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Tourism and Innovation: towards a territorial symbiosis in the post-COVID19

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Abstract

The conceptual, political and operational articulation of tourism with innovation is not an easy task to accomplish and there are many misunderstandings to block its desired symbiosis. However, this integration is fundamental, namely in the deeply complex times that will follow the dramatic period that we live in. The relationship between tourism and innovation will be central, not to boost tourism in the post-COVID19, which is already a notable failure in the strategic vision of an entire country, but to reduce the negative impacts of this failure in the next 20 years, allowing tourism to contribute effectively for sustainable development. On the other hand, in the last 50 years, innovation has been transformed economically and politically as the religion of capitalism. The merits of some innovations are undeniable. However, it is also quite clear that innovation, namely that which is mediated and valued solely by market and economic and financial performance criteria, induces production and multiple consumptions that have contributed to the acceleration of climate change and the levels of unsustainability of the planet. Not all innovation is virtuous. This text has three objectives: to requalify the role of innovation in capitalist society, to reconceptualize the relationship between tourism and innovation and to identify some challenges that will test this relationship in the post-COVID19. It is intended to help bridge the gap that exists between innovation and tourism, thereby contributing to the conceptual, analytical and political clarification that could allow tourism and innovation to be virtuously integrated. Only with better tourism and better innovation will it be possible to face the challenges of the coming decades.

Keywords: crises of excess, innovation, tourism, territorial singularity, ST.*i*

Introduction

Tourism, even before the COVID19 pandemic, a true *black swan* (Taleb, 2008), was already under pressure, for economic, social and, the most difficult to hide, environmental reasons. Its impact in the context of climate change has been recognized in the literature and there is an urgent need to tackle this problem, knowing – of course – the enormous economic and social impacts of such a challenge. If it seems peaceful that the role of tourism in climate change, the growing social resistance to the massification of tourism and the Portuguese economic originality of defending that tourism should be a structuring sector of the profile of its economy already suggested a set of structural changes in the sector, the COVID19 pandemic and its expected effects (even the least pessimistic) put this task at a Herculean level.

Knowing the role, theoretical and conceptual, of innovation as a qualifying factor and with transforming dynamics of economic and social structures, it will be fundamental to deepen the relationship between tourism and innovation. However, this is not an easy relationship to operate and there is a conceptual gap between these two dimensions. In addition to the reasons that the literature already identifies - and which will be discussed in the second section -, there is another reason where the core of this difficulty seems to lie. In synthetic terms, it results from the fact that the relationship between innovation and tourism is framed, it is unintentionally believed, through the similarities that tourism shares other economic activities - and, therefore, it would not be necessary, neither useful nor even rational, to present tourism with a specific conceptual and economic circumscription - and not through the dimension that really differentiates tourism from any other economic activity. In the same way that tourism is not only the sum of activities shared with other sectors of activity, innovation in its scope does not follow from this sum. However, if this dimension is explicitly considered, the relationship between tourism and innovation must be reconceptualized. Finally, for this task to be accomplished, helping to bridge the gap between tourism and innovation, it will be necessary to reconceptualize the concept of tourism in advance. It seems like a reckless statement, but, as we hope to be able to defend throughout the text, it is a necessary condition for the approximation of tourism and innovation and the achievement of truly transformative results in its scope.

On the other hand, innovation itself must be questioned, namely in the role it has been assuming as a religion of the capitalist system for the past 50 years. Innovations, namely those mediated and valued solely by market criteria, have contributed - via multiple consumption and production - to the global drama of climate change. No one will deny the benefits of innovation or suggest that it be banned or demonized; the change is one of the few common denominators of life. However, it is not possible to ensure the economic, social and environmental sustainability of the planet without a requalification of the role of innovation in the referred systems. Therefore, it is necessary to qualify innovation and create mechanisms to value some of its purposes and devalue others in the light of a more demanding collective welfare function. The human being responds to stimuli and learns by imitation.

The main result of this article is the development of the concept of ST.*i*, that is, a *territorial singularity*[1] fuelled by innovation and that allows innovation and tourism to be coherently and consistently integrated in a territorial framework. In this context, the article has three objectives. First, to reinterpret the role of innovation in a society of capitalist abundance. Second, reconceptualize the relationship between tourism and innovation and, finally, identify some challenges that will test the strength of this relationship in the post-COVID19. The difficulty of the task is naturally recognized, and it is our expectation that this brief text will be read, criticized and interpreted as a first draft of the challenges that lie ahead. The developed approach seeks to be global, although it is always possible - not always with the desired strength - for Portugal, since it is this territory that concerns us in the first place.

After this introduction, the text is organized into three sections. In the first section, it is suggested that nature has a fundamental aspect that differentiates the nature of economic and social crises having the century. XX as a reference point. In this context, it is argued that innovation has been playing the role of the global religion of capitalism and given its contribution to crises of excess, its role must be re-qualified. The second section deals with the most difficult part of this text, the reconceptualization of the relationship between tourism and innovation. The common denominator of this relationship is found and from its content the concept of territorial singularity expands to the point that allows us to integrate tourism and innovation territorially. Finally, in the last section, from the understanding of the tourism dynamics in Portugal in the last decade, a reflection is made about some challenges that tourism will face and that innovation may help to face. It ends with the conclusions and some clues for the future.

1. Innovation is no longer what it was!

The nature of crises, before and after the 20th century

The evolution of life on earth is based on an elementary principle. The existence of life requires the consumption of energy that is not always available in the most appropriate ways in view of the needs of survival. Therefore, the creation of an (efficient) model of energy production and consumption is a necessary condition for the existence of life and its proliferation. After several attempts, over the centuries, society has produced a model of energy extraction, production and consumption (EEPC) that has led us vertiginously to a scenario of climatic unsustainability and, therefore, economic, social and institutional unfeasibility. The current biological dimension of this unsustainability is only one of its manifestations[2]. Crises, moments of rupture, intense, are an integral part - knowing themselves inevitable - of the EEPC model that supports the dynamics of and between territories. However, the last century has brought us a structural

[1] The concept of *territorial singularity* started to be constructed in Nunes (2017). It continued in Nunes e Sousa (2017; 2019 and 2020). With this text, the territorial dynamics of innovation, developed in Nunes (2012) and Nunes and Lopes (2015), are integrated into the initial concept, building the concept of ST.*i*.

[2] There is nothing to guarantee that the current pandemic is not part of a set of pandemics.

change, resulting from the success of the EEPC model that has also enabled significant advances in all spheres of society: democracy, rights, freedoms and guarantees, material living conditions, access to goods and services unimaginable in most human existence on the planet.

