CULTURE AS A FACTOR OF ECONOMIC AND SOCIAL INNOVATION

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This report was elaborated by the Cultural Economics Research Unit of the University of Valencia (Econcult), attached to the Interuniversity Institute for Local Development(IIDL). The paper was directed by **Pau Rausell Köster** and coordinated by Raúl Abeledo Sanchis, with contributions from the following researchers:

Abeledo Sanchis, Raúl (Econcult, UV)
Blanco, Óscar (Econcult, UV)
Boix, Rafael (Departamento de Estructura Económica, UV)
De Miguel, Blanca (UPV)
Hervás, Jose Luís (UPV)
Marco-Serrano, Francisco (K|P|K, UV)
Pérez-Bustamante Yábar, Diana (Universidad Rey Juan Carlos)
Pérez, Pedro (MC2, UV)
Vila Lladosa, Luís (MC2, UV)
Sorribes, Júlia (Econcult, UV)

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Figures list

Table List

CHAPTER 1. INTRODUCTION

1. CULTURE AS A FACTOR OF ECONOMIC AND SOCIAL INNOVATION. A VERY CURRENT THEME

The aim of the following text is to deepen our understanding of the relationships existing between culture and the evolution of communities within Europe. It emerges out of the theoretical need to develop and reflect upon a plausible model that defines the effect and relationships culture enjoys with the other dimensions of a region's socio-economic reality, but which also responds to a more practical need to classify the specific actions of those cultural agents participating in the European project Sostenuto, stakeholders in a venture that has now been in existence for three years, whose movements, meanwhile, are rather constrained by the restrictions imposed by their day-to-day work with all of the financial, administrative and management difficulties of their own cultural projects.

The research and reflections presented here are based on the results of monitoring what is an emerging and lively debate currently establishing itself within the academic arena and among the think tanks, but also on interactions with specific projects and organisations, and through dialogue, forums and conversations with "real life" cultural agents. Such spaces for interaction, within the context of the project, were established in Paris, Marseilles, Valencia, Tuscany, Liguria and Kotor (Montenegro) and adopted various formats, including professional meetings, academic discussion forums, more open forums, seminars, work meetings and interviews.

Our mission was to "modelise", that is, to find a model, which could prove the significant role played by culture in processes of economic and social innovation. We should say here that when the project began, in spring 2009, the thicket of publications, articles and reports was not as dense as it is today. A glimpse at the bibliographical references for this work will reveal that a significant portion of them were produced during the past three years, while some have publication dates of next year. Given this sudden flurry of published works, some of the research objectives we established at the start of the project were soon surpassed by the findings of various works published in articles and reports. As a result, we have had to revise our research objectives on an almost ongoing basis.

At the outset, our objectives focussed on documenting delicate concepts such as creativity and innovation with greater precision, and understanding what form these processes and attributes took within cultural organisations. The initial emphasis, therefore, lay with conceptual analysis and research tending towards the microanalysis of cultural organisations, and beginning with a research methodology based on questionnaires sent out to cultural organisations. However, certain very recent works have, with not inconsiderable precision, defined some of the issues on which our research is focussed. If pushed to name some of these contributions we would cite works by NESTA in the United Kingdom and the valiant and rigorous production

within Spain, or the various reports produced by the EU, KEA, OECD or UNCTAD. Not forgetting more academic projects by Xavier Greffe and Jason Potts. We attempt to draw on all of this material in Chapters 2 and 3.

In light of these recent approaches, we rethought our own research, in a bid to bring greater added value to the field, and concentrated on exploring the more macroeconomic relationships existing between employment in cultural and creative activities and the growth potential of European regions. This new focus brought us face-to-face with some of the most surprising correlations being proved in works by Power and Nielsen at the European Cluster Observatory, which brought us into contact with works produced by a group of researchers who were beginning to look into these issues, including Luciana Lazzeretti, Rafael Boix, Antonio Russo, Miguel Hervás, Blanca de Miguel and Pier Luigi Sacco. Some of these researchers, referenced in the credits, have collaborated in the development of this report, particularly for Chapter 4. We have also kept a close eye on the conferences held by the Regional Science Association International, and the Association for Cultural Economics International (ACEI), so as not to miss any of the latest contributions sharing this macroeconomic dimension.

Another theme relevant to our context has been to try and understand the role of collective European action within the area of culture and, what began as a painstaking search through European policy in any way related to culture, was significantly lightened with the appearance of reports such as the Study on the Contribution of Culture to Local and Regional Development – Evidence from the Structural Funds published by the Centre for Strategy and Evaluation Service and ERICarts. At any rate, following an exhaustive review of Europe's perception in the area of cultural policies, which we have summarised in Addenda 1, we wish to align ourselves with C. Gordon's view (Gordon, 2010) that; "despite the increasing ambition evident in the 'Agenda for Culture', the EU's traditionally tactical and incremental approach has not so far matched the Commission's rhetoric concerning cultural policy as the vital issue it wishes to promote as increasingly important to the economy and prosperity of the EU as a whole".

2. THE CENTRALITY OF "CULTURAL AND CREATIVE ACTIVITIES"

The symbolic structure of a community has always played a relevant role in the configuration of the socioeconomic space. However, this influence has become stronger over the past two decades. As indicated by the EU in its Green Paper (Unlocking the potential of cultural and creative industries, 2010), factory floors are progressively being replaced by creative communities whose raw material is their ability to imagine, create and innovate.. All formulations of the knowledge or information society are based on signposting the increasing importance and centrality of the symbolic dimension in the organisation of social and economic relationships. However, this perception has become something of a cliché, and one which does not take into consideration any of the comprehensive and definitive findings available when identifying, with any clarity, the causes, the variables involved, the relationships between said variables and their consequences.

What we do hope to move beyond is the more conceptual and ideological debate over the terms "cultural industries" and "creative industries". Over recent months, many authors have dedicated their efforts to trying to define the particular scope of each of these two terms (Potts, 2001; Cunningham, 2011; Garnham, 2011; Zallo, 2011). For this report it is our intention to use the term "**cultural and creative activities**", indicating that our interest does not solely lie with those activities developed in spaces mediated by the market, but that we are also referring to **all those activities in which, motivated by more than simply filling their leisure time, human beings, as a consequence of their expressive, communicative and emotional needs, interact, whether creatively or passively, with the flows of symbolic information, pursuing a particular aesthetic, expressive, cognitive, emotional or spiritual experience and impact for themselves or others**. **These interactions can materialise in the form of one-off events or social spaces, and can be channelled through formal, regulated exchange systems (companies, organisations and institutes) or informal, unstructured systems as a natural consequence of social interaction.**

Cultural and creative activities It could, however, be viewed as opening up the hitherto ossified relation between economics and culture; a relationship no longer to be limited to questions of the arts and market failure (cultural economics), or of rationales for cultural regulation. Instead, there is a focus on the role of media, culture and communications in generating change and growth in what Schumpeter called the capitalist 'engine'.. (Cunningham, 2011)

We should highlight that individuals engage in cultural experiences as a consequence of their expressive, communicative, play or spiritual needs, and that these experiences take place in spaces of cultural exchange, through interaction with other individuals within a given social environment, or otherwise manifest themselves personal experiences. The majority of these experiences take place in "non-market" environments. Some, however, and this is increasingly becoming the norm, are developed in market environments in which a person essentially creates, produces, distributes

and/or consumes a cultural good or service in exchange for a price, salary or capital income.

Despite this conceptual and terminological difficulty, in the European context it is this perspective that the formulation[1] of the Lisbon Agenda must match, since cultural and creative activities can adapt to the objectives of "long-lasting economic growth accompanied by a quantitative and qualitative improvement of employment".

This importance of aspects related to models of creation, production, distribution and consumption of cultural goods and services has to do, in the first instance, with the increasing economic dimension of market exchanges of said goods and services.

CLASSIFICATIONS AND DIMENSIONS

Since the start of the twenty-first century there have been increasing efforts to produce quantitative data to define the economic dimension of cultural activities and the creative industries. One such investigation has revealed that the cultural and creative industries sector in Europe accounts for 2.6% of GDP, generates over 5 million jobs and is one of the most dynamic sectors, enjoying high growth indexes (KEA, 2006). This study is based on the classification of activities according to a concentric circles model. This model radiates out from a central core of creative activities (cultural heritage, scenic arts), around which emerge the cultural industries (cinema, music, television), creative industries (fashion, design, marketing) and related sectors (support, audio-video) in subsequent levels.

However, there is no definitive consensus as to how to define the sector. Santagata (2009: 50-55) identifies 5 different classification models for cultural and creative industries besides the one already mentioned: the WIPO model, based on intellectual property rights; the cultural industries model, principally applied in France based on the conceptualisation of social research in culture; the DCMS or "Creative Industries" model, economic activities with creative inputs and intellectual property outputs; UNCTAD (2010), which proposes four activity groups: heritage, arts, media and functional creations; and, finally, the Italian "white paper" model, resulting from the crossroads between sectors (material culture, content industry and heritage) and activities from the creative value chain (conception, production and marketing).

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[1] *"to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion"*

Table 1 CREATIVE INDUSTRIES in different approaches

	DCMS 2009 (UK)	WIPO copyright industries (2003)	LEG Eurostat (2000)	KEA European Affairs (2006)	UNCTAD (2010)
Printing		X			X*
Publishing	X	X	X	X	X
Advertising & related services	X	X	X	X	X
Architecture	X	X	X	X	X
Arts and antique markets/trade	X	X			X
Crafts	X	X	X	X	X
Design / Specialized design services	X	X	X	X	X
Designer fashion	X	X			X
Film / Motion picture & video industries	X	X	X	X	X
Music / Sound recording industries	X	X	X	X	X
Performing arts (theatre, dance, opera, circus, festivals, live entertainment)/ Independent artists, writers, & performers	X	X	X	X	X
Photography	X	X	X	X	X
Radio and television (Broadcasting)	X	X	X	X	X
Software, computer games and electronic publishing	X	X	X	X	X
Heritage / Cultural sites (Libraries and archives, museums, historic and heritage sites, other heritage institutions)			X	X	X
Interactive media			X	X	
Other visual arts (painting, sculpture)			X		X
Copyright collecting societies				X	
Cultural tourism / recreational services				X	X
Creative R&D					X

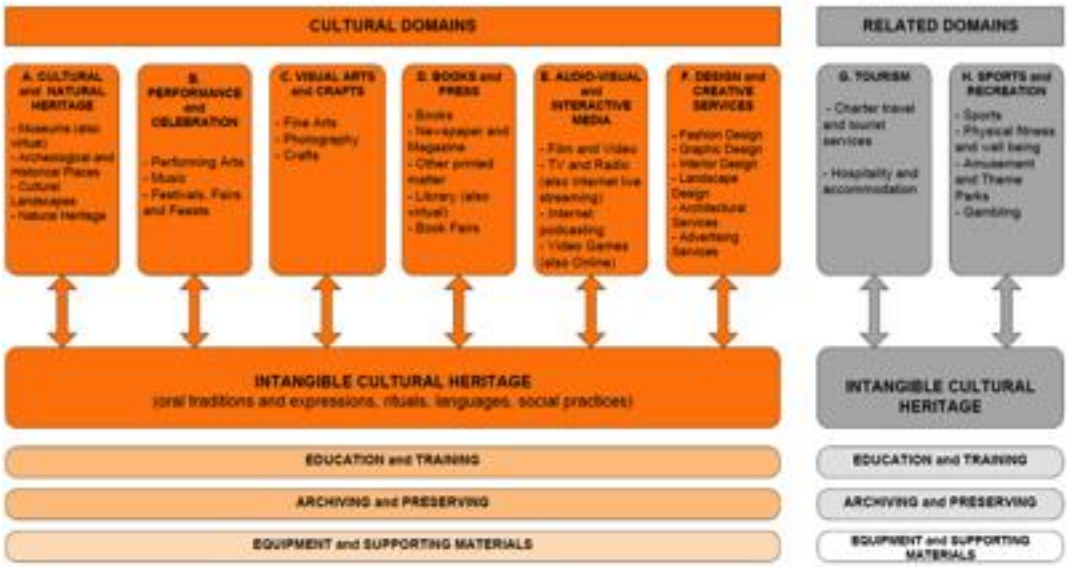
In this sense it is probably the UNCTAD definition of the creative sector, and its list of related industries, that is the most comprehensive, since it includes areas from the creative, cultural and technological industries. UNCTAD (2010, p. 8) defines creative industries that "(a) are cycles of creation, production and distribution of goods and services that use creativity and intellectual capital as primary inputs; (b) constitute a set of knowledge-based activities, focused on but not limited to arts, potentially generating revenues from trade and intellectual property rights; (c) comprise tangible products and intangible intellectual or artistic services with creative content, economic value and market objectives; (d) stand at the crossroads of the artisan, services and industrial sectors; and (e) constitute a new dynamic sector in world trade"

Consequently, each model calculates different figures for the sector's contribution to the economy, between 3 and 9% of GDP and between 1 and

11% of employment. However they all agree on the characteristics of the sector's configuration and growth.

We can see that the institutional vision of the concept of "culture" has become considerably broader, as presented in the latest UNESCO Framework for Cultural Statistics 2009, which reflects the paradigm shift in the perceptions and functionality of culture.

Figure 1. Framework for cultural satistics domains. Sourcre: UNESCO 2009



In the face of this increasing centrality of the cultural dimension, some amount of terminological standardisation is taking place, as well as a process of methodological convergence. However, there is still far to go until these processes reach maturity.

THE CONVENTIONAL APPROACH

There is a conventional explanation as to the reasons behind the growth of the creative economy over and above the economy's average, and consequently behind its increasing contributions to the overall GDP of European countries. The increasing contribution of cultural and creative activities to the economy comes as a consequence of the paradigm shift within the economy:

- As a result of the service economy: in more developed economies, services, including cultural and creative activities, have grown strongly in prominence.

- As a result of the restructuring of the value chain of many economic sectors: certain cultural and creative activities have, along with other knowledge-intensive services, come to occupy a key role as service providers for companies within the economy as a whole (in design, communication, etc.)

- As a result of the globalisation of economic activity: cultural and creative activities are one of the main drivers behind this process, with tried-and-tested effects on appeal and perception abroad.

- As a result of the digital technological revolution: which impacts upon the structure of the economy as a whole and in which, along with other sectors,

cultural and creative activities play a key role. The technological revolution is having startling, far-reaching effects, not only in terms of what's available on the market, with a significant reduction in the production of symbolic goods, but also in terms of demand with the potential for new forms of consumption[2].

- And, finally, this shift is occurring in Europe in particular as the defensive response of a production system being squeezed by the greater scientific and technological power of the United States and some parts of Asia, and the pressure of emerging economies on media technology production. Culture is, to some extent, therefore becoming a sector of refuge in which it is still possible to sustain a degree of competitiveness on the international level.

However, recognition must be made of that fact that this group of activities is unlike any other, and does not exist in isolation from the rest of the economy and other social fields. Creativity, artistic expression, symbolic production as a generator of meanings, and communication, etc. all interact with the whole of the socioeconomic network. The impact of this sector goes beyond its mere consideration as an economic activity, and cultural and creative activities should be seen for their capacity to activate, stimulate, modify and transform the foundations of the socioeconomic competitiveness of a given space.

THE LEGITIMATION OF CULTURAL POLICIES

One issue that is often overlooked is that the objective of cultural policies is not the cultural industry or the creators, nor is it culture itself, but, as with all public policies, citizenship. The subjects of policy in this area are the citizens, and while the health of the creative sector is a reasonable necessary prerequisite, it remains a means to an end.

The underlying justification for cultural policies is based on the intrinsic value of culture in maximising our well being. This value does not derive from the maxim "art for art's sake", or from the artistic value of the work created, but rather from the capacity of creativity, art and culture to affect us cognitively, aesthetically or spiritually and to transform our social, civil, economic or political dimension, stimulating our sense of belonging and identity, building social capital, feeding the knowledge that gives us autonomy, shaping our sensibilities and the ability to find usefulness in aesthetic enjoyment, and

2 From a technical standpoint, digitalisation unifies the system of signs, symbols and images, homogenises the treatment of signals, exponentially increases the speed at which information is circulated and passed on, and enables the connectivity of technological systems, as well as the mobility which characterises our techno-economic times and the internet society. From the systematic point of view, digitalisation enables qualitative developments such as interoperability, the transversality of formats and contents, interactivity, accessibility, *trans-formats*, ubiquity and multiple access points, the compatibility of the fragmentation of communication processes and their open reconstitution, the merging of the micro and the global, etc. (Zallo, R., 2011)

broadening our expressive and communicative capacities. This is development according to Amartya Sen; that is, that these are the steps involved in the process by which we improve individual and social control of our symbolic universe –culture–, increasing our capacities to choose between alternative actions.

This conceptual justification of cultural policy as a central component in the deepening of the communities' development does not legitimise the current, specific cultural policies of European countries, but rather the opposite. From precisely this perspective, analysis reveals with considerable precision that actual cultural policies are, for the most part, ineffective (they do not achieve the goals they set out to meet), inefficient (where they do meet their objectives, these could have been achieved with a better use of productive resources) and, more scandalously, tremendously unjust (the citizens who essentially pay for them have lower levels of income and education, while those who benefit tend to have higher levels of income and education).

But it is also evident that culture is a broad spectrum vaccination and, consequently, enables the realisation of other development dimensions and it is in this context that we must consider the economic dimension. Our research shows that the size of cultural sectors is the most decisive variable (note decisive, not important) when explaining the differences in per capita income of European regions, and that there exists a bidirectional causal relationship between culture and wealth. We also know that the centrality of creativity and innovation is changing the role of economic organisations and human resource management models, and we know that a liquid labour market is emerging in response to this state of affairs, one which combines liberating trends for the human workforce and enables enriching personal development experiences, as well as realities tending towards extreme precarious work situations and self-exploitation. Beyond this, however, we now know for a fact that the concentration of cultural and creative activities in a given territory changes the logic and inner workings of its economic dynamics in a much deeper, more complex way than we would have supposed until now, as a result of the tendency towards innovation. We also know that the "field of cultural" exports a set of values to the other socioeconomic fields that entail an ethical repositioning, and which are more compatible with the concept of sustainable development. What is clear is that the symbolic and creative content of a community, particularly within Europe, no longer exclusively constitutes its cosmetic dimension, but in some way contains the central pillars of the possibility frontiers of its socioeconomic competitiveness and determines its level of development.

However, none of these dynamics is independent of our individual and collective decisions. The knowledge that we are acquiring regarding the relationships existing between community and culture, together with greater levels of governance, should allow us to increase social control over said processes, in a bid to optimise the thrust of culture towards models of development that enhance our levels of freedom, whether by satisfying our cultural rights, securing economic growth or achieving other social objectives, and to limit or control the risks inherent in the logic of markets, interest

groups, inertias or mere incompetence or ignorance. We must strive to overcome the clichés of the generic goodness of culture, while also distancing ourselves from paranoid conspiracy theories regarding big corporations and the logics of globalisation.

But there is no doubt whatsoever that culture hugely extends the possibility frontiers of our future. At this point in time, within Europe, it would be irresponsible to fail to make intelligent use of this situation.

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CHAPTER 2. INNOVATION, CREATIVITY AND CULTURE: DEEPENING AND WIDENING YOUR SCHEME OF RELATIONSHIPS

In the past 5 or 6 years, countless academic publications, reports and statistics elaborated by European and international organizations have discussed the role of innovation, culture or creativity in developmental processes. UNCTAD[3] tells us that "a new development paradigm is emerging from the connections between economy and culture, touching on the economic, cultural, technological and social apsects of development both on a macro and micro level". The EU informs us that Cultural and Creative Industries[4] breathe new life into declining local economies and spawn new economic activities, thereby creating new sustainable jobs, and making the regions and cities of Europe more attractive. The OECD also insists on the role of the cultural and creative industries as a lever for social and personal development. Such industries generate economic growth and constitute the of the definition of "glocal competitiveness"[5]. This phenomenon is not specific to the European and Western world, but rather a discourse that has taken root in various geographical areas. The Organization of Iberoamerican States highlights in its Cultural Charter[6] the strategic value of culture in the economy and its fundamental contribution to economic, social and sustainable development in the region. Furthermore, the World Forum of United Cities and Local Governments on the Agenda 21 for Culture[7], approved in 2004, stresses that while cultural goods and services should not be seen simply as merchandise, "it is imperative to point out the importance of culture as a factor for generating wealth and economic development."

This ebullience firstly shows signs that both the knowledge community - from the world of Academia to think thanks and policy-makers - are all aware of culture's newfound centrality in developmental processes. Secondly, it should also be noted that this multiplicity of approaches is leading, albeit not without some difficulty, to a certain consensus regarding concepts. Even though culture, innovation, creativity and knowledge are becoming key words, we still have a long way to go to understand all the links and causalities between these concepts and development.

The second issue focuses on the features found in the historical evolution of innovation production. In this way, it will be possible to monitor the

3 UNCTAD (2010): Creative Economy Report 2010

4 EUROPEAN COMMISSION (2010): GREEN PAPER. Unlocking the potential of cultural and creative industries

5 OECD(2005): Culture and Local Development

6 OAS (2006): Ibero-American Cultural Charter

7 UNITED CITIES AND LOCAL GOVERNMENTS (2004): *Agenda 21 for Culture*

progressive expansion and democratization of the innovation sources, as they evolve from a model of isolated individual production (characterized by the figure of the entrepreneur) to one of social, regional and serialized production, where social capital, knowledge, creativity and culture play a key role. Such dynamics can be seen in the gradual diversification of the various types of innovation and the growing importance of non-technological innovation linked to the service sector: Hidden Innovation (NESTA, 2007), Consumer-Led Innovation (Georghiou, 2007), Social Innovation (Mulgan et al, 2007), etc.

Both the economic nature of innovation and the progressive socialization of its production sources are seen to engage in interaction. The third edition of the Oslo Manual (OECD, 2005) considers the need to establish systems of indicators that will systematically show the complex nature of the innovation processes within the current context of the Knowledge Society. Innovation plays a decisive role in the Europe 2020 Strategy, which aims to promote growth on the basis of three pillars: environmental sustainability, the fight against social exclusion and the Knowledge Economy.

Technological, social and productive changes entail a greater degree of "democratization" of knowledge. According to Wagensberg (2002), globalization and global warming require the various facets (scientific, artistic, revealed knowledge) to all be brought together and treated as a whole so as to be able to manage the complexity of the new paradigm of development, to foster good governance. The diversification of the sources for innovation production under study here suggest a new role for the cultural stakeholders, who, thanks to their creative skills, are of particular relevance in this context. The ability to innovate within the cultural sector itself (in key issues like experiential goods and services, the expansion and diversification of audiences, collective creation and experimentation, digital developments or new methods of financing and management) are thus driven by the challenges facing the Europe 2020 Strategy, as we shall see in the final section in this chapter, devoted to the regulatory framework of Agenda 21 for Culture.«

At the same time, the impact and interaction of culture on innovation in other productive sectors are also core issues. As we shall see throughout this work, and in keeping with the concept of **"culture-based creativity"** (KEA, 2009), there is growing recognition of how the combination of personal, cultural and creative skills, technical abilities and social relations can play a key role in stimulating research and development, and help optimize the management of human resources within the company and inspire society as a whole.

1. SOME NOTES ON CREATIVITY AND DEVELOPMENT.

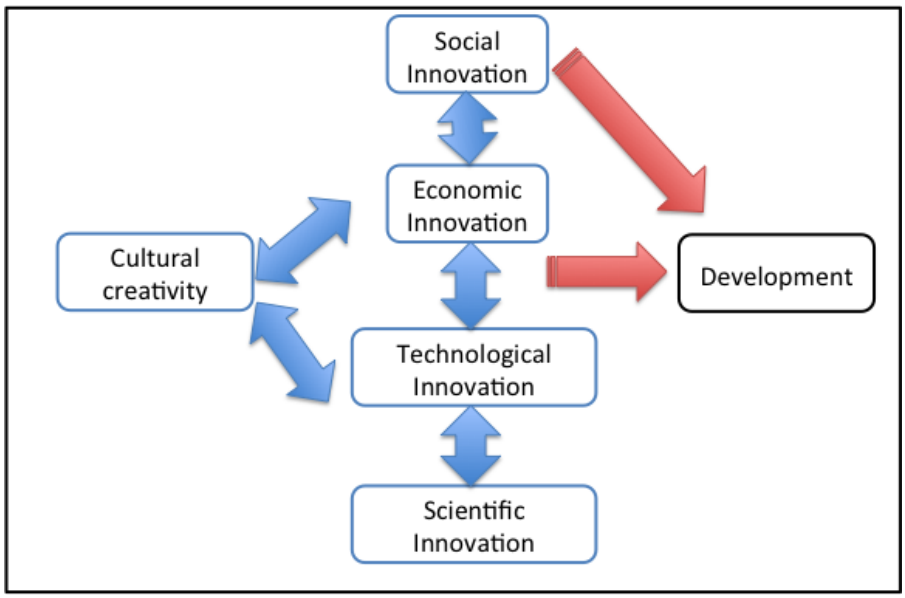
While it is not a main aim of this report, we still see the creativity concept as being relevant, since it concerns the link between culture and economics. Until nearly four decades ago, the concept of development was limited to the vector of economic development. "Productivism" as a development strategy

was a matter of trying to maximize production in quantitative terms. However, the technology proved to be less miraculous than originally expected. Constraints on natural resources along with the environmental risks involved soon came to light. The nineteen eighties witnessed a greater use of the concept of "sustainable development", which basically meant focusing the concept of development on those socio-economic processes that enabled the needs of today's generations to be met, without compromising the capabilities of future generations to satisfy their own needs. Progress in this area amounts to the fact that from that time on, the needs that have to be met by a specific development model will evolve from a social construction model… which of course depends precisely on the community's cultural profile. It is this dimension that is capable of explain the dreams, desires and wishes of the group taken as a whole. The contribution of Amartya Sen with his *Development as freedom* defines development as the process that expands an individual's degrees of freedom and increases their autonomy by enhancing their skills and competences. Another author, called Jon Hawkes (2001), in fact, identifies culture as the fourth pillar of sustainable development, together with the social, economic and environmental dimension. We can therefore talk about a "cultural slant" to the definition of development.

The jump to defining a community's needs from a cultural perspective nevertheless implies a return to the economic sphere, since, as the Council of Europe itself recognizes, culture and creativity are closely interwoven. Creativity is at the very heart of culture, and this in turn creates an atmosphere that can enable creativity to blossom. For its part, creativity is at the heart of innovation – understood as being the successful exploitation of new ideas, expressions and forms – and as a process that develops new products, new services, and new ways to do business and new ways to respond to the needs of society. Creativity is therefore paramount for fostering innovation in the general public, as well as enhancing innovation skills in organizations, companies and societies. Culture, creativity and innovation are crucial for the competitiveness and growth of our economies and for our societies, and they are even more important in times of rapid change and serious problems.

Thus, moving away from the restrictive concept of development in the economic sense leads us to culture, which finally reveals its ability to harness innovation and set in motion processes of economic growth, and hence development. But in addition, cultural creativity also has an influence on other spheres of cognitive production, affecting scientific, technological, economic and social innovation as well.

Figure 2. Cultural creativity and development. Source: Adapted KEA 2009



All these approaches coincide in the difficulty of defining creativity without specifying, (even in the sciences where such studies are the norm) whether it is an attribute or a process. *It is a word with a great many definitions, referring intuitvely to the skill not only of being able to create something new, but also of re-inventing, diluting traditional paradigms, joining up seemingly unrelated dots, and by so doing, offering ways to solve both old and problems. In economic terms, creativity is a renewable fuel, which is constantly enhanced and replenished with use. Furthermore, rather than saturating the market, with creative stakeholders "competence" attracts and stimulates the participation of new producers.* (Fonseca, A. 2008).

The novel idea of re-adapting this concept is that cultural creativity also affects innovation processes, which when seen as simple mechanisms for the accumulation of human capital, social capital and relational capital, (Sacco, P.L, & Segre, G., 2009) are in themselves development processes.

2. THE ECONOMIC CONCEPT OF INNOVATION.

The concept of innovation draws considerably on the work of Josep A. Schumpeter (1883-1950), who defined his guiding principles and characterized innovation as being a driving force for economic development in the capitalist system, based on a process that, in his words, evolved from feedback gleaned from «creative destruction». Schumpeter worked out his theory by setting the neo-classical idea of natural market balance against its stationary state. For this author, the economy is built up on closed production and demand cycles, with a tendency to stagnate. Only innovations have the ability to upset balance and trigger phases of growth and development. **The cyclical, unconventional, structural dynamics of innovation** are remarkable in circumstances such as the current crisis, characterized by the need to search out new standards and lifestyles, to visualize future scenarios and build alternative methods of creating jobs and fostering development.

The third edition of the *Oslo Manual* (2005)[8] proceeds to broaden the definition of innovation, **by identifying various typologies other than the one based on technology**, which concentrates on te primary and secondary sectors of production. This broad view of innovation was nothing new as it had already been discussed ten years earlier in the Green Paper on Innovation (European Commission, 1995). This document went even further, as it referred to society as a whole as having an active role to play in developing innovation. Despite its intentions, the Manual is not successful in identifying methods for transferring or assessing the potential innovator of social and culture–based creativity.

The third edition of the Oslo Manual defines innovation as the introduction of a new, significantly improved product (albeit goods or services), process, marketing or organizational method, in fields such as internal business practices, organization in the workplace or how the organization relates to its environment (marketing).

1. **Product innovation** is accompanied by the introduction of an article or service that is new, or significantly improved, in terms of its characteristics or the use to which it is put. This definition includes the significant improvement of technical specifications, components and materials, embedded computing, user-friendliness or any other functional features.

2. An **innovation involving process** means introducing a new or significantly improved production and distribution procedure. This involves significant changes in techniques, materials and/or computer programs.

3. A **marketing innovation** is the application of a new promotional method involving significant alterations in design or in the way a product is packaged, its positioning in the market, promotion and pricing strategy.

4. An **innovation concerning organization** means introducing a new organizational method for the practicalities, the organization of the workplace or the company's relations outside the business.

It is this typology that confirms the diverse, complex and interactive nature of innovation processes in organizations, since they involve so much more than purely technological and productive aspects, ushering in issues hinging on cultural matters in two broad dimensions: **knowledge management** (prevailing values, aesthetic enjoyment, creativity, imagination, etc.) and **organization strategies** (an open approach and cooperative networking). Knowledge and organization interact with each other and are both essential for managing complex processes, as illustrated by the paradigm for governance, based on the principles of anticipation and consensus (Abeledo

[8] The *Oslo Manual currently identifies one of these to be* the main protocols used to define, promote and measure the processes and activities associated with innovation.

Sanchis, 2010). As we shall see below, culture has an important role to play providing connections between the two fields of action.

All these forms of innovation share a number of qualities that are required to be considered as such. The first thing to consider is that **by itself an innovation does not guarantee a real competitive advantage**: it needs to go through a process of **diffusion and maturation** on the market so that consumers can be re-educated, enabling them to change their old habits of consumption. A second key requirement is that the innovation should visibly demonstrate that it is capable of producing financial benefits to offset the costs sustained by the investment in terms of time, effort and resources.

This last requirement implies that, apart from leading to further innovations, what you actually do with them i.e. your **business models, administration and management**, are also of strategic importance. This is where Schumpeter brings in **the decisive figure of the entrepreneur and the part they have to play in promoting the innovation.** Schumpeter (1934) argues that *«a distinction should be made between economic leadership and mere invention. If they are not successful on the market, in economic terms inventions are irrelevant»*. That is to say, an invention that cannot be propagated and socialized, that does not have a positive impact on the market, cannot be considered an innovation. Innovations that *«turn out to be successful will be recognized as entrepreneurial benefits»*.

In addition, Schumpeter also points out the possibility of having innovations **of a non-technological nature**: *«The innovations entrepreneurs need to implement do not necessarily have to be inventions».* Innovations can also be the result of the original, creative mix of business models, social changes, consumer trends, etc. The **main thing is that they should be capable of penetrating the market with a certain degree of success,** of generating profits and upsetting the existing economic balance, **favouring interruption and hence development.**

The **entrepreneur's duties** have been well defined by Schumpeter (1942): *«We have seen that the entrepreneur's duties involve reforming or completely overhauling a certain production system, exploiting an invention or a previously untried technical possibility to create a new product»*. All this despite the fact that as Schumpeter quite rightly points out «*putting these innovations into practice is hard and has its own unique economic function. […] The entrepreneur's essential role does not involve inventing something or changing the way the company operates.* ***It entails achieving outcomes***».

