administration, but this has become impossible in the Donald Trump era, especially in an election year like 2020.

Cuba's economic situation is limited not only by the stance of the United States, but also by the economic and political situation in Venezuela. Despite taking irregular channels to circumvent the US embargo, the oil supplied to Cuba has fallen to just 60,000 barrels a day (previously, up to 120,000 were sent), which are Venezuela's side of a deal in return for which Cuba provides Venezuela with doctors and teachers among other things (Vinogradoff, 2019).

3. The prospects of modernising or updating the Cuban economy

On April 19th 2018 Miguel Mario Díaz-Canel became president of the Council of State and of the Council of Ministers and it is to him that the task falls of facilitating Cuba's political transformation and economic modernisation. Raúl Castro remains the first secretary of the Communist Party of Cuba, which means that he has (or retains) the power both to drive the transformation or to stop it. However, the international context of "renewed cold war" and of the United States' blockade against Cuba does not favour the progress of the economic reforms. As recognised in Granma's report on the effects of the blockade in 2019:²

2. Official body of the Central Committee of the Communist Party of Cuba.

The economic, commercial and financial blockade imposed against Cuba continues to represent a brake on the development of all the

Cuban economy's potential, on the implementation of the National Plan for Economic and Social Development for the country, as well as for achieving the 2030 Agenda and its Sustainable Development Goals. From April 2018 to March 2019, the blockade caused losses to Cuba in the order of \$4.3436 bn (Granma, 2019).

The reform process to achieve greater productive efficiency has made little progress due to various conflictive situations in economic policy decision-making and the relationship between Cuba and the United States (De Miranda, 2019). But this should not be a hindrance to stronger EU–Cuba relations. The PDCA, which encourages dialogue and cooperation to promote sustainable development, democracy and human rights, and to find common solutions to global challenges through joint action in multilateral forums, aims to contribute to this objective. Areas of common interest include renewable energy, rural development, the environment, human rights, good governance, security and job creation. The agreement encourages engagement with all Cuban actors, including the public sector, local authorities, all of civil society, the private sector, and international organisations and their agencies. It also proposes forms of collective self-management (cooperatives) as a possible alternative in a context of incipient market development.

The PDCA is an economic cooperation agreement, but its success will depend on the Cuban economy's ability to adapt to certain market rules both domestically and internationally. The EU supports this transformation and economic modernisation through the cooperation mechanism. This should be effective, but persistent gradualism prevents meaningful progress. In any case, progress will be largely shaped by Cuba's new constitutional framework and the level of economic openness that is allowed without violating its restrictions. Developing both the private and cooperative sectors is desirable in the Cuban economy's current state, but policies on both sectors have suffered from successive ups and downs that generate uncertainty about the government's true commitment to promoting these activities (De Miranda, 2019).

Some tensions of this sort have already been seen in the process of approving the new constitution. A draft version was submitted for popular consultation between August 13th and November 15th 2018, substantial points were modified by the deputies of the National Assembly of People's Power on December 22nd 2018, and it was finally approved on February 24th 2019. Article 5 on the leading role of the Communist Party as a single party was modified in the final constitution. Where the draft constitution (2018: article 5) "organizes and orients the communal forces towards the construction of socialism", the approved constitution (2019: article 5) "organizes and orients the communal forces towards the construction of socialism and its progress toward a communist society". That is to say, the mention was recovered of the advance towards communist society from article 5 of the previous constitution,³ which nevertheless remains a constitutional brake on the process of modernising the Cuban economy and society, which is supposed to be the EU's goal.

This reintroduction of the terms of article 5 of the old constitution is significant. But particularly relevant is how the economic transformation

The agreement encourages engagement with all Cuban actors, including the public sector, local authorities, all of civil society, the private sector, and international organisations and their agencies.

3. Article 5 of the constitution proclaimed on February 24th 1976 contains the reforms approved by the National Assembly of People's Power in the eleventh Ordinary Period of Sessions of the third legislature held on July 10th, 11th and 12th 1992.

process is proposed in relation to the economic foundations, production processes and legal security of foreign investments and whether this contradicts the programmatic principles of progress towards communist society.