The beginning of the 20th century changed the nature of the crises. Until that date, crises were essentially crises of scarcity. Shortage of resources, time, equipment, essential services, technology. Current crises are crises of excess in a society of unequal abundance in decline. Excess production, consumption, virtual and anodyne needs, applications, empty innovations of economic and social significance. Naturally, inequalities have always existed, whether in times of crisis or in abundance. The fundamental difference is that in times of crisis of scarcity, inequalities were inevitable, because the volume of resources was insufficient in view of the basic needs of the population. Currently, the existing inequality can be called political inequality, since its existence is associated neither with the scarcity of resources nor with the technological solutions available on the planet. Not placing food and material needs above a threshold of decency is not an economic or technical impossibility, it is a political option[3].

Finally, a reference on the relationship between crises and climate change, namely measured by its role in creating a new level of global sustainability. If the relationship between scarcity crises was mediated by a high degree of relational indeterminacy (the relationship always existed, only if it was a considerable distance from the unsustainability frontier), the relationship between crises of excess and the environmental framework is very well defined. The crises and efforts to overcome them have never left us in an environmentally more sustainable situation than the one we were in the previous moment. The century. XX and XXI are characterized by leaps forward, leaps for a new generation of accumulation without distribution[4], of increasing inequalities (Stiglitz, 2013; Piketty, 2014), which places us, cruelly and coldly, before the concept of irreversibility. In summary, we live in a period of crisis of excess in a society of uncontrolled and asymmetric abundance, where innovation must be directed towards the control of this abundance.

Innovation as a global religion that potentiates crises of excess

The capacity for innovation is now understood and widely recognized as one of the main determinants of the increase in productivity and competitiveness of companies, regions and countries (see, for example, Porter, 1985; Christensen and Lundvall, 2004; Tödtling and Trippl, 2005; Fagerberg *et al.*, 2009; Barca, 2009). It is not by chance that global geo-political strategies are dominated by a set of vague terms such as the *Knowledge Economy, the New Economy, the Innovation Economy, the Information Society, Intelligent and Smart Growth*,

[3] The way in which a dozen hospitals were built and dismantled in less than three months in China is a good example of this.

[4] This growth strategy, now called *smart*, could still be justified if at its core was a concern to reduce the breadth of inequalities by raising the average level of global quality of life.

etc. In more specific terms, the relationship between innovation and business performance has been studied and there is a variety of literature on the establishment and rationale for this relationship (see, for example, Nunes, Lopes and Fuller-Love, 2017 and Nunes *et al.*, 2018 on a systematization of this relationship).

Interestingly, as innovation becomes a fundamental part of the development of society, it gradually loses its sense and its basic meaning, becoming a kind of global religion. And religions, by nature, are difficult to stop or to call to reason. Currently, it is possible to find a substantial collection of prestigious and high-level technical literature dedicated to analysing the innovative potential of companies without any care in relating that potential - that intention - with any materialization of an economic or social nature. Not testing this relationship between innovation and results (regardless of its nature) is to assume that innovation - often just the potential for innovation - is the purpose of companies or society. Now, from Adam Smith, John Stuart Mill, Karl Marx, John Ruskin to Joseph Schumpeter, it has always been considered fundamental, but instrumental in growth and economic development. Innovation is an instrument and not an end; however, today it works with the same supposed solidity that is normally attributed to Euclidean axioms[5].

Innovation as a solution to a need (existing or latent) is a result that can be valued and mediated by the market or obtained outside of this mediation. Being mediated and valued according to market criteria, it is directly associated with the economic and business performance of companies (measured by variables such as turnover, profits, exports, productivity) is an inducer of production and consumption real or virtual, but both resource consumers. In this sense, allowing the market to be the essential mechanism for mediation and valuing innovation is to contribute, by action or inaction, to the aggravation of the problems posed by the EPCE model of today's society.

As Bahn-Walkowiak e Bleischwitz (2010: 13) stated *the market is supposed to separate "good" from "bad" innovations*. However, more - or even different - is not synonymous with better; as stated Ackoff (1995: 59) *the dumps grow, but do not develop*. It is our belief that innovation, namely that mediated and valued by the market, is one of the factors with greater responsibility in the crisis of excesses of the last 50 years. This statement may seem out of time, but its roots are not even original and have a long tradition, although posed in the face of other problems.

Swann (2009: 11) notes that, in 1914, Veblen stated that invention *is the mother of necessity*. Although, innovation does not always find its object *but with the right consumers there will always be a demand for distinction. So Veblen was suggesting that a demand could emerge for inventions for which there was in*

[5] It would be interesting to analyze this faith in innovation in the same way that the difference between a country's potential product and its real product is agnostically analyzed. The gap between both products has very concrete economic significance and consequences, as well as associated policy measures. The gap between potential innovation and concrete innovation (even without qualification) does not seem to take anyone away from sleep.

the original need on the part of the consumer. In one of his most emblematic works, John Kenneth Galbraith (1963)[6] dedicates an entire chapter (XI) to the Effect of Dependence. Galbraith[7] discusses in his unique style the way in a society of abundance production is gradually dissociated from the real needs of the population. The explanation of economists and economic theory *resulted in the complex and ingenious defence that, to a large extent, makes the need for production independent of its respective volume* (p. 117). He goes on to point out that the increase in production above any critical analysis *consisted of eliminating any appreciative judgment on the objects it deals with from the Economy. Anything related to opposing the necessary to the unnecessary or the important to the unimportant was strictly banned from the study of Economics* (p. 124). Finally, attacking the question that concerns us here head on, production does nothing more than fill a void that it creates (p.129).

> *As a society progressively enters the phase of abundance, the process according to which needs are generated by the production itself intended to satisfy them, accelerates. This can happen passively (...). At other times, it is the producers who deliberately act to create needs through advertising and sales techniques. In any case, needs end up becoming a function of production. Using more technical language, we will say that it is no longer possible to maintain that there is a correspondence between the level of production and that of well-being* (p.133).

Although Galbraith's concerns are not those that concern us today[8], they were essentially centred on its impacts on indebtedness and inflation, it is nevertheless an illuminating framework. Currently, both production, advertising and marketing benefit from the cumulative and interdependent effects of innovation, which only accelerate and diversify the results that concern us here (Brulle e Young, 2007; Mazzucato, 2018). In these terms, innovation is an accelerator of the dependency effect with negative effects on the current EPCE model, that is, it accelerates crises of excess and has direct consequences on the environmental framework in which the world economic system develops.

A new approach to innovation for the future of the planet

The role of innovation in assessing the conditions of competitiveness and territorial cohesion is expected to change considerably in the coming years. It is necessary to take a step forward and recognize that the climate emergency and issues associated with sustainability are also a consequence of the innovations introduced in the markets in the last century and their inducing effects on production and consumption. Innovation, per se, is not necessarily virtuous. The

[6] Galbraith, K. (1958) The Affluent Society. Boston, MA: Houghton Mifflin. This text uses the 1963 Portuguese translation by Henrique de Barros.

[7] All references are based on Galbraith (1963).