Given the complexity of experimental processes and their cost, the risk implied in linking investment with the quest for innovation is not a variable that can be easily overlooked. This therefore justifies the importance of implementing measures to protect **industrial property** that can guarantee the company will have a monopoly for exploiting the innovation for the length of time required to amortize the investment. We shall later examine the significance of these theoretical issues for innovations in the cultural sector in terms of gaining access to credit, funding and intellectual property rights.

As far as innovation management models are concerned, Schumpeter established two large-scale theoretical models (known as Mark I and Mark II), which were largely defined by the level of maturity of the markets. As Malerba and Orsenigo (1994) explain, **Mark I is characterized by a goods and services market that is less mature**, and in which the innovation production system has no structure and is exposed to risk. In this model, the figure of **the brilliant, individual entrepreneur** is particularly important. This is a young market characterized by the ease with which rival companies can incorporate technical progress, which leads to the constant erosion of the competitive and technological advantage enjoyed by companies that are already well-established.

On the other hand, **with the Mark II model, the market is more mature**, implementing significant innovations is costly and difficult, and a limited number of consolidated companies prevail, **constantly innovating by accumulating further technological skills with considerable financial outlay**. It represents a systematic, continuous production model for innovation, actively enhanced through the plans drawn up by the company's R+D+I departments and laboratories.

In the first instance, the **individual entrepreneurs** play a decisive role. In the second case, they are ousted by «**entrepreneurial organizations**» or business structures that can assume the risk inherent in research and the implementation of innovations in the market. These two categories are not exclusive but complementary. Combined, they can help to better understand the ways in which innovation is generated and managed. As we shall see throughout this chapter, the historical evolution will incorporate a third element, aided by new knowledge-based technologies: "entrepreneurial society". The configurating role of culture in this society (with the aforementioned elements such as territorial identity, historical memory, values and lifestyles) divest culture of its centrality for socio-economic development processes.

3. SYSTEMATISING THE PRODUCTION OF INNOVATION: FROM KNOWLEDGE AS A RESOURCE TO CORPORATE MANAGEMENT.

In keeping with the analyzes conducted by Yproductions (2008, 2009), two of the expansion and economic development models that prevailed in the twentieth century – the Japanese and US models – were based on the updating of MARK and MARK II Schumpeterian models. On one hand, the Japanese economy Toyota model focuses on the conception of **knowledge as a resource and generator of innovation**. On the other hand, the American model develops this question from the perspective of **corporate innovation management**, maximising its production routine and thus minimising the risk and uncertainty involved. In both cases, we shall see the increasing relevance of the cultural dimension when it comes to systematising, diversifying, combining and socialising the production processes of innovation.

THE TOYOTA MODEL

First, the historic Japanese economic development from the early nineteen eighties stems from a model of **continuous generation** of innovation similar to the MARK II model. This period was characterized by a series of changes in its business models, management structures and work systems. The final objective was to **have knowledge, in a broad sense, at the service of the productive process.** As we shall see below, **culture is revealed as an essential area of action** in order to achieve this goal, due to its influence by means of various routes such as the **promotion of creativity, the uses of language, the role of research, education**, etc.

The work of Nonaka and Takeuchi (1995) highlights how «***knowledge has gone from being a resource to being the (ultimate) resource***», indispensable to produce innovations and obtain competitive advantages for industrial companies like those enjoyed by the car industry. One of the key points in this philosophy rests on the idea of reconverting knowledge, transforming it from a non-integrated and useless element to an economic asset for the company. Or as Nonaka and Takeuchi (1995) put it, *«to explain how Japanese companies produce new knowledge, we must understand the* ***transfer process of implicit knowledge to explicit knowledge****»*.

This transformation process of implicit knowledge to explicit knowledge is particularly interesting to understand the potential of culture as an innovation factor, given the value that certain forms of knowledge will acquire and the role of culture and arts in their production and management.

In this regard, **aspects like creativity, the unconscious mind, the emotional, the imagination and the capacity for abstraction, symbolic and economic resources, disruptive capacity, diverging thought, or aesthetic values** acquire a new light when viewed from this light, as noted in the report entitled "The Impact of Culture on Creativity" (KEA, 2009).

According to Nonaka and Takeuchi (1995), as opposed to the **concept of explicit knowledge**, which *«can be expressed in words and figures and is easily communicable as pure data, kynetic formulae»*, **implicit knowledge** comprises a whole series of **knowledge concepts, systems of belief,**

intuitions, abilities or an endless list of elements that have not been codified and that are learnt by means of **social participation, experience or traditions**. The transformation of this implicit knowledge to useful knowledge gives way to an important source of information and a wide field of potential competitive advantages for the company.

This reconceptualization towards integral forms of knowledge presents some very interesting **implications in organizational terms**. First, significant boundaries are redefined, **questioning** both **internal divisions between departments** of the company and the **external permeability** with society. Second, **cooperative action** is configured as the ultimate structure for the development of the integrative function or, in the words of Wagensberg (2002), the network is the architecture of complexity.

Hierarchical organization structures are replaced by cooperative heterarchies composed of several producers of different kinds of knowledge. The management of human resources is seen as being of great importance when viewed in this light.

Communication and language become critical axes for this organizational strategy oriented towards the integral production of knowledge. Our authors describe how *«members of different teams establish new points of view through dialogue and discussion […]. This type of interaction dynamics favours the transformation of personal corporate knowledge» «No department or group of experts now has the exclusive responsibility of producing new knowledge»*.

Overcoming communication barriers and dialogue between different languages and disciplines (like, for example, the ones that exist between people from science or technology and the arts) is a challenge that is extremely interesting. As the report entitled *The Impact of Culture on Creativity* (KEA, 2009) says, we can highlight two features associated with artists and creators[9] that go in this direction.

Knowledge is now an object to be produced by all employees without any distinction being made so it is imperative to have a strong corporate culture, i.e. the generation of common ideas and values that enhance the employee's identification with the company. In order for the employee to share the company's mission and vision, promoting their loyalty and implication, it is essential to design cultural strategies that can take effect in the emotional, symbolic, aesthetic and communicative spheres of action.

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9 And the appearance of new players like the "**Interlopers" and "Polymaths**". The first concept makes reference to the ability to deal with external competences efficiently and is used by Fabrice Hybert to characterize the artist as a catalyst of solutions by fusing knowledge with technologies (physics, psychology, craftwork, astronomy, etc.). On the other hand, "Polymath" refers to the person that displays a profound knowledge in the spheres of science and arts.

It is also necessary to define the **employees' participation and stimulus environs and spaces** (and equip them with recreational and entertainment facilities), for the purpose of **fostering their creativity and getting them involved in the innovation process**[10]. Cultural and recreational activities **favour socialization among employees**, promote team spirit, foster the development of their creative skills and abilities, increase the workers' self-esteem and motivation, their identification with the company, promoting ways of thinking that are critical, imaginative and disruptive, where rules and routine are concerned, with excellent business results. Thus, they become particularly valuable in a business strategy focused on knowledge as a resource.

Using this **figurative language** different ways of imagination or communication are activated, making it easier for the teams to collaborate. **Intuition is no longer downplayed** as a second-rate form of knowledge in these strategies, but understood as a key element within the new epistemological paradigm. Thus the way is cleared for the **introduction of artists** or individuals that have to promote diverging thought or **articulate cognitive processes** belittled by traditional doctrine.

On the other hand, moving outside the gates of the factory to consider its location, the **boundary** of the company with society also attracts new attention. The **permeability of this boundary and the importance of knowing how to grasp all kinds of knowledge**, where the source does not come from academic circles, but **from social processes, personal experiences or cultural differences**, can become a real fountain of knowledge for the company. The **role of culture** as an **enhancer of creative, rich social capital environs**[11] acquires a strategic dimension when looked at from this perspective.

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10 This goal has led to the emergence of **methodologies** specifically designed to query employees and put their implicit knowledge into practice. Nonaka and Takeuchi (1995) highlight the importance of *«expressing the inexpressible»,* placing special emphasis on *«figurative or symbolic language»*. Phrases. Images or poems are tossed out to all the members of the production teams, in an effort to trigger a more imaginative way of thinking. For instance, formulae like «car evolution» or *tall boy* used by Hiro Watanabe to produce new car models at Honda are good examples of this type of thing. Designers, engineers, publicists should start working – not on a prototype – but on a vision, on a value or a concept (like *tall boy*) to start to imagine a completely new car. Later on we shall see how this system has been perfected in what Piore and Lester (2004) call «*interpretative innovation*».

11 In this respect, Bourdieu (1985) defines social capital as *«the sum of real or potential resources related to the property of a lasting network of mutually verified and more or less industrialized relationships»*. This social capital is presented as a variable of unique importance for the competitiveness of the company in the context we are referring to.

CORPORATE MANAGEMENT OF INNOVATION AND THE KNOWLEDGE-BASED ECONOMY

As Yproductions points out, the aim of the American business model is to optimize the **systematic procedures for innovation**, minimising the risk of investment and making continuous improvement processes more routine.

The development of this innovation management model is closely associated with the Drucker-style **Knowledge Economy** platform, in which knowledge is converted into the most important factor in the production chain. Hence, its name since *«value is now generated through productivity and innovation, both of which are methods of applying knowledge to work»*. (Drucker, 1993)

We can see how from the middle of the 1980s onwards, the classic notion of Schumpeterian innovation starts to mutate, going from its consideration as an element of radical change to being a system that can be apprehended, analyzed and systematized using well established methods and parameters. **Therefore, the original model of Schumpeterian entrepreneur will progressively move from being the individual capable of implementing brilliant, ingenious and risky innovations to the human organization that learns how to systematize them.** This is the description given for an **endogenous innovation process**, which is not only designed to foster innovation, but to generate a system of **continuous innovation** within the company. According to Baumol (2002), this can indeed be achieved as *«the innovation process brings improvements in the R+D system itself, which in turn encourages future innovation. Thus, innovative activity becomes a cumulative process».* The **innovation systems are standardized**, thereby promoting a form of innovation that is much **safer**, but above all, much **more profitable**. Innovation is also evolving into a **cumulative** element. One innovation can easily lead to an another, and the more work done, the better the results that can be obtained.

For Baumol (2002), innovation no longer lies «*in the realms of the unexpected, in giving imagination a free rein, with creativity incarnating the entrepreneur's own spirit. Now it is dominated by memoranda, the tight cost control, standard procedures, supervised by a highly trained "managerial" class»*.

These changes are two-sided. On the one hand, the worker is given more freedom with respect to work schedules, type of job, design of the working day, etc. But there is no room for misunderstanding: the aim is to strengthen the worker's ties with the company and foment the capture of knowledge. This process of redesigning the workplace has *«the adoption of a **work culture** as its predominant feature, rewarding openness, cooperation and self-management. This type of work routine had already been eliminated in pyramidal organizations»*.

The study of "Innovation in culture. A critical approach to genealogy and uses of the concept" (YProductions, 2009) show how the systems for maximising knowledge production becomes systems for monitoring and submitting the

interests of the worker to those of the company, generating **systems for immersing** the person in the business environment. According to this work, the loss of **social capital** on the part of the workers has important consequences with respect to their capacity for resilience and negotiation with the corporate management.

4. EXPANDING THE SPHERE OF INNOVATION PRODUCTION INCORPORATING THE SOCIAL DIMENSION.

Expanding the sphere of innovation production means going beyond the idea that innovation concerns what is on offer and the ability to focus on the aspect that what eventually gives new things their value (whether they involve product or process or any other type of novelty), a certain degree of social consensus is arrived at, which accepts the fact that it is not only novel but that it also bears some kind of economic or social value. Potts describes this innovation acceptance process in 3 phases: origination, adoption and retention (Potts, 2011). Furthermore, "social innovation" not only requires a particular creative process to be recognized as the result of a social construction process, but it also needs to have a use or value that can be appropriated by a social group. Murray, Calulier-Grice and Mulgan (2010) offer several different definitions for social innovation:

Phills, Deiglmeier and Miller's definition: "a novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for **which the value created accrues primarily to society as a whole** rather than private individuals. A social innovation can be a product, production process, or technology (much like innovation in general), but it can also be a principle, an idea, a piece of legislation, a social movement, an intervention, or some combination of them."

NESTA's definition: "innovation that is explicitly for the social and public good. It is innovation inspired by the desire to meet social needs which can be neglected by traditional forms of private market provision and which have often been poorly served or unresolved by services organized by the state. Social innovation can take place inside or outside of public services. It can be developed by the public, private or third sectors, or users and communities – but equally, some innovation developed by these sectors does not qualify as social innovation **because it does not directly address major social challenges**."

The definition provided by OECD's LEED Programme (Local Economic and Employment Development): "conceptual, process or product change, organizational change and changes in financing, and can deal with new relationships with stakeholders and territories. '**Social innovation' seeks new answers to social problems** by identifying and delivering new services that improve the quality of life of individuals and communities; identifying and implementing new labour market integration processes, new competencies, new jobs, and new forms of participation, as diverse elements that each contribute to improving the position of individuals in the workforce."

To describe this reality, Jaron Rowan uses the expression «social creativity» with the idea of "Innovation in culture. A critical approach to the genealogy and uses of the concept" (YProductions 2009). Social creativity is considered to be a new **resource** that can be appropriated by corporate actors and incorporated in the dynamics of continuous innovation. Connections between the diffierent types of innovation and the cultural sector. Source: prepared by the authors based on Yproductions (2009)

The work of YProductions classifies the various approaches to social creativity which are summarized in the chart below:

Table 2. Connections between the diffierent types of innovation and the cultural sector. Source: prepared by the authors based on Yproductions (2009)

Typologie of innovation (Authors)	Description and adaptation to the cultural sector
Cretive basins (Corsani, Lazzarato, Negri, 1996)	Creativity basins contain a number of subjects, ideas, knowledge, means of communication, sociability and values. These basins have a creative potential that goes far beyond the capacity of factories and businesses, emerging as a new resource. Immaterial nature of cultural production. Organizational models typical of networking setups. Overlap between lifestyles and productive activity.
Creatives clases (Florida, 2002)	This refers to the key role played by creative staff in bringing about innovation and three specific attributes of professionals in the industry that are particularly attractive: technology, talent and tolerance.
Mass creativity and innovatio and hidden innovation (NESTA, 2007) Miles, Green, 2008. Leadbeater,2006)	Leading to processes generating research and the production of knowledge within society. The influence of cultural organizations affects three basic areas: promotion of social dialogue (channelled through a critical transformative will typifying the mission of cultural organizations), widespread use of new technologies (promoting them using creative content) and the need to rethink the educational model (inclusion of artistic ability and creative skills). all those types of innovation happening within society, but which, due to their reduced size and multiplicity, cannot be captured by traditional indicators of innovation. Open and shared production models, the Hacker ethic or the Pro-Am figure are three specific references for cultural and creative organizations associated with hidden innovation.
Innovation driven by consumers (Georghiou, 2007)	The interaction between production and consumption is an obvious risk facing cultural organizations from various standpoints: a role as avant-garde users with alternative lifestyles; the importance of culture being consumed for the benefit of production; the investigative role of cultural organizations and the experimental disposition that characterizes them.
Innovación social. (Mulgan, Ali, Halkett, Sanders, 2007)	«social innovation such as the development and implementation of new ideas (products, services and models) which aim to cover society's shortfalls» As opposed to the other productive sectors, cultural organizations are characterized by a corporate mission and vision that is relatively more skewed towards social goals and critical dialogue with reality, along with greater involvement in the immediate vicinity (local development). These organizations' scales of values are integrated in the dynamics of social change feeding such innovations.
Insitutional innovation(Abeledo 2010)	The role of culture in promoting institutional innovation is reflected in general programmes such as the international movement of Agenda 21 for Culture, and also in specific activities aimed at modernising public services. Culture is presented as a resource for local development and its management and planning procedures.

In many of these different conceptualizations, «social creativity» is understood as a resource that can be exploited or utilized, both for political and economic purposes. This generates a wide range of **scales of value** with which the potential of these **new cultural and social forms** can be measured and understood. Part of this «social creativity» is appropriated by economic stakeholders, who are capable of endowing these innovation processes with direct economic value. Thus, social creativity will be effective in terms of innovation when it is put into the service of communication or promotion campaigns for a specific place or region, or by commercialising a specific practice, or the transference of knowledge to private business, etc. We therefore reserve the term innovation for the instances at which the different sectors have access to this creativity and turn it into economic profit. Both the business and financial sectors aim to establish **ways to access** this new resource understood as a huge R+D department that is added on to the traditional spaces for the production of knowledge, such as universities and research centres.

Nevertheless, the resource of "social creativity" is also available for other areas such as the technological, the social, cultural or political spheres. And so in this regard a dual process takes place: in addition to being producers of this «social creativity», these areas can at the same time make use of the external results they produce, and in so doing, generate a dual cycle of production and active consumption that exemplifies the figure of the **prosumer** in the case of models of Web 2.0 and free peer-to-peer (P2P) exchanges**.** This also helps us to understand how older disciplines or economic spheres are currently being eroded: While the porosity of their outer limits increases, it becomes increasingly difficult to differentiate between the social and the cultural, between the social and the economic, and between the commercial and civil spheres.

In its study, YProductions stresses the fact that in order to turn this creativity into a source of innovation, it is imperative to open up avenues of access. These channels can have very different forms, from **incubators** of cultural projects, specific public policies, programmes for cooperation with businesses, ***crowdsourcing***, etc. When all is said and done, what we are really talking about is a profound rethinking of the manners and ways of looking at the rights of ownership of the various values generated by social interaction based on knowledge. This includes reviewing the very concept of intellectual property.

What is absolutely clear is how the concept of innovation has spread and now no longer refers solely to processes that harness creativity to generate economic value, but has expanded to mean generating another type of value such as social, aesthetic, cognitive, or political values, which can be appropriated not just by economic units but also by social communities. As Yproductions indicates, it is imperative to foster the notion of creativity not only as an economic stimulus, but also as a real driving force for **social innovation**. But bearing in mind that, as stated in the Declaration of

Vienna[12] on Social Innovation, social innovation will become increasingly important not only with regard to social integration and equal opportunities but also with regard to preserving and expanding the innovative capacity of companies and society as a whole.

Potts and Morrison (2009) suggest that if innovation is growing, the creative sector has the capabilities to help companies adapt to the new situation by correcting the "flaws in their economic performance" and also their "aversion to risk, resistance to change and shortsightedness". The services provided by the creative industries can help SMEs integrate the complex and increasingly rapid processes typical of innovation "creating close links with consumers through celebrities and popular communities, using the dynamics inherent in social networks and generally guiding the lack of imagnination". (Potts, J. Morrison, K. 2009).

INSITUTIONAL AND POLITICAL INNOVATION. AGENDA 21 FOR CULTURE

As an example of innovation applied to institutional environments, we are particularly interested in the proposal of Agenda 21 for Culture. Like companies, the public authorities also need to seek out new activities, to improve their efficiency in planning procedures and generate fresh new combinations of policies and public amenities in the context of globalization and the increasing complexity of the challenges of regional development: employment, environmental quality, social services, etc. Modernization of public amenities and innovation in the design of public policy is an issue to which local government is particularly sensitive, given its close proximity to the general public. The economic and social challenges of globalization and environmental issues affect the public's needs and cause them to adjust their demands, making the local council the first institution that needs to come up with solutions.

In this context, the A21 for Culture is a local government initiative driven by the 4th Forum of Local Authorities of Porto Alegre (World Social Forum) in 2004. The programme started life with the transfer of the original programme of the Local Agenda 21, driven by the UNO and had the aim of promoting sustainable develòpment throughout the world. Promoted by the international association of local authorities, United Cities and Local Governments (UCLG), Agenda 21 for Culture proposes an innovative regulatory framework for public action with the aim of responding to the challenges of the cultural policies of the twenty-first century: Globalization, knowledge-based society, and the environmental stability of socio-economic development.

One of its main features is to promote the key role culural policies have to play in regional development. This fact in itself presupposes an innovative approach to cultural policies, given their traditional perception as being

12 http://www.socialinnovation2011.eu/wp-content/uploads/2011/09/Vienna-Declaration_final_10Nov2011.pdf

merely ornamental and not bound up with the processes of socio-economic development. This way of thinking transfers to the methods employed for planning a cultural programme for the local area guided by the principles of the governance paradigm (Evans, B. & Theobald, K; 2004): anticipation and consensus to tackle the growing complexity of developmental issues. Anticipation when drawing up strategic action plans for the medium term, identifying future trends by means of tools and prospect diagnostics, designing assessment indicators to analyze the achievement of results… This is a completely new way of understanding how cultural policies should be put together, as opposed to the old traditional method relying on discretion and improvization.

The need to establish a framework of social and institutional consensus concerning the strategies to be adopted for medium-term cultural development is promoted by encouraging the general public to become involved in taking decisions relating to culture.

Another important innovation regarding methodology is the design of action plans involving culture guided by horizontal integration with other local council policies (the environment, town planning, tourism, social integration, etc.). Collaboration and coordination in interdepartmental projects also entails a new way of understanding and implementing cultural policy, heretofore traditionally isolated and detached from everything else.

Finally, vertical integration amounts to a third way for methodological innovation, which is promoted by coordinating with other regional levels of government (on a regional, national, or EU basis) and by setting up networks of municipalites to exchange best practices, which is crucial if learning is to be shared and innovations transferred.

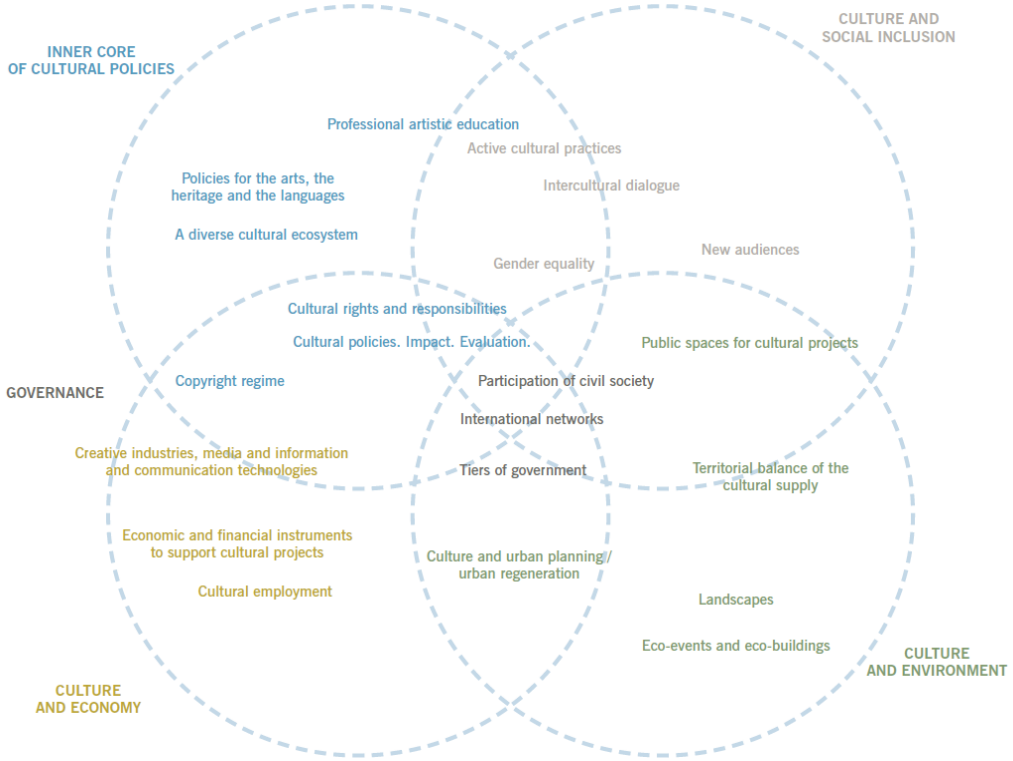
These principles for public actions with respect to culture foster some of the typs of innovation mentioned above, with the promotion of social dialogue being one of the most interesting on account of its interaction with mass creativity. Also of interest is the value given to the context of Agenda 21 for Culture in promoting social innovation processes through the creation of new public amenities. Cultural involvement can lead to innovation in public amenities by making these more attractive, fostering communication and trust between public and civil interests, increasing the participation and integration of groups at risk of exclusion, encouraging interaction with users of these services, through their proximity, on-line participation providing suggestions, creative methods for generating ideas, throwing light on emerging problems, experimentation and pilot project, etc.

The local level has special features that are useful for promoting these innovation processes on an institutional basis and modernising public policies in general. From a cultural standpoint, we have already seen the value of urban venues in the relations between culture and development (in clustering, regional branding, planning artistic activities and public spaces, etc.). The identity of the city is dynamic and provides a balance between the expression of traditional cultures and the creation of new forms of cultural expression. This is the level of government in closest proximity to the general

public and it is here that we should strive for greater transparency and democracy, along with new public amenities… to put it briefly, quality of life. A city capable of generating new meanings with the participation of its citizens. Nowadays cities are ready to act in the world both with the universalist formula "think globally, act locally", and also with its diversalist complement "think locally, act globally". The process of preparing and implementing a new model of cultural policy needs cities to become involved.

The Report drawn up by UCLG "Culture and Sustainable Development: Examples of Institutional Innovation and Proposal of a New Cultural Policy Profile" suggests that in the design of new models of cultural policy five key dimensions should be taken into consideration: social inclusion, environment, economy, governance and culture. This report provides a graphic representation of this conceptual framework:

Figure 3. Organizational chart for the proposal of a new cultural policy profile. Source Culture and Sustainable Development. 2009. UCGL



As stated by the authors, the diagram offers a global vision perceiving culture not simply as a resource, but as something that retains its intrinsic value as the main focus of cultural policies, while at the same time providing a window on the dialogue of culture with governance, the environment, the economy and other social dimensions.

Different countries all over the world have initiated such processes of local cultural governance. Examples include both local councils (Geneva, Montreal, Barcelona and Lille), and provincial councils (Quebec), international organizations (Council of Europe, European Commission) and networks of

cities on several continents (Eurocities, the Cultural Development Network in Victoria, Australia or the Observatory of Cultural Policies in Africa).

According to the aforementioned report, twenty-one political areas segregate the five dimensions regarding interaction:

1. Design of cultural projects including:

- Definition of the mission and vision of local cultural policies. Determining objectives and assessing the impacts generated.

- Promoting citizens' rights and defining their cultural responsibilities.

- Conducting a diagnosis with respect to the cultural environment: analysis of stakeholders (diversity, size, needs, etc.).

- Specific sectors (arts, heritage, etc.).

- Deveopment of professional arts education programmes.

- Design of adequate legal framework and determination of intellectual property rights.

2. Identification of joint projects with the Municipal Department of Culture and Social Inclusion:

- Promotion of participatory practices in creating culture geared towards local citizens in general, and for minority groups (groups at risk of exclusion, adolescents, people with disabilities, senior citizens, etc.) in particular.

- Programmes featuring intercultural dialogue.

- Promotion of cultural policies with a focus on gender.

3. Coordination of cultural and environmental activities:

- Integration of environmental criteria in cultural policies, design of cultural events and facilities with minimal impact on the environment.

- Fomenting territiorial balance in the cultural programme on offer.

- Uses of cultural content in urban development: Regeneration of neglected areas , use of public space.

- Integration of natural and cultural landscapes, coordination of cultural and environmental tourism.

On both counts an interest is discerned in artistic activity as a tool for urban regeneration and integration of marginalized groups (crime prevention, promotion of healthy attitudes, etc.), forming a resource that can be used to fight social exclusion and improve the quality of urban life.

4. Culture and economy.

- Promotion of Cultural and Creative Industries (CCIs), media and new information technologies.

- Cultural employment.

- Diversification of economic and financial instruments in support of culture.

5. Governance:

- Distribution of competences: avoidance of overlap in the region's cultural programme and optimization of territorial distribution.

- Promotion of mechanisms to encourage participation of the general public, by facilitating their access to the decision-making processes involved in excercising cultural democracy so as to reduce the level of discretion.

- Integration in international cooperation networks and exchange of best practices with respect to culture and development.

5. CONCLUSIONS: INNOVATION CREATIVITY AND.CULTURE

This chapter has described the historical evolution of the concept of innovation, which is characterized by a dynamic encouraging stakeholders to go **deeper and wider** in their production.

Firstly, a dynamic that stimulates stakeholders to search for wider applications in the innovation process. This has been highlighted by the emerging **democratization of knowledge** and the increasing relevance of integrating its various forms (scientific, implicit, symbolic, etc.) as we have seen in the section on the Toyota model. The characteristics of the knowledge-based society and the influence of New Technologies of Information and Communication (NTIC) only serve to accelerate this trend, thanks to the productive activities associated with the **creative economy** and the recognition of talent and intangible values (significant symbols, experiences, emotions, etc.).

The implications of this in terms of corporate reorganization are decisive. The section devoted to corporate management showed the change in the organizational paradigm from traditional Fordist pyramidal hierarchies to new models based on networking in horizontal open structures, which favour autonomy and involvement in the worker and promotion of talent is a determining factor for the company to be competitive.

"Digital technologies play an important role in this intangible economy as they provide new forms of social exchanges and contribute significantly to new expressions of creativity. (…) However the successes of free and open source software and services, such as Wikipedia, are also trends that prefigure an economy in which sharing and exchanging knowledge and skills is not principally based on securing financial gain. These new forms of exchanges give more importance to social ends and therefore culture-based creativity. Art and culture (in particular music) is often the basis on which social networking takes place (peer-to-peer file sharing)". (KEA, 2009)

Secondly, a dynamic that encourages going deeper, where the classic figure of the schumpeterian entrepreneur is reconfigured and adapts to a new context of innovation production As pointed out, the MARK 1 and MARK II theoretical models are not replaceable but complementary. Thus, the

enterprising individual, leadership, experimentation and achievement of results take on a new role in a context of open collective interaction.

As we shall see below, such dynamics define a situation in which cultural and creative organizations acquire an unprecedented twofold centrality. From the perspective of the dynamics for expansion, the important influence pf the activities carried out by cultural stakeholders on elements that are as crucial to competitiveness in the various regions such as **social capital**, for instance, **mass creativity and hidden innovation.** From the perspective of the trend for going deeper, the specific professional profile and enterprising spirit. As we shall see below, by taking a close look at their productive role, cultural and creative organizations are intimately related with the various types of emerging innovation processes studied in this chapter. Table 3 above summarizes and introduces these issues, which will be developed in the following chapter:

Basically, culture has considerable potential for its exploratory nature in a context characterized by a new interpretation of the concept of innovation, in which it is seen as the **creation of opportunities** (Rodríguez, 2007). From this perspective, a concept tied to the science of forecasting is of particular importance: futuribles. This concept refers to situations of likely or possible futures, highlighting their application both to innovation in products and services and also to alternative values and models of development. This reinterpretation of innovation means that economic science, and the determination of emerging trends and the future evolution of the markets, are cast in a new light. In this sense, legislation on intellectual property will have a crucial role to play.

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CHAPTER 3.MICRO-ECONOMIC APPROACH: MAIN CHARACTERISTICS OF THE PRODUCTION FUNCTION IN A CULTURAL ORGANIZATION

1. INTRODUCTION

The first chapter introduced the scope of opportunities that open up for the cultural sector by widening and deepening the dynamics typically found in the historic evolution of the processes involved in producing innovation. The ability of cultural stakeholders to manage their implicit and explicit knowledge represents the crux of this matter. The challenges of socio-economic development in the 21st century (environmental sustainability, globalization, society and knowledge, etc.) define a scenario where the centrality of culture is reinforced for regional development by implementing the creativity-innovation-competitiveness-well being sequence. This sequence is fully integrated in the Western perspective of Lubart creativity (1999), in which it is considered to be product-driven, guided by imaginative and original ways of solving problems. This approach to creativity also focuses to a certain extent on individualism, work ethic and faith in progress.

But what are the real possibilities of the cultural sector being able to reposition itself? How far can it develop its own innovations, which are essential for taking on such a challenge?