In this sense, article 1 of the 2019 constitution establishes that “Cuba is a democratic, independent and sovereign socialist state of law and social justice”. Recognition of the different forms of property gives scope to private companies and enterprises that they did not have in the previous constitution. In addition to the “socialist property of the entire population: in which the State acts as a representative and beneficiary of the people as property owner”, article 22 recognises other alternative forms of property defined in a clearer and more precise way than in the previous constitution. These forms of property are: 1) cooperative, “sustained through the collective labor of partner owners and through the effective exercise of the principles of cooperativism”; 2) private, “that which is exercised over specific means of production by natural or legal persons, Cubans or foreigners; with a complementary role in the economy”; 3) mixed, formed of the “combination of two or more forms of ownership”; and 4) personal, exercised over goods that “without constituting means of production, contribute to the satisfaction of the material and spiritual necessities of their owner” (*Constitution of Cuba*, 2019). It should be mentioned that although private property appears in the new constitution, its complementary role in the economy is noted. However, the allusion in article 21 of the previous constitution has been eliminated, in which “the means and instruments of personal or familial work ... may not be used to procure income derived from exploitation of the work of others” (*Constitution of Cuba*, 2002).

The importance to the transformation process should be noted of the recognition of private ownership of the means of production by foreign natural or legal persons in order to attract FDI. Cuba has enacted two FDI laws (Law 77 of 1995 and Law 118 of 2014) easing tax conditions to attract foreign capital, but it has not flowed to the island in the magnitude required for economic development. The FDI received between 2014 and 2018 was only \$2.46 billion, below the amount the Cuban government estimated it needed to receive annually (\$2.5 billion) and almost half of which went to the hotel sector (De Miranda, 2019).

Nevertheless, state control remains central and the socialist economic system of ownership by all the people is recognised as primordial. As article 18 of the constitution states, the planned management of the economy “considers, regulates, and monitors the economy according to the interests of the society” (*Constitution of Cuba*, 2019). That is to say, the concept of a “market” regulated by the state is present,⁴ unlike the previous constitution in which, according to article 14, “the system of economy based on socialist ownership of the means of production by all the people prevails, and the suppression of exploitation of man by man. Also in effect is the principle of socialist distribution: ‘from each according to his ability, to each according to his work’” (*Constitution of Cuba*, 2002).

4. Although the word “market” only appears once in the new constitution, it was completely absent from the previous one.

In this regard, the importance must be highlighted of the concept of “paid labor” in article 31 of the constitution: “Paid labor must be the principal source of income that sustains dignified living conditions,

allows for the improvement of material and spiritual well-being and the realization of individual, collective, and social projects" (*Constitution of Cuba*, 2019). It is the mention of the "realization of individual projects" that distinguishes it from the references to paid work in article 45 of the previous constitution. The process is therefore relevant not only for the type of society towards which progress is made (communist), but rather how advances are made through individual incentives (market and regulation).

The explicit recognition in the constitution of the development of cooperatives, based on the effective exercise of the principles of cooperativism,⁵ is another clear sign that the Cuban government seeks to encourage the progress of the market while structures of self-management by workers with inclusive, democratic foundations are maintained.

These new constitutional bases can help make EU support for the modernisation of the Cuban economy much more effective. Even before the new 2019 constitution, the Cuban ambassador Carlos Alzugaray (2017) pointed out that "The Cuban interest in the European Union is mainly in the economic sphere, where the signing of a renegotiation of its debt with the Club of Paris was a significant step forward. For the time being, the tourist sphere seems to have reacted more positively than all others, with increases of visitors and of investment in the hospitality sector in the Island". While important, tourism alone is not enough to promote development and modernisation and while Cuban interest in the EU continues to be in the economic sphere, it is also clear from the PDCA that the EU's interest in Cuba lies in its economy's capacity for transformation.