[8] However, the passage where it says that *it is rare that we are aware of the quality of the air we breathe is still interesting. In Los Angeles, however, where the air is little more than enough for the needs, the problem is taken very seriously* (p. 104).

criterion of the market as an element for validating innovation is not sufficient in view of the challenges that society will have to face in the coming decades[9].

Not all innovations have the same value for individuals, collective spaces or for the viability and sustainability of the planet. Therefore, a differentiation of innovations must be introduced, both conceptually and politically. It is necessary to qualify innovations, for example in innovations that accelerate climate change and reduce the sustainability of the economic and social system and innovations that do not accelerate climate change and contribute to the sustainability of the economic and social system. All innovations, whether mediated by the market or not, that increase equity, reduce inequalities, poverty, generalized access to essential goods and services (housing, education, health, justice) should be encouraged.

Some of these concerns have been addressed recently from the concept of *responsible innovation* or *responsible innovation and research* (von Schomberg, 2013; Stilgoe, Owen e Macnaghten, 2013; Guston *et al*., 2014; EC, 2014; OCDE, 2017; Fisher, 2020). In this context, a particularly interesting approach is developed by Cooke (2019: 2378) where it shows that *how what was until recently considered a benign objective of business advice (i.e. to innovate), rapidly became transformed into a malign set of ethics, incentives and illegal business practices*. Cooke says:

> *Contemporary innovation destroys more value than it creates by three effects. First it mimics already existing basic technologies (phone, camera, directory, games) adding little value but displacing while disrupting existing services. Second, it exploits human rights to security, privacy and truthful reportage without seriously regulated or legislated accountability. Third, social media takes prodigious profits at huge social cost, by facilitating the grooming of terrorists, vulnerable persons and enabling varieties of criminality; it feloniously steals private property, notably human identities for advertising revenue; and it facilitates dissemination of fake news, research and propaganda.*

The responsible innovation literature places emphasis on a set of ethical values and behaviors that result from the relationship between technology (namely, associated with new ICT, biotechnology, nanotechnology, geoengineering, artificial intelligence and robotics), public policies and private and the modes of governance associated with it. Our argument is more specific: the mechanism that needs to be managed is that of consumption and its conditioning element is the individual, who must assess the volume of superfluous consumption that must be reduced. In our view, the phrase attributed to Steve Jobs must be complemented to become truly inspiring: *people don't know what they want until you show it to them (and show them the consequences of their choices).*

[9] This is the time when we must not confuse science, technology and innovation (see, for example, Feenberg, 2015). Although the space in this text does not allow discussing these differences, the mistaken belief in their similarity is also part of the problem that concerns us here.

2. Tourism and innovation: misunderstandings in a relationship that was never what it was thought to be

The (territorial) nature of innovation

The way innovation is considered today, as an uncertain, collective, systemic, localized process, supported by interaction dynamics, cumulative (path dependent) and with a strong territorial dimension, started with Schumpeter (1942), which was strongly inspired by Marx. Although in the chapter devoted to the *Process of creative destruction*, in his work Capitalism, Socialism and Democracy, Schumpeter never used the word innovation, the heart of the matter is there, *the process of Creative Destruction is the essential fact of capitalism* (p. 122). Technological and institutional change is the heart of capitalism. From the Schumpeterian basis, the innovation literature has advanced through multiple bifurcations and is, at this moment, very wide and diversified (see, please, Nunes, 2012 for a discussion of the genesis of the innovation process in its main dimensions and approaches).

For our purposes, the dimension that we need to highlight is the territorial dimension of innovation. In this perspective, the territory is the overlap of multiple dimensions of spaces: a physical space (geographic scale), a space of relationships (actors, networks and interaction dynamics) and a political-institutional space (coordination between different organs of power and integration in a specific space of its different policies). It means, now, that whenever the qualifier of territorial is used, the dynamics related to the evolution of integration in a specific territory of these three dimensions and associated tensions must be taken into account, that is, the territory is a result of the complex interdependencies between the size of the market, the dynamics of interactions and a political-institutional framework more or less favourable to economic and social achievements (Nunes e Sousa, 2020). The territory is a subject and not just an object of intervention. This dimension gains relevance from the moment that innovation is recognized *as*

> *the successful commercial exploitation of new technologies, ideas or methods through the introduction of new products or processes, or through improvements in existing ones. Innovation is the result of a collective learning process that involves several actors inside and outside companies* (European Commission, 1996: 54).

However, despite the recognition of the relevance of contexts external to organizations for the innovation process, it has not been easy to integrate the territorial context into the spatial and geographical dimension of innovation. The territorial dimension of innovation has its theoretical roots in the pioneering works of Phillipe Aydalot (GREMI, 1984). GREMI's initial research program sought to articulate sensitivities from various schools and approaches: the school of industrial districts, the Californian school of new industrial geography, the French regulatory approach and perspectives on industrial and evolutionary economics (Ratti and Bramanti, 1997). According to Camagni (1995: 319), the main components of innovative means included

> *Smithian processes of division of labor between production units; Arrow learning-by-doing and by-using processes (...); Marshall or Allyn Young externalities (...); Schumpeterian entrepreneurship (...); and Chris Freeman's cross-fertilization processes, generating incremental and integrated innovation systems.*

After these works, other approaches have been highlighting the role of territorial contexts in the innovation process (for a review of this literature, please see Nunes, 2012). In summary, the territorial dimension of innovation leads us to the relevance of collective learning, relational and institutional proximity, informal relations and territorial networks. For our purposes, table 1 shows the relationship between the role of the territory and the mechanisms associated with its integration in the innovation process. This table will also serve to establish the relationship with tourism, developed in the next section.

[insert Table 1]

The territorial nature of innovation has found a favourable institutional context and several intervention and financing mechanisms in both the international and national context. The Barca report clearly states that *any innovation policy must be place-based. The knowledge base on which interventions should be based are local, and the nature of the economic institutions that must be promoted are also strongly linked to places* (Barca, 2009: 130).

The (territorial) nature of tourism and its difficult and misunderstood but natural relationship with innovation

Tourism is usually presented as a composite resource (resources used, production processes, activities developed, associated actors, policies involved), in the sense of being composed of a set of goods and services that are sought by the tourist (but that also serve the not tourists). This level of economic, social and institutional integration of tourism makes its conceptual and analytical circumscription difficult. In economic terms, one of the ways to try to overcome this difficulty has been, for example, to consider the tourist destination as the main object of analysis and intervention (Burkart e Medlik, 1974; Candela e Fingini, 2012; Żemła, 2016 for a systematization of this concept) of the different actors. In this approach, the tourist destination is the space for integrating the sector's complexity, the complementarity of the various goods and services, the supporting infrastructures and the institutional capital that facilitates (or not) the interaction between demand and supply. This approach allows, among other aspects, to highlight an important first dimension of the territorial nature of tourism, that is, that production is always rooted in a tourist destination, which is neither a company nor an activity sector. If tourism has this level of territorial integration and associated relational

complexity, any approach to innovation that does not incorporate these dimensions - or that works only one of its dimensions, such as, for example, business - will necessarily be reductive and marginal about its processes and results.