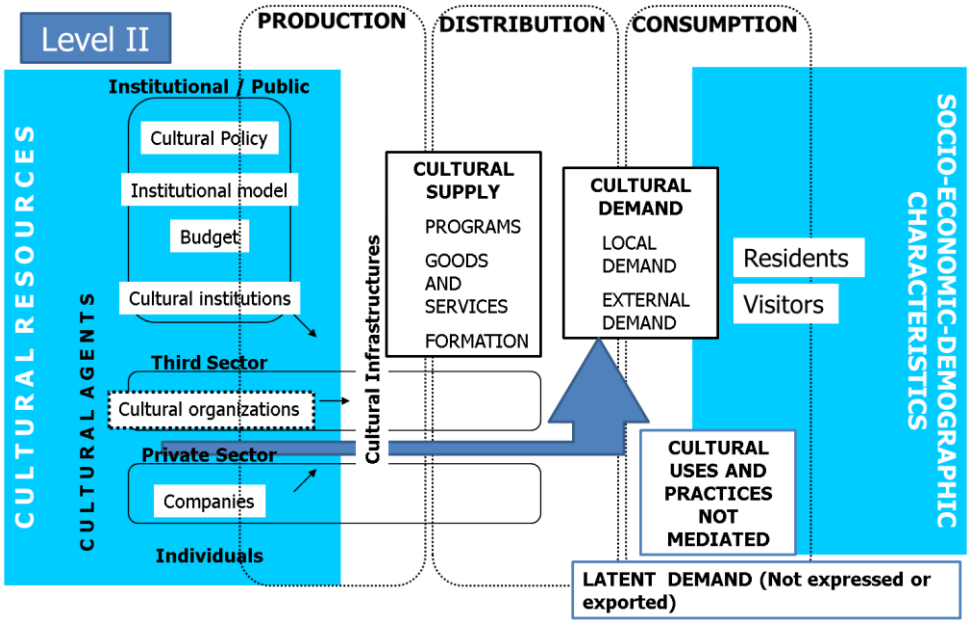
THE LOCAL CULTURAL SYSTEM AND CULTURAL ORGANISATIONS

Some previous considerations: the industrial context of cultural organisations. The expression 'Local Cultural System' (LCS) (Carrasco, 1999) is a conceptual device, for practical purposes, which attempts to draw all the elements together, including the variable and interdependent relations intervening in the configuration of a specific local cultural reality. This is our cognitive map, which informs us of the elements and relations we need to analyze when we are asked for a diagnosis of a specific local cultural reality. By the expression "system" we mean a more or less complete approach to cultural relations in that particular area in the region. Obviously, if the focus were a lot more systematic – and less geared towards simplicity - i.e. taking in all possible dimensions of cultural resources in an area, symbolic, economic, political, social, environmental, educational, artistic and training spheres would all have to be included. This means coming to terms with reality so as to be fairly clear about where we need to start. The LCS is structured around three dimensions:

- Level I, which studies relations between local and supralocal entities.
- Level II, which refers to the elements and relations that determine cultural supply and demand at local level.

- Level III of the LCS analysis is, finally, the one that connects the systems horizontally.

Figure 4. The local cultural system



Level II is possibly the most complex since it needs to attend to an extensive number of elements and relations that will determine the supply and demand of goods and services in a specific region. Here it is important to distinguish between two groups of elements: those under the direct influence of the institutional structure (cultural policy, budgets, the institutional model, infrastructure, and, to a lesser extent, cultural resources) and the group formed by the cultural agents. Among these stakeholders, cultural organisations have an important role to play. These cultural organisations are formed by cultural enterprises on the one hand, and on the other, association-style organisations, and finally the public entities involved with developing cultural policies.

SOME CHARACTERISTICS OF CULTURAL ORGANIZATIONS

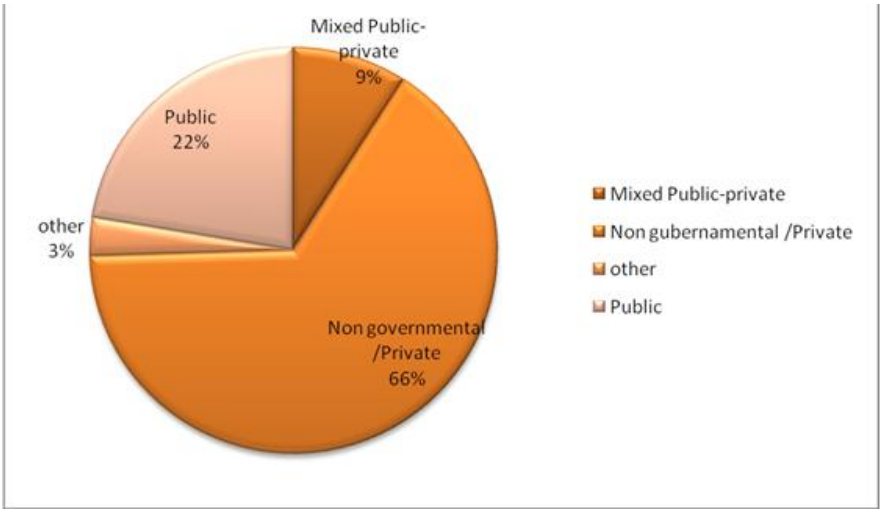
It is at the core of these organisations that the technological, social, environmental, economic and cultural aspects increasingly converge, reconfiguring the relationship between human creativity and regional development.

When analysing cultural organizations, the UK Technology Strategy Board (2009), dividing up cultural and creative activities, might be used as a model:

- Suppliers of creative services – these are not normally subsidized: design, architecture, publicity.
- Suppliers of creative content – these are mainly non- subsidized: publishers, music, fashion, radio and television, video-games.
- Creative experiences / original suppliers – mostly subsidized: performing arts, visual arts.

From the analysis of our own research in a group of more than 150 European cultural organisations, distribution [13] according to type of organization, would appear to be as follows: two-thirds private or non-governmental organisations, a mere 9% public/private consortia, and just over one fifth public entities.

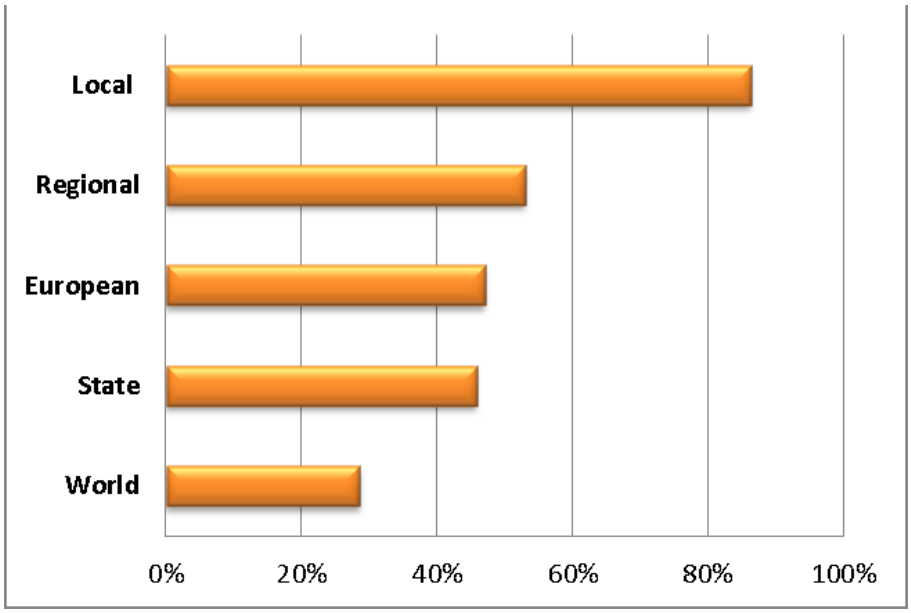
Figure 5. Classification of cultural organisations



These organisations showed different regional orientations, but most of them have a local sphere of action and influence. Although the high level of connectivity of the cultural organisations is noteworthy, since nearly 50% have a European sphere of action and over 25% have worldwide operations.

[13] This is a sample in which the exact statistical significance is unknown since, due to the heterogeneous nature of the cultural organisations involved, it is impossible to ascertain the dimension of the universe.

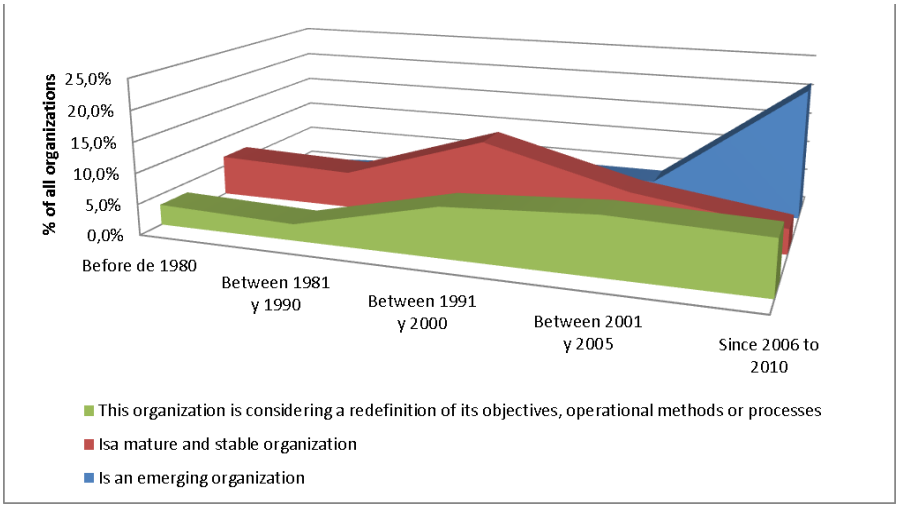
Figure 6. Classification of cultural organization by geographical activity area



The main reasons for the creation of cultural organizations can be put down to demand factors - satisfying an obvious need for art and culture (39% consider this to be a very important reason to explain the creation of the organization). However, they can also be traced back to supply factors since 41% consider that they have been created as a result of the initiative of a charismatic leader and another 40% think that it is very important that there should be a convergence of interests of a group of professionals from the cultural sector. In contrast, the existence of financial incentives is only considered to be relevant by 13% of the organizations.

Cultural entities have a life cycle, in which they see themselves as emerging organizations during the first five years, and as stable or mature organizations when they have existed for 10 to 20 years, and there are always about 8-9% that are in the process of re-defining their objectives. When the organization is set up, the average age of its members is 34 years old, with women averaging around 45.6% of the workforce, although their current participation amounts to 52%, which means that there tend to be more male participants involved in setting up cultural organizations but women come on board throughout their development.

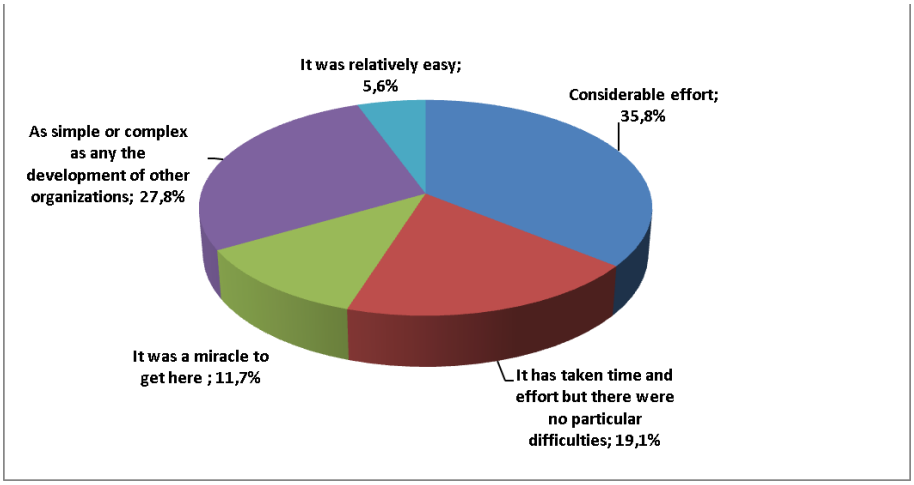
Figure 7. Year of creation and cycle



Almost 80% of cultural organizations are normally dedicated to more than two artistic fields or disciplines.

Regarding the perception of difficulties experienced by cultural organizations in their development, 11.7% describe such difficulties as almost insurmountable, 35.8% say that the effort required to keep the organization afloat is considerable, while the rest think that although it has required a lot of effort, it has not been any more difficult to maintain than any other type of organization, and slightly more than 5% even think that their development has been particularly easy.

Figure 8. Perception of difficulties of developing cultural organizations

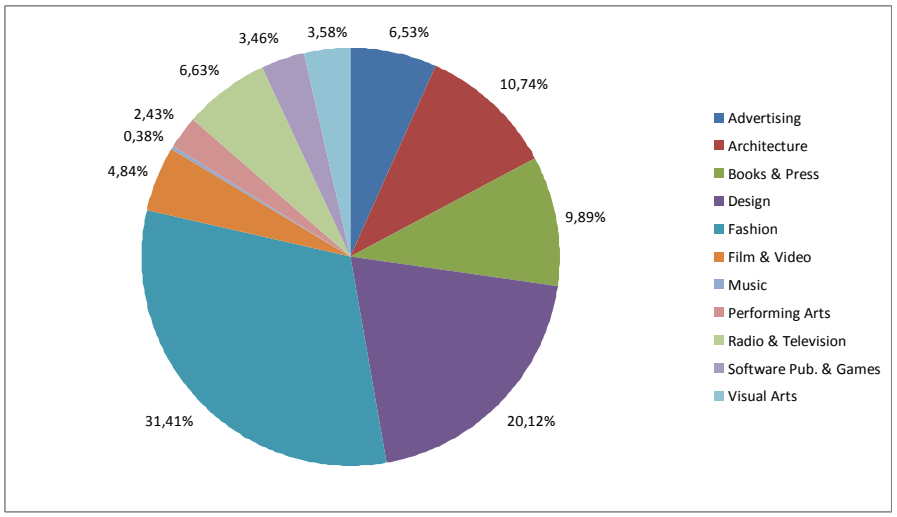


Finally, it should be said that almost 70% of the cultural organizations begin their activities with a budget of less than 10,000 euros and another 18% do so with a figure that is somewhere between 10,001 and 100,000 euros.

CULTURAL MARKET ORGANIZATIONS

As far as cultural market organizations are concerned – in keeping with the broad definition of the creative industries - and in line with the data set out in the report "The Entrepreneurial Dimension of Cultural and Creative Industries" (HKU, 2010), the sectors with the largest ratio of employment in Europe are: fashion (31.41% of the sector's total workforce), design (20.12%), architecture (10.74%) and books and press (9.89%). These are followed at a great distance by the sectors of music (0.38%), the performing arts (2.43%) and visual arts (3.58%).

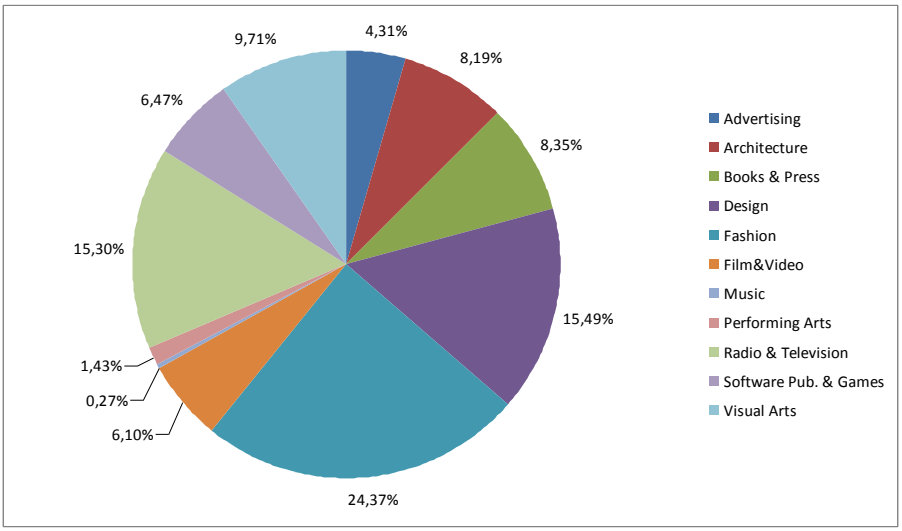
Figure 9. . Classification of cultural organizations by sector. Source HKU.2010



These figures include the total number of workers in the various sectors forming part of the CCIs. As mentioned above, cultural and creative entrepreneurs also work in other productive sectors, fostering their development of "creative skills". In this regard, the UK Technology Strategy Board (2009) estimates that **800,000** of the 1.1 million people directly employed by the creative industries in this country work outside the cultural and creative sector. This indicates that the impact of the CCIs on the economy as a whole is still greater than suggested by the statistics.

If we look at turnover, the largest figures are found in the following activities: fashion (247,189,494 thousand euros), design (157,115,932 thousand euros) and radio and television (155,192,531 thousand euros).

Figure 10. Proportion of turnover by sector. Source HKU 2010

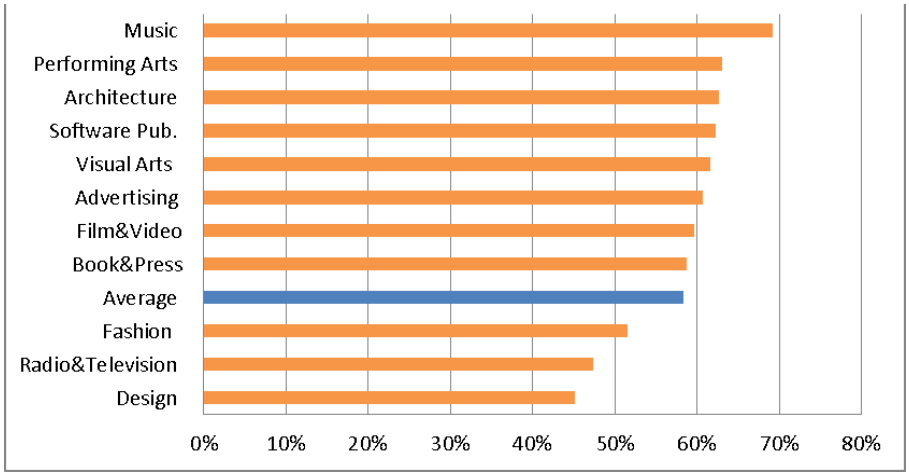


Considering the previous data and the model of the UK Technology Strategy Board (2009), suppliers of creative content and services are the CCIs that have benefitted most from the growth of the digital market.

Moving on to consider the business dimension of the CCIs, the statistics for culture available in Eurostat (2011) show that about **80% are SMEs or microenterprises**. **In fact, workers in the CCIs are twice as likely to be freelance as the average taken for the economy as a whole.**

As can be seen in Figure X, almost 60% of the majority of "microenterprises" are very small businesses (between **1 and 3 employees).** However, although the vast majority of CCI businesses are microenterprises (with fewer than ten employees), they are only responsible for a modest percentage of the turnover of such industries (18 %). **Large companies (over 50 employees) only represent 1% of the total number of companies but account for more than 40% of the annual turnover.**

Figure 11. Dimension of cultural organizations. Proportion of organizations with less than 3 employees. Source HKU 2010

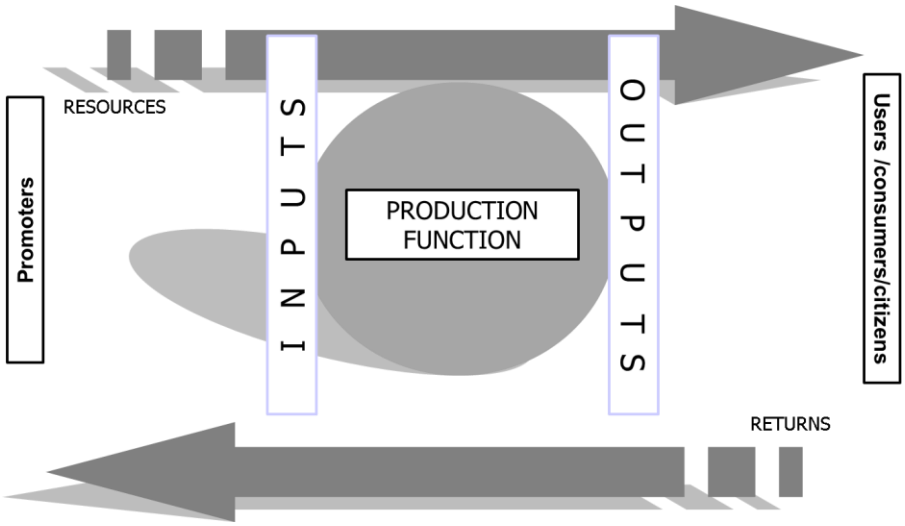


This is the most significant feature of the cultural and creative sector in terms of its business dimension: the virtual non-existence of medium-size enterprises and the serious difficulties experienced by SMEs in reaching this status. The gap between the "large players" and the microenterprises hinders the growth of the latter and increases the difficulties experienced by the "small stakeholders" in penetrating the market, whilst also generating problems in adopting economies of scale for their projects, with power relationships between the various agents that are very one-sided.

2. THE PRDUCTION FUNCTION OF CULTURAL ORGANIZATIONS

Following such observations regarding the sector, we now move on to identify the different elements that integrate the production function of a cultural organization using input-output analysis. Thus, we will characterize the typology for the productive resources used; analyze the production processes and their methods of organization and management; typify the products and services generated and, finally, we will identify the impact generated in each case. This methodology will enable us to identify the details of the different elements of innovation associated with cultural organizations. The following charts illustrate the method of analysis applied.

Figure 12 Cultural organizations. Production Function



A cultural organization is a structure that is driven by the initiative or will of a group of promoters using a number of processes (the production function) to transform a series of resources – input – into another series of services and products that are oriented toward a more or less determinate number of individuals, whether they are users, consumers or just ordinary citizens.

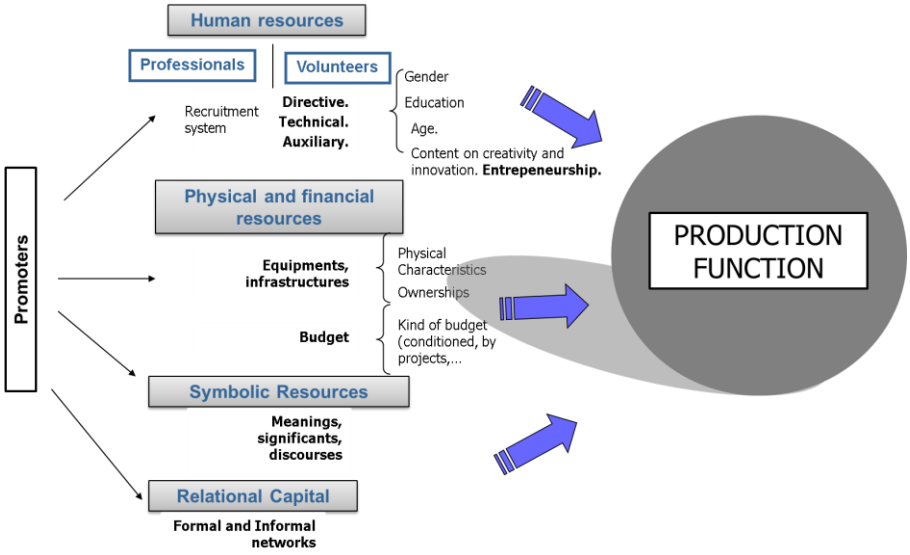
ANALYSIS OF THE PRODUCTIVE RESOURCES OF A CULTURAL AND CREATIVE ORGANIZATION

We will now take a more detailed look at the type of resources integrated by cultural organizations in their production function. The aim is to be able to identify the specific relevance that these have for cultural organizations and analyze them from the perspective of their impact on innovation processes. In this regard, we can highlight the important role of knowledge in CCI productive processes and the specific features of their human resources (creative skills, attitude to risk, ability to combine disciplines, aptitude for interpretive and open processes of innovation, etc.).

The principle resources considered are as follows:

- Human resources
- Infrastructures and physical equipment
- Economic resources
- Symbolic resources
- Relational capital

Figure 13. Production Function The supply side



HUMAN RESOURCES IN CULTURAL ORGANIZATIONS

Creative activities establish their level of competitiveness from the innovation processes, which are based on the materialization of such creativity, talent, the detection of new opportunities and the search for solutions. Given that these attributes are in essence normally assigned to individuals (rather than to structures or organizations), the management of human resources becomes a key element in the strategies employed for economic and social activities as a whole.

The **human dimension** of productive activity is a concept that becomes quite apparent in the productive activities of the cultural and creative economy and extends to other economic and social activities. The functionality of leadership, the establishment of working environments that are less structured and permit creative contributions in a much less formal way, the multifunctionality or the occupational identification with a certain way of life[14] are attributes that are becoming more and more popular in human resource management in all organizations, both in and outside the creative sectors. We must also consider the important number of employees from the cultural and creative industry that carry out their activity in other sectors of the economy outside the cultural sphere. We have already pointed out how

[14] The "bohemian lifestyle", which some authors identify in the model of labour relations in the cultural and creative industries is centred around such ideas as self-realization, a certain distinction from other parts of society in the way they dress, their public behaviour or attitudes, their rejection of the principles of strict economic rationality, the vocational dimension of professional development, the subordination of private life to work and, finally, the interpretation of working life in artistic categories. (Florida, 2002, Brooks, 2000,)

the production function of the cultural organizations is known for being labour and knowledge intensive, which is the reason why this section deserves special attention.

On the whole, cultural employees are known for some of the following features:

- High levels of training, above average for the economy
- Better creative skills a talented imagination, divergent thought, aesthetic values, critical spirit, etc.
- Nature of a cognitive worker that turns management of implicit and explicit knowledge into their own livelihood. Lifestyles are complemented seamlessly with the way of earning a living
- Work rated for pleasure, prestige and entertainment value.
- Better communication skills.
- Greater leadership and a will for independence from rigid hierarchies.
- A greater aptitude for team work, networking and cooperation. Social values.
- Greater geographical mobility and language skills,

The pattern of relationships presented here shows how the artistic and creative profile determines a will for independence and worker autonomy that are reflected in the figure of the entrepreneur as a professional philosophy. This affects legal business methods and types of contract that characterize employment in the cultural sector.

The Cultural and Creative Industries (CCIs) are characterized as having training levels that are relatively higher than for other sectors. In accordance with the details provided by "The Economy of Culture in Europe" (KEA, 2006), 46.8% of cultural workers have a university degree at least, as opposed to 25.7% of the total number of workers.

Other differential aspects of the sectors highlighted by this report are:

- The ratio of freelancers is more than double that of the whole economy.
- The CCIs employ 17% of the temporary workforce compared to an average of 13.3% for the economy as a whole.
- There is a higher volume of part-time workers and a higher percentage of second jobs than in the rest of the economy.

On the other hand, there are no significant differences in terms of sex or age.

Entrepreneurship

Due to its relevance, we will stop to consider in detail another of the interpretive keys of the CCIs: entrepreneurial will. Although there was no full consensus in this respect, the concept of the cultural entrepreneur has gained increasing recognition over the past ten years. **According to the report entitled "The Entrepreneurial Dimension of the Cultural and Creative Industries" (HKU, 2010):**

"Entrepreneurship in these sectors implies having creative ideas and commercially developing them to obtain a profit. However, profit just for the

sake of it is not a driving force; it is creativity and the chance to create something, the self-realization or the capacity to carry out an activity that satisfies your own creative interests. It is a combination of the entrepreneurial aspect and the creative aspect".

According to Hagoort (2007), culture entrepreneurship can be defined as "…the process through which two types of freedom are integrated: artistic freedom as an intangible value oriented towards content and entrepreneurial freedom as a tangible value that provides support for intangible (cultural) values". In addition, Fumaroli (2011) delves into this issue by placing cultural creation on a line that presents entertainment on one end and emotional artistic sincerity on the other.

Different models have been chosen to work out a general definition for cultural and creative entrepreneurship, even though this objective is not easy to achieve since it requires the combination of apparently diverging terms: the cultural and economic discourse.

According to Drucker (1985), cultural entrepreneurs also share features with the common entrepreneur. They generally have a certain propensity to assume risks in moments of uncertainty, like the likelihood of sustaining capital losses. They also remain on the look-out for new opportunities to obtain profits or generate new content. thirdly, entrepreneurs see change as the normal run of things and as something that is very healthy. Finally, entrepreneurs are involved with network structures in constant evolution: clients, competitors and colleagues all nurturing one another.

Considering the "**entrepreneurial factors**" can help us better identify the peculiarities of entrepreneurship in culture. The OECD/EUROSTAT (2008) Entrepreneurship Indicator Programme identified six factors that have a general effect on entrepreneurial activities:

1. **Capital and access to financing.** As we will now see when dealing with financial resources, the cultural and creative sector presents special financing difficulties that affect its innovation potential, given the uncertainty associated with the demand for cultural goods and services and the lack of institutional sensitivity to alternative ways of innovation with respect to the that deriving from the productive/technological approach.

2. **Technology and Research + Development:** both allow inventions and recombinations susceptible to being converted into new products or processes. As we will see when we look at the management of new techniques in cultural organizations, being a cognitive worker, the cultural entrepreneur is especially sensitive to the use of new technologies and interaction with them through the production of creative content.

3. **Entrepreneurial skills:** this includes the social and human capital of entrepreneurs. Entrepreneurship is inherent in the activity of

cultural organizations, given their specific features of autonomy and independence.

4. **Market conditions:** these are determined by public intervention, level of competence, access to foreign markets, regulations for acquisition and standardization. Cultural organizations operate **under harsh and complex market conditions, where unpredictable demands must be dealt with.**

5. **Regulatory framework:** this determines the entrepreneur's opportunity costs (e.g. unreceived wages, unemployment conditions or loss of health insurance). The regulatory framework covers broad issues: taxes, regulations and other public standards that affect entrepreneurship. Non-economic motivation (creative pleasure, fun, social objectives) is a factor specific to the cultural entrepreneur that needs to be considered in this respect.

6. **Culture:** according to Ivancevich (1996), this element has a decisive influence due to the values, attitudes, decisions and behaviours towards entrepreneurship observed by individuals in a community. It represents the amniotic fluid in which entrepreneurship processes occur. As we will see when we work on the mission and vision of cultural organizations, the principles that guide them are perfectly in sync with this issue.

Other characteristics of cultural and creative entrepreneurs are as follows:

- They work with people that usually attach more importance to the excellence of the content rather than its commercial potential for distribution.

- They usually create very small enterprises that are supported by networks with more robust structures.

The peculiarities of cultural and creative enterprises require a different treatment using specific support programmes, given that they operate in a different and more relevant and complex environment. According to the report entitled **"The Entrepreneurial Dimension of the Cultural and Creative Industries" (HKU, 2010):**

"The markets are totally different. That is the purpose of some specific policies adapted to the creative industries, the features of the enterprises, the market, the business models, and the laboratories...having well-adapted policies that link up with this term can be quite useful".

However, there are disagreements about the choice of the most adequate term, given the generalization that a single concept entails and the diversity of motivation and circumstances found across the range of activities covered in the CCIs. Nevertheless, we recognize the need to root for cultural and creative entrepreneurship since **the value of the cultural and creative industries has still not been sufficiently acknowledged and has not been reflected in terms of policies** despite initiatives like the recent Europe 2020

Strategy. As stated in the report entitled "**The Entrepreneurial Dimension of the Cultural and Creative Industries" (HKU, 2010):**

"It is an important issue: Whether or not there should be a common definition of the CCIs. Perhaps it might be useful at this stage to distinguish [CCIs from the other industries]. In the future, when we have evolved towards a more creative economy and a creative society, this distinction will not be useful any more. It is currently useful to be able to understand the ideas, the process, and how to be successful. It is also useful to have on the political agenda."

On the other hand, there are also critical voices that question the official position on cultural entrepreneurship and warn us of the dangers and abuse of precarious employment, particularly if the institutional analysis and power structures are not considered to be up to date. Myths about entrepreneurship in culture are not unrelated to a specific scale of ideological values, and unfortunately the privatization of profits and outsourcing of costs is quite common. As Rowan (2009) points out, "false entrepreneurs" abound in a sector where not everyone identifies with this figure and self-exploitation, discrimination in the work place, the loss of legal rights or the extreme commodification of human relationships are risks that are an inherent part of the discourse. Instrumentalizing culture implies the risk of it being managed unsustainably if the restrictions are not clearly defined. The historic memory, territorial identity or creative freedom of the individual are sensitive and fragile in this contest between cultural values and economic resources.

Creative competence

A creative person is known for their value of intuition, their capacity for abstraction and their ways of lateral, divergent and analogous thinking, which enable them to go about problem-solving in an alternative way. The cultural and creative worker, being heterodox in nature and critically minded, is more prone to disruption, which favours their ability to join up the seemingly unrelated or even contradictory dots of different realities. This proves to be of particular importance, especially if we consider our current needs to readapt to a paradigm of sustainable development. An ability for hybridizing between different disciplines is thus extremely interesting, as are the concepts of "interlopers" (stakeholders that operate from a transdisciplinary perspective) and "polymaths" (stakeholders that act as go-betweens for the artistic and scientific dimensions). The uses of new ICTs and the role of design are good examples. Other notable features of the cultural worker are their increased sensitivity and understanding about the importance of signals, symbols, emotions and aesthetic aspects. In conclusion, we can identify a vast array of new knowledge for new jobs within the framework of the shift involving the technical and productive paradigm, which is conditioned by the characteristics of an economy based on knowledge, experience and digitization, as the European Commission itself points out (Culture as a

Catalyst for Creativity, 2010). In this light, it is worth mentioning the relevance of the creative skills for Lifelong Learning.