4. Internal and external constraints on the modernisation of the economy

The key to modernising the Cuban economy is its capacity to evolve from its current highly state-controlled, very inefficient structure. This structure is the cause of its low competitiveness both internally and externally, as well as the lack of competitiveness of its goods exports, which are highly concentrated in primary products (Torres, 2012). Another key to modernisation is leaving behind the rentier and extractive practices that currently characterise the Cuban state (De Miranda, 2019).

Which interest groups control the means of production is one of the main dilemmas for economies in transition or transformation. How can the necessary conditions for change be produced and systems of distribution be improved without production falling? A system of incentives may increase competitiveness, as long as they are based on private property and remuneration for labour (wages) and on the "realization of individual projects". Indeed, article 65 of the new constitution has united two articles from the previous one: "All people have the right for their work to be remunerated according to its quality and quantity which expresses the socialist principle of distribution: 'from each according to their ability, to each according to their labor'" (*Constitution of Cuba*, 2019).⁶ In reality, however it is phrased in the article, this is more of an

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5. Cooperative principles, according to the International Cooperative Alliance (ICA), are: voluntary and open membership, democratic member control, member economic participation, autonomy and independence, education, training and information, cooperation between cooperatives, concern for the community and equality.
6. In articles 14 and 45 of the previous constitution.

The question for observers and analysts of the reforms is what role the Revolutionary Armed Forces (FAR) will play in this process. Currently, they make a major contribution to the management of part of the economy and of certain companies.

allocative than a distributive principle.⁷ In fact, it is compatible with the existence of wide variability in remuneration: while the average monthly salary in state and *entidades mixtas* (public-private ownership) was 777 pesos in 2018, it was as low as 503 pesos in the culture and sports sector but up to 1,539 pesos in the construction sector; in exploitation of mines and quarries it was 1,423 pesos and in financial intermediation 1,199 pesos, according to data from the National Office of Statistics and Information of the Republic of Cuba (ONEI, 2019). With pay in the education sector of 538 pesos, in the public health and social assistance sectors of 808 pesos and in the science and technological innovation sector of 981 pesos, it is difficult to see how the average salaries in construction, mining and financial intermediation fit with remuneration based on the capacity or quality of labour.⁸

Private entrepreneurship – now categorised as “self-employment” – can also have a “bottom-up” development base by promoting formulas linked to the stimulation of social entrepreneurship through cooperatives. In 2018, cooperatives employed 469,900 people and represented 10.5% of total employment, 451,800 of whom were in the agricultural sector (*ibid.*). It should be noted that despite the low level of employment in cooperatives that were not agricultural, from 2015 to 2018 employment in these types of organisations (434 cooperatives) doubled from 7,700 to 18,100. This growth occurred in a context of employment falling in cooperatives from 2015 to 2018 by 15%.^{9,10} The role of cooperatives in the island’s economic development and their impact on local development is the subject of growing debate. Some authors consider them a fundamental instrument for updating the Cuban model (Novković and Veltmeyer, 2018; Fajarado and Moreno, 2018)

Despite the significant increase in registered self-employed workers – from 150,000 in 2008 to 580,000 in 2018 – the self-employed represent just 12.9% of the total employed population (4,482,700) (ONEI, 2019) and at least 20% of the self-employed see their businesses fail and give up their licence (Mesa-Lago, 2014). Rising self-employment has allowed employment to be transferred from the state sector, where there is over-employment, to the private and cooperative sector. Despite this, in 2018 the state sector still employed 3,067,000 people (ONEI, 2019), 68.4% of total employment. The economy continues to be highly nationalised. If a major adjustment is made that eliminates a whole series of unnecessary activities that swell the state bureaucracy, many of those workers would be unemployed and there would be a very serious social problem (De Miranda, 2019).

In fact, Cuba may be conceptualised as a socialist entity that renounced a transition to capitalism both constitutionally and in terms of remuneration in state and *entidades mixtas*, despite using market control and regulation in the interests of society in accordance with its constitution (art. 18). In this context, cooperatives can play a very significant role (Fuentes-Ramírez, 2018): they are a good fit with both the market and private property, but they also provide outlets for their members’ needs through the precepts of inclusiveness, sustainability and collective ownership of the means of production. By their nature, these organisations represent economic units that provide goods and services in exchange for economic returns obtained through the market, which are then distributed equally among their members.