The relationship between Tourism and Innovation is not an easy task to perform and some reasons for such conceptual and political misalignment can be identified. Firstly, due to the lack of a sufficiently coherent and consistent theoretical and conceptual framework in the field of tourism, which allows for cumulative advances in knowledge on a solid and shared basis by the various disciplines dealing with this area of knowledge. Only recently have higher education institutions consolidated tourism as an autonomous body of knowledge, albeit undisciplined (Tribe, 1997), within their institutional boundaries.

Secondly, for a long time, tourism has not incorporated the process of conceptualizing innovation as a competitive advantage for economies (Camison and Monfort-Mir, 2012; Hjalager, 2010). The relationship between tourism and innovation is quite recent and the analytical framework that would allow integrating these two dynamics with structural advantages is still being structured. There is, for example, some literature where there has been a concern to integrate innovation processes and modes in tourism, but this association has not yet reached sufficiently coherent levels of integration to gain efficiency for the sector. See, for example, Nordin and Hjalager (2017) who sought to articulate the modes of innovation initially presented by Jensen et al. (2007) with tourism, using the dimension DUI (*doing, using and interacting*) to apply to a case study of a hotel in Sweden. It should be noted, however, that the STI/DUI modes of innovation do not include the territorial dimension of innovation. This dimension was integrated in this literature only in 2015 (Nunes and Lopes, 2015)

Thirdly, there has been a distance between academia and economic and political agents in the sector for a long time. See, on the other hand, the way in which concepts created within the academy were structuring of the political, institutional and economic framework of the respective areas. Just as an example, we highlight the concept of sustainability, lifelong learning, smart specialization, related variety, innovation, knowledge economy, national innovation system, regional innovation system, *place-based approach*, etc. These are concepts that currently structure the economic and social policy of the international community, namely the European Union.

These are some of the most easily identified reasons for the existence of a significant gap between tourism and innovation. One way of illustrating the conceptual gap that exists between tourism and innovation is underlying the influential article by Hjalager (2015) where the 100 innovations with influence on tourism are analysed. Notice, the author herself recognizes that:

> *The aim is to map and categorize innovations that basically happened outside the tourist sector but nevertheless had decisive impacts in tourism. Accordingly, the article addresses the derived developments that take place in tourism as a consequence of scientific, technological, institutional and other innovations outside the tourism sector.* (Hjalager, 2015: 3).

The innovations presented begin, in 1414, with the passport, passing through the bicycle (1839), the Suez Canal (1869), the Viagra (1998) and ends in 2012 with Avatar[10]. The interesting character of the analysis carried out by the author allows to underline two key characteristics. Firstly, highlighted by the author, the indisputable interdependence of tourism with many other areas of society and, secondly, recognized by us, the illustration of the difficulty in identifying the necessary endogeneity between tourism and innovation. One of the author's conclusions may be accepted, which states that:

> *It is often claimed that tourism should enhance its innovativeness, as this is believed to increase economy growth, productivity, and employment. Policy makers often find it indispensable—for the benefit of tourism innovation. (…) However, this study demonstrates that it is just as essential to simultaneously target supplying sectors and to amplify the absorptive capacity of the tourism sector. (Hjalager, 2015: 20)*

However, it can also be suggested that, if that were the case, any other sector of activity would have the legitimacy to put itself in the same position and wait for the exogenously[11] produced innovations that would arrive at the opportune moments for their exploration.

It is our understanding that the main reason for the difficulty of integrating tourism with innovation has not yet been explained in the literature. Regardless of the merits of the reasons presented, it seems indisputable that the works that articulate innovation and tourism have concentrated on two fundamental dimensions, outputs and innovation processes. However, a previous dimension is lacking, which allows conceptually articulating innovation with tourism. This dimension can be presented in a thesis perspective: the lack of effectiveness between innovation and tourism is since it seeks to integrate these two dimensions - unconsciously, sometimes tacitly - through the similarities of tourism with other sectors of activity and not through the specificities of tourism compared to other sectors. But if so, it is not really about tourism; these are parts of tourism that are common to other sectors of the economy and, in this sense, it makes no sense to say that tourism is related to innovation. A component of economic activity that also serves tourism is being related to a generic process of

[10] One might ask, which of the innovations produced since the invention of the wheel and democracy have not contributed to the tourism sector?

[11] This is a line of reasoning with a remarkable neoclassical flavor, where knowledge was considered a public good, easily appropriated and produced in the scientific sector from a linear model of innovation (*technology-push* or *demand-pull*). The innovations were thus considered a *manna from heaven*.

innovation, which may have links with that specific activity, but not necessarily with tourism.

There is no doubt that the integration between tourism and innovation is fundamental (not for the reasons usually mentioned) and must be done by the differentiating element of tourism and not by its similarities with other sectors of the economy. This differentiating element is the only one that allows to give economic and social meaning to tourism and, at the same time, it is the endogenous and explicit link for innovation, namely for its territorial dimension. Imagine that the territorial filter of tourism is applied to the analysis of the innovation literature. What is the main result? The territorial dimension of innovation.

The impacts of the integration of innovation in tourism may prove to be substantial, but for that, it is necessary to reduce the conceptual gap between both, that is, tourism has an indisputable territorial dimension and there is no reference to the territorial dimension of innovation when tries to link tourism and innovation. In these circumstances, innovation in tourism is limited to business innovation or, even if outside that scope, always independent from the rest of the system and with necessarily marginal effects for tourism.

The next section seeks to contribute with a new concept to reduce this gap, creating a conceptual, institutional and operational space for the coherent integration of innovation in tourism. The main challenge is to find the link that allows coherently articulating two areas of interdisciplinary knowledge that are susceptible to multiple methodological approaches. Our proposal is clear: the link is the territory, as we defined it earlier. Tourism, like no other activity has an indisputable territorial dimension and innovation shares this characteristic with tourism and it is through this common denominator that the relationship between tourism and innovation must be addressed. However, this finding per se is almost trivial. It is not enough to say it, it is necessary to integrate, conceptually and operationally, tourism and innovation through its common base, the territory. However, for the two dimensions to be articulated with a minimum level of effectiveness, it is necessary to revisit the conceptual circumscription of tourism.

The concept of revisited tourism: tourism as a territorial singularity fueled by territorial innovation (ST.i)

Nunes and Sousa (2019: 28-32; 2020: 30-36) argued that tourism should be circumscribed conceptually, analytically and politically through the concept of *territorial singularity*. The starting point of this approach is the realization that tourism is a sector of the economy. However, like any other sector of the economy and its related activities, it has specificities that objectively condition interventions in its domain, be it public policy, enterprise policy or modes of innovation (Hjalager, 2010; Nordin and Hjalager, 2017). What is the main

specificity of tourism, as an economic activity? The central differentiating element is that tourism is produced and consumed in a specific territory[12].