According to the studies of Pérez and Vila[15] on the skills of workers engaged in creative activities, it is fairly clear that such workers demonstrate a special competence in *Ability to come up with new ideas and solutions*, *Use of computers and Internet*, *Knowledge of other areas or disciplines*, *Predisposition to question their own or other people's ideas, Ability to perform under pressure, Ability to identify new opportunities*. As we can see, these are the same skills required to generate innovation processes.

Likewise, CCI workers lack certain skills in aspects such as the ability to mobilize the capabilities of others, the ability to make themselves understood, to engage in analytic thought, the ability to use their time effectively, the ability to negotiate, the ability to exercise their authority. Some of these capacities concern efficiency in the process stage (efficient use of time, analytic thought, ability to mobilize the capabilities of others) and relationships with other workers (making themselves understood, negotiating, exercising their authority), which show us a worker that is more individualistic and less efficient in processes that require a certain amount of instrumental rationality and collective action.

It is therefore clear that the same capacities that facilitate work in the creative sectors are the very skills required to make innovation possible. As a result, workers in the cultural sector are also the ones that have the potential to innovate. In other words, creating and innovating are two processes that require the same skills and therefore the same individuals that act as leaders for the creative processes are also the ones capable of generating innovation processes.

Table X shows the competences typical of workers in CCIs and all other workers. The data indicates that CCI workers have higher levels of competence compared to the other workers, in their ability to find new ideas and solutions (+0.23), use of computers and Internet (+0.21), knowledge of other areas (+0.16), predisposition to question their own and other people's ideas (+0.15), ability to perform under pressure (+0.14), identification of new opportunities (+0.12) and awareness of their own discipline (+0.11). On the other hand, they have a lower level of average competence in their ability to exercise their authority (-0.20), ability to negotiate (-0.07), and ability to use their time effectively (-0.05).

15 The skills profiles of young university graduates occupying cultural and creative posts are analyzed in relation to a) the skills profiles required for their current job, and b) the profiles of people with similar characteristics that do not occupy cultural and creative posts. The research is based on a large database gathered from the results of a macro-survey carried out with 40,000 young university graduates in 14 European countries.

Table 3. Competences of creative and cultural workers

COMPETENCES	WORKERS ICCs	OTHER WORKERS	Overcompetence of CCI workers
Ability to find new ideas and solutions	5.59	5.36	0.23
Use of computers and Internet	6.02	5.82	0.21
Conocimientos de otras áreas o disciplinas	4.63	4.47	0.16
Predisposition to question their own and other people's ideas	5.57	5.42	0.15
Ability to perform under pressure	5.71	5.57	0.14
Ability to identify new opportunities	5.24	5.12	0.12
Knowledge of their own area or discipline	5.49	5.38	0.11
Ability to speak and write in foreign languages	4.62	4.54	0.08
Ability to present ideas and reports in public	4.99	4.93	0.05
Ability to coordinate activities	5.56	5.53	0.03
Ability to acquire new knowledge	5.70	5.67	0.03
Ability to work with other people	5.68	5.65	0.02
Ability to draw up reports and documents	5.44	5.43	0.01
Ability to mobilize the capabilities of others	4.97	5.00	-0.03
Ability to make yourself understood	5.35	5.39	-0.04
Analytic thought	5.37	5.41	-0.04
Ability to use your time efficiently	5.37	5.42	-0.05
Ability to negotiate	4.58	4.65	-0.07
Ability to exercise your authority	4.47	4.67	-0.20

It is interesting to see the percentage of people that were not working in the CCIs when the survey was conducted who have similar competences to those demonstrated by CCI workers, which will give us a rough idea of the creative and innovative potential in the system taken as a whole. In Table (x+1) we see the percentage of people who, while not working in the CCIs, have a higher level of competence than the average CCI worker in four or more of the six skills most often sought by CCI enterprises. In Table 3, for instance, it can be seen that in the group of 11 countries analyzed, 34.3% of the people not working in the CCIs possess similar key skills for creativity and innovation, since they have a higher level of competence than the average CCI worker in at least four out of the six skills most sought after in the CCIs. With greater strictness currently exhibited in defining the appropriateness for working in the CCIs, so that candidates who wish to work in the CCIs now have to demonstrate a greater competence than the average CCI worker in at least five out of the six skills most sought after in this sector, the percentage drops to 18.6%. The countries where the workers demonstrate higher creative and innovative competences are Austria, Portugal and Germany; whereas France, Italy and Belgium are the countries with a lower percentage of working graduates with creative and innovative skills.

Table 4. Percentage of workers with creative competences in the non-creative sectors

	At least 4*	At least 5
FRANCE	20.80%	9.10%
FINLAND	28.40%	15.50%
BELGIUM	29.40%	14.80%
NORWAY	29.40%	17.00%
NETHERLANDS	33.80%	17.80%
ALL	**34.30%**	**18.60%**
ITALY	34.40%	14.80%
UNITED KINGDOM	37.50%	21.10%
SWITZERLAND	37.90%	21.20%
PORTUGAL	49.50%	30.70%
GERMANY	50.60%	29.20%
AUSTRIA	54.40%	35.40%

These high percentages of workers with creative and innovative skills might indicate the outstanding fact that compared to another type of professional occupation, especially in the traditional occupations, creative work is disproportionally generated outside the creative industries (Cunningham, 2011). In other words, people who have been trained to carry out creative tasks are more likely to work outside the specialized sectors of the creative industry than as part of the internal workforce. This is the case in most countries, and has been that way for a long time.

Mobility

Other characteristics of cultural and creative workers are related to their personal experience, specifically to a greater degree of mobility (albeit with some restrictions as we will see later) and cosmopolitan nature. In addition, we also need to consider their higher average academic profiles compared to other sectors, along with their relatively young age, and the fact that there is a greater proportion of women among their number. With respect to the role of mobility in the creative class, it is imperative to point out the conclusions of the recent European ACRE report (Musterd & Gritsaid, 2010), suggesting that the conceptual framework of R. Florida can only be taken as a useful preliminary hypothesis, but not as a robust theoretical construct. This is especially true for Europe, which is culturally and historically very different from the USA. The United States is a country whose structure is articulated around individual mobility and the autonomous individual of liberal thought, while Europe, on the other hand, has remained structured around families, places and different cultures. Or to put it another way: all people live in groups, but Americans choose the group they form part of and therefore it is highly likely that they will abandon their place of origin to become part of that group, whereas Europeans tend to stay with the group (culture) in which they were born or raised. This cultural explanation seems to be very important because it reveals the vectors that explain why European countries survived the Americanization era. These cultural "roots" are particularly pronounced in southern and eastern Europe, where people remain close to the family clan, feel obliged to attend family gatherings, look after the graves of their ancestors, etc. This difference in culture does to a large extent undermine R Florida's suggestion that greater importance is attached to culture than to economic stimuli (the people of today's world are no longer driven solely by economic forces, but are becoming increasingly aware of their cultural milieu). This may be true for the United States, where the economic factor has until recently the most important, but it is not true for Europe, where the cultural factor has always been just as important. There is also an essential difference in R. Florida's understanding of the significance of the cultural environment. He interprets it on the basis of "soft factors" (attractive urban surroundings, cultural amenities, tolerant atmosphere) whereas Europeans do so from the perspective of cultural, national or regional traditions, language, religion and family structures. We could say that the dynamics of the creative class described by R. Florida are only present for a specific and highly restricted group: truly cosmopolitan artists, film directors, people working in the advertising and fashion industries, journalists, particularly those that use Internet, etc., but it does not work as a generalization for Europe to articulate urban or regional policies with the idea of attracting the creative class as the key to success on a regional basis.

Leadership ability

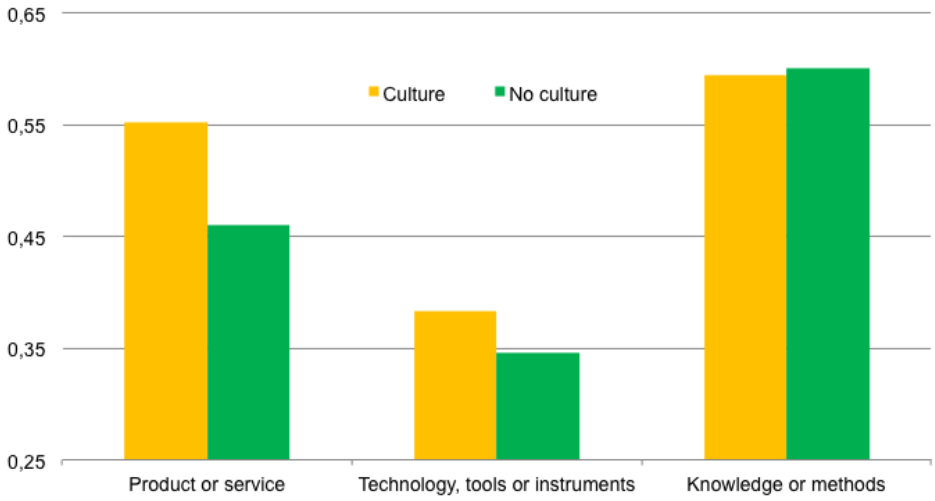
Entrepreneurship is another feature that distinguishes the cultural sector. Although there are a variety of reasons for it and its underlying analysis is complex (Rowad, 2009), it is no less true to say that aspects such as

individualism and the need to develop one's own original vision for future growth often make it absolutely essential. Leadership ability is in turn influenced by the capacity to anticipate, inventing imaginative possibilities, which boosts one's potential for penetrating the markets (occasionally even generating them). **The organizational structures** articulating the activity are also worthy of mention. As we have already said with respect to entrepreneurship in culture, the value conferred on personal autonomy and professional independence is high in this type of activity. On the other hand, the level of implication and volunteering is higher than in other sectors, generating more resilience in business projects, usually defined as non-profit associations or micro-enterprises. In this regard, we can distinguish the figure of the so-called Pro-Am (Professional Amateur): activities carried out under amateur conditions but with high professional demands. The introduction of creativity in the economy has necessitated a redefinition of the function of small and medium-sized enterprises within the economic system. Some authors highlight the capacity of cultural organizations to foster economic inclusion and act in differentiated markets, increasing the capillarity of the whole economy. SMEs decentralize and diversify the production of creativity. In addition, they act as avenues of innovation, and are in direct contact with the sources of knowledge in society which materializes into innovation (social innovation). One of the weaknesses of business projects lies in the scant abilities and skills of innovators in the field of management (Bauer, C., Viola, K., Strauss. C. 2011)

Creative work, innovation and social interaction

Creative workers are known for a high, differentiated level of participation in various kinds of social networks (local, cultural, political, social action). Relations between the social and voluntary ambits blend with occupational activities and they become spaces for experimenting and training in entrepreneurial and leadership skills and collective action. Creative workers bring their efforts to bear and give their human capital value in diverse social environments, participating in pre-commercial exchange models, outside the market, or in other informal circumstances, which represent spillovers into social areas of participation but at the same time also amount to learning processes and the accumulation of human and social capital. **Work spaces offer** environments that foster creativity and innovation, with a game-like atmosphere that make it fun to work. Creative workers in these situations generate higher levels of innovation than in other fields of activity, especially when working on innovations in products or services, or in technologies and tools.

Figure 14. Do you play a role in introducing innovations in your organization/work?



Finally, differences in the cultural worker's **self-perception** are often seen to be apparent. This study also shows that the workers in the cultural sector demand a high level of autonomy in the workplace but finally their real work takes place in environments offering more personal autonomy than is strictly necessary, they have less free time to relax than they would like and less job security, along with fewer career prospects and lower salaries than expected. They also receive more social recognition than expected.

It should also be pointed out that in contrast with a discourse that primarily indicates autonomy and creative and innovative capacity of the workers in the cultural sector, there are also several studies that focus their attention on the fact that creative work is project-based and irregular, contracts tend to be short-term, and there is little job protection; that there is a predominance of self-employed or freelance workers; that career prospects are uncertain and often foreshortened; that earnings are usually slim and unequally distributed, and that insurance, health protection and pension benefits are limited; that *creatives* are younger than other workers, and tend to hold second or multiple jobs; and that women, ethnic and other minorities are under-represented and disadvantaged in creative employment. All in all, there is an oversupply of labour to the creative industries with much of it working for free or on subsistence wages. (Banks, Hesmondhalg, 2009), presenting the study in the creative sectors as a neo-alignment. Workers were seemingly encouraged to view their job as a site of unbridled pleasure, often encouraged by the provision of games, relaxation areas, gyms and workplace 'socials', or through the creation of a 'clubbable' internal and out-of-hours work culture. Such questions of quality of life and dynamics of 'self-exploitation' have also been investigated by an increasing number of researchers.

Other studies discuss the "precary trap" (Murray, C., Gollmitz, M, 2011) and the need to articulate labour policies that can rehabilitate the notion of "flexicurity".

The risks: Entrepreneurship versus self-exploitation. Precarious conditions and flexibility: part time, temporary work, geographical mobility.

INFRASTRUCTURE AND PHYSICAL EQUIPMENT

As we will see in the last chapter examining cases of partners of the SOSTENUTO project, cultural organizations have certain specific features in the way they use and manage their physical equipment and infrastructures.

The reason basically lies in two characteristics of the sector: the main characteristic of the microenterprise, which implies a limited ability to acquire resources and the nature of their activity, given the prestige, aesthetic pleasure and symbolic value attaching to the cultural output. This makes it an excellent vehicle for social and institutional marketing, which strengthens its hand for negotiating in the matter that concerns us here.

Thus, a restrictive micro-enterprise dimension (which basically means using low-cost formulas, or renting rather than buying) is compounded by an intrinsic ability to seek creative solutions (leasing in exchange for services) and the potential for negotiation deriving from the publicity provided by culture (free licences). To this we should add the knowledge offered by favourable social capital which typifies cultural organizations and enhances their capacity to identify suitable offers (donors, patrons).

Hence, cultural organizations turn need into a virtue. Apart from specific resources for conducting the activity (lights, music systems, cameras, etc.), the most important feature is supplied by cases similar to the ones proposed by the partners of the SOSTENUTO project, Bunker and Citema, in which the facilities used will both go some way towards recovering the historical and artistic heritage and also increasing its appreciation through the use of creative content.

Managing unique spaces (both public and private) is a distinguishing feature with cultural organizations making the most of their capacity to generate cultural value, for instance, by publicizing its identity and the memory of the region and its local heritage (old factories, farmsteads, public spaces, palaces, castles, etc.).

Finally, the clustering processes examined in the preceding chapter are also highly significant. The case of the study of the leader of the SOSTENUTO project (AMI) and la Friche de Belle de Mai are particularly interesting, as we will see later on.

FINANCIAL RESOURCES

The most important source of financing for the CCIs is self-financing, as acknowledged in the report entitled "The Entrepreneurial Dimension of Cultural and Creative Industries" (HKU, 2010). Public subsidies, bank loans and private support have a residual role, while other sources are only of very minor importance.

There is a certain margin for innovation and diversification of sources of finance, albeit with considerable restrictions: apart from the limited capacity of cultural organisations to devote part of their business management to finding out about the possibilities available, the world of financial aid is a real labyrinth (involving various regional levels of government and a whole raft of different sectoral policies) along with the financial bodies' aversion to risk and their poor sensitivity to the specific nature of this sector.

Like most studies, the Green Paper "Entrepreneurship in Europe" (European Commission, 2003) underlines capital as being one of the crucial factors for success in entrepreneurial initiatives.. The cultural sector is no stranger to this reality. Quite the opposite. The micro-economic business dimension, the intangible nature of their assets and the softness of their innovative profile all affect the lack of recognition of the economic value of CCIs on the part of the financial organizations.

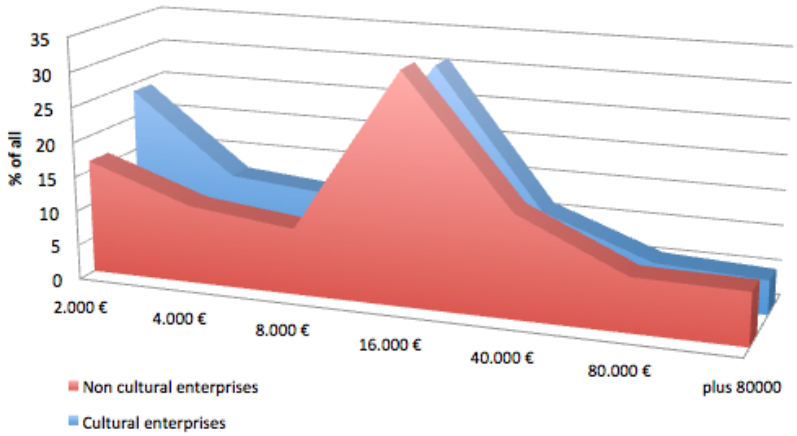
As acknowledged in the study entitled "The Entrepreneurial Dimension of Cultural and Creative Industries" (HKU, 2010), one of the key obstacles faced by CCIs is finding the necessary funding to finance their projects. In the survey carried out in the course of this research, 33,8 % of the participants thought funding was the most important challenge involved in starting up a company. The capital and access to funding play a major role during all the phases in the corporate life cycle. However, they are particularly important in the **early stages.**

The needs of cultural enterprises regarding funding are slightly less than for non-cultural enterprises. Neither is there a marked difference in global terms. According to the studies of Greffe and Simonnet for France in 2003, the greatest difference lies in the group of enterprises requiring less than €2000 (in the period 1998-2003), which in the case of cultural enterprises amounted to almost one quarter (23.89%). These percentages vary according to cultural sector ranging from the visual arts (with 52.4% requiring less than €2000) to the audiovisual sector (where only 10.6% need less than €2000 to start up their business).

According to the studies by Greffee and Simonet, in the French case, the act of obtaining a bank loan, along with the fact that personal resources are also used, significantly improves the companies' chance of survival. The question is whether the companies that receive bank loans are more efficient because they have more resources available or because they have projects that are better and which the banks find easier to identify.

Nevertheless, once the loan has been obtained, it is no longer significant. This means that the need to repay the loan is equal to the company's chances of survival.

Figure 15. Financial resources needed to start. Source Greffe, Simonnet, 2008



According to these same studies (Greffe, Simonnet, 2008, 2010), the larger the initial budget of a cultural enterprise, the greater their chances of survival, which raises questions about the view that the main capital of cultural enterprises is their symbolic capital.

In the same study we can also see that the most notable inferences focus on less recourse to bank loans, a greater propensity to personal funding and, contrary to what might be expected, slightly greater reliance on public subsidies. With respect to subsidies, the activities carried out primarily by enterprises with subsidies are those in the handicraft sector and at roughly the same level, the visual arts, the audiovisual sector and the publishers. The performing arts and heritage have percentages that rank lower than those of non-cultural enterprises. It is rather surprising that the percentage of non-cultural enterprises receiving subsidies is only 4.5 points below the cultural enterprises.

Table 5. Financial resources of cultural enterprises. Source. Greffe, Simonnet, 2010

% of total resources	Visual arts	Performing arts	Heritage	Publishing sector	Audiovisual sector	Handicrafts	Total number of cultural enterprises	Non-cultural enterprises
Recourse to bank loan	8.09	19.69	39.39	20.44	23.29	27.9	19.14	27.48
Recourse to personal funding	60.54	73.54	27.27	69.78	69.73	67.38	66.91	60.47
Recourse to external capital	6.37	15.69	0	9.78	11.64	13.52	10.43	9.12
Recourse to public assistance	29.29	20.92	21.21	30.66	31.57	47.42	31.92	27.13
Recourse to subsidies	2.33	4.00	9.09	4.38	2.85	6.01	3.71	1.96

The inability of small companies to gain the financing that is essential if they are to grow, has an effect on the chances of success of the Europe 2020 Strategy, as recognized in the concluding statements drawn up by the European Council in its Conclusions on Creating an Innovative Europe (May 2010). In this regard, successive administrations have recognized the importance of venture capital and have fostered initiatives to support investments in initial venture capital to finance the SMEs in the Creative and Cultural Industries.

Most CCIs are divided into two large categories, depending on whether they are more oriented towards the market or public funding. In general terms, we can see how some commercial companies (mainly associated with the creative sector) are subject to consumer demands, whereas SMEs with public funding (cultural sector) are driven by changing political priorities. Furthermore, many cultural services are also public services and receive appropriate support, particularly of a fiscal nature.

Even where cultural services continue to be financed primarily by the State, innovation in public policy-making means there is a greater tendency for formulas involving mixed funding such as partnerships between the public and private sectors, as confirmed by the report entitled “The Impact of Culture on Creativity” (KEA, 2009). The aim is to minimize the risk of having inefficient policies on public subsidies and to promote self-sufficiency by implementing programmes with a gradual reduction in aid. Nevertheless, expectations for **public support** are widespread in the cultural sector, since many CCIs are run on the basis of short-term projects.

Furthermore, overlaps in funding between public and private bodies are the norm, as Pratt (2009) points out: “the public and private sectors are

integrated in CCIs by means of sponsorships, donations and effective cross-subsidies".

Finally, the lack of funding for CCIs has worsened after the current financial crisis. According to the report entitled The Entrepreneurial Dimension of the Cultural and Creative Industries, (HKU, 2010), 39% of the companies surveyed in this study expected a **reduction of around 5 or 10% in their turnover, whereas** 18% thought they would experience a certain amount of stability in their sales revenue (+/- 2.5%). This trend is also affecting public funding earmarked for cultural activities. The financial recession has also made most banks reluctant to take any risks, meaning that they have reduced their support for CCI enterprises. In this context, the **three most important instruments for increasing the sector's financial opportunities are government aid, an increase in self-financing and bank loans.**

SYMBOLIC RESOURCES

The use of symbolic resources on the part of cultural and creative organizations in their production function is one of its primary distinguishing features. This type of resource is incorporated in the new economic paradigm, characterized by the value of knowledge, experience and digitization (The Impact of Culture on Creativity, KEA 2009). The interest of a production function that integrates and appreciates symbolic resources is particularly important in terms of new fashions in consumption and production. We will not examine some of its most interesting aspects:

- The value of information products lies in their expressive content (aesthetic, symbolic and social expression).
- There is an obvious increasing interaction between the product's tangible and intangible values (relationship between the sign and the object). The influence of the first aspect as a determining factor for the second one is increasing. Symbolic resources give the design of the product intangible value, thereby increasing its final value.
- From the perspective of the consumer's empowerment and sovereignty, the organization's aesthetic values interact with its ethical behaviour, and by extension, with its relations with the client.
- Human behaviour is the field of experimentation: the consumer is on the look-out for the unexpected, for meanings and emotional experience (affinities, sensations, feelings), the message and the narrative – symbolic resources are absolutely essential.
- Symbolic values and signs provide such crucial elements of competitiveness and demand such as style, prestige, status and reputation.
- Differentiation strategies, the value of what is unique and authentic, communication skills, the ability to attract the consumer's attention.

Thus, issues such as aesthetic and cultural values, identity and memory of the region, legends and sagas, folklore, oral tradition, tangible and intangible heritage are incorporated as a resource in the production function generated by creative and cultural organizations.

In this context, the debate existing between intellectual property rights and free access to the symbolic universe takes on a strategic dimension. The

tensions that exist between the philosophies espousing the protection of content and those in favour of free access are often articulated through the expression "access versus exploitation". The first approach underlines the importance of Intellectual Property Rights (IPR) as a tool that can generate revenue for intangible assets and guarantee the control of content and use given to intellectual property, while the other approach opts for free access to content, which can be used to develop new products or services.

RELATIONAL RESOURCES AND SOCIAL CAPITAL

Relational capital is one of the features that distinguishes cultural organizations. We should remember that cultural and creative workers are characterized by the compenetration of lifestyle and occupation. To a certain extent, it amounts to the maximum expression of the Toyota model of integrating implicit and explicit knowledge. In this regard, personal relations and social capital are just another labour resource.

Furthermore, as we will see in section 3.6. dealing with organizational aspects, the predominance of SME-like entities in the business fabric demands organizational formats that are characterized by networking and outsourcing for competitive reasons, in a market that is also characterized by its high level of uncertainty. This amounts to a business model characterized by the dynamics of co-dependence and competitive cooperation strategies. As a result, in practical terms, this leads to processes whereby cultural and creative activities are concentrated in specific regions, forming clusters, as explained in the previous chapter.

The very nature of art, plus the social prestige of culture, favour the development of the social capital by agents in the sector, given their attributes in terms of talent, attraction and social outreach, in line with what we said above about the concept of the creative classes discussed by Florida (2002).

Mobility is also another prominent attribute that has a significance for the configuration of networks and the development of social capital. In this regard, the European dimension and its internationalization is another notable feature. Right from the initial stages of training for those involved in the cultural and creative sector, mobility is a distinct feature that is implemented through exchange programmes, artist residencies, etc.

In addition, we should also point out the importance of networking and social capital to stimulate certain dynamics that are crucial for a culture organization. It is often the case that learning processes or information about avenues of funding and obtaining resources are closely associated with this issue. For example, the main source of knowledge for SMEs in the sector is individual shared information (informal networking), followed by cooperation with other associations in the sector (formal networking), as described in the report "The Entrepreneurial Dimension of the Cultural and Creative Industries" (HKU, 2010). This report also cites personal networks as the

primary means of channelling advice and support used by cultural entrepreneurs when starting up their business activity.

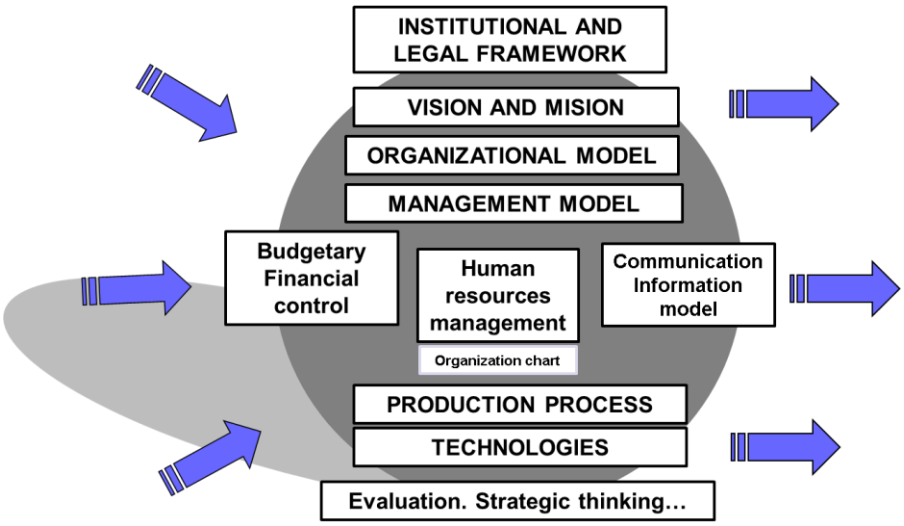
Networking is the organizational method *par excellence* for managing complexity (Wagensberg, 2002) and defines a source of innovation of the first magnitude through the exchange of experiences and best practices, ideas and perspectives for analysis, information and knowledge. Cultural and creative organizations use networks naturally, based on the attributes of the sector, and the evolution of new ICTs determines a whole raft of possibilities that go far beyond anything we have today.

Furthermore, if we consider the relationship between the regional development model and the framework of innovation found in cultural organizations, we can see the diverse typology of significant stakeholders that can form part of these networks, albeit on a formal or informal basis. Indeed, in this context, the notion of transversality (for the integration of cultural matters within the spectrum of diverse economic, technological, ecological, urban, and social aspects amongst others) along with the multi-level perspective (integrating local proximity with the global macro-trends through regional and national levels) is particularly interesting (Abeledo Sanchis, 2010).

PROCESSES OF THE PRODUCTION FUNCTION WITHIN A CULTURAL ORGANIZATION

The processes of the production function cover the entire set of objectives, procedures and restrictions that define and determine the way in which the resources all tie in with one another to convert inputs into outputs. As far as restrictions are concerned, first of all we could talk about the legal and institutional framework in which the cultural organization's activity takes place, followed by the mission and vision of the organization which have an influence on both the order of the processes and the methods used to implement them. Next we will analyze the organizational model and its management system (financial, human resources, and information). This does not follow a straight pattern of production, but is conditioned by the technology involved and the techniques applied to review, assess and reformulate the processes.

Figure 16. Production Function The processes



In this diagram illustrating the production function, there are a number of key issues:

1. **Current demand and trends:** changes in demand and emerging issues either due to existing or potential audiences. These issues are closely bound up with the changes in the socio-economic development model and the paradigms for globalization and sustainability.

2. **Digital technologies:** repercussion of these on new distribution channels and innovation in audiences.

3. **Loyalty** of the user: within the context of a high level of competence, the focus on the user enables services to be diversified, which is favoured by the use of new technologies.

4. **Innovation:** within the context of rapid changes in the market, penetration is aided by the ability to anticipate such changes. Innovation in terms of concepts is favoured by creativity, artistic imagination and the educational function characteristic of such cultural organizations.

5. **New financial and business models** together with the new framework defining the interaction that occurs between new technologies, emerging audiences and the model for socio-economic development.

The traditional idea of the **production line** is evolving and in many cases the relationship with intermediaries has to be rethought. According to Hearn (2007), technological advances hasten the decline of a linear production process in favour of what the author calls “value-creating ecologies”. This concept is based on the idea of a constellation of dynamic firms in which the value flow is multi-directional and works through clusters of networks. This idea offers a clearer explanation of the productive and organizational change experienced by many CCIs:

- The perception of the consumer changes and the figure of the “prosumer” is taken into account, this being the function of the user

as a co-generator of value through their interactive participation in the productive process.

- The notion of the product is reconfigured from a perspective that is completely separate from its value as part of the network.
- The types of simple competence tend towards a dual relationship of competitive competence or co-competence.

More and more often, the cultural and creative entrepreneur needs to foster **direct interaction between the producer and the user**. They need to interact closely with their target audience to monitor the trends or initial reactions in leading consumers to see how they react to their products. Technological advances such as multi-platform capabilities offer a greater degree of connectivity with the user and **can provide feedback on the production loop, which means** the user can interact directly, allowing the producer to adapt to changing demand. The increasing incorporation of the user/consumer as co-producer, coupled with efficient communication channels, has led to some convergence between the phases of production and consumption.

On the other hand, the UK Technology Strategy Board (2009) recognizes that the increase in sources of knowledge and exchange of information also blurs the lines between different sectors, triggering growth in **multi-disciplinary equipment**. Activities that contribute directly to the creation of a product or original service fall within a backdrop of administrative, organizational or manufacturing operations. **These networks of lawyers, managers, and accountants contribute to the specification of agreements at the core of the CCIs and are an essential part of the structure of such industries.**

LEGAL AND INSTITUTIONAL FRAMEWORK

The existence of cultural organizations is determined by various regulatory frameworks, ranging from the basic education system, university education, cultural policies *per se*, active policies drawn up to support entrepreneurship, the laws and treatment of the social economy, the fiscal treatment of sponsorship and patronage, specific industrial policies targeting the cultural sectors, the regulatory framework for labour relations for artists and creators and intellectual property regulation.

The range of realities in Europe is extremely diverse, thus making it difficult to conduct a global analysis.

According to the report entitled "The Entrepreneurial Dimension of Cultural and Creative Industries" HKU (2010), the three main regulation factors that influence the development of cultural and creative SMEs are the following: intellectual property regulation, tax measures and measures to facilitate the start-up of businesses.

With respect to the cultural and innovation policies of the various EU countries, a favourable attitude towards innovation and a degree of **economic development in the country make all the difference. Other factors are** associated with business culture and demographics, since they determine the degree and profile of the type of business activity undertaken.

Furthermore, the various levels of innovation and recognition of CCIs undertaken are not only due to differences in the regulatory framework of innovation, but also to the methods used to implement them, which basically amount to productive and technological improvements (participating countries) or the promotion of human capital and creativity (richer and more innovative countries). Only a handful of countries have proposed a combined model defined as cooperation between various ministries, based on the recognition of the social, economic and cultural aspects of the CCIs. Generally speaking, despite the recommendations of the European Council, very few countries have fully recognized the role of CCIs as the driving force behind growth and innovation in Europe.

The most widespread approach focusing on support for creative and cultural entrepreneurship is based on tax deductions and favourable **fiscal policies**. In Europe, SMEs engaged in the cultural and creative sector generally receive the same treatment as all the other SMEs. Hence, they are subject to the priorities and strategies enshrined in traditonal innovation policies.