7. Relative to the principle formulated by Karl Marx in *The Critique of the Gotha Program*: “From each according to his abilities, to each according to his needs”.
8. In Cuban pesos CUP (non-convertible). The monthly minimum wage in 2019 was 400 CUP, equivalent to €13.50.
9. In 2015, cooperatives employed a total of 531,300 people.
10. A certain decline in agricultural employment and, therefore, in cooperatives, is logical. However, the ONEI data (2019) do not allow us to calculate whether this has signified higher productivity in the agricultural cooperatives sector.

Table 1. Employed persons in the Cuban economy by employment situation

Group	Thousands of workers								
	2015	% s/ total employed	2016	% s/ total employed	2017	% s/ total employed	2018	% s/ total employed	% s/ total Non-state
Total employed people	4,713.7		4,591.1		4,474.8		4,482.7		
State	3,460.1	73.4	3,262.1	71.1	3,087.5	69.0	3,067	68.4	
Non-state	1,253.6	26.6	1,329	28.9	1,387.3	31.0	1,415.7	31.6	
Cooperatives	531.3	11.3	446.7	9.7	476.9	10.7	469.9	10.5	33.2
Agricultural	523.6	11.1	435.4	9.5	458.3	10.2	451.8	10.1	31.9
Non-agricultural	7.7	0.2	11.3	0.2	18.6	0.4	18.1	0.4	1.3
Private	722.3		882.3		910.4		945.8		66.8
of whom self-employed	499	10.6	540.8	11.8	583.2	13.0	580.8	13.0	41.0

Source: Produced by authors using ONEI data (2019).

According to Aranzadi (1976: 178), the modern cooperative movement undoubtedly emerged as a defence not just against the misery caused by 19th century industrialism, but also as a reaction against the capitalist system itself, against the abuses of private property, the exploitation of man by man, the immorality of business life: in a word, against the injustices of capitalism. Interest in creating a market without capitalism (or significantly reducing its role) has been growing in recent times. Theorists such as Cristian Felber (2019) have reflected on the so-called “theory of the common good”, which structures economic activity through managerial procedures that seek to place the person, self-management, the environment and equity at the centre of the activity of productive units. Functioning in this way, economic activity itself would contribute to producing fair redistribution. Other economists like Tirole (2017) have also made relevant contributions to the debate on the construction of an inclusive market economy that is not subordinated to capital.

The new constitution opens the door to developing the cooperative model, but for ostensibly historical reasons the efforts are largely directed to the agricultural sector. Cooperatives should be incorporated into the new sectors being reshaped.

The reform of the economic model resulting from the sixth Congress of the Communist Party of Cuba in April 2011, whose economic foundations are incorporated into the new constitution, are explained in the “Resolution on the Guidelines of the Economic and Social Policy of the Party and the Revolution”.¹¹ According to Rafael Hernández (2018b), the concept that is most often repeated in the economic guidelines approved at the sixth congress is decentralisation, with Raúl Castro himself stating that economic reforms will not be successful without decentralising.

The question for observers and analysts of the reforms is what role the Revolutionary Armed Forces (FAR) will play in this process. Currently, they make a major contribution to the management of part of the economy and of certain companies. The role the military may play in the transition is debated. Rut Diamint and Laura Tedesco (2017) analyse the power and control of the economy by the military structure. The FAR control over 800 companies, mainly in the sectors of sugar production, general

11. Sixth Congress of the Communist Party of Cuba: Resolution on the Guidelines of the Economic and Social Policy of the Party and the Revolution: <http://www.cuba.cu/gobierno/documentos/2011/ing/1160711i.html>

agriculture, tourism, construction and basic industries. Of the foreign currency that enters Cuba, 64% comes through the conglomerate of FAR companies. The Grupo de Administración Empresarial SA (GAESA) controls 70% of the retail trade. The GAESA group manages tourism companies (Gaviota, Gran Caribe, Cubanacán, Islazul, Horizontes, including 57 hotels, restaurants, marinas, car rental companies, an airline and a chain of stores), commerce (Palco, the Berroa free zone), foreign-currency shops, communications and agricultural production. Banco Financiero Internacional SA (BFI), one of the Cuban government's major banking organisations has come under GAESA's management. In 2015, GAESA controlled between 50% and 80% of Cuba's corporate revenue.