Despite the simplicity of this statement, the remaining characteristics that make it possible to classify tourism are shared, to a greater or lesser extent, with other sectors of activity and, as such, are not truly differentiating. The transport, catering, services[13], hospitality, promotion, construction, etc. sectors can be treated independently. It is not the sharing of activities or functions that makes tourism conceptually autonomous. Unlike most economic goods and services, where consumption and production can be - and usually are - functionally separate, or in different territories, tourism does not have this characteristic structurally; on the contrary, tourism - and its added value, namely in terms of its multiplier effects - is determined, quantified and qualified territorially. This specificity, rarely explained, has profound consequences, both from a theoretical and empirical point of view.

The main consequence is that tourism can configure a territorial singularity, that is, it can configure a manifestation of economic ubiquity (production and consumption and consequent value creation) in the same territory, based on a coherent, shared and desired integration of *perfect resources* with *territorial coherence* (Nunes e Sousa, 2020: 31-5). Territorial singularities can be understood as the territorial (dynamic and evolutionary) counterpart of the concept of personal embeddedness (Polanyi, 1943) and internal to the organization (Granovetter, 1984).

Arrived here, the concept of territorial uniqueness already developed allows us to state its main dimensions and attributes. However, this concept still lacks analytical content on the way in which the territorial dynamics that allow the nature of resources to be linked to the nature of processes are processed, leading to resources and processes evolving in the same direction, managing their natural tensions: perfection and coherence territorial and, finally, a territorial singularity.

Our proposal is that the territorial dynamics that contribute to the construction of the territorial singularity should be mostly developed within the scope of the territorial dimension of innovation. The territorial dimension of innovation is embodied in terms of the territorial mechanisms of innovation that associated with the three dimensions of the territory must allow the construction of the territorial singularity and the resolution of the many tensions between resources and processes (see table 2).

[Insert Table 2]

[12] Considering the concept of tourist, of the few concepts on which there is agreement, the conceptual and analytical framework changes radically.

[13] Even when tourism is exclusively associated with the service sector, we find the same evidence, these are services that - unlike most services - cannot be relocated, due to their ubiquity of production-consumption-value.

However, this dynamic needs its own political-institutional body to guarantee the coherence and consistency of the construction of the territorial singularity. This dynamic gain effectiveness if it is pursued through the construction of *shared governance models* (Nunes and Silva, 2020)[14], dedicated to the task of building and developing territorial innovation processes that make it possible to articulate (perfect) resources with the (territorial) coherence associated with needs of each territory. The construction of a model of shared governance, which emerges directly from the *territorial coherence* component (Nunes and Sousa, 2020: 34), allows to assign territorial coherence to resources (constantly improving) and is a way of explicitly incorporating territorial innovation mechanisms.

The main consequence of this step - the construction of a model of shared governance - is that innovation automatically gains a concrete territorial meaning: actors, resources and integrated and interdependent activities in a specific territorial context that is not naturally[15] managed, that is, without a logic of coordination and shared governance of the territorial innovation model.

The territorial innovation model thus results from the territorial dynamics of innovation, managed through a specific governance model, leading to the emergence of a territorial singularity. In these terms, the conceptual territorial singularity gains some operational content and we will start to call it territorial singularity supported by territorial dynamics of innovation - ST.*i*. Table 2 seeks to illustrate this concept. In an ST.*i*, the dimensions of the territorial model of innovation are not reduced to two-way and watertight correspondences of the dimensions of the territory and the corresponding mechanisms of innovation. These dimensions always result from territorial interdependence (political-institutional, relational and geographical), although the relative importance[16] of each dimension varies in time and space in which each case is placed (see, for example, the next point on the Portuguese case in the last decade).

It seems clear, in this case, that the role of innovation in tourism is not just to make companies that provide goods and services to tourists competitive (through innovation), just as the impact of tourism on competitiveness and territorial cohesion is not just - or above all - results of innovative and competitive companies. It is the territorial dynamics oriented, but neither imposed nor predetermined, associated with the processes of collective transformation (qualified endogenous resources with territorial coherence) that make it possible to transform tourism into an ST.*i*. ST.*i* is also, do not forget, an instrumental objective of the processes of competitiveness and territorial cohesion (Nunes e Sousa, 2020: 36).

[14] Nunes e Silva (2020) synthesizes a project on business location, where *shared governance models* are explored in this dimension. However, this concept is extensible to any territorial objective that implies the interdependence of resources, actors, processes and the underlying tensions.

[15] The market should not be confused as a privileged space for exploring an innovation with a space favorable to the development of innovation processes.

[16] Hence the variable geometry that can acquire each of the dimensions of the rightmost column in table 2.

The conceptualization of tourism as ST.*i* has three very concrete and operational advantages. Firstly, it allows for clearly identifying resources, processes, actors and intervention mechanisms to achieve minimum thresholds for endogenous territorial competitiveness based on tourism. Secondly, ST.*i* is an intrinsically dynamic concept, constantly evolving and its construction cannot be dissociated from the territorial innovation processes (and from its activities, channels and concrete mechanisms) that underlie the interdependence of its main components integrated into the shared governance model that gives it effectiveness and efficiency. Finally, this concept is not, by definition, an imminently economic or disciplinary concept. On the contrary, it is a concept that starts with economic activities, but integrates other disciplines in a specific territory that should contribute so that tourism can play a relevant role in the competitiveness and cohesion of a territory.

In summary, it is no longer possible to associate, nor is there any advantage in doing so, innovation only in shared tourism activities with other sectors of activity. The territory is the natural link between tourism and innovation and the concept of territorial uniqueness - ST.*i* (shared governance model, processes with territorial coherence and perfect resources) is an attempt to integrate tourism in a coherent and consistent way with innovation. This can be a first step towards defining innovation in tourism as its own research field[17], with a sufficiently clear and objective object of study and intervention.

3. Possible futures and the future impossibility of the recent past

Innovation in Tourism in Portugal in the last decade: excesses of an innovation model of the type institutional push-serendipity pull

What model of innovation has produced the tourism phenomenon of the last decade in Portugal? What innovations can you identify and directly associate with the dynamics of tourism in Portugal in the last decade? Let us be clear and just; companies and different tour operators have not discovered innovation, its advantages and processes in the last decade. On the contrary, they have always sought to qualify the offer and national products. They have always sought to innovate in the Schumpeterian sense (which, as we suggest, for tourism is very limited because it is partial and with a poorly defined object).

The changes that occurred in the last decade in Portugal were due to a set of factors of an institutional nature (internal and external), probably unrepeatable, which allowed a very significant increase in the level of demand. The entry of low cost airlines, the perception of relative security in Portugal vis-à-vis other tourist destinations, the legislation[18] associated with the development of the typology of Local Accommodation, and the large public investments in international promotion were the real innovations that allowed tourism to play a role.