MISSION AND VISION OF CULTURAL ORGANIZATIONS

In keeping with Throsby and Withers (1979), cultural organizations are often non-profit-making enterprises, and are characterized by the multitude of objects that form part of their mission, many of which have a social nature. As we will see below, these characteristics often shape their organizational and business administration model, which are heavily influenced by the lifestyles favoured by cultural and creative workers.

These authors identify four dimensions for analysis.

1. Promoting artistic excellence, which means having a favourable attitude to innovation based on motivation (Patterson *et al*, 2009).
2. Facilitating access by potential clients to cultural goods and services and encouraging audiences to play an active role.
3. Generating educational services.
4. Developing research functions, an indispensable service for generating innovation in the organizations by opening up to ideas and creative problem-solving (Patterson *et al*, 2009).

Of course, given the diversity of activities forming part of the CCIs, the entrepreneur's **motivations** will vary from sector to sector. As a general rule, there may be two extreme situations: Orientation towards creation and orientation towards growth. The first is characterized by the **desire to give**

priority to the cultural value of creation and the lack of motivation to generate economic value. On the other hand, in the second case, priority is given to economic aspects instead of the cultural value inherent in production.

The will for social transformation along with a transgressive and critical disposition are typical of the cultural sector of the arts. This implies that there is a will to generate innovation in the CCIs. In the categories of values that basically give shape to the cultural organization, the following can be highlighted:

- Organizational values: independence and self-employment, doing voluntary work and working for pleasure, fairness, social initiative and non profit, etc.
- Transfer to work methods: participatory approach, transparent management, networking, fostering innovation and quality, etc.
- Personal growth: supportive of rights, values of mutual respect, promoting critical thinking, negotiation and agreement.
- Values and social liability: Fostering the principles of solidarity, sustainability, equality, democracy and diversity.

Clearly, explicit formulas and the degree of specificity will vary depending on the activity. There may even be huge gap between presumed values and the coherence of the activity itself. In any case, the right communication strategy will be absolutely essential for transferring and implementing these ideals, both internally (with the workers themselves) and externally (with audiences and society as a whole). Similarly, commitment to the region is embodied in the local implementation of the values guiding the mission of the organization.

As explained above, the CCIs often combine cultural and creative effort with economic and entrepreneurial zeal. According to Hubert *et al*, the combination of a cultural/creative attitude and an entrepreneurial spirit give rise to four different focuses on the **personal** orientation of the cultural and creative entrepreneur. As we can see in the following table, cultural and creative entrepreneurs identify themselves with four sets of ideals: business success, professional achievement, artistic creation and professional career development.

In accordance with Eichmann (2007), these four personal sources of motivation can in turn be identified on the basis of five dimensions: personal aspirations, a focus of interest, degree of separation between one's work and personal life, occupational model (employee, freelance, etc.), the various sectoral activities and further typical features. Based on this basic outline, there is a spectrum of possibilities ranging from the most artistic and bohemian at one end (independence as an aspiration, aesthetic criteria, lifestyles) to entrepreneurial methods completely oriented towards the market. **Table X. Main motivation for creating cultural organizations. Source: Eichmann, H. *et al*, 2007**

Table 6. Motivation for creating cultural organizations. Source : Eichmann *et al*, 2007

Main motivation:	Entrepreneurial success	Professional achievement	Art creation	Professional career
Dominating occupational aspiration	Success first, than autonomy	Balance between success, autonomy and security	Autonomy andArtistic Recognition, Aesthetic Criteria	Security. Reciprocity. Affiliation ofautonomy and success
Dominating identification focus	Personal enterprise	Professional Status more important than occupation status	Art Communities, the Art Scene	Employee
Work and live	Professional activities in the centre; private activities marginal	Professional activities more important than private life, but depending on actual topics	Professional activities as part of personal choices. Refusal to make distinction between professional and private life	Professional activitiesand private life equally important. Separation of Professional and Private activities
Type of occupation	Employer, manager	Freelancer, Employee, Rarely Employer	Freelancer. Rarely employee or employer	Employee or Freelancer
Industries and profession	All sectors, in the Creative Economy	Technical professions, Architecture, Sound technician, Camera man,	Art professions. Design, Film, Architecture, Visual Arts	IT, Advertising, Sales Professions
Additional typical characteristics	Predominantly men	Mostly persons with experience	Separation of 'breadearning activities' and activities' and	Majority of young people

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Clearly, these issues are not static, and thus, the model should be considered in dynamic terms. Depending on whether the organization is in one stage or another of its life cycle, its motivations, values and objectives will be subject to modification.

ORGANISATIONAL MODEL

Given the specific characteristics of the sector in terms of corporate dimension and labour-intensiveness, the CCIs implement network-based organisation and cooperation processes. Smaller companies tend to adopt out-sourcing and clustering strategies, combining multiple projects in order to compete with larger companies.

This phenomenon is incremented by the high level of uncertainty associated with the demand for cultural goods and services, so content-producing

industries tend to work on several projects at the same time to balance the risk of failure.

On the other hand, the specific characteristics of the cultural sector in terms of social prestige and projection underpin the importance of their relationship capital.

The company's internal organisation is conditioned by the small dimensions of the business sector. Evidently, the organisational design of a micro-SME (1-3 employees) does not afford many opportunities to specialise by areas. This also implies an informal internal organisation of labour in which it is not unusual to find everyone cooperating with each other in their tasks. According to Maarse (2009), charismatic leadership, team-building and the distribution of responsibilities in projects are some of the key features of cultural organisations.

It is well known that the aptitude for team work is a distinguishing feature of creative entrepreneurs. Networking (at the personal and functional level and in several layers of interaction) is practically intrinsic to CCIs. As the report "The Entrepreneurial Dimension of the Cultural and Creative Industries" HKU (2010) points out, many creative individuals begin networking during their academic years and acquire a more professional structure when they enter employment.

Outsourcing is another characteristic of organisation in CCIs. Many CCIs are creation oriented and many decide to continue to develop their activities on a small scale in order to remain flexible, a quality not always found in larger companies. As mentioned above, big companies have a structural advantage in terms of research, development, administrative management and designing activities to which micro-SMEs have very limited access. Similarly, the reproduction, distribution and promotion of creative products and copyright management are complex processes in which larger companies have an advantage over smaller ones.

Nevertheless, according to the European Commission's Green Paper (2010) Unlocking the Potential of Cultural and Creative Industries, larger companies take fewer risks than micro-SMEs. Small companies must be more flexible, dynamic and innovative to be able to compete with larger companies that are unable to be so versatile. This allows entrepreneurs in charge of CCI micro-companies to be willing to take risks.

SMEs in the CCIs are more flexible; they prefer to have fewer workers and resort to outsourcing for ad hoc services. The solution adopted by many organisations is to vary the level of integration and control over certain aspects of production and to outsource them to dynamic companies that are able to take risks.

Even large intermediary companies organise the production of new media content into relatively small and semi-independent teams. For micro-SMEs, outsourcing also means being able to combine creativity and management of their freelance activities, as one regional institution indicates. Citing the

report “Unlocking the Potential of Cultural and Creative Industries" (HKU, 2010):

"The big companies in the CCIs have reduced their employees in the past 50 years… they outsource. The degree of outsourcing is very high. This also means that people don't do what they are good at (they need to acquire the job, have to make their own taxes, have to do everything, marketing…)… And in the past this was dealt with through the division of labour. So creative people lose a lot of time doing things they are not good at and that shouldn't be part of their job!"

The fact that CCIs have disparities in terms of size and growth strengthens the tendency to outsource, especially in sectors in which automation of production enables outsourcing, such as the retail work in the fashion sector or in certain computer games. Further, to deal with the monopolistic tendencies of some CCIs, **a high percentage of freelancers and micro-SMEs rely on networks and personal contacts** in order to act as a group.

MANAGEMENT MODEL

As we have seen, many companies operating in the CCI sphere must integrate artistic freedom as an intangible value and entrepreneurial freedom has a tangible value that underpins intangible (cultural) values. Some entrepreneurs are more growth-oriented, whereas others are more motivated by the cultural and artistic value of their products and services, i.e. more creation-oriented. Certain CCIs retain specific employment patterns to combine the flexible approach of small and medium enterprises. The inherent tension between the two "types" of entrepreneur is often reflected in organisational and management structures.

An overview of management methods in several factors of interest to CCIs is given below:

- Human Resources policy.
- Raising economic resources.
- Knowledge planning and management.
- Copyright management.
- New technologies.
- Innovation management.

HUMAN RESOURCES POLICY: TRAINING, WAGES AND TYPES OF RECRUITMENT.

Cultural organisations have serious training shortfalls in business skills (planning, management and marketing) owing to their cultural orientation and small size. The “The Entrepreneurial Dimension of the Cultural and Creative Industries” HKU (2010), report identifies this issue as the second major challenge (the first one is funding) to starting up an entrepreneurial activity.

The issue is worsened by the structural inadequacy of formal education and artistic careers with regard to business entrepreneurship. To this we must add

the complex prospect of the vital issue of funding and the scant attention financial institutions pay to the sector's specific needs.

As the aforesaid report admits, entrepreneurial and business know-how are mainly acquired after the years of formal education, i.e. in the course of one's career and hands-on work experience. In the context of learning by doing, personal networks, informal contexts and mobility are of paramount importance. Moreover, as Seltzer and Bentley (1999) point out, participation in lifelong learning is another salient feature of the sector.

A further outstanding concern is the importance of affording customized support at the request of companies by providing coaching and mentoring in the financial sphere. Entrepreneurs are often unaware of their financial options and sources of financial support available to them, either from public funds, venture capital or bank loans. The lack of information on the available sources of funding and the time and effort required to obtain the information is an additional burden SMEs in the cultural and creative industries must take into account. Because the need for funds cannot always be estimated in advance, financial support "on demand" could be encouraged at the local and regional levels, which are closest to the user.

With regard to aspects associated with wage policies and types of recruitment, cultural and creative entrepreneurs are more prone to engage in unconventional methods of employment, such as part-time work, temporary contracts and self-employment, than the working population in general.

In terms of salaries, and according to Throsby (2001), in most CCI sectors only a minority of full-time workers receive a regular salary. Cultural workers need a minimum income to survive and a degree of financial security, so holding more than one job is commonplace. As Towse (2004) points out, most CCI sectors are characterised by a high employment turnover in which short-term contracts are the norm. Due to the difficulty in having their intangible creations recognised, certain cultural and creative entrepreneurs combine their self-employed activities with professional occupations that afford sufficient financial stability to allow them to create. This leads to a blurring of the distinction between "employed" and "unemployed" that is fuzzy and problematic.

Many actors, writers, directors, visual artists, craftspeople, composers, designers and so on could be considered as self-employed workers. In general, creators accept the fact that they earn less than the average worker, which may be explained by their preference for creative work or less of an aversion to risk.

ECONOMIC PLANNING AND MANAGEMENT IN CULTURAL ORGANISATIONS

As a rule, to inefficient economic planning on the part of cultural organisations we must add a scenario of structural difficulties when it comes to funding the activities of CCIs, owing to the complexities of funding and a lack of awareness of the needs and potential of CCIs.

As in the case of human resource management, business on a small scale is a determining factor. According to the “The Entrepreneurial Dimension of the Cultural and Creative Industries” (HKU, 2010) report, the sector is characterised by weak economic and financial planning: A significant percentage of organisations (practically one fourth of the ones interviewed in the study) had no plan at all and those that did were based on a short-term approach (one year). A very small minority (barely 5 percent) had a financial forecast for up to five years.

The survey showed that 75% of the SMEs draw up their own forecasts and only 20% hire the services of professional consultants. This is significant from the perspective we have been indicating with regard to the difficulty of combining administrative tasks with the creative process. The underlying debate is between an economic orientation (profit seeking and market oriented) and a cultural orientation (not for profit). To cite the Creative Economy Programme (2006) of the British government's Department of Culture:

"The key issue is not the availability of funding and business development services but the access and use creative enterprises make of the support. Specifically, productivity and growth are inhibited by the scarce tendency and ability of many creative enterprises to make full use of the funding, consultancy and expertise that are available".

Furthermore, we could point out the far-reaching consequences of inefficient economic management, especially if we consider the complex scenario of the financing world. As “The Entrepreneurial Dimension of the Cultural and Creative Industries” (HKU, 2010) explains, the multiple policies for each level do not necessarily need to be visible or known to the public. In fact, the various territorial levels of support are often obscure and overlapping, which means that cultural and creative SMEs face a highly complex scenario. The support provided, for instance, may be a combination of tax exemptions and municipal funds, national sectoral funds, and broader projects funded by the European Commission.

Nonetheless, despite the limitations arising from the sector's business skill shortcomings, the financial institutions also contribute to the difficulties the CCIs experience in accessing funding. Karra (2008) calls attention to the fact that ordinary financial institutions offer CCIs very little advice and expertise on development tools. Moreover, the companies' assets are often intangible and protecting the copyrights on new products can be complicated; returns are uncertain and innovation in products is not easily integrated into formal business structures. All this has an impact on the access to credit.

There is a hypothetical potential for diversifying the sources of funding in such a context. The most obvious instruments include:

Access to venture capital:

Venture capital is an important source of funding for companies with a high growth potential that require a significant amount of capital to develop, grow

and expand. The Europe 2020 Strategy recognises the relevance of venture capital but there are important restrictions associated with SME size and the rates of return on long-term investments. According to the KEA (2010) report, Promoting Investment in the Cultural and Creative Sector, Europe has few venture capital funds devoted to the CCIs, and around half of these are for audiovisual enterprises related to information and communication technologies.

Intermediary bodies:

They provide alternative sources of financial support via venture capital and micro credit programmes for new SMEs and creative entrepreneurs, and facilitate accommodation endorsements that minimize the risk.

Business angels:

These are generally wealthy people who buy shares in start-up companies and offer a more personal involvement in the project concerned as well as business and management consultancy than institutional investors. As Ramadani (2008) points out, the reasons that lead business angels to invest in new and risky projects range from the expectation of huge profits to a feeling of social responsibility, including a desire to help young entrepreneurs and the fun and pleasure of investing for its own sake.

Tax incentives:

The most widespread ways of supporting cultural and creative entrepreneurship in Europe are tax deductions and the implementation of favourable fiscal policies (HKU, 2010). Tax incentives can promote a prosperous entrepreneurial environment via direct and indirect taxes and compulsory social contributions. The European experts consulted in the HKU report consider that fiscal exemptions, together with accommodation endorsements, are the best way to provide financial support to the CCI sector. In this sense, one of the instruments most frequently used to stimulate CCIs is the setting up of **special tax schemes** for cultural and creative entrepreneurs.

Public-private Partnerships:

The diverse nature and dynamics of cultural SMEs implies that access to funding depends on many factors (the sector, the phase in the organisation's life cycle, and so on). The Conclusions of the "Creating an Innovative Europe" Council highlights the need to coordinate the action of public and private agents in order to face the complex issue of access to funding /May 2010).

Funding and life cycle phases:

The importance of access to funding varies throughout companies' life cycles. The amount and type of funding differs according to the phases: Registration costs, for instance, are only needed during the first phase and funds for innovation are mostly for subsequent phases, when the company is more consolidated. Thus, the transition from a single-person company to a multi-

person company has a significant impact on the type and amount of funding required, especially if additional workers are employed.

Knowledge and information on the types of financial support available is essential to companies, particularly during the first phases of life. Generally, however, Cultural and Creative Industries have no access to funding. This is due in part to their lack of knowledge of the funds that do not target CCIs specifically, as stated in the report "Promoting Investment in the Cultural and Creative Sector: Financing Needs, Trends and Opportunities (KEA, 2010). Cultural and creative entrepreneurs need to be informed of the various financial options available (linked to economic, cultural, social and innovation aspects). On the other hand, too many aids may turn out to be counter-productive, by generating aversion to risk and inhibiting growth.

During the last phases of the cycle, other kinds of barriers must be overcome. For growth targeting SMEs, in particular, specific structural funds and working capital are needed to build out. Financial support needs to be accessible during every phase of the business life cycle but the types of support must meet the changing needs of each phase.

To provide the right funding mechanisms, a firm understanding of the particular characteristics and needs of CCIs is crucial. Direct support at the EU level is inadequate for the CCIs, mainly due to the bureaucracy and complex procedures involved. A regional level is preferred, owing to the potential for coordinating local and national action. Moreover, the finances offered and invested at the regional level enable the development of a cultural identity in the region.

On the other hand, according to “The Entrepreneurial Dimension of the Cultural and Creative Industries” (HKU, 2010) report, the national level is the most adequate one for creating a driving fiscal environment. Defining which financial instruments are available and to whom is also important at this level.

STRATEGIC PLANNING AND KNOWLEDGE MANAGEMENT IN A COMPLEX AND UNCERTAIN SCENARIO.

In general, planning and managing knowledge is a salient skill for entrepreneurs and an essential one for discovering new market opportunities. It is particularly relevant in the uncertain market of cultural and creative products and services, characterised by unpredictable conditions of demand. Entrepreneurs must take a wide cross section and changing of preferences into consideration. Creative products, moreover, often fulfil functions that cannot be measured "objectively" and quantitatively. They are experience goods, and the uncertainty that surrounds the demand is strengthened by the intangible nature of the products and services, as well as the fact that they are based on products. This means that the outcome of a product cannot be predicted at any one phase of the production sequence. An unexpected success can inexplicably become huge success, whereas guaranteed successes fall to pieces. Complexity and uncertainty do not imply that everything must be left to chance, however. Both "hits" and "orientation" in a market permanently subject to change require planning and foresight.

Thus, a prime issue strategic planning needs to address is the development of an entrepreneurial vision. In order to function in the complex and turbulent world of a creative economy and gain a long-term strategic position, cultural and creative entrepreneurs need to be able to develop a long-term business vision. Yet most of the entrepreneurs in the sector launch the entrepreneurial product in the short term.

Subsequently, the need arises to prepare an analysis of the situation that will enable them to gain a position on the market. Market positioning is vital at each phase of a business project's life cycle. At first, positioning can be based on a product or service, whereas a more mature stage requires differentiation based on a variety of product-market combinations. This core competence – the ability to determine a company's market position – is necessary in all phases of corporate development.

The volatile and unpredictable nature of the cultural goods and services market promotes emerging, temporary business strategies that are highly receptive to users' demands. These strategies are based on "emotional" and "intuitive" knowledge as well as standard market research.

Furthermore, digital convergence has changed the value chain and the distribution process, "democratising" access to distribution and a higher level of participation among the producers and creators of content. According to the report Driving Innovation: Creative Industries Technology Strategy 2009-2012 (UK Technology Strategy Board, 2009), such changes have caused a need for CCIs to adopt new market strategies and new business models.

In the opinion of the sectoral experts consulted to draw up the report on “The Entrepreneurial Dimension of the Cultural and Creative Industries” (HKU, 2010), the most influential **knowledge factors** in an organisation's growth are related to information on market opportunities. CCIs point out the special difficulty of identifying **new markets** (19%) and lack of knowledge with regard to foreign markets (15%).

The main barriers to entering the market encountered by micro-SMEs are largely due to the exclusivity agreements reached with key distributors and access to information on market opportunities. The presence of many large scale competitors is an added difficulty.

As stated in the “Sourcing Knowledge for Innovation: The International Dimension” (NESTA, 2010) report, identifying sources of knowledge (especially at the international level) and belonging to a network are the keys to understanding the global market. Lowering trade barriers and the integration of the **global markets** has enabled all sorts of companies, new ones included, to exploit global opportunities. Globalisation processes induce enterprises to adopt outsourcing strategies and generate a strong counter position: large corporations that control a highly competitive market, on the one hand, and cultural and creative micro-SMEs and the entrepreneurs that manage them, on the other, must face their limitations with regard to

knowledge of the opportunities afforded by their environment at start-up and throughout their companies' life cycles.

NEW TECHNOLOGIES MANAGEMENT

Providing services (as in the design sector), content (e.g. the music sector) and creative experiences (performing arts) has undergone a profound transformation due to the development of the New Information and Communication Technologies (NICTs). Based on the "Driving Innovation: Creative Industries Technology Strategy 2009-2012" (UK Technology Strategy Board, 2009) report, digitization dynamics have changed and diversified the methods of production, circulation, distribution and the exchange of cultural goods and services, making a significant contribution to increasing revenue and employment in the CCIs. The value change of cultural organisations has been completely redefined, affecting intermediation between stakeholders and users' relationship to the production process. As stated in the aforesaid report:

"The purely linear business model is giving way to a much more inter-woven environment, where cross-fertilisation of stimulus and response, data-driven supply and demand, and speed of communication enable a much more rapid evolution of product development and consumption".

The importance of digital content for the CCIs has encouraged the development of new applications and the integration or regrouping of the resources that intervene in the production process. The creative content industry is a good example of this. It is an increasingly important activity and is well developed throughout the value chain. Internet and the changing preferences of consumers have added to the complexity of the flow of funds between the players that participate in the chain. Consumer spending is the most important source of funds. According to the "Fostering creative ambition in the UK Digital Economy" (Analysis Mason, 2009) report, physical media still represent a substantial part of the market, but this is most exposed to online substitution.

New technologies multiply and diversify the channels through which cultural works reach the demand. At first there is an incremental effect, which is followed by episodes of "cannibalisation" between old and new channels. The end consumer, however, has more opportunities to access culture, which brings about an increase in culture consumption.

In this radically evolving environment, the challenge consists in finding adequate business models. The overall consequences of the information and communication technologies (ICTs) on culture are ambivalent. They open new creativity and distribution opportunities, but they also alter change conventional content. Then new models try to emerge, cultural content runs the risk of becoming just another good used to trade on the virtual market, which lowers its value.

The shift from traditional methods to new productive methods is not the only challenge faced by the CCIs in a market structure that has undergone

significant changes. The new formulas represent new market opportunities for content producers and generate important growth prospects for the cultural and creative industry. The increase in the level of citizens' participation in the arts via the digital and electronic media demonstrates the potential of digital media in terms of new market opportunities.

In line with the preceding section and the "Business Innovation Support Services for Creative Industries" (KEA, 2010) report, the first issue worth highlighting is the creative and cultural SMEs' limited know-how with regard to using intellectual property rights (IPR) and managing related rights. Such formal and informal rights, however, are an important source for creative companies and a mechanism for remunerating creativity.

Considering the data provided by the questionnaire in the report "The Entrepreneurial Dimension of the Cultural and Creative Industries" (HKU, 2010), 52% of the small and medium enterprises surveyed received no advice on intellectual property rights before commencing their activities, compared to 40% who did receive such advice. Among those who did receive advice, 38.5% received it through national organisations, 20.5% were guided by sectoral organisations and 11% resorted to European institutions.

Furthermore, the experts interviewed for the report considered the regulation of intellectual property rights as the second most important regulatory issue (21%) after tax deductions (29%).

Failing to use and manage Intellectual Property Rights (IPR) affects the entrepreneurial ability of cultural and creative SMEs by preventing fair remuneration for their creative effort. Thus, policies need to be put in place to encourage IPR management as a work tool in the CCIs.

Content management in the digital market has become increasingly complex and difficult to monitor. In the opinion of Cabrera Blázquez (2007), piracy and sharing have fostered the development of a free-of-charge culture that complicates conventional methods of attributing economic value to creative processes and may prevent creators from exploiting their own creations. In turn, this circumstance erodes the incentive to invest in creating new works.

Certain authors, however, stress the need to lower the protection of creative content and advocate a higher degree of access to copyright content in order to share and access the existing content freely, thus releasing the potential benefits doing so would afford. This line of thought promotes the right of consumers to share digital content.

The debate revolves around the combination of legal exceptions, exclusive rights, consumer rights and interests and creators' remuneration. Moreover, as we saw in Chapter 2, the increase of digitisation changes the way in which the creative "value chain" works and turns it into a creation cycle that bypasses intermediaries. The link between copyright holders and consumers becomes shorter, expanding the contact between consumers and creators and increasing the number of potential platforms for a free exchange of content. The example of YouTube illustrates the growing accessibility of online

content and the issue of intellectual property in digital environments, which is still evolving.

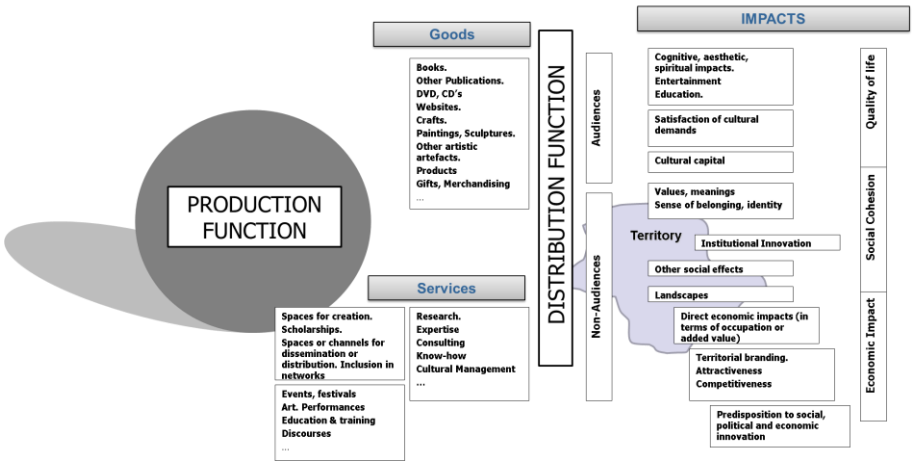
Future policies of support for the development of cultural and creative industries should take the changes in business models and the intellectual property environment into consideration, without losing sight of the importance of intellectual property as an incentive for cultural and creative entrepreneurs and remuneration for their production.

The most important aspect is **the impact this trend has had on the business models** of companies that need to adapt to a changing environment and at the same time be flexible enough to keep up to date on the latest changes and opportunities.

PRODUCTS AND SERVICES OF CULTURAL AND CREATIVE ORGANISATIONS

The diverse production of cultural and creative organisations includes books and publications, music (CDs), audiovisual material (DVDs), websites, paintings, craft work, merchandising material, and so on. Apart from such goods, the CCIs also provide infrastructure services such as spaces for creativity, residences for artists, and channels for exhibitions, dissemination, distribution and networking for professionals. In addition, there are all sorts of activities, including workshops, events, festivals and artistic performances. Finally, we can mention research and training services: courses, research programmes and consultancy with experts.

Figure 17. The production function. The demand side



In line with the classification made by Scott (1997), we can distinguish the following types of cultural products:

Qualitatively, cultural and creative products and services present distinct features, since many products and services can be distinguished from other manufactured products insofar as they are project-based intangible assets with a subjective value. Other specific economic characteristics are determined by the ability to produce them "instantly" and by the fact that they cannot be consumed in any other context (e.g. plays, ballet and live concerts). Such products and services are an extreme example of the product

differentiation strategies that are so necessary to combat the standardisation imposed by cultural globalisation.

The UNESCO's Convention on the Protection of Cultural Diversity (2005) stressed the differential nature of cultural goods and the need to distinguish them from the mass production of standardized consumer items, and even considered the possibility of excluding them from international trade agreements and competition regulations. Cultural products are not "mere goods", because they **embody cultural uniqueness and promote cultural diversity**.

On the other hand, the demand for them is unpredictable and they involve a long construction process. As "The impact of culture on creativity" (KEA, 2009) report points out, **quality and utility** for the user cannot be anticipated. Consumption, experience and even repeated consumption is required to change perception and acquire a taste for cultural products. In general, demand increases the level of exposition in a process of "rational addiction". Cultural and creative products are experience goods because they bring to bear an experience directly related to the user. Feedback loops constantly integrate user demands during the process of designing cultural and creative products and services, thereby improving the process. Thus, the production of a cultural and creative enterprise is not only a product or service but also a design process.

Creating new experiences is highly subjective and its economic value cannot be determined with precision in advance. The degree of subjectivity implies that **cultural and creative entrepreneurs are constantly taking risks**. In view of the size of most CCIs and the high levels of competition, the sector's entrepreneurs constantly need to seek creative solutions and new trends, products and services that meet the demands of users and consumers.

Moreover, we have already alluded to the reference framework that decides the knowledge economy paradigm for cultural and creative production. Thus, the relationship between such goods and services and the socio-economic innovation processes involves many important issues: the users' approach, new methods of relational consumerism (as opposed to transactional consumption), product customisation and personalisation, the economic value of originality and distinctive experience, the growing impact of immateriality over a product's added value, content innovation, and diversification in methods of delivery.

IMPACTS GENERATED BY CULTURAL ORGANISATIONS

In this paper we have pointed out the need to link models of territorial development to the CCIs' potential for innovation. This scenario includes the educational and research services developed by the CCIs, the identification of new audiences, business models, and the development of cultural value or its economic impact, to cite a few examples. If we consider the function of production in cultural and creative organisations, we can distinguish a large

variety of impacts generated by the goods and services they produce. Such impacts are not always noticeable in time and manner, and therefore their recognition and identification, and even their nature pose serious assessment difficulties.

Nonetheless, institutional recognition is materialising, as recent literature shows, including the Green Paper "Unlocking the Potential of Cultural and Creative Industries" (European Commission, 2010) and the Communication on the "European Agenda for Culture in a Globalizing World (COM/2007/0242 Final).

A preliminary classification enables us to distinguish two large areas: The impacts that affect CCI audiences and those that go beyond the direct aims of the CCIs:

Impact on audiences:

- Meeting cultural demands.
- Entertainment, education.
- Development of cultural capital
- Cognitive and aesthetic values, development of significance, emotional and spiritual impact.
- Social cohesion (feeling of belonging to a community)
- Territorial identity (historical memory)
- Promotion of values and lifestyles

Impacts on non audiences:

- Direct economic impacts and added value generated by cultural and creative activities.
- Creation of employment and the quality thereof.
- Promotion of tourism and increased value of cultural and natural heritage, which are of special interest in rural development contexts.
- The potential for renewing neglected urban areas.
- Leisure and recreational use of public spaces and the promotion of social capital.
- Promotion of activities linked to the knowledge economy.
- Territorial branding and projection. Enhanced competitiveness.
- Incentive for attracting creative classes.
- Promotion of innovation at the social, economic and political levels.
- Relationship with social policies: diversity and intercultural dialogue, the fight against exclusion and the promotion of social capital.

Two impact dimensions can be considered for audiences and non audiences. In general, it could be said that the impact of cultural organisations is demonstrated at three levels. Level one refers to the individual transformation that takes place in expositions to symbolic influences that have aesthetic, cognitive and spiritual effects. Level two refers to transformations at the meso level that involve the development of expressive, communicative abilities and which primarily affect effectiveness and efficiency in the accumulation of human capital and social capital. Lastly, we would be alluding to the social and economic rewards arising from exposition to cultural experiences. Likewise, in reference to non audiences,

the first level of impact would be aesthetic, involving landscape, territorial branding, and personal or corporate reputation. The second level would be the variation in the propensity for innovation, networking and other effects that empower players, communities and territories. Lastly, the third level would be the macroeconomic impact in terms of income, occupation and variations in competitiveness, which will addressed in the next chapter.

The potential impact of creating employment in the sector becomes fully apparent if we integrate cultural activity in the development challenges set out in the European 2020 Strategy:

- Environmentally sustainable development: social communication services and institutional marketing, education and raising awareness in values, ethics and lifestyles.
- Integrating development: the values of cultural diversity, a multicultural society, social dialogue, the fight against exclusion and so on.
- Intelligent: integration of knowledge.

3. Innovation processes in cultural organisations. Main factors for change:

In line with Chapter One, increasing the breadth and depth of innovation creates a complex and dynamic scenario that is highly favourable for the productive activity of cultural and creative organisations. This is confirmed by the emergence of a new conceptual framework (soft innovation, hidden innovation, open innovation, etc.) that complements the classical perspective of technology and production-based innovation. Let us remember how such broadening and re-conceptualisation is closely linked to innovation in services, to producing knowledge by integrating and recombining different aspects, to the transcendent value of meanings and symbols, and to open, cross-cutting organisational models and networking.

Innovation is inherent to the productive and organisational mission and characteristics of cultural agents. The above dynamics increase this dimension by placing it in the context of the need for competitiveness and well-being in territorial development. The Third Austrian Report on Cultural and Creative Industries (2008) indicated that the level of innovation in CCIs is higher than the average for the economy as a whole. The sector's self-image confirms this, for it recognises the importance of innovation processes. Of the CCIs surveyed in “The Entrepreneurial Dimension of the Cultural and Creative Industries” (HKU, 2010) report, 74% stressed the need for investment in innovation and more support for R&D in the sector's SMEs.