In short, after the start of the Special Period, the FAR gradually became a pillar of the economy and began to administer tourism, the internal foreign exchange market, air transport, mining, biomedicine and tobacco exports. In order to take on economic tasks they began to be demilitarised, and because they are not involved in internal repression duties, members of the FAR are loved and respected by the population (Tedesco, 2018). In interviews conducted by Laura Tedesco between 2015 and 2018, academics, activists and independent journalists considered that the FAR should be the central actor in the process of updating the economic model, because their role in the Special Period gave them greater awareness of the deficits faced by the Cuban Revolution (ibid.).

Rafael Hernández writes that the role some experts attribute to the military in controlling the economy is not borne out by reality (Hernandez, 2008b). In the Raúl Castro government, 13 of the 15 economic ministries were led by civilians. The underlying issue is political, which is why questions are asked about the extent to which the administrative autonomy of military institutions in the public sector is an independent variable in the political system of the new socialist model. The political power that previously assigned economic tasks to the military institutions will have to respond to the needs of the transition (Hernández, 2018b). Hernández believes that recognising the entrepreneurial capacity of the military institutions for their participation within the current Cuban public sector would mean seeing them as an integral part of the new socialist model (Hernández, 2018a). Diamint, Tedesco and Hernández thus largely agree that the FAR will play a central role in updating the economic model, although Hernández believes they will follow the guidelines set by the political leadership, which must in turn reflect the needs of the transition.

In the transition, the Cuban economy must not only improve the performance of companies, but must also tackle macroeconomic challenges. In general, Cuba's main problem has been low growth rates, particularly since 2008, and a high level of external debt. Increasing the growth rate requires investment, external demand for certain products (nickel) and tourism, and improved competitiveness. As Jorge Domínguez points out, the economic problems inherited by Raúl Castro go beyond the impacts of the Venezuelan economy and include technological obsolescence in manufacturing following the collapse of the Soviet Union in the 1990s, sugar industry bankruptcy amid falling production, and stagnant agriculture with a high dependence on food imports (Domínguez, 2017).

The impact of the proposed reforms (Cuba Debate 2017) will depend on the pace and the depth of their execution. Encouraging private initiative and/or the market (even under strong state protection) is not enough to stimulate economic growth. Without material infrastructure to underpin this structural change, the gaps widen in the conception of how to promote the path to this change.

Key to this is innovation. But the lack of interest in promoting it seems revealing given the apparent endeavours to create space for private initiative (in any form). The “National, Social and Economic Development Plan through 2030: Vision of the Nation, Axes, and Strategic Sectors” announces that human potential, science, technology and innovation form the basis of productive transformations and considers innovation its backbone. But companies are also important players in innovation. When the conceptualisation of the proposed economic and social model is examined, no autonomous state-owned company appears to exist with decision-making power and a vision of the future that is capable of developing innovation processes. Companies’ decision-making power is limited by a surfeit of rigid bureaucratic regulations, the centralised allocation of resources and disproportionate controls. Rather than managing themselves, companies are centrally administered (Díaz, 2019).

There are three main causes of the decline in growth (Torres, 2017). The first is the decreased provision of professional services to Venezuela, due to both saturation and lower demand in Venezuela caused by its falling oil revenues. The second was the global financial crisis, when declining global demand impacted Cuban products’ export revenues and caused their prices to fall. Nickel exports fell from \$1.465 billion in 2011 to less than \$500 million in 2016. The level for 2017 may have been \$586 million, but nickel has the problem not only of price but of the obsolescence of its production plants (ICEX, 2019). The third cause of decline is falling tourism demand in major markets in Europe and Canada, due to income decreases in these countries. All of this has influenced external debt growth. The debt renegotiations Cuba was forced to enter with its main creditors – Japan, Russia, Mexico and China – enabled the government to reduce its external debt: by 90% with Russia, 47.2% with China, 70% with Mexico and 80% with Japanese banks.