[17] Innovating in tourism, namely taking tourism as an ST.*i* is much more difficult than innovating in any other sector of tradable goods, where access does not necessarily mean territorial proximity.

[18] Legislation on so-called gold visas and tax benefits for foreign residents was also relevant, although their mechanisms are more indirect.

prominent role in the national economy in the last decade. This is an innovation model that we can call *institutional push-serendipity pull*. The political-institutional dimension at the national level played the factor that triggered all further exploration of this new level of external (and later also internal) demand. This increase in demand, in turn, has enabled many investments to be made viable and the effective exploitation of this new level of demand, at least until this cycle has changed[19]. But these two phases must not be confused; without institutional innovation, business innovations would, as always have been, residual in attracting new demands. This means that we are facing two very different dynamics: an institutional impulse that generates new demand and a dynamic of supply that allows us to exploit this new demand effectively. The driving force behind tourism innovation in Portugal at its most dynamic time was the political-institutional factors (see, please, figures 1 and 2) and this fact is not irrelevant to the Portuguese economic and social position in the post-COVID19.

[insert figure 1 e figure 2]

The current crisis has also clarified many aspects of our common life and made clear much of the irrationality (economic, social and environmental) of Portuguese economic policy choices. Tourism is a sector that has only recently gained substantial weight in national and global accounts. The technical, social and economic changes (democracy, security, income, transport and communications) that make their generalization and financial relevance possible, were only available in the second half of the century. XX. Despite this youth, it is already possible to assess their global impacts associated with climate change (see, for example, Viner, 2006; Becken e Patterson, 2006; Simpson *et al.*, 2008; UNWTO-UNEP-WMO, 2008; OECD-UN Environment, 2011; Pang *et al.*, 2013; Scott *et al.*, 2013; Lenzen *et al.*, 2018)

There are times of structural uncertainty. COVID19 created a space of experiences that we did not know existed and removed gravity - *homoeconomicus* as a space-time binomial - from the world in which we lived. Removing that dimension of *gravitas*, what is left and how we determined in this new dimension?

We will focus our attention on some aspects more related to the theme of this text. It is not at all difficult to anticipate some trends for the COVID19, the period of economic adjustment in the phase of social and institutional convalescence. In economic terms, the main trend will be a reduction (and some destruction) of installed capacity with (unpredictable) consequences for unemployment and a decrease in disposable income. The economic impacts of this pandemic can be severe in the short term, but they can also be diluted with some rapidity in the medium term, if the main international political institutions adopt the measures

[19] This demand cycle ended with COVID19, although there were already signs of a slowdown.

that are obvious[20]. The most evident solution - albeit counterintuitive - is the adoption of a solution supported by *Polanyianism*, a conceptual framework that at the time seemed naive and too voluntarist (Farto and Nunes, 2018)[21] but which is configured as appropriate to the current situation.

The minimization of economic effects should not, however, lead us to the idea of business as usual. The very idea of digital transformation, the power of algorithms, deep learning and all the associated *buzzwordology* are highly misleading as cleaner and greener substitutes in the world economic system. Just as an example, *the cryptocurrency now produces as much carbon dioxide as a million transatlantic flights every year* (Wallace-Wells, 2019: 229).

In national terms, it has always seemed very unreliable and serious to defend economically and politically that tourism is (should be) structural in the Portuguese economy and determinant in the quality of life of the Portuguese people (see figure 3). I would certainly not remind anyone to stop any Portuguese from playing in the Euro Millions; however, it would not be thought of by anyone to argue that gambling should structure the economic and social configuration of families, regions and countries. The reasons are diverse and well known and, in the current framework, I will only identify three more.

[Insert Figure 3]

The first is related to the weakening of a country's productive structure. Tourism is not an antifragile activity (Taleb, 2012), it is not an activity that benefits from the disorder. This means that tourism is not a sector that is one of the first to recover from the pandemic crisis, for the reasons mentioned above, it will drag the Portuguese economy into a less virtuous dynamic (Nunes, 2017).

Second, we will be faced with a substantial reduction in demand at all levels and territories, boosted exponentially by a desynchronization of the infection-diffusion-cure cycles within and between territories. These are concrete reasons that lead to the exhaustion of the Portuguese *institutional-push* cycle, necessarily leading to the infeasibility of many of the activities integrated in the referred *serendipity-pull* dimension. The economic recovery will be a fractal recovery (Mandelbrot, 1988), in the sense that a territorial singularity can be specific, irregular, territorial and self-replicating in its general use, and tourism is facing the perfect storm. This is a unique opportunity through the concept of ST.i to build innovative solutions essentially focused on domestic tourism, which will certainly be the dimension that will gain some dynamism in the short and

[20] The truth is that at the time of writing this text, the trends of European institutions are like someone trying to put out a fire with gasoline. There is no reason why the economic and social effects of the pandemic are not limited to the real effects of the pandemic. There is no reason why unemployment or the stoppage of production cannot coexist with the maintenance of associated income, namely in a transitional phase. It's just global bits!

[21] See please Michael Polanyi's 1945 original *Full Employment and Free Trade*.

medium term. In this context, some Portuguese regions are already developing work with some consistency (resources, territorial coherence and shared governance models) in an innovative approach that can be called *identity baths*, combining cultural heritage, military tourism, industrial history and scientific tourism.

The last reason is biological: from COVID19 to $COVID_{ti}$ with t = territory and i = year. There is no guarantee that this pandemic will not be one of many possible to become global in the coming years. Both globalization and viruses have always existed, they just weren't global. The mechanisms of its globalization are only in abeyance and many believe (and wish) that it will quickly revert to the previous dynamic. All the facts point out that it may not be a very virtuous dynamic.

Conclusion

This article had three instrumental objectives of one main objective. The new role that innovation should play soon was discussed, politically and financially oriented towards objectives other than those that have guided it in recent decades. They will be different goals because we are going to live in a different world. Tourism has been reconceptualized, creating a more cohesive and eventually competitive research space, even because it is territorially differentiated. Finally, a new concept was presented - ST.*i* - which seeks to contribute to the coherent and consistent integration of tourism with its transformative dynamics, innovation. Choices will have to be made. It is not possible to build ST.*i* in all territories. I'm glad. We need diversity. The world needs better tourism and better innovation. The role given to tourism as a structuring sector of economic activity in Portugal is an economically and politically inexcusable mistake.

For the younger generations, there is a set of world dynamics that are taken as inevitable, for the most attentive in the sense of uncontrollable and for the least attentive in the sense of acquired by natural, almost divine right. There is something new for both. All global dynamics were the result of political choices (see, for example, Chang, 2013, on globalization). Its primary causes, the intervening actors and the space-time fabric where they occurred can be identified. This catastrophe in which we live has clarified this evidence for us: we have choices, but choices have consequences. Involuntarily, but not on purpose, COVID19 put the world in an effective way to combat climate change, a way that no politician has ever had the courage to make publicly explicit. We also know that we do not want a world without gravity like the current one, but we must learn how to build a new gravity where the excesses of the past cannot take place.