Moreover, the Third Austrian Report on Cultural and Creative Industries (2008) also indicates the relevance of the CCIs as innovation providers for other sectors of the economy. The European 2020 Strategy confirms this perception when it highlights the role of cultural and creative SMEs in promoting non technological and scientific methods of innovation (which are not yet sufficiently recognised at the institutional level).

Firstly, if we consider the dynamics internal innovation in the CCIs, the table below gives a summary of the keys to innovation based on the production function studied in this chapter.

Table 7. The production function. The demand side

INPUTS	
PRODUCTIVE DIMENSION	LINKS TO THE INNOVATION
HUMAN RESOURCES	High levels of training of cognitive workers, higher than the economy's average. Creative skills, talent and tolerance. Importance of divergent ways of thinking, critical skills and imagination. Technical know-how and ability to integrate several disciplines and languages. Leadership skills, independence and entrepreneurial attitude. Greater capacity for teamwork and enhanced value of their important relationship capital. Lifestyles integrated in professional activity. High geographical mobility and higher international protection (networks)
SYMBOLIC RESOURCES	The production of the CCIs is knowledge-intensive and intensive in the use of symbolic resources. Symbolic production presents a growing value for competitiveness and differentiation strategies in companies that come under the framework of the knowledge economy. High interaction between the aesthetic dimension of production and a company's marketing strategies and ethical values.
RELATIONAL RESOURCES	Social capital wealth and increasing the value thereof in production processes. The generation, interaction and use of social environments and physical spaces conducive to creativity.

Table 8. Links to innovation. Processes

PRODUCTIVE PROCESS	
PRODUCTIVE DIMENSION	LINKS TO THE INNOVATION
VISION AND MISSION	Social responsibility values: principles of equality, diversity, solidarity, sustainability, etc. Basically, not-for-profit orientation (and beyond). Territorial implication and action from proximity. Artistic excellence criteria to promote continuous improvement through research and experimentation. An educational function and promoting access to culture.
ORGANISATIONAL MODEL	Organisational values characterised by independence and autonomy at work, voluntary work and working for pleasure, and transparency. Cultural entrepreneurship as a distinguishing feature. Importance of organisational behaviour based on hacker ethics: focus on the individual and networking as support. Open network cooperation through non-hierarchical structures. Interactive hyperconnectivity as a characteristic feature: potential use of Web 2.0. Clustering dynamics characteristic of the sector: concentration and territorial networks: effects on social innovation.
MANAGEMENT MODEL	The SME entrepreneurial dimension as a characteristic. The shortcomings of entrepreneurial skills as a consequence. Management skills affected by such relevant issues as intellectual property. Knowledge management is characterised by high levels of improvisation and very short-term planning, given the scenario of high

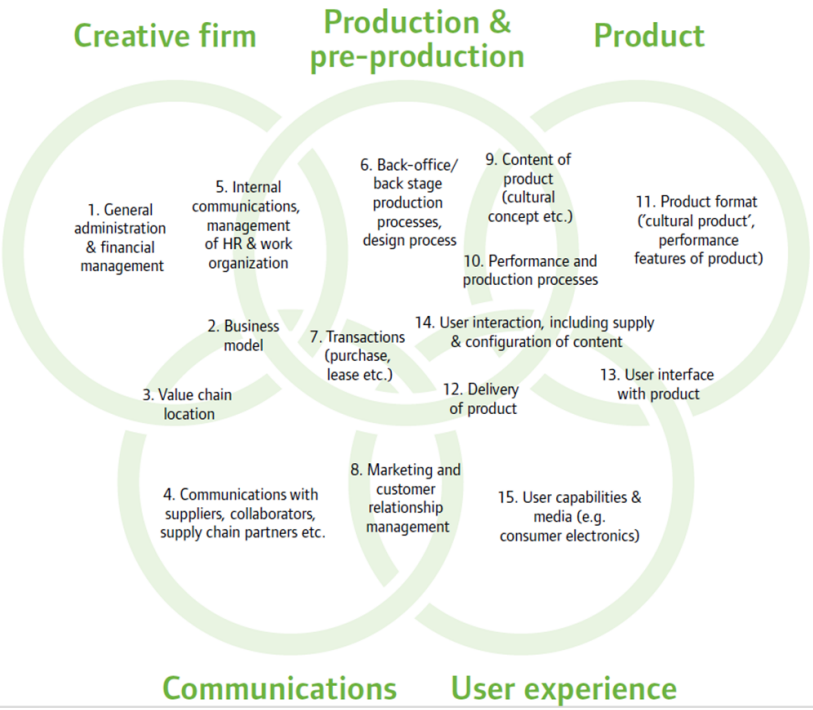
	uncertainty associated with cultural markets. Models of human resource training characterised by the importance of lifelong learning through personalised and informal methods.
COMMUNICATION	The communication function is a tool inherent to cognitive workers: the value of expression, of emotions, of producing meaning, etc. Information network management, hyperconnectivity and the use of NICTs.
TECHNOLOGIES	Interaction between creative content and promotion of the use of the new technologies. Favourable synergies between the organisational philosophy of the CCIs and the potential of Web 2.0: use of multi-platforms and free content. Inefficient management of intellectual property rights and negative implications of digitalisation in terms of piracy.
BUSINESS AND FINANCING MODEL	Not-for-profit and beyond-profit organisations Entrepreneurship and innovative methods of funding: Crowdfunding, business angels, venture capital, etc.

Table 9. Links to innovation. Outputs

OUTPUTS	
PRODUCTIVE DIMENSION	LINKS TO THE INNOVATION
PRODUCTS	The cognitive nature of production: experiential, informational, intangible goods; symbolic and emotional production, aesthetic values
SERVICES	Spaces for creativity. Workshops on creative work methodologies. Cultural (meta) research, thought and experimentation. Critical analysis. Promotion of spaces for divergent thought. Educational and awareness-raising services. Creative content and communication. Cultural entertainment and social mobility (citizen participation). Internationalisation and integration in territorial networks.
	IMPACTS
DIVERSE TYPES OF IMPACTS	Audiences: diversity of impacts related to human development (educational, cultural capital development, entertainment, aesthetics, etc.) Promotion of self-employment through cultural entrepreneurship. Territorial impacts: Branding, the use of the cultural resource in planning regional development, interterritorial cultural cooperation, productive diversification, cultural tourism, promotion of creative environments (public spaces and participative spaces). Development of mass creativity and hidden innovation (integration of artistic abilities in the educational model, promotion of social dialogue and use of the NICTs). Environmental sustainability: development of alternative consumer values and lifestyles. Development of consumer-guided innovation (cultural agents as avant-garde users). Fight against social exclusion: Social cohesion, territorial identity and historical memory, cultural diversity, art as a tool for urban renewal and the integration of marginalised groups (crime prevention, promotion of healthy attitudes, etc.) Institutional innovation and optimization of public services: Cultural participation can promote innovation in public services: promote attraction, communication and trust between the public and civil spheres; increase the involvement of groups in risk of exclusion; proximity and interaction with users; participative online systems for suggestions; creative methods of developing ideas; visibility of emerging problems; experimentation and pilot projects, etc. Innovation services in other sectors of the economy: design, innovation in products and services; branding (communication of values; human resource management (creative skills).

Going a bit further into the study of the production function and, in line with Miles and Green (2008), we can highlight five areas of special interest to innovation in cultural organisations:

Figure 18. Sites of innovation in the creative industries. Source Miles, Green, 2008



The above chart approaches five notable perspectives (companies, the production process, products, communication and the user's approach) that are the main areas for innovation to be found in the CCIs. These areas interact within a context, and with social, economic and technological development in a constant process of change. Change and mutation are the keys to studying innovation, and therefore it is essential to consider the dynamic perspective. This generates new demands for innovation on the part of society and the economy (in the shape of new needs and challenges, such as the ones considered in the Europe 2020 strategy, for instance), and inspires new creative opportunities for cultural agents or develops the interest and acceptance of hitherto unevaluated transfers of innovation.

In line with the value chain outline of the Bakhshi and Thorsby's cultural organisations (Bakhshi, Thorsby, 2010), three vectors stand out as determining factors in the dynamics of change faced by the CCIs. It bears mentioning the three vectors are interacting, since each one is strongly influenced by the evolution of the other two:

- The **demand for culture** seeks to identify latent and emergent demands in the cultural goods and services market via exercises in prospecting, research and experimentation with trends in changes of

value and in consumer and audience behaviour. In turn, changes in demand affect the way in which audiences are managed (i.e. by new ways of delivering experiences, the design of accessible cultural services and the user driven approach).

- **Technological and digitization developments.** Web 2.0, distributed social networking and multi-platform applications are decisive innovation elements when reconfiguring the productive processes and business models of cultural organisations. Digitization re-examines the conventional intermediation carried out by cultural organisations in depth. Following the conventional value chain of the cultural institutions defined by Throsby (1979), their relationships with audiences (content and services offered in exchange for box office); artists (visibility in exchange for creation) and the public institutions and sponsors (value and public usefulness in exchange for funding) are submitted to new "rules of the game". Intermediation between the production, distribution and consumer spheres is restructured according to emerging ways, of which P2P is the most obvious expression. Claims are made for the adaptation needed to generate added value and to justify the intermediaries' activities,

- Diversification and a rearrangement of the **sources of revenue and funding** that enable credit and investment. New ways of funding culture (such as crowdfunding) and its institutionalisation from the perspective of its core role in development emerge, facilitating alternative methods of public funding (as in the case of the funding of Sostenuto through Interreg). These are new social and public uses (e.g. for upgrading public services, innovation in policies to fight social exclusion, promotion of self-employment, development of social creativity and so on).

On the other hand, the predominating unsustainable model of social and economic development and the need to shift it to more desirable options – such as new values and lifestyles that promote change in consumer trends and production – give rise to important opportunities for a recombination of cultural services in line with their educational, communicative and research function. The accelerated development of the potential of new information technologies increases the scope of interaction with audiences and users exponentially. In turn, the audiences and users become more diversified and expand in a society faced with the challenges of economic globalisation, environmental sustainability and the fight against social exclusion. The search for audiences and customer loyalty processes require an in-depth adaptation to the new scenario.

Focusing our analysis from an external perspective, bear in mind how the Third Austrian Report on Cultural and Creative Industries (2008) pointed out the relevance of the CCIs as suppliers of innovation for other sectors of the economy. The central argument is that creative industries introduce new

ideas that filter down through other productive sectors (e.g. through design) or that creative industries facilitate the adoption and maintenance of new ideas and technologies in other sectors. From this perspective, economic policy should turn its attention to cultural sectors not only because they are economically significant in themselves, but also because they promote growth in other sectors. The generation and transfer of innovation become key variables for explaining the connection between creative sectors and economic growth. Some empirical approaches for the case of Spain (Ruiz-Navarro, Martinez-Fierro, 2010) show that: a) in effect, cultural entrepreneurs find different sources of opportunity than entrepreneurs in other economic sectors; b) they are more innovative; c) they use the new technologies more intensively. Their conclusions could not be more obvious for our aim: "Cultural entrepreneurs cause a greater economic impact than non-cultural entrepreneurs by generating innovation, stimulating the use of advanced technologies and detecting potential opportunities in an idiosyncratic manner". (Ruiz- Navarro, Martinez-Fierro, 2010).

In any case, our analysis is conditioned by how the economic nature of innovation affects the actual possibilities of cultural organisations for growth through the credit cycle, investment and innovation. To the restrictions of institutional visibility (stressing the need for adequate indicators to assess the impact of innovation on cultural and creative goods and services) we must add other factors, such as the higher risk associated with a shortage of entrepreneurial skills in the sector and the lack of recognition of the specificities of their economic value (intangible assets, soft innovation and so on).

The research developed by institutions such as NESTA or the European Innovation Scoreboard tries to overcome such structural limitations, although the sensitivity and economic support of European programmes are far from perfect: of the 174 billion euros invested by the EU to stimulate research and development and the new technologies in 2007-2013, less than 3 billion target culture-based creativity.

As indicated above, the creative value and knowledge developed by cultural and creative organisations are not sufficiently recognised by conventional approaches to research and their economic feasibility are difficult to justify. This is why the SMEs in the CCIs have huge difficulties in developing their full creative potential, given the restrictions in accessing the funds that are essential for R&D&I. There is a need to facilitate access by enhancing coordination with universities, research centres, the business fabric, and so on. The CCIs must improve their ability to integrate and use the impact of the new information and communication technologies.

In this chapter we have carried out an in-depth study of the production function of cultural and creative organisations from the perspective of broadening and deepening the dynamics that characterise the development of innovative productions.

The autonomy, complexity and dynamism of the relationships between innovation processes and the CCIs, their inherently innovative nature and the important synergies they create with other productive sectors and territorial development (e.g. social and environmental aspects) raise the possibility of considering them a system of creativity within the innovation systems, as stated by Potts (2007) and as we shall see in the macro analysis below. As the analysis of their production function shows, cultural and creative activities are profoundly integrated in the fields of representation and experimentation and in the search for novelties. According to Potts (2007), these characteristics make the arts and culture a vital part of today's economy, essential for facilitating the penetration of new ideas and their transfer to the social context. Two issues (time and space) stand out in this respect. The first one is the need to approach this issue in dynamic, rather than static, terms. The second is the relevance of the territorial perspective and the proximity criterion, the non neutrality of geography and the value of territorial resources and dynamics in innovative production.

The theory of innovation systems (Freeman, 1987) and Lundval (1988, 2007) stresses the importance of interaction and mutual learning processes between entrepreneurial players, social actors and institutions, with innovation being considered as a dynamic social process in which technological change is endogenous. The development of public policies to promote research and innovation illustrate this. After the two preceding generations of policies in which efforts were centred on laboratories (the linear model) and infrastructures (coordination of science, education, competition and fiscal policies), the third generation underscores the creation and continuous updating of knowledge and mutual learning processes between the players who are directly or indirectly involved. The instruments of public innovation policies based on the theory of innovation systems stress five large categories (Castro et al, 2003):

1. Updating of the capabilities of the innovation system: placing the accent on specialised resources and infrastructures (education, training for researchers, labour market, developing a spirit of creativity and the capacity for innovation of companies, detection of the needs of SMEs, clusters, incubators and so on.

2. Promoting the dissemination of knowledge and relationships between players in the system. It is a matter of encouraging the mobility of people and placement schemes, cooperation between companies, universities and other knowledge centres, support for intellectual property, etc.

3. Diversification of the economic fabric: the aim is to expand regional areas of knowledge and expertise and to manage new opportunities. The aim is to attract external companies, create favourable environments for advanced services and create spin-offs.

4. Culture of innovation and governance: this stresses the transparency of information in order to ensure minimal levels of uncertainty and risk.

Social capital, the scientific prospective and dissemination are some of the steps taken in this direction.

5. Funding for R&D project. This is a classical instrument for support that lowers and shares the risks inherent to research and development. Venture and seed capital, and various schemes and criteria (loans, grants, credits, exemptions, stakes in holdings, etc.) are points of reference in this sense.

Based on the analysis of the function and production of cultural and creative organisations developed in this chapter, it is evident how the shadow of the CCIs influences all such policies, illustrating their creative nature within innovation systems.

A GEOGRAPHICAL AND TERRITORIAL APPROACH TO INNOVATION: CREATIVE CLUSTERS AND LOCAL INNOVATION SYSTEMS

This method includes three complementary aspects:

- **The creative city as a space for innovation:** encompassing theories already discussed by Richard Florida with respect to the creative class and urban creative management.
- **Creative Clusters:** Identifying the characteristics and training mechanisms for these activities and their relationships with the rest of the local economy and local innovation systems.
- **Cultural Activities and Local Creativity:** a proposal based on the social aspect of the concept of urban creativity, emphasising the importance of the role and participation of the general public, artists, cultural activities, the environmental factor, and the function of urban governance in planning an urban creative space.

The concept of **Creative City** serves to illustrate the regionalisation of culture. This concept presents three large approaches regarding the origin of innovations: The first of these indicates that new ideas depend on the regional concentration of creative individuals; the second one depends on the clustering of cultural and creative industries; and the third on management with an artistic and cultural focus on cities. These three interpretations form the proposal that authors such as Greffe (2011) and Costa (2008) use to synthesise academic production on this subject: creative classes, creative clusters and urban cultural planning.

Since we have already dealt with the first topic, we shall move straight on to the matter of creative clusters and urban artistic planning.

The economic theory that studies the geographical clustering of productive activities, which began to be applied in the cultural sphere in the 1990s. Grouped under the concepts of **geographic economy** and **industrial clusters** (Porter, 1990), they emerge as an explanation of "competitive edge" in the framework of "international trade". In general terms, clustering factors

include the reduction of transaction costs and the increase in occupational mobility, thereby enabling regions to specialise in certain products.

Research on creative clusters analyses the level of regional concentration of creative activities and the type of specialisation. Methodologies such as those that use mapping as graphic illustration, or indicators (as a location quotient) are often used for such purposes. The importance of this type of research lies in how the cluster fosters the generation of new knowledge. How is creativity in the sector transferred to the other activities in the region? While processes are indeed becoming increasingly more complex and open, there are four types of analysis that are useful for examining this issue:

Identification of creative clusters: There is an important level of ignorance in this respect as one of the main needs within the European context concerns the lack of identification of these clusters. Cultural and Creative Industries (CCIs) tend to be more concentrated than in any other industrial sector (LAZZARETTI et al, (2011a).

Specific features of creative clusters: Cultural industry clusters are different from those of other sectors. Various types of creative industry can be present in a region, with the presence of some correlating highly with the presence of others. There are also clusters for phases of the creativity chain of value, as in the case of the manufacture of audiovisual products. Chapain et al (2010); De Propis et al (2010); Bakhshi, H. et al., (2008)

Relations of creative industries with the rest of the economy: Research such as that conducted by De Propis et al. (2010) and Müller, K. et al. (2008) finds that creative businesses maintain strong business relations with other sectors. **Input-output research** reveals that the economy's most innovative industries are those that set up more exchanges with the creative sector. The correlation between the geographical location of the creative sector and other sectors reveals that creative businesses and innovative companies such as "those involved in high-tech manufacturing and knowledge-intensive business services (KIBS)" tend to *co-locate* (De Propis et al., 2009).

Training mechanisms for creative clusters and contribution to local innovation:

The critical point in this last level of research is to look into the mechanisms governing both the concentration of creative businesses and also their contribution to innovation within a given region. What makes creative industries cluster in certain regions? Lazzaretti et al. (2011) say that the factors for creative industry clusters are of a diverse nature: the presence of historical and cultural heritage, the effect of economic agglomeration, the role of human capital and Florida's creative class.

Furthermore, how does the creative sector contribute to innovation? Efforts are made to include the sector in local innovation systems. This approach (Potts, 2007 y 2009; Lazzaretti et al. , 2011a; Kimpeler & Georgieff, 2009) indicates that the economic growth of a region depends on the presence of institutions, such as universities or innovation centres, whose systematic

performance will lead to innovation. As we have already pointed out, innovation is currently more complex and open and needs to be sustained by ideas and knowledge from a diversity of sources. In the words of Potts (2007): “the standard innovation systems approach focuses only on physical technologies and engineering-type considerations of what technologies are. Notably, it excludes the sorts of knowledge studied by the arts and humanities along with the set of industries gathered under the rubric of "creative industries”.

Leaving the dimension of creative clusters and moving on to consider the third issue - culture understood as the production and use of cultural and artistic activities - creates circuits and relations that are formed in specific regions, thereby fostering innovation. Costa (2008) draws attention to the relationship between the regional agglomeration of cultural activities and “the mechanisms behind innovative dynamics in these regions, with a specific focus on the issue of creativity.”

Understanding creativity as a participatory process, and encouraging the communities to take an active interest in it. The linear idea of the cultural process coming to an end when it reaches the consumer needs to be changed. This can be done by identifying the consumers’ creative capacities. According to Greffe (2011) “activating the function of arts” implies giving rise to a project-**based culture** by using the artistic methods developed by the inhabitants of a city, with the understanding that creativity also takes place in a system of social relationships and power.

In this group of processes and relationships, it is worth pointing out the leading role cultural mediators play in the activation of the process and as creative agents capable of imagining the potential future scenarios of a community's symbolic universe. To summarise, promoting the cultural vitality of a territories means preparing them for the development of a *creative economy*, construed as the entire space for the exchange of cultural experiences in a community.

It should also be taken into consideration that, interpreted in this way, creative processes have the capacity both to integrate and to exclude communities. Therefore, governability is seen as the determining factor for a city’s creative development. The model of creative city adopted will depend on the type of decisions taken at strategic level. This includes the institutional factor, the programme of cultural activities put together by various institutions, and the public funding available for creativity and culture.

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CHAPTER 4. THE CONTIBUTION OF CULTURAL AND CREATIVE ACTIVITIES TO SHAPING THE EUROPEAN SOCIO-ECONOMIC SPACE.

1. THE NOTICEABLE DIMENSIONS OF CONNECTION BETWEEN CULTURAL AND CREATIVE ACTIVITY AND THE REST OF THE SOCIO-ECONOMIC SPACE

REVISITING THE NEEDS THAT MUST BE SATISFIED BY THE SYSTEM.

The cultural field is a value-producing field and values are one of the elements that determine our behaviour and govern the way we perceive the world. In fact, it is our set of values that arrange the objectives of the group of institutions we create in order to articulate our life in society. So, in general, all our institutions are the result of our hierarchy of values as well as a consequence of our cultural arquitecture. However, if we lower our level of analysis, we can observe how the satisfaction of our cultural needs becomes the main purpose of any economic system and secondly how the set of values derived from the cultural sphere shapes the rest of the socio-economic space.

CULTURAL RIGHTS AND THE PURPOSE OF THE ECONOMIC SYSTEM

Ultimately, the role of an economic system can be none other than to fulfill the desires, wishes and objectives of a community. Once the basic material needs have been covered, the next group of needs are those related to the individual or collective cultural dimension. This idea materializes in the formulation of the cultural rights[16], which can be basically encapsulated in the right "to be", the right to "express oneself and to communicate" and the right "to participate" through culture and artistic expression. Cultural rights, as a substantial part of human rights, constitute the intrinsic dimension of the value of culture regardless of its other values. Culture is valuable because it makes us inherently human. The rapprochement between economy and culture is a recent process, despite the widespread idea among all areas of humanist philosophy, that economic growth constitutes only the means to achieve cultural progress. Ironically, Linder (Linder, S.,1970) puts his finger on the sore spot when reporting the lack of connection between the professed means (the economy) and the purported end (culture): "The cultivation of the mind and spirit is generally accepted as being the supreme goal of human effort" (94)... "The profane thinkers who developed the gospel of economic growth regarded economic progress as an active means of promoting cultural progress. They expected that more and more time would be devoted to cultivation of the spirit. In Tibor Scitovsky's words: "In short they hoped that

[16] *Fribourg Declaration.* 2007

progress would turn more and more people into philosophers in their own image, engaged in the leisurely and philosophical contemplation of the world and its wonders". Much of the optimism of the Enlightenment thinkers was bound up with such expectations. Now that economics has developed into a science, its practitioners have lost interest in the ultimate purposes of economic growth and how much can be achieved. Nor have the analytic tools developed been able to provide any insight into the interplay between economics and culture. A time allocation theory, however can provide some guidance in this respect. It reveals what many may call a disturbing circumstance: economic growth subjects culture time to an increasing competition, and the time devoted to cultural exercises is probably decreasing (94).

Keynes himself believed that the economy should be seen as a means to move on to superior realizations of art and culture (Hession, C., 1984). In other words, the economic system performs the function of making individuals satisfy their cultural rights, fulfilling the purpose of economy as a tool to achieving the ultimate aims of Mankind. Culture provides an ethical end to the exercise of economic organization.

The notion of progress itself has been reconceptualized, evolving from being associated to merely economic growth to incorporating aspects like human development, social justice or environmental quality. Moreover, taken as a whole, culture becomes a moral imperative as the purpose of progress. The thesis of progress as seen by Sen (Sen, A., 2001), that is as a process that improves the individuals´ capacity and broadens their degree of freedom, makes it an obligation to include cultural issues among the purposes of progress as well as the means.

The new purposes that must be fulfilled by the collective organization system are related precisely to pushing the limits of what individuals can achieve through the manifestation of their cultural dimension.

CULTURE BRINGS VALUES INTO THE EQUATION

The field of culture is externalizing values that permeate the socioeconomic space and on the backdrop of the crisis we find they are much more in line with the concept of sustainable development. From *copyleft* to *commons* they create new universes of values that affect the economic and the social space. They reflect a new hierarchy that includes aspects like the explicit wish to innovate, relational consumerism (as opposed to transactional) and free exchange, critical thinking, personal development, solidarity, cooperation, networking, the value of diversity and beauty, participation, the importance of the recreational and vital dimension as opposed to purely economic gain. In other words, the actions of creativity are not governed by the vectors of instrumental rationality alone but expressive values, as well as values of exchange and mutual benefit are also at work. We have a certain recent awareness that it was precisely the instrumental rationality based on maximising profits that has led us to this dead end street of financial and economic crisis and has brought about a certain ethical reassessment of the

needs of individuals. From the field of culture values like cooperation, solidarity, transparence or responsability are being reclaimed. These new values spread from the field of culture through the conventional social spaces but also from the new ethics that radiate from the social movements articulated on the Internet.

I have nothing smart to say about the creative industry. This might be because I'm in the middle of it myself, not being able to see it clearly anymore. But most
of all creativity can't be compared with industrial principals.
It's not about production, it's about reflection.
It's not about security, but about experiments.
It's not about output, but about input.
It's not about graphs, but about people.
It's not about similarities, but about differences.
It's not about majorities, but about minorities.
It's not about the private domain, but about the public domain.
It's not about financial space, but about cultural space.
Creativity has nothing to do with the economy, or with bureaucracy. It's about cultural value, trust, autonomous positions and undefined spaces.
Annelys de Vet (Lovink, G., Rossiter, N., 2007)

The interests that guide the creative action can be of economic nature, but they are not the only ones. Expressive values, as well as values of exchange and mutual benefit are also at work. Thus the concept of innovation is also broadened from the creative process that generates economic value to incorporate processes that create social value. The new producer ethic has been expanding throughout the economy and it materialises in the birth of new business sectors. The values of "Sustainability, Creativity, Transparence, Participation, Responsability, Technology and Compromise" take position as the ethic foundations of new productive sectors, generating new productive sectors like Social Economy, Digital Economy, Creative Economy, Open Economy or Green Economy. Therefore, the importance of values and principles that promote socio-economic dynamics in line with the ideal of sustainable development is stressed, as pointed out by the European Commission report "Unlocking the potential of cultural and creative industries". The convergence between cultural activity and social purposes constitutes a main priority, due to its interest for processes of social innovation and the practice of cooperative economy (Murray, Caullier-Grice, Mulgan, 2010). The values that radiate from the cultural field also arise as a reaction to the "inadequacy of the present socio-economic paradigms to handle the distributional discrepancies, to build sustainable models of economic inclusion and to solve the problems of urban, environmental and social violence that we suffer, not by equalising down, but by allowing a new class of agents to enter the economic circuit, albeit, mostly in an informal manner". (Fonseca, A., 2008)

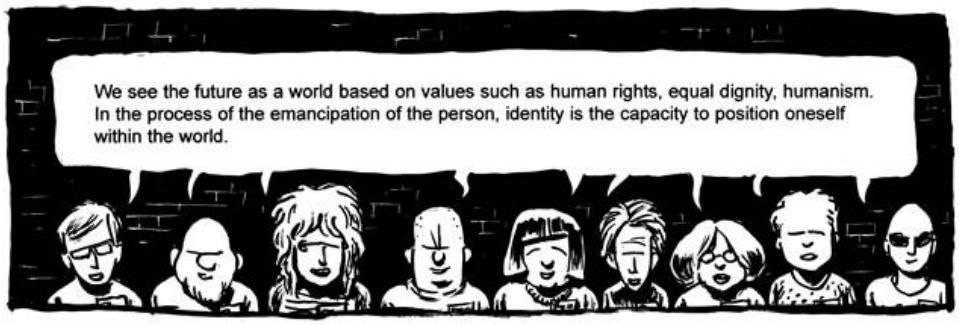
These values from the cultural field offer a wider array of rewards in which processes of maximising individual decision making in the economic sphere are at work. Hence participation in cultural and creative activities, be it in the market or in the social sphere, is explained by the usefulness provided by the

pleasure and recreation of creative processes; the autonomy and personal entrepreneurship, the loosening of hierarchies; the possibilities of innovation and life long learning; the need for communication and exchange; the possibility to participate in projects with social impact; the perception that these work environments are egalitarian and open to diversity; and the fascination with the new. (Ptqk, M., 2011).

Currently one may come across discourses that atribute behaviours, apparently distant from instrumental rationality, taken in the conventional sense, to much more subtle models of maximising that point to a time of flourishment of the new non-market production and of innovation processes driven by the democratisation of digital production media and the surplus they generate. (Benkler, 2011)

From a more philosophical standpoint, the space of culture is a space that builds its own dignity. With this requirement, creative economy is founded on the values of solidary economy in the sense that the project is to produce and act together obeying the democratic principles, surrounding the shared cultural values, the establishment of negotiated mutual relations. The cultural compromise prevails over the rewards obtained through monetary payments. The artist may sell a lot, but to be of general interest, the project does not have to be profitable: it suffices to implicate the people around them with a compromise to produce meaning and values in the public sphere that feed the common imagination of "living together". (Lucas, 2009).

Figure 19. Extract of Ljubljiana Manifest

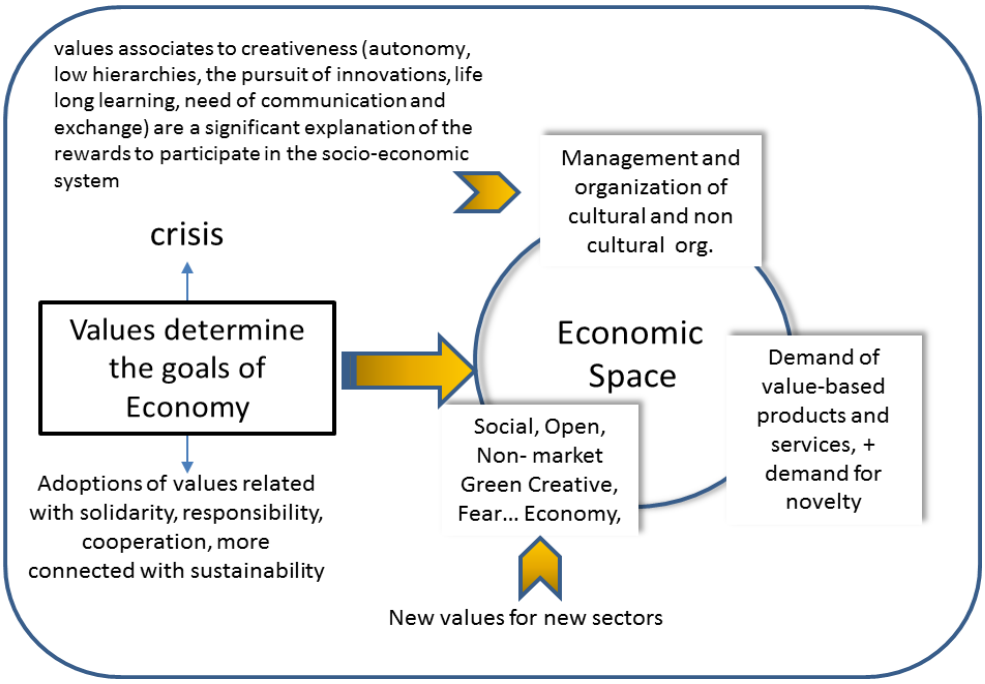


TThe cultural field not only provides a set of values for the individuals, that bring about models of sustainable development, but also cultural organizations adopt new organisational values. The movement that unites creative workers and the new management works both ways. *On the one hand the creative workforce (in the broader sense: artists, arquitects or software developpers) finish their studies and are increasingly in demand for tasks related to post-industrial mutation and innovation. On the other, the new human resources management is inspired by them in adapting the old factories to the requirements of contemporary economy.* (Ptqk, M., 2011)

The relevance of values in the articulation of demands is ultimately another differential element of the “cultural attitude”. The articulation of the “demand for the new” in social spaces develops into the sanctioning mechanism for innovations proposed by the set of cultural and creative

activities in a certain exchanging space. Therefore, not only is the "creative class" relevant from the perspective of economic and social innovation, but ultimately it is the creative class itself that makes up the solvent demand that finally accepts or rejects innovation through its buying preferences. This is an infrequent hypothesis among the majority of innovation studies, which suggest that new ideas are scarce and valuable things derived from important investments. However, in the context of art, music, fashion and intellectual ideas, the expierience of consumers that move around certain social spaces of novelties, comes closer to the regular exposure to innovation. The Internet has multiplied by thousands the possibilities to access cultural goods and services. The problem is no longer to stimulate production, but rather to manage its abundance.