The quantity of professional services exported has not only fallen with Venezuela. Declines have occurred with Brazil, Ecuador and Argentina, influenced by changes in their governments. Nevertheless, professional services remain Cuba’s main source of foreign exchange. Their contribution to total exports (goods and services) was around 55% in both 2013 and 2017 (Mesa-Lago and Vidal, 2019). In 2018, professional services accounted for about \$11.3 billion, of which human health services exported accounted for 56.6%, around \$6.4 billion (ONEI, 2019).

This deterioration in the export of professional services has weakened the Cuban balance of payments, leading authorities to drastically reduce imports from nearly \$15 billion in 2013 to \$10.3 billion in 2016 and \$11.5 billion in 2018 (ONEI, 2019). Import contraction explains the growing shortage of consumer goods, while restrictions on capital goods imports continue to diminish already-depleted capital reserves (Feinberg, 2018).

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Companies' decision-making power is limited by a surfeit of rigid bureaucratic regulations, the centralised allocation of resources and disproportionate controls.

Jair Bolsonaro's presidency in Brazil will also affect the Cuban economy's projection abroad and its integration into global value chains. The construction of the port of Mariel and its container terminal,¹² financed by a credit from the Brazilian National Bank for Economic and Social Development (BNDES), aimed to make it a hub for the ports of the United States. But with Donald Trump in the United States and Jair Bolsonaro in Brazil the project is faltering. Referring to the period of Raúl Castro's relationship with Dilma Rousseff, Yoani Sánchez (2019) writes that those "golden times" left Cuba with a debt it can barely repay to its former South American partner and a port that becomes more of a theme park of the past every day it fails to attract ships loaded with goods and investors willing to settle in its commercial area. The activity in Mariel and Cuba's major ports is affected by the United States' Torricelli Act, enacted in 1992, which prohibits ships that enter Cuban ports for commercial purposes from landing in US ports for the 180 days after they leave Cuba.

In the Port of Mariel is the Mariel Special Development Zone, which was designed for New Panamax ships. Its current capacity is 822,000 TEUs (twenty-foot equivalent units), with future potential to reach 3 million TEUs. Its website shows that 17 companies are currently operating and 26 are in investment processes (Cuban, mixed and foreign capital).¹³ Of the companies operating in Sector A, 12 depend on European capital (six 100% European and six mixed with Cuban). The Development and Business Program of the Mariel Special Development Zone covers the initial stage to 2022, centred fundamentally on the evolution of Sector A, which is dedicated to logistics services, advanced manufacturing, biotechnology and the pharmaceutical industry (Oficina ZED Mariel, 2019).

In addition to the significant macroeconomic constraints on the Cuban economy, the evolution of microeconomic structures is decisive for its transformation. The incorporation of remuneration or wages and the elimination of the concept of "exploitation of man by man" may help advance the creation of small and medium-sized enterprises. Until now these have been highly restricted by the self-employed workers criterion that allowed micro-enterprises to be created without employees and a restricted number of authorised activities. The reforms to the model proposed at the seventh Congress of the Cuban Communist Party in April 2016 should stimulate growth in this activities. The "Conceptualization of the Cuban economic and social model of socialist development" states that Cuban natural persons can form the following types of business:

- 1) Small businesses, which are essentially carried out by the worker and their family. These do not constitute business entities or have legal personality;
- 2) Private enterprises of medium, small and micro-scale according to the volume of activity, number of workers and social purpose, which are recognised as legal persons (Cuba Debate, 2017: 30).

The document also envisages foreign direct investment:

The establishment of wholly foreign-owned companies is promoted and authorised for the periods agreed between the parties, in particular to deploy modern productive capacities based on economic and social development, as a form of foreign direct investment (Cuba Debate, 2017: 29).