Finally, I work for the near future. Clarifying the genesis of a territorial innovation model leading to an ST.*i* is a phenomenal and collective challenge. The main criterion for this task is to integrate in this model activities and innovation processes that have an unequivocal territorial dimension, in the sense developed in this article. Otherwise, it is not about building an ST.*i*, it is about activities and processes - important, certainly - that are shared with other activities that serve

tourism and will find theoretical and conceptual acceptance in their own disciplines. These are innovations that have positive effects on tourism - in this perspective tourism is a natural free rider -, but they do not contribute to the definition of the object of tourism as a space for innovation and territorial self-determination.

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Tables & Figures

Table 1 – Territorial innovation mechanisms and territory dimensions

Territorial innovation mechanisms	*Territory dimensions*
Institutional proximity to governance Regulatory context, standards, social conventions Incentives & signs	Institutional
Informal knowledge exchange Networks and explicit collaborations Labour mobility Marshallian Externalities Local business networks firms interdependence - value chain Co-location of highly specialized firms	Relational and functional
Co-location of specialized firms Co-location and technological proximity Location	Geographic

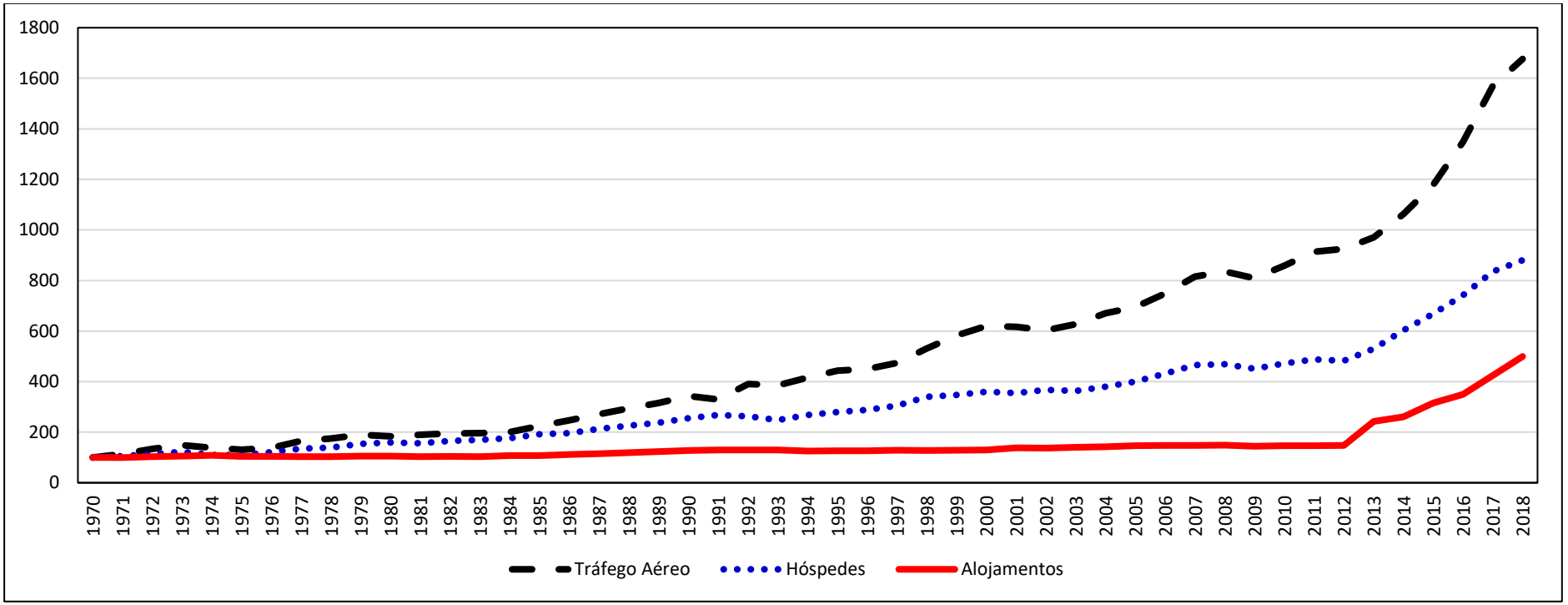
Source: Own elaboration based on Nunes (2012); Nunes (2015) and Swann (2009: 149)

Table 2 – Tourism as a ST.*i*

Territorial innovation mechanisms	*Territory dimensions*	*Territorial innovation model – Tourism as a ST.i*
Institutional proximity to governance Regulatory context, standards, social conventions Incentives & signs	Institutional	*Governance Shared Model* *Territorial Coherence* *Perfect resources*
Informal knowledge exchange Networks and explicit collaborations Labour mobility Marshallian Externalities Local business networks firms interdependence - value chain Co-location of highly specialized firms	Relational and functional	
Co-location of specialized firms Co-location and technological proximity Location	Geographic	

Source: Own elaboration based on Swann (2009: 149); Nunes (2012); Nunes (2015); Nunes (2017) e Nunes and Sousa (2019; 2020)