Figure 20. Cultural values and economic space



THE NON-NEUTRALITY OF SPACE.

One of the essential characteristics of symbolic production is that the attributes of space are somehow integrated in the production of creative goods and services, as with fashion in Paris, theatre in London, music in Nashville or ceramic in Caltagirone. Cultural and creative activities are particularly sensitive to grouping and to "districtualization". A cluster can be defined as the densification of the relations established in a certain territory between public and private organizations in a particular sector, which generates financial and technological externalities, due to the co-existence and combined forces of competition and collaboration[17] ingrained in the historic tradition of the territory and its socio-economic context.

[17] Xavier Greffe encuentra que los efectos competitivos sobre una empresa en un cluster cultural le restan 0,36, mientras que los efectos sinérgico de la colaboración le suma 0,82. El efecto neto, de la distritulización es positivo

A high level of connection with the territory is verified in all kinds of cultural activities and it manifests itself in the clutter cultural production and intake in territorial areas that benefit from the effects of scale and externalities. There are countless examples of territorial concentration of such activities that combine endogenous and exogenous factors to assert their distinctive features (and, consequently, their competitiveness) in a global context: on the one hand, taking advantage of the specific production conditions of each place (influenced by a culture based on the local dimension), and, on the other, becoming part of larger structures of flexible specialization. (Costa, P. 2011)

Space is not only the geographic reference of the cultural resources, may they be material or immaterial, rather it becomes a resource in its own right. A cultural district of creative nature is that where creativity is a relevant input in processes of symbolic goods and services creation and where the production and distribution thereof is carried out through a network of small and medium-sized companies, ventures originated by the branching off of "ambitious workers" and most of the time with common relations and similar operating and work management models. It also involves a high degree of specialization and continued innovation, combined with flexible models of work relations and different professional roles. Another requirement for it to be considered a cultural district is that the flows of information and knowledge transmission be very dense. Low transaction costs in the processes of information transmission "erga intra", informal dissemination of *Know how* and the existence of a set of implied knowledge are a must. Formal and informal spaces for the agents to relate to each other are also necessary, where "cross-fertilization" processes are assumed to take place between the different agents and the different projects.

This last consideration is especially relevant since cities have proved to be, since the Athens of Pericles, Florence, Paris or New York, historically speaking, proper melting pots for the connection between artistic creators. However, from the size that allows frequent and casual contact between citizens (up to 50,000 inhabitants?) to the birth of bohemian neighbourhoods associated with the cultural agents of the large metropolis, the concentration in space seems to become an essential element in generating processes of "creative eclosion".

The existence of spatial spillovers and their effect on the innovations has been widely recognized in the regional and urban economics literature (Capello 2006). Applied to the issue at hand, the logic is that creative industries produces externalities than translate to other industries in the same geographical space. If the externality affects the production function of firms in the region, then we can talk about an "external economy" that produces pecuniary returns to the firms which will translate into higher levels of income in the region.

The literature offers a wide range of approaches to deal with external economies. For example, the Frontier Economic (2007) report on the effect of

creative-industries spillovers on the economy of the United Kingdom (Creative Industry spillovers – understanding their impact on the wider economy, p.1) proposes to differentiate between knowledge, product and network spillovers:

1. "knowledge spillovers – new ideas which benefit other firms without rewarding the firm creating them;

2. product spillovers – new products which are used to benefit other firms without rewarding the firm producing them; and

3. network spillovers – benefits which can only be generated when firms group together."

The results of the report suggest that "a number of the Creative Industries may be unique in their ability to generate network spillovers through attracting other firms and workers. This will apply to firms that can make an area attractive" and "a number of the Creative Industries may be unique in their ability to generate network spillovers through attracting other firms and workers. This will apply to firms that can make an area attractive" (Frontier Economic 2007, p.1-2).

Another way to divide spillovers is considering if they come from proximity and regional synergies, or if they come from regional and institutional factors.

Spillovers arising from proximity, regional synergies and regional interaction include several mechanisms:

1. Within-industry spillovers coming from regional specialized industries and clusters. This kind of external economies was first described by Marshall (1890) in the form of and specialized local labour market, local specialized suppliers and knowledge spillovers. Other recent research has relied on similar mechanisms, as for example Jaffe (1986). In this case, the initial concentration of creative industries in the regions boosts the future development of creative industries or their production.

2. Cross-fertilization between different industries. This idea, explained earlier by Jacobs (1961) consists of the exchange of complementary functions or complementary knowledge across different industries located in the same region. Thus, the existence of creative industries in a region could provide complementary functions and knowledge to other industries. A special case of cross-fertilization occurs across related variety (Boschma and Iammarino, 2008) where there are knowledge spillovers due to the complementarities among sectors in terms of shared competences.

3. Social diversity. As explained in the previous section, contrary to the "melting pot" societies, social diversity and multiculturalism generates new ideas and forms of social organization that translates to the regional performance (Jacobs 1961). As Florida (2002) remarks, creative people like all this social diversity, so that more diverse places tend to produce and attract creative people.

4. Human capital density. In this case, Knudsen et al. (2008, p.464) report that "high densities of creative capital lead to frequent face-to-face interactions among individuals, thus facilitating "creative" spillovers and subsequent innovations".

Regional institutional factors highlight the role of "inter-organizational networks, financial and legal institutions, technical agencies and research infrastructures, education and training systems, governance structures, innovation policies' (Iammarino, 2005, p.499) on regional innovation. For example, Rodriguez-Pose (1999) points out the fact that the capacity of institutional networks to catalyse innovation depends on the "social filter" in the form of the combination of social and structural conditions in a territory. Through this social filter, territorially-embedded institutional networks favour or hinder the generation of innovation.

The size and articulation of the territory is the necessary condition, from the perspective of supply, in faciliting serendipity, cross-fertilizations, creation by friction, by chance. But also from the perspective of demand it is space where critical masses of solvent demand of innovation crystallise, where new values and attitudes can be observed, imitated, copied, communicated and disseminated. The territory is, therefore, the space that sanctions economic, social, institutional and political innovation, that makes them visible and disseminates them. In this regard, space, culture and economy show a very high degree of symbiosis and in the modern capitalism this symbiosis is re-emerging vigorously in the economic dimension of the culture of certain cities. The more specific the cultural identity, the more they enjoy "place monopolies" that translate into a specific economic configuration and competitive advantages on the global market (Scott, J.A., 2000).

THE RELATIONS BETWEEN CULTURE AND DEVELOPMENT[18]

Recent literature that explicitly depicts the role of culture in promoting economic development does not offer a precise and in-depth description of the relations among the variables involved. In recent years creative cities and territories have been lavished with studies as well as models of local development based on culture. This trend was popularized by Richard Florida

18 Throughout much of the 20th century, creativity has been totally beyond economists' interests and cultural aspects have been largely ignored. However, analysing the usual key factors of economic theories elaborated in the attempt of explaining economic growth, we can identify a specific role played by cultural and creative factors. Starting from the seminal work of Josef Schumpeter (1911) on innovation, the focus of economic literature on the importance of new knowledge and technological changes arising from innovation and on knowledge spillovers drives immediately the attention to the fundamental role played by information and its diffusion. Moreover, the studies on endogenous growth, initiated during the 80's by Romer (1986) and Lucas (1988), introduced a new perspective, which explicitly consider the role of human capital, made by education and skills, and knowledge capital. The role of intangible assets was then recognised in economics. Nevertheless, the human act of producing creative thoughts has always been considered an exogenous variable. (Sacco, P.L., Segre, G. 2009;285)

with his various publications on the concept of creative class[19]. What strikes us as paradoxical is that there is a true explosion of literature taking place that already brings empyrical proof at a very complicated point in time when we are facing a change of economic cycle and we cannot ascertain whether the theories that served us well in explaining the role of creativity and culture in the past, will still be valid to explain their role in the future. To us the key issue here is whether the culture sector is just another economic sector, that has had excellent moments derived from the economic dynamics of the first decade of the 21st century, due to the combination of outsourcing with the restructuring of value chain in many sectors and the technological revolution of digitalization and globalization, and therefore when these processes deplete or reverse the sector will go back to a more descreet behaviour. Or rather we are faced with an activity that, as pointed out by some authors (Potts. 2007), becomes the key element in defining the competitive potential of organizations, companies and territories.

Potts and Cunningham talk about four possible scenarios to situate cultural and creative activities within the dynamics of development.

Table 10. The four models of relation between culture and economy. Source Potts and Cunningham, 2010.

The welfare model	Culture is a net charge on the economy, which is worth paying for, because the global effect on welfare is positive. This is due to the production of high value cultural products but with a low market value. The intervention of cultural policy is justified by the consideration of "tutelary goods" or the theory of "market failures", since the market is unable to internalise the cultural value of the good.
The competitive model	Culture is just another sector. Hence changes in the size of the creative industry affect the whole economy but only proportionally to its size and it is structurally neutral on the global dynamic. Effects on income, productivity or welfare are no different than those of any other sector. In terms of public policy, it is as deserving or undeserving of subsidies as the rest of the industrial activities.
The growth model	In this model, creative industries are a growth vector in the same way that agriculture was at the beginning of the 20th century, or factories in the 1950-60s. There are many possible explanations, but they are all variations on the idea that creative industries generate externalities that cause variations in productivity or in the competitivity of other sectors (designing for innovation, for instance), or that they facilitate the adoption and retention of new ideas and technologies in other sectors (ICT, for example).
The innovation model	Creative industries are not a sector per se, rather they are a structural part of the innovation system of economy as a whole. Culture leads the process of change in the economy. It is a public good but in a dynamic sense.

19 This report reflects and builds upon the theory of economic growth advanced in The Rise of the Creative Class. It argues that economic growth and development turns upon 3Ts—technology, talent and tolerance. Traditional models say that economic growth comes from companies or jobs or technology. This report argues that these models are good starting points but they are incomplete. Technology is important. It is a central element of the 3Ts. But other factors come into play as well. Talent is the second T. Human capital theorists have long argued that educated people are the key driver of economic development. Following The Rise of the Creative Class, we use measures of creative occupations as well as measures of human capital based on educational attainment, such as the percentage of the workforce with a bachelor's degree or above.

The implications in terms of cultural policies are very diverse. While the first model paints the picture of a merely protectionist intervention structure, the second model points us towards a conventional industrial policy, the fourth model signals cultural policies as a part of innovation policies.

The ability of cultural and creative activities to affect the potential for growth of a certain territory can be linked to various factors.

The most obvious ones are related to productivity and its effects on competitiveness. The greater productivity of cultural and creative activities with respect to the average economic activity, is the most obvious explanation for the fact that increments in the percentage of economic activity related to cultural and creative activities improve the capacity for growth of the whole economy, as a consequence of its increased productivity (Rausell, P. Marco, F, 2010). However, it is clear that this effect, considering that cultural activities account for a modest proportion of the whole system, cannot be very hefty on the whole.

Another way to affect the global capacity for growth is due to culture´s potential to improve competitiveness by becoming a complementary attribute in certain sectors. Tourism is the paradigmatic case, since the cultural dimension, understood as complementary offer, improves according to Porter the ability to compete of a mature touristic product. Another effect pointed out by numerous authors, is the function of territorial density as an element of localization of economic activities not necessarilly linked to culture, and often despite the elevated costs of the remaining production factors. We might also consider that the different sectors of the economy use inputs from the creative and artistic sectors in their production operations with the aim of giving their products and services a differentiating element and thus improve their competitiveness.

Obviously, the analyses we are most interested in are those which link cultural and creative activities to the processes of growth linked to innovation.

The research linking creative industries and innovation, both understood in the broader sense, is still in its infancy. We can divide this research in two lines: innovation in creative industries and role of creative industries in the innovation of the rest of the economy. Cross-sector spillovers are not only present between creative industries, but more importantly between creative and non-creative industries and it is through the latter that creativity spawns cascading innovations in contiguous manufacturing and service sectors (for studies on the linkages between creative and non-creative industries, see Bakshi et al. 2008, Experian 2008, Sunley et al. 2008). It is indirectly through such cross-spillovers that creativity impacts on the wider innovation economy, contributing to economic growth. Many creative industries produce innovation that translates to the markets in the form of intellectual property. The most common forms of intellectual property related to creative industries are patents, designs, trademarks and copyrights. This includes from

artistic creativity, quite common in creative industries, to scientific creativity typically associated with R&D activities[20].

Of course, creative industries can also affect innovation in an indirect way. The role of creative industries in regional and other industries' innovation has been addressed by Bakhshi and McVittie (2009), Chapain et al. (2010), Cunningham and Higgs (2009), Davis et al. (2009), Muller et al. (2009), Sunley et al. (2008), Gwee (2009) and Potts 2007).

Two basic mechanisms have been observed here: the transmission thought input-output linkages between creative and non-creative industries (Bakshi 2009, Muller et al. 2009), and externalities or spillovers from creative industries to the rest of the economy (Chapain et al. 2010, Davis et al. 2009, Sunley et al. 2008, Gwee 2009, Potts 2007). Müller et al, from a micro perspective shows, *that the creative industries are among the most innovative sectors in the economy. They support innovation in a variety of other sectors through creative inputs, such as ideas for new products (i.e. innovation content), supplementary products and services (such as software) or marketing support for product innovations. What is more, they are also an important user of new technology and demand innovations from Technology producers, particularly information and communication technologies. Own innovative activities are a key driver for supporting innovation. Creative industries are no homogenous sector, however. While software and advertising show the strongest links to industrial innovation, architecture and content providers contribute rather little to industrial innovation.*

Bakhshi and McVittie (2009) and Müller et al. (2009) state that creative industries introduce innovations both directly and indirectly through supply chain linkages. An analysis of direct innovations is part of the first group of studies about innovation in creative industries. Indirect innovations mean that creative industries support innovation in other industries through creative inputs and knowledge exchange, which can be either upstream (goods and services sold by each industry to the creative industries) or downstream (creative' goods and services purchased by each industry). For example, Bakhshi and McVittie (2009) estimate that "if a typical firm in the UK spends double what it does on creative products – around 6 percent as opposed to 3 percent of its gross output – the likelihood that the firm

20 For example, Handke (2007) analyses the record companies in Germany (Handke 2007), Sunley et al. (2008) examine the design consultancy sector in the UK, and Tran (2010) the Danish fashion industry. Chapain et a. (2010) scan the creative clusters of Software, Film, Media Production and Advertising in some United Kingdom locations, and Stoneman (2010) the creative industries of publishing, music and video games. In the same way, Miles and Lawrence (2008) Müller et al. (2009) Stoneman and Bakhshi (2009) quote as a useful measure of soft innovation the difference between the level of trademark activity and the level of R&D or patenting activity.

introduces a product innovation either new to the firm or to its market is around 25 percent higher".

The importance of the creative sectors for the wide economy has also been cited by Work Foundation and NESTA (2007) or Experian (2007) studies. The first alludes to the effects of innovation in the software sector on the growth of the economy by raising total factor productivity, while the second shows that the strongest forward and backward supply-chain linkages are between creative industries themselves.

Moreover, the Centre for European Economic Research not only acknowledges the role of creative *outputs* but based on a change in methodology, establishes, on the one hand, that creative industries boost or stimulate innovation in sectors that provide *inputs*, especially the technological ones due to the high degree of technical sophistication that creative industries require, and on the other hand, analyses "to what extent creative companies boost innovative activities in their clients, in what stages of the innovative process [...] and which sectors benefit from this leverage" (ZEW, 2008: 20).

Thus, *Creative Innovation* collects evidence on the B2B trading links among creative companies and other sectors and concludes that "the industries more connected to the creative industries have an increased performance in innovation" (NESTA, 2008: 3) in the United Kingdom.

Reid et al. (2010), Cunningham and Higgs (2009), Gwee (2009) and Potts (2007) include the creative industries in the innovation ecosystem of an economy because they influence on the innovative environment. Moreover, Gwee (2009) stresses that increasing innovation in creative clusters, as knowledge-based clusters, requires time. Also that government policies should ensure the development of creative human capital able to develop creative content into products and ideas.

Chapain et al. (2010), in their study for the United Kingdom, attest that some creative industries are more innovative than the high-tech manufacturing industries and the non-creative knowledge intensive services. However, the three sectors tend to co-locate, meaning that creative industries influence innovation in other sectors. They found this relationship on the different spillovers from creative businesses: knowledge, product and network spillovers ("urban buzz"). Work Foundation and NESTA (2007) express that job mobility spillovers are the most powerful ways in which creative industries can create spillovers. The same spillovers which produce innovation are found by Kloosterman (2008) in the Dutch architecture sector among the young workers, many of them from outside the Netherlands.

Müller at al. (2009) also emphasise the contribution of creative industries to innovation, though they embrace among the beneficiaries the high and low-tech manufacturing and services industries.

Davis et al. (2009) explain that the dynamism in the creative cluster of screen-based media in Ontario is based on innovation, mostly due to small firms.

They notice that the cluster cooperates with their counterparts in the business located in North America, and that it participates more in the social environment than technology clusters.

Some other authors support the idea that the channel of impact of cultural and creative activities is articulated through the models of interaction between the cultural capital and the social capital. The simpler models are derived from Florida´s thesis on creative class, as pointed out by the European Competitiveness Report of 2010, the creative class hypothesis links urban growth with the knowledge economy. According to Mellander and Florida (2009) the creative workforce can have an indirect impact on regional growth through its positive impact on high-tech employment, innovation and entrepreneurship. The authors themselves stress that occupations in the arts and culture, which have not typically been associated with regional development, play a significant direct role in the process (Mellander, Ch., Florida., R., 2011)

The results seem to suggest that the structure of the relations between the cultural and creative dimension is more complicated and sophisticated than previous analyses allowed to foresee. Other more sophisticated approaches were inspired by Romer´s endogenous growth models (Romer, 1990) and describe under different formulations the incorporation of cultural capital to the economic system. These approaches link up effortlessly to Senn´s formulation on capability building. The crucial issue in this respect is enabling individuals to access the competences that are needed to appreciate and value a given experience or creative goods (Sacco, L. Segre, G. 2009). The density of cultural and creative activities in a territory thus becomes the medium in which these capabilities are built. New in this approach is the fact that it incorporates the demand since the degrees of competence and capabilities acquired through culture by the inhabitants of a certain territory ultimately determine whether or not there is a critical mass of solvent demand for cultural goods and services. The cultural capital in these models is an essential part in the growth processes, where knowledge alone does not suffice. Our claim is that the simple use of knowledge attained with education is not a sufficient condition to obtain efficacious patterns of productive employment, since cultural insight, imagination, and originality are essential, and the main source thereof is cultural capital (Bucci, A., Segre G., 2009)

Finally, another channel of impact of the cultural and creative activities on the economy´s capacity for growth is the role of such activities in the evolution of institutions through the creation, adoption and retention of new 'social technologies' or coordination rules. Namely, cultural and creative activities contribute to the institutional innovation. It is for this reason that they are important for the economic progress. As stated by Jason Potts, this suggests three distinct levels of analytic focus for the dynamic contribution of the creative industries. First, the creative industries have micro dynamic effects. This recognizes that the process of economic evolution involves agents reacting to novelty and becoming different. This is an entrepreneurial action in that it is an imaginative creative leap based on perceptions of

economic opportunity within the constraints of economic institutions. The creative industries play a key role in these micro dynamics. Second, the creative industries have meso dynamic effects. These are the contribution of the creative industries to the innovation process. A meso or innovation trajectory is modelled in evolutionary economics as following a three- phase process of origination, adoption and retention. The creative industries are instrumentally involved, on both the demand and supply side, in all three phases, making the creative industries manifestly part of the innovation system. Third, the creative industries have macro dynamic effects. These are the industrial and institutional dynamics in the context of economic growth and development. Again, the creative industries contribute to institutional dynamics (and therefore economic development) through their role in the co-evolution of cultural, political and social economic systems.

In order to summarise the different formulations on the relations among cultural activities and development we can observe the following table

.

Table 11. Relationship models between cultrual an creative activities and territories

Relation	Description	Authors
Direct impacts of the cultural and creative activities. Increased direct productivity of the system.	Culture and creativity show higher levels of productivity that the average per economy, and therefore has an instant impact on the capability to generate wealth.	(Rausell, Marco, 2011)
Increased competitiveness of other sectors	Spillover as complementary offer that can improve the attractiveness of a certain territory catching the attention of visitor flows, physical or human capital.	Florida
Increased productivity in other sectors	Creativity and culture as input of other productive processes causing them gain in productivity and innovation.	EXPERÍAN 2007, Bakhsi et al., 2008
Interaction and enrichment with the human capital	Endogenous-based growth models where the cultural and creative dimensions interact with the human capital.	(Mellander, Florida, 2009), (Sacco, Segre, 2009) (Bucci, Segre, 200921)
Cultural and creative sectors as vectors of the demand and disemination of innovation	Namely, they direct, facilitate and generate the creationm adoption and preservation of new ideas (the process of innovation) in the economic system.	Bakhshi and McVittie (2009), Chapain et al. (2010), Cunningham and Higgs (2009), Davis et al. (2009), Muller et al. (2009), Sunley et al. (2008), Gwee (2009) and Potts 2007).
Cultural and creative activities are an essential service in the process of economic growth and the development and evolution of the socio-economic system.	Creativity and culture contribute to the evolving process of growth of the economic system. They also affect the institucional dimension and are a relevant part of the innovation system.	Potts, 2011
Culture as an element that widens capabilities	Culture, satisfying cultural rights, becomes the key element in broadening the degrees of freedom of the individuals.	Sen, 1999

2. CULTURE AND DEVELOPMENT IN THE EUROPEAN REGIONS.

21 *At this aim we built a two-sector endogenous growth model where two different types of capital (human and cultural capital) can be accumulated over time. Since physical capital is assumed to be in fixed supply, the representative household uses all the income it does not consume just for cultural capital investment purposes. The first conclusion of the model is that the more cultural and human capital investments are complementary for each other, the higher the equilibrium growth rate of real per-capita income is over the long run. Moreover, we have also investigated the conditions for an increase of the cultural capital share in GDP to have a positive effect on real per capita income, namely that the stock of cultural capital existing at the economy-wide level produces congestion externalities and that there exists an upper-bound to its shadow-price.*

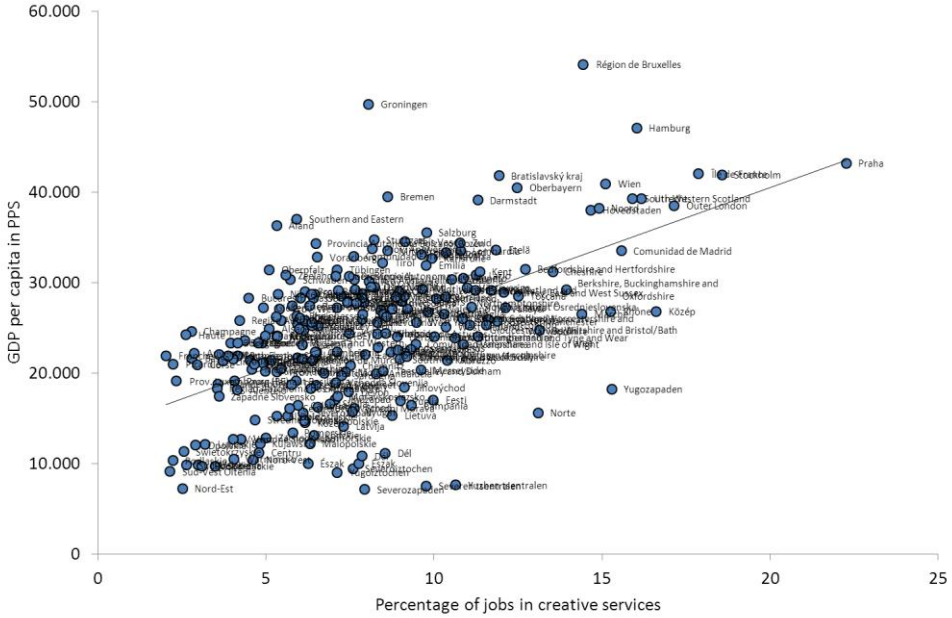
The European Competitiveness Report 2010 informs that creative industries (cultural sectors indeed) account for 3.3% of the total European Union (EU) production, measured as Gross Domestic Product (GDP), although using the broader classification proposed by UNCTAD (2010) they reach 6.5% of the EU GDP. These figures are quite similar for the worldwide economy, where in 2005 they generated $2,706 billion GDP and exports of creative goods and services reached $424 billion, which represents 6.1% of the world GDP and 3.4% of total world trade (Howkins 2007; UNCTAD 2008). In addition, it has been one of the most dynamic sectors in Europe, with a large growth potential, and it provides wealth to the nations and regions that host them. The report also mentions that between 2000 and 2007, employment in the creative industries grew by an average of 3.5 % per annum, compared to 1 % in the overall EU-27 economy. In the US and China the creative industries also grew quickly, averaging employment growth rates of 1.8 % and 1.9 % per annum respectively.

But is there really any evidence that involvement in cultural and creative activities causes some measurable effect on the structure and the workings of the economy? Can we infer, even indirectly that greater involvement in cultural and creative activities somehow improves either productivity, or competitivity, or the capacity to innovate, or the capacity for growth? As a recent study of the ESPON 2013 program inquires, are the regions with larger creative workforces the most successful in Europe? Do workers in the creative sector have some effect on the regional capacity for growth? Numerous and very recent studies deal with this issue from different perspectives (ESPON, 2011, Russo, A. Quaglieri, 2011, Rausell, P. Marco-Serran, F. Abeledo, R. 2011, Power D. Nielsén T., 2010, De Miguel B, Hervás JL, Boix R, De Miguel, M (2012), Mellander, Florida, 2011).

SOME EMPIRICAL EVIDENCE

The first evidence is the strong correlation between GDP per capita in PPS and occupation in the creative service sector, already shown by the studies of the *European Cluster Observatory*.

Figure 21. Correlation between the share of jobs in creative industries and the GDP per capita in the EU regions, 2008. (Inner London is removed form the sample). 250 regions



A strong correlation also emerges using an adaptation of UNCTAD's classification of creative industries, which is more comprehensive. This adaptation has been possible by using 2008 data in the new NACE Rev.2 classification, which is much more adapted to capture new realities as creative and knowledge-intensive sectors, particularly in services. A simple coefficient of correlation reveals that correlation between GDP per capita and the percentage of jobs in creative industries in the EU regions in 2008 is about 0.64. The previous figure also allows observing the positive correlation between both data and how some regions stand out in terms of both GDP per capita and percentage of jobs in creative industries. The correlation also holds when the Inner London is treated as an outlier and removed from the sample of regions although the coefficient of correlation slightly reduced until 0.56. However, an important clarification must be done here. The behaviour of creative services and creative manufactures is completely opposed. Creative manufacturing (fashion) shows a negative correlation with the GDP per capita of about -0.34. This could be explained because the data merges high fashion made in some of the largest European capitals with basic manufacturing of clothing and footwear that is still important in some low-income European regions.

On the contrary, creative services show a strong correlation with the regional wealth as the coefficient of correlation increases to 0.75. Furthermore, all the creative services show high correlation coefficients with the GDP per capita. The highest correlations are observed with Computer programming, Advertising, Publishing, and Audiovisual (all above 0.6).

Table 12. Correlation coeficients between the share of creatives services on total employement, detailed by activity

Correlation coeficients between the shares if cretives services on the total employement of the regions detailed by activity	
Computer programming	0.68*
Advertising	0.67*
Publishing	0.66*
Audiovisual	0.61*
Architecture and engineering	0.53*
R&D	0.52*
Retail (creative)	0.51*
Broadcasting	0.38*
Design, photography	0.37*
Arts, entertainment and recreation	0.33*
*Statistically significant at 5%	

Obviously, the correlation does not necessarily imply the existence of causal relations between a phenomenon (the dimensión of creative services) and the level of wealth in a region.

Endogenous growth theory explains long-run growth as emanating from economic activities, internal to the economic system, that create new knowledge. Endogenous growth theory proposes channels through which the rate of technological progress, and hence the long-run rate of economic growth, can be influenced by economic factors. It starts from the observation that technological progress takes place through innovations, in the form of new products, processes and markets, many of which are the result of economic activities.

The second wave of endogenous growth theory, generally known as “innovation-based” growth theory, recognizes that intellectual capital, the source of technological progress, is distinct from physical and human capital. The key point is that, whereas physical and human capital are accumulated through saving and schooling, intellectual capital grows through innovation.

Innovation-based growth develops through two main lines of models. The first one are “endogenous technological change models”, initiated by Romer (1990). This line assumes that aggregate productivity is an increasing function of the degree of product variety. In this theory, innovation causes productivity growth by creating new, but not necessarily improved, varieties of products. Intuitively, an increase in product variety, as measured by A, raises productivity by allowing society to spread its intermediate production more thinly across a larger number of activities, each of which is subject to diminishing returns and hence exhibits a higher average product when operated at a lower intensity.

The other version of innovation-based growth theory is the “Schumpeterian” theory developed by Aghion and Howitt (1992) and Grossman and Helpman (1991). This line focuses on quality-improving innovations that render old products obsolete, through the process that Schumpeter (1942) called

"creative destruction". In essence, the growth rate depends on the fraction of GDP spent on research and development.

Therefore, innovation-based theory implies that the way to grow rapidly is not to save a large fraction of output but to devote a large fraction of output to creative activities. Although, according to the 1980s and 1990s fad, creative activities are usually assimilated with R&D, the logic of the innovation-based theory fit better when creativity in a broader sense is introduced in the model. Thus, creativity brings new ideas, which transform in innovations, innovations affects productivity and brings long-term growth. In accordance, the regional differences in productivity, per capita income and long-term growth should be explained by differentials in the size of the creative sector.

THE MODELS

We use two types of models; a structural[22] model in order to contrast the effects of clusters (number of regional specializations) and the productive structure in terms of knowledge and creative intensity on the GDP per capita of the European regions.

The empirical model is not based on a formal theoretical model, and assumes that the differences in GDP per inhabitant in the European regions is due to these two elements, combined in levels in a linear and additive form.

Table 13. Descriptive statistics of the main variables

Variable	Mean	Std. Dev.	Min	Max
GDP per capita in PPS	24,465	9,005	7,100	85,800
% jobs in creative services	6.88	3.83	0.01	32.86
% jobs in high-tech services (1)	0.88	0.78	0.01	4.43
% jobs in other knowledge-intensive services (2)	28.25	6.45	13.98	42.71
% jobs in less-knowledge-intensive services (3)	27.77	4.17	14.55	45.42
% jobs in manufacturing	16.40	7.40	0.01	35.99
Population	1,934,258	1,531,182	27,153	11,700,000
Population density (population/Km2)	363.14	890.89	3.30	9,405.70
Productive diversity	16.73	5.62	3.43	26.23
Average firm size in the region	8.21	7.02	1.00	44.22

The second model is a more elaborated proposal can be achieved following the line of the endogenous growth models. In particular, Romer's model (Romer 1990, Jones 1997) explain cross-country or cross-region income and growth differences on the basis of differences in innovation, due to differences in the production of ideas.

22 To observe the process of modelization see Appendix 1 of the present chapter.

We will base our description of the results and basic conclusions on the next Table, which offers a parsimonious estimation of the final model, dropping collinear variables.