12. The work was carried out by the Brazilian company Odebrecht.

13. Mariel Special Development Zone website: <http://www.zedmariel.com/es>

The key to developing the Cuban economy through these small and medium-sized enterprises is their ability to integrate vertically or horizontally into larger companies, particularly those based on foreign capital, with real value chains that permit greater competitiveness and the incorporation of knowledge and technology. The model will struggle to work if small, medium-sized and state-owned enterprises (“business entities for all the people” and “budgeted” companies) end up forming a separate bloc to foreign companies.

Richard Feinberg (2018) suggests a series of realistic (although ambitious) economic reforms to consolidate the benefits of the domestic private economy and international tourism, as well as to attract more foreign investment, inject new dynamism into key energy and agriculture sectors, and improve growing opportunity and income inequalities. He also mentions the necessary reform of the dual monetary system, but cites Raúl Castro’s acknowledgement that eliminating monetary and exchange rate duality alone would not magically solve all the accumulated problems in the Cuban economy. Also prioritising reform of the dual monetary system, Grabendorff (2014) insists that as well making it impossible to establish clear cost–benefit criteria, the ratio of 24 to 1 between the Cuban peso (CUP) and the convertible peso (CUC) negatively affects the Cuban economy’s international competitiveness. In 2013, the first stage began of exchange unification in the business sector. In 2014, the accounting criteria were published that were to be applied by state bodies in the revaluation of assets and liabilities when monetary unification began in selected locations. CUP payments were accepted for products denominated in CUC at the rate of 24 CUP to 1 CUC. Currently, various exchange rates still coexist between the CUC and the CUP (an exchange rate for companies of 1:1, for the population of 1:24, for calculating wages in the Mariel Special Zone of 1:10, 1:2 for joint ventures and 1:7 for sales by farmers to tourism). For the transformations of the productive sector to begin and for foreign investment to take off strongly, the current multi-exchange rate system must be eliminated (ICEX, 2019).

While the external constraints that have emerged in recent years seem to give little cause for optimism, some authors, such as Mesa-Lago (2019), argue that there are signs of possible improvements on the horizon. First, more flexibility in investment approval procedures is seeing more projects being approved; foreign remittances increased steadily from \$1.44 billion in 2008 to \$3.36 billion in 2015 (Palacios, 2019) to become the second largest source of foreign currency; paying down negotiated external debt has improved external credit; agreements have been signed with Russia and China; and trade has increased with Russia after a period of stagnation (Mesa-Lago, 2019).

Developing industrial and trade policies aimed at reducing import dependence is one of the main long-term challenges for the island’s economy. External constraints must also be considered when designing an economic policy capable of addressing the main threats and opportunities facing the country over the coming years. A change of government in the Bolivarian Republic of Venezuela or the further tightening of the blockade by the Trump administration would significantly undermine the volume of foreign currency available in Cuba. Loosening Cuba’s external restrictions will also require the promotion of FDI, a return to the capital markets,

and the introduction of regulatory changes that allow productive investment of remittances. To this end, investments in the non-state sector should be opened up to the most productive professions and activities in order to take advantage of Cuba's enormous human capital (Palacios, 2019).

5. Final thoughts

Cuba's economic position is more critical now than it was in 2016, when the agreement between the European Union and the Republic of Cuba was signed. The US blockade and the lifting of the suspension of Title III of the Helms-Burton Act have significantly reduced income from US tourism on the one hand and raise the possibilities of US citizens affected by seizures of property from which foreign investors have benefited bringing law suits. This has placed many European companies with investments in Cuba in a difficult position. Further investment will not arrive without guarantees that they will not face legal proceedings in the United States.

The oil embargo on Venezuela (meant to foster political change in the country and at the same time worsen Cuba's economic situation) may slow the transformation of the island's economic system envisaged in the new 2019 constitution.