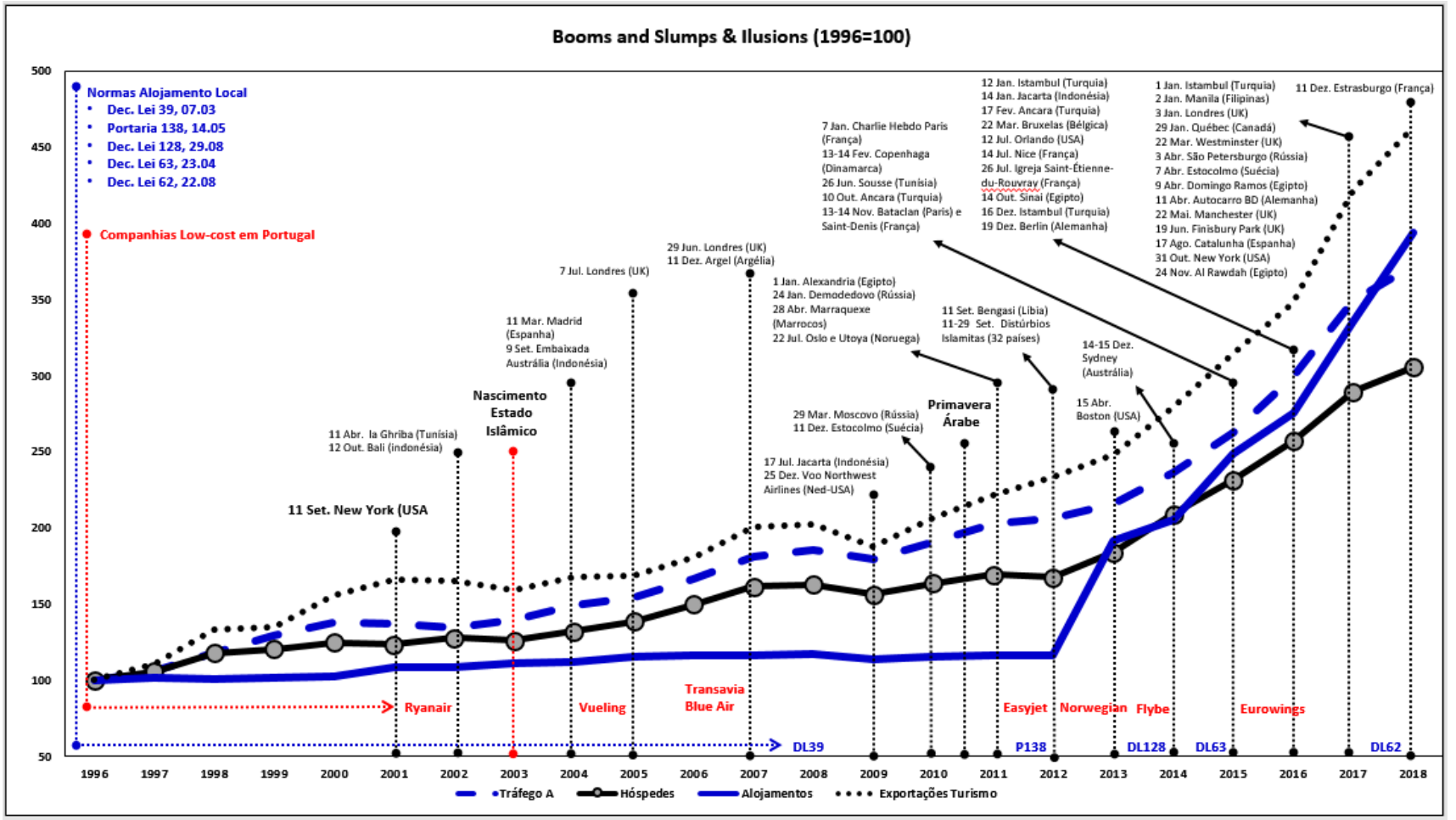
Figure 1 – Political and economic wet dreams – the sky was the limit (1970=100; Portugal)



Source: Own elaboration based on PORDATA database (March 2020)

Air traffic (dashed black line)
Guests (blue dots)
Accommodation (red line)

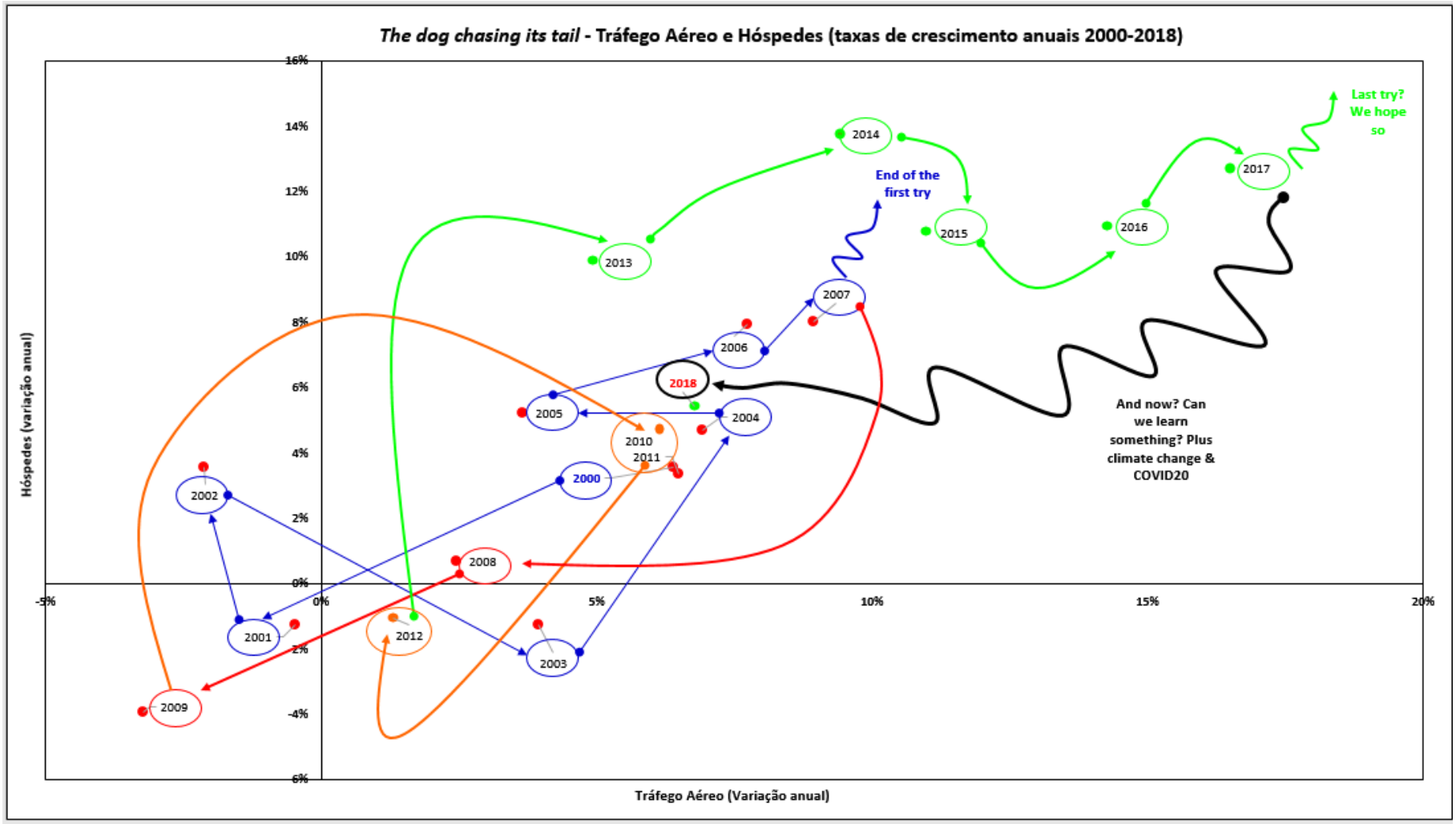
Figura 2 – Booms, Slumps & Illusions (1996=100; Portugal)



Source: Own elaboration (March 2020)

Legend: *dashed blue line: Air Traffic; black line: Guests; blue line – Accommodations; dot black line – Tourism Exports.*
In the Graph: terrorists attacks since September 11; RED: Low cost airlines in Portugal & BLUE: Local housing legislation.

Figure 3 – *The dog chasing its tail* (Portugal 2008-2018)



Source: Own elaboration based on PORDATA database (vertical: Guests – annual variation; horizontal: Air Traffic – annual variation)

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