The EU's change of focus embodied in the PDCA prioritises transforming the Cuban economy. For the EU, the important thing is for the Cuban development model to work. The PDCA's references to the Cuban economy only describe accompanying the process of updating the economy and society in Cuba. The entire structure of economic cooperation could be jeopardised if the reforms of the economy's trade capacity – of exchange rate duality and the many peculiarities of the trade regime that are incompatible with multilateral discipline – are too slow or fail to materialise.

At the moment, despite the optimism generated by the growth of self-employment and cooperatives, the private sector does not appear able to trigger the transformation of the Cuban economy. It is more like an escape valve that gives a formal route to addressing declining personal income and employment surpluses from restructuring state-owned enterprises. Top-down modernisation of the economy by those who control its principal sectors and external sector remains the only route.

The EU agreement may facilitate development, but perhaps not enough to face the difficulties that may arrive. The EU will undoubtedly focus on how to circumvent the extraterritorial effects of sanctions on European companies under the Helms-Burton Act to avoid investments that are essential for development being affected. Indeed, that was one of the items on the agenda during the visit by Federica Mogherini,¹⁴ High Representative of the Union for Foreign Affairs and Security Policy, to Havana on September 8th and 9th 2019 to chair the EU–Cuba Joint Council and her meeting with Foreign Minister Bruno Rodríguez.

Therefore, along with the US blockade, it is necessary to consider the "internal blockade" – so named by President Miguel Díaz-Canel – men-

14. As reported by the Euronews agency: <https://es.euronews.com/2019/09/09/la-ley-helms-burton-en-la-agenda-cuba-de-mogherini>

tioned by Federica Mogherini on her visit, noting that “Cuba is at a crossroads. After completing its generational transition and adopting a new Constitution”. The future prospects for political dialogue between the two sides, as well as political and trade cooperation – central items on the agenda – are called into question by the Cuban opposition, who criticise the lack of attention to human rights on Mogherini’s visit.¹⁵ Cuban opposition pressure may indirectly influence the agenda of the PDCA-based relationship if pressure is also applied from certain partisan positions in the EU. The sensibilities of the new European Commission and the new High Representative of the Union for Foreign Affairs and Security Policy that took up their posts on December 1st 2019 remain to be seen. Just before the new Commission took up its posts, the European Parliament on November 28th 2019 adopted Resolution 2019/2929 (RSP) on Cuba, the case of José Daniel Ferrer (European Parliament, 2019), which specifically asked the Commission and the High Representative to acknowledge political opposition to the government of Cuba. If the Cuban economy does not advance, political dialogue is unlikely to progress.

Loosening Cuba’s external restrictions will also require the promotion of FDI, a return to the capital markets, and the introduction of regulatory changes that allow productive investment of remittances.

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Since the start of the 1990s and the socialist bloc's collapse, Cuba has striven to redefine the country's economic model and reset its system of external relations. Numerous changes have been made over those three decades, and yet no satisfactory pathway has been found for the economy's future progress. The anxieties caused by an increasingly adverse international environment, a global economic slowdown, a strategic partner in decline and an increasingly hostile powerful neighbour seem to favour those advocating an inward economic turn over those promoting a renewed reforming thrust. A stocktake of the last three decades of Cuban economic crisis reveals an exhausting course of partial and fragmentary reforms that have achieved limited success. It is in this context that the European Union decided to support the Jean Monnet Network, which brings researchers together from Europe and Cuba to work on Cuba's current predicament and the prospects of more active and profitable relations with the European Union. The network also seeks to establish collaborative, understanding relationships between the academic communities on both sides to encourage a more shared vision of existing problems and promote the exchange of methodologies and analytical approaches. *Cooperation between the EU and Cuba for economic and productive reform: The challenges of economic reform in Cuba* is the fruit of these efforts. It is a volume that seeks to unite diverse and complementary contributions on the challenges of the Cuban economic situation, the experience gained in the reform so far and some tentative ideas for possible future actions. This volume's engagement with the relevant issues in the relationship between Cuba's economic reforms and its framework of relations with the EU is by no means exhaustive. But the six chapters presented here contain enough interesting material to demonstrate that joint academic endeavour can help better understand the Cuban economy's complex situation and shed light on some of the parameters that will frame future reform decisions.