Table 14. Results for the structure model enhanced and the complete version of the Romer-Jones, both including technical change. Parsimonious estimation dropping statistically non-significant collinear variables

	Structure			Romer-I	
	OLS Robust			OLS	
Dependent variable	GDP/POP			GDP/L	
	Coefficient	Elasticity		Coeff. & Elast.	
Constant	16722.65	-	***	31.449	***
		(0.000)		(0.000)	
% creative services	1602.79	0.4316	***	0.2741	***
		(0.000)		(0.000)	
% creative manufacturing	-2363.74	-0.1522	***	-	
		(0.000)		-	
% low-tech manufacturing	-	-		0.0240	***
	-	-		(0.003)	
% high-tech services	-	-		-	
	-	-		-	
% other knowledge-intensive services	-	-		0.1330	**
	-	-		(0.031)	
% knowledge non-intensive services	-	-		0.2554	**
	-	-		(0.003)	
Total employment	-	-		-0.0769	***
	-	-		(0.000)	
Firm size in creative industries in 2001	-	-		-0.0772	***
	-	-		(0.002)	
Diversity in the creative chain in 2001	-1569.91	-0.2502	***	0.0595	***
		(0.002)		(0.006)	
Productive diversity 2001	153.32	0.1097	*	-0.1708	***
		(0.058)		(0.000)	
Patents per million inhabitants 2004-2007	37.90	0.0840	***	0.0928	***
		(0.000)		(0.000)	
Cultural endowments	3.41	0.0095	***	0.0636	***
		(0.000)		(0.000)	
R2		0.7037		0.7664	
R2-adj				0.7556	
VIF		2.22		2.08	
Heteroscedasticity		No		No	
Normality		No		Yes	
Exogeneity		Reject		-	
Obs		250		250	

Notes: a) Probabilities in brackets; b) *** statistically significant at 1%, ** statistically significant at 5%, * statistically significant at 10%; c) Heteroscedasticity tested using Breusch-Pagan and White tests; d) Normality tested using Shapiro-Wilk, Shapiro-Francia and Skewness/Kurtosis tests; e) Endogeneity tests is the Durwin-Wu-Hausman test; f) Robust OLS estimated using Huber-White robust estimator; g) Instruments (all lagged in time and calculated for 2001 except the dummies): industrial organization in 2001 (firm size in the creative industries, firm size in the rest of industries), localization economies (internal diversity in the creative chain, interpreted as complementary suppliers), urbanization economies (population, density of population, productive diversity), 3Ts (patents per million inhabitants, percentage of tertiary graduates on population, cultural endowments elaborated from the Michelin guide); dummies for n-1 countries.

The main results are:

1. Creative industries impact on the wealth of regions in a causal way.

2. However, it is necessary to distinguish between the behaviour of creative services and creative manufacturing:

2.1. Creative services impacts on the GDP per capita and the GDP per employee in a positive way. An increase in 1% in the share of jobs in creative services in the region translates to a response that ranges from 0.27 (Romer-Jones model) to 0.43% (structure model), this is, causes an increase of the wealth that ranges between 1,000 and 1,600 euros.

2.2. On the contrary, creative manufacturing has a negative effect on the wealth of regions. In the Romer-Jones model, although tend to be also negative, is very small and statistically non-significant.

3. The rest of variables representing the structure of employment in terms of knowledge levels have not a clear performance. They are not statistically significant in the structure model when the effects of technical change – external economies is introduced. However, they have a positive and significant effect in the Romer-Jones model, particularly the Other knowledge-intensive services and Knowledge non-intensive services.

4. External economies play a very different role in each model and in some case the sign of the estimated coefficients is conflicting. In the structure model, only the diversity in the productive chain (existence of suppliers internal to the chain) (negative impact), productive diversity (positive impact), patents per capita (positive) and cultural endowments (positive), are statistically significant.

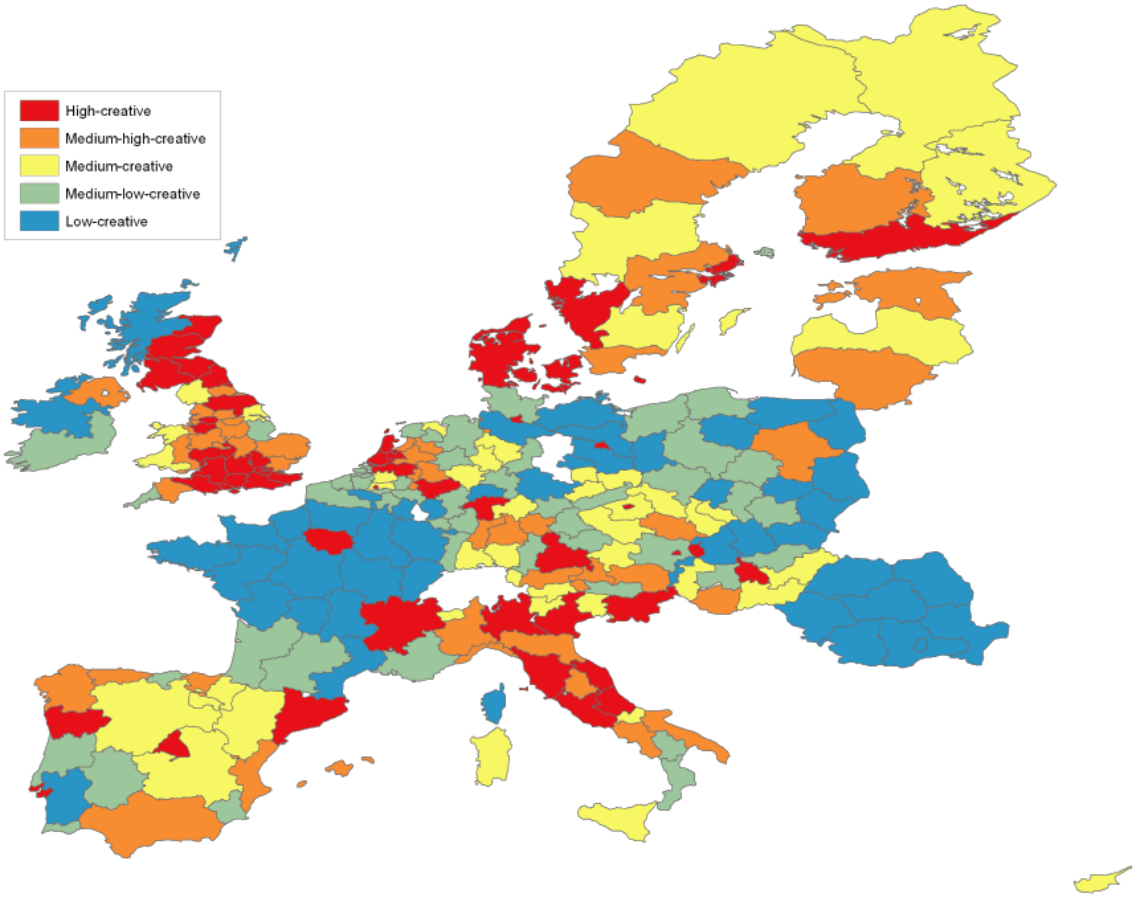
On the other hand, in the Romer-Jones model, most of the variables associated with the external economies are significant (in a statistical and economic way) even if their coefficients tend to be small. Scale economies (firm size in the creative industries) and urbanization economies (productive diversity) have a negative impact, as predicted by the theoretical model. Localization economies (diversity in the creative chain) show a positive coefficient, as well as part of those related to the creative class (patents per million inhabitants) and cultural endowments. The latter two variables - jointly with the small coefficient of R&D expenditures per capita and their lack of statistical significance, as well as the share of jobs in creative services - suggest the relevance of the Doing Using and Interacting[23] models of knowledge, and particularly of the symbolic knowledge in the wealth of the European regions.

Another significant result is that there are no statistically significant differences between regions with diferent degrees of presence of creative industries. We have ranged the regions from higher to lower share of jobs in

23 There are two ideal type modes of learning and innovation. One mode is based on the production and use of codified scientific and technical knowledge, the Science, Technology and Innovation (STI) mode, and one is an experienced-basedmode of learning based on Doing, Using and Interacting (DUI-mode). (Jensen el al, 2007)

creative industries and divided them in five quartiles: high-creative regions, medium-high-creative regions, medium-creative regions, medium-low-creative regions, and low-creative regions None of the five groups show a differential effect statistically significant regarding the mean of the regions. The results using n-1 dummies show the same behaviour as well as the fixed effects of the structural (naïf) model. Then, we conclude that there is not a significant difference between high, medium and low creative regions regarding the results of the model.

Figure 22. European regions in five quartiles based on the share of employement in creative industries. Data for 2008.



High-creative: (UKI1) Inner London, (CZ01) Praha, (SE01) Stockholm, (FR10) Île de France, (UKJ1) Berkshire, Buckinghamshire and Oxfordshire, (HU10) Közép, (NL31) Utrecht, (DE60) Hamburg, (UKM1) North Eastern Scotland, (ES30) Comunidad de Madrid, (BG41) Yugozapaden, (FR71) Rhône, (AT13) Wien, (NL32) Noord, (DK00) Hovedstaden, (BE10) Région de Bruxelles, (ITE3) Marche, (UKJ2) Surrey, East and West Sussex, (UKD2) Cheshire, (DE30) Berlin, (PT11) Norte, (UKH2) Bedfordshire and Hertfordshire, (ITE1) **Toscana,** (DE21) Oberbayern, (PT17) Lisboa, (UKJ3) Hampshire and Isle of Wight, (SK01) Bratislavský kraj, (UKD3) Greater Manchester, (FI18) Etelä, (DEA2) Köln, (UKE2) North Yorkshire, (UKI2) Outer London, (UKK1) Gloucestershire, Wiltshire and Bristol/Bath area, (DE71) Darmstadt, (UKK2) Dorset and Somerset, (ITE4) Lazio, (UKM2) Eastern Scotland, (SI00) **Slovenia** except Osrednjeslovenska, (UKG1) Herefordshire, Worcestershire and Warwickshire, (SE0A) Västsverige, (UKJ4) Kent, (ITD3) Veneto, (UKM3) South Western Scotland, (ITC4) Lombardia, (NL33) Zuid, (BG42) Yuzhen tsentralen, (UKC2) Northumberland and Tyne and Wear, (ES51) Cataluña, (ITF1) Abruzzo, (NL41) Noord.

Medium-high-creative: (UKF2) Leicestershire, Rutland and Northamptonshire, (UKG3) West Midlands, (UKH1) East Anglia, (NL22) Gelderland, (UKH3) Essex, (EE00) Eesti, (DE12) Karlsruhe, (SE04) Sydsverige, (AT32) Salzburg, (ITD5) Emilia, (BG32) Severen tsentralen, (DK00) Midtjylland, (DEA1) Düsseldorf, (UKD5) Merseyside, (UKE4) West Yorkshire, (ES52) **Comunidad Valenciana**, (ITF3) Campania, (ES70) Canarias (ES), (UKL2) East Wales, (UKK4) Devon, (UKG2) Shropshire and Staffordshire, (ES21) País Vasco, (PL12) Mazowieckie, (ITC1) Piemonte, (CZ06) Jihovýchod, (ES53) Illes Balears, (ITF4) Puglia, (UKE3) South Yorkshire, (NL21) Overijssel, (UKD4) Lancashire, (UKF1) Derbyshire and Nottinghamshire, (SE07) Mellersta Norrland, (ITC3) **Liguria**, (LT00) Lietuva, (ES11) Galicia, (DE50) Bremen, (DE25) Mittelfranken, (SE02) Östra Mellansverige, (ITE2) Umbria, (HU23) Dél, (UKC1) Tees Valley and Durham, (FI19) Länsi, (AT33) Tirol, (AT22) Steiermark, (UKN0) Northern Ireland (UK), (ES12) Principado de Asturias, (NL23) Flevoland, (ES61) Andalucía, (NL42) Limburg (NL), (DE11) Stuttgart.

Medium-creative: (BE21) Prov. Antwerpen, (SE08) Övre Norrland, (BE24) Prov. Vlaams, (NL11) Groningen, (UKE1) East Yorkshire and Northern Lincolnshire, (BG31) Severozapaden, (DEA4) Detmold, (SE06) Norra Mellansverige, (ES24) Aragón, (DK00) Syddanmark, (HU33) Dél, (FI1A) Pohjois, (HU32) Észak, (SE09) Småland med öarna, (ITD4) Friuli, (ITC2) Valle d'Aosta/Vallée d'Aoste, (CZ07) Střední Morava, (ES22) Comunidad Foral de Navarra, (BG33) Severoiztochen, (HU22) Nyugat, (DED1) Chemnitz, (CY00) Kypros/Kibris, (ITD2) Provincia Autonoma Trento, (UKL1) West Wales and The Valleys, (DE92) Hannover, (ES23) La Rioja, (ITF2) Molise, (LV00) Latvija, (ITG2) Sardegna, (DK00) Nordjylland, (DE26) Unterfranken, (CZ08) Moravskoslezsko, (BG34) Yugoiztochen, (DED3) Leipzig, (DE14) Tübingen, (DEA5) Arnsberg, (SI01) Vzhodna Slovenija, (AT31) Oberösterreich, (CZ03) Jihozápad, (ITG1) Sicilia, (ES42) Castilla, (ES41) Castilla y León, (CZ05) Severovýchod, (AT34) Vorarlberg, (FI13) Itä, (DED2) Dresden, (ITD1) Provincia Autonoma Bolzano/Bozen, (CZ02) Střední Cechy, (UKD1) Cumbria, (DE13) Freiburg.

Medium-low-creative: (PL11) Lódzkie, (DE24) Oberfranken, (ES62) Región de Murcia, (AT12) Niederösterreich, (FR82) **Provence**, (DEC0) Saarland, (ES43) Extremadura, (PL21) Malopolskie, (DE91) Braunschweig, (HU31) Észak, (BE31) Prov. Brabant Wallon, (NL13) Drenthe, (HU21) Közép, (PL41) Wielkopolskie, (DEA3) Münster, (CZ04) Severozápad, (PT15) Algarve, (DK00) Sjælland, (DE73) Kassel, (AT21) Kärnten, (DEF0) Schleswig, (ITF6) Calabria, (DE94) Weser, (FR30) Nord, (IE02) Southern and Eastern, (DEB3) Rheinhessen, (ITF5) Basilicata, (PL63) Pomorskie, (NL12) Friesland (NL), (UKK3) Cornwall and Isles of Scilly, (DE27) Schwaben, (PT16) Centro (PT), (PL51) Dolnoslaskie, (NL34) Zeeland, (UKF3) Lincolnshire, (BE23) Prov. Oost, (BE25) Prov. West, (DE22) Niederbayern, (BE22) Prov. Limburg (BE), (FR62) Midi, (FR61) Aquitaine, (PL22) Slaskie, (BE35) Prov. Namur, (DEB1) Koblenz, (FI20) Åland, (ES13) Cantabria, (BE33) Prov. Liège, (DE23) Oberpfalz, (FR42) Alsace, (PL42) Zachodniopomorskie.

Low-creative: (AT11) Burgenland (AT), (FR51) Pays de la Loire, (DE93) Lüneburg, (DE72) Gießen, (DEG0) Thüringen, (IE01) Border, Midland and Western, (PL61) Kujawsko, (RO07) Centru, (FR24) Centre (FR), (SK03) Stredné Slovensko, (FR81) Languedoc, (RO06) Nord-Vest, (DE80) Mecklenburg, (DEE1) Sachsen, (RO08) Bucuresti, (DEB2) Trier, (RO05) Vest, (PT30) Região Autónoma da Madeira (PT), (FR52) Bretagne, (DE42) Brandenburg, (PT18) Alentejo, (BE32) Prov. Hainaut, (PL62) Warminsko, (FR41) Lorraine, (SK04) Východné Slovensko, (FR26) Bourgogne, (UKM4) Highlands and Islands, (FR63) Limousin, (SK02) Západné Slovensko, (FR53) Poitou, (DE41) Brandenburg, (PT20) Região Autónoma dos Açores (PT), (RO02) Sud-Est, (PL43) Lubuskie, (PL32) Podkarpackie, (PL31) Lubelskie, (FR83) Corse, (PL52) Opolskie, (FR72) Auvergne, (FR25) Basse, (FR21) Champagne, (RO03) Sud-Muntenia, (FR23) Haute, (PL33) Swietokrzyskie, (RO01) Nord-Est, (BE34) Prov. Luxembourg (BE), (PL34) Podlaskie, (FR22) Picardie, (RO04) Sud-Vest Oltenia, (FR43) Franche.

Los resultados por tanto muestan una robustez y consistencia reseñable

DYNAMIC ANALYSIS THROUGH STRUCTURAL EQUATION MODELS SEM

There is a methodology that is quite suitable for the concept of causality and which considers the possibility of both direct and indirect relations: structural equation models, SEM. It is a statistical technique which adopts a confirmatory approach to the analysis of a theoretical structure, by means of a series of simultaneous equations. The achievement of a significant

adjustment will give us and idea of the plausibility of the proposed structure. Causality is thereby contrasted from a theoretical (and logically reasonable) point of view as well as an empyrical (and statistically plausible) one. To this end, SEM seems to have a better reputation in scientific literature, even though a debate on whether it can evaluate true causal relations is also underway.

In order to establish the theoretical model, we proceed to the conceptualization of three synthetic constructs that we will name according to the groupings in the previous section. These synthetic indicators (latent variables, according to structural equation modelling literature), not observed, form our structural model, while the variables they are formed of, observed variables, establish the measuring model. The latter variables are the ones described in the previous section.

The varibles used to define the different models are the following:

Table 15. Variables used in the determination of the SEM model

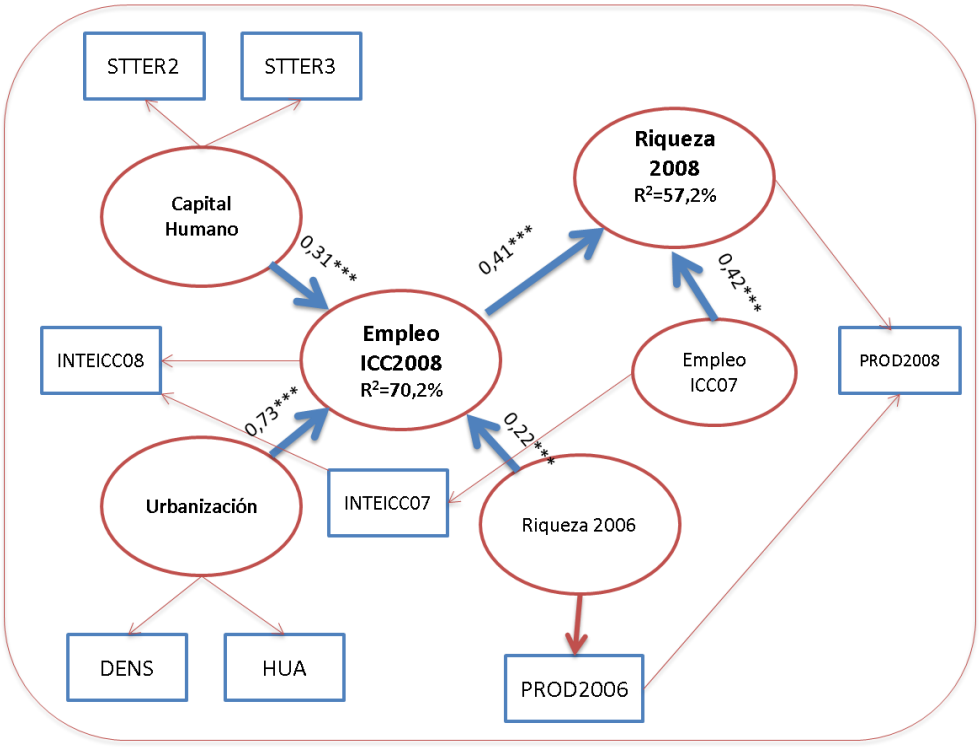
Variables	Description
GDPPC	Purchasing Power Standard per inhabitant
DIPH	Disposable income of private households, by NUTS 2 regions; purchasing power standard based on final consumption per inhabitant
POPU	Total average population, by NUTS 2 regions; 1000 inhabitants
DENS	Population density, by NUTS 2 regions; inhabitants per km2.
HRST	Human resources in science and technology (HRST), by NUTS 2 region; %economically active population. See Canberra Manual.
EHTS	Employment in high-tech sectors (high-tech manufacturing and high-tech knowledge-intensive services), by NUTS 2 region; %total employment.
RESE	Researchers, all sectors, by NUTS 2 regions; %total employment
EMPR	Employment rate of the age group 15-64, by NUTS 2 regions; Total
UNEM	Unemployment rate, by NUTS 2 regions; Total
HUA	Densely-populated area (at least 500 inhabitants/Km²) - % households
STTER1	Students in tertiary education (ISCED 5-6) - as % of the population aged 20-24 years at regional level
STTER3	Ratio of the proportion of students (ISCED 5-6) over the proportion of the population by NUTS 1 and NUTS 2 regions
STTER2	Students (ISCED 5-6) at regional level - as % of total country level students (ISCED 5-6)
PROD	Labour productivity
INTEKIBS	Employment in knowledge-intensive services, by NUTS 2 region; %total employment
INTEICC	Employment in creative industries, by NUTS 2 region; %total employment

After various estimates, one of the best results obtained reduces the causality chain to four latent variables: 'Higher Education' and 'Urbanization' cause 'Creative Employment', which presents a bidirectional relation with the variable 'Wealth'. In the following graphic, the synthetic variables are shown wrapped in an elipse, and the observed variables in rectangles; the arrows that link synthetic variables indicate cause-effect, while the ones that link a synthetic variable with an observed variable indicate the existing relation

between the structure (latent variable) and the measurement (observed variable)[24].

The model is thus modified by incorporating the delayed variables for creative employment and wealth. The structural model adequately adjusts for two delays in "Wealth", represented by productivity (PROD08 and PROD06), while "Creative Employment" adjusts to one delay (INTEICC08 and INTEICC07).

Figure 23. Structural equation model explaining the circular causality between occupation in the cultural sector and the wealth of the European regions



With this model of structural equations we can verify with clarity the existence of a circular effect between wealth and the creative sectors. Employment in the cultural sectors is illustrated by three types of effects; **the urban model**, resulting from the density of the population by Km2 (DENS) and the percentage of population living in densely populated areas (HUA), the level of **human resources,** resulting from the percentage of people aged between 20 and 25 who are in the educational system (STTER1), and the percentage of students in the educational system in the specific region with respect to the whole nation. And finally, the **wealth degree effect,** with a two-year delayed effect.

The wealth of the European regions is clearly explained by the instantaneous effect of employment in the creative sectors. The study "The Economy of

24 For a more detailed explanation of the process of constructing the model, see Appendix 2 of the present chapter.

Culture" demonstrated in 2006 that the creative and cultural sectors in Europe are as competitive as other industry sectors – in some cases even more by comparing their productivity and profitability with other sectors. The typical productivity[25] level of service industries, similar to those constituting most of the cultural and creative sectors, is between 1.2 and 1.9. The average productivity level for the European cultural & creative sector was 1.57 in 2003. Thus an increase in the proportion of people employed in the cultural and creative industries has an immediate impact on regional wealth due to the increase in productivity.

But at the same time a delayed effect can be observed, practically of the same magnitude, derived from the cultural employment in the previous year, which can be understood both directly, through the effect of demand, and through the spillovers derived from the innovation transmitted to the rest of the sectors.

The opposite effect, namely how variations in wealth influence employment in the cultural sector, is much weaker and has a two year delay. In other words, variations in wealth at present will generate employment in the cultural sector in two years time. This delay can be explained either by the modulation of lifestyle changes of the demand that transform their preferences over a period of two years until becoming solvent demand of cultural godos and services, or by the reaction of the cultural operators that take a couple of years to respond, formally consolidating the cultural companies in the face of obvious variations in the demand. Both hypotheses require more in-depth study.

Be it as it may, this approach fully guarantees the mutual causality between the creative sectors and the regional wealth, and even though it is not clear in what manner, cultural and creative activities show both a direct and instantaneous impact, much like Chartrand (Chartrand, 1984) on the wealth of the regions and another more complex effect that probably combines the consolidation of a solvent demand for innovation with an effect of proneness to innovation that capillarizes the whole global economic structure, as well as dynamics of supply response derived from the institutional model and the opportunities for entrepreneurship.

It is worth pointing out that these effects of dissemination of the potential for innovation is reinforced by the size of the human capital and by the urbanization models in such a way that it manifests itself more intensely in territories with a greater urban proportion and which maintains a large part of its population in universities.

The urbanization factor has the greatest impact on explaining employment in the cultural sector, supporting all those concepts on the importance of

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25 Ratio between value-added and employment costs. Productivity shows how much value is created for every Euro spent on employment costs (wages, salaries and social costs)

agglomeration economies and the clustering of creative and cultural activities. Urban regions concentrate the 32% of the creative workforce with only the 25% of the active population (Russo, Quaglieri, 2011).La literatura destaca, tal y como seña *European Competititvity Report 2010* several reasons why creative industries are concentrated in urban areas. The main factors are: (i) importance of specific local labour markets and tacit knowledge; (ii) spillovers from one specific creative industry to another; (iii) firms' access to dedicated infrastructure and collective resources; (iv) project-based work; (v) synergistic benefits of collective learning; and (vi) development of associated services, infrastructure and supportive government policies. Sin embargo, otros estudios basados en estimaciones por mínimos cuadrados (European Competitiviness Report, 2010), muestran que the elasticity of the 0.26 location quotient with respect to population size indicates that the degree of urban specialisation of the creative industries rises less than proportionally with an increase in population size. This data may indicate that, depending on the sector, urban spaces offer a minimum critical mass from which cultural and creative activities can be carried out, but once we are over this critical mass, variations are not proportional. In other studies, and in the case of Spain, we have seen that this minimum threshold in urban spaces was around 50.000 inhabitants.

Another issue worth pointing out is that the variables at work for the construct of "human capital" are those related to the current percentage of students aged between 20 and24, which is more or less the population now at university, which leads us to consider the importance on the one hand of young people with higher education, and on the other the importance of universities. This approach might question the relevance of the attractiveness of the creative class, because what seems relevant here is the proportion of students and not so much that of professionals. It also points at the correlation between "youth" and occupation in the creative sectors, verifying the stylized fact that creative sectors occupy a larger proportion of youth. In this case we link the condition of "young" both to the creative dimension and the capacity to disseminate innovations. Young people participate in greater proportion in both physical and virtual networks. Moreover, in young people it is more plausible to combine labour models of greater level of flexibility (and to support greater levels of precariousness) and that assimilate certain "lifestyles", that merge and fuse with job insecurity models.

Through other studies, (Rausell, Marco, Abeledo, 2011) we have some further evidence that the tourist specilization of the regions, even when it involves a greater potential from the perspective of analysing the demand for it, we have also detected that it has a certain shock-absorbing effect on the impact power between the people employed in creative and cultural sectors and the wealth of the regions. This may be due to the fact that the transformation of certain cultural assets into tourist products requires an excessive simplification (and sometimes trivialization) and consequently its capacity to generate added value is reduced.

The importance of institutional aspects and maybe the role played by the demand are left outside of our model and require more detailed research.

3. THE DYNAMICS OF MED IN THE FRAMEWORK OF CULTURAL AND CREATIVE ACTIVITIES.

For the purpose of this study and from a static perspective, there is no doubt that the economically successful regions have a high proportion of creative workforce among their active population. There appears to be a strong association between GDP per capita and the level of employment in creative activities. The regions that benefit the most from this relation are those situated in Sweden, Finnland, Iceland and central Europe including the double arch that goes from Denmark and Great Britain to the regions of the North of Europe. A large part of France does not stray from the European average neither as regards its GDP nor its proportion of creative workforce. The periphery of this system is formed by countries from Eastern and Western Europe with the exception of certain metropolitan areas like Madrid or Athens. It is obvious that in this approximation, which is very well reflected by the very recent ESPON report, no differential situation appears of the MED[26] area.

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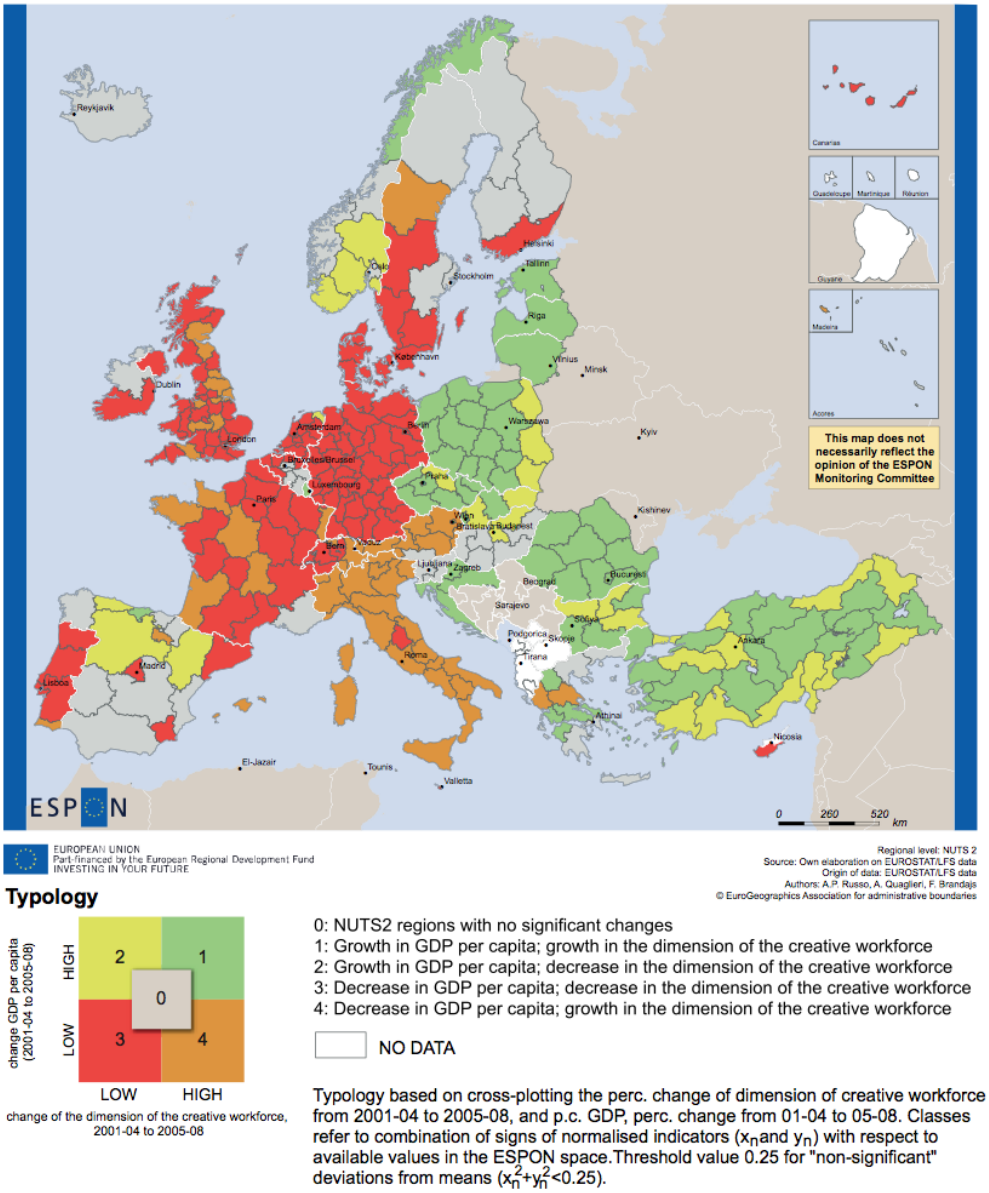
26 MED regions include regions Malta, Slovenia, Cyprus, Greece (Eastern Macedonia, Central Macedonia, Western Macedonia, Epirus, South Agean, Sterea Ellada, Peloponesse, Thessalia, Ionian Islands, Western Greece, Attica, Crete, North Agean); France (Rhone Alpes, Languedoc Rousillion, Corse, Provence Alpes Cote D'Azur); Portugal, Algarve, Alentejo); Spain (Andalusia, Aragon, Catalonia, Balearic Islands, Murcia, Valencia, Ceuta, Mellila); United Kingdom (Gibraltar); Italy (Abruzzo, Apulia, Basilicata, Calabria, Campania, Emilia Romagna, Friuli Venezia Guilia, Latium, Liguria, Lombardy, Marche, Molise, Ombria, Piedmont, Sardinia, Sicily, Tuscany, Veneto). Source: *European Union (2010): MED operational programme 2007-2013. EU, Bruxelles.*

Figure 24. Evolution of the relation between creative workforce and the GDP per capita in the European regions. Source EPSON, 2011



In dynamic terms it is not possible to detect any Mediterranean dynamic at first sight if we leave out the vigorous growth of the Italian regions as regards the growth of the creative workforce, but not of the GDP per capita. The regions that take better advantage of this dynamic are without a doubt the Eastern European regions, with the Baltic countries, Poland, Romania, the Czech Republic, Bulgaria, the Balcans and even Greece. This issue, however, is much more complex and requires more sophisticated analyses than those derived from presenting some variables on a map. In 2006, another ESPON project, with a classification of NUTS III level as a starting point, classified the European regions, according to their orientation in the area of culture and it did not seem to show any common trend for the MED area.

The simpler way to detect if the behaviour of MED regions is significantly different from the rest of regions is by introducing a dummy variable in the regressions used in the previous models. The dummy variable takes value 1 for MED regions and 0 for the rest of the sample.

The results show that the dummy is not statistically significant in the structure model, but It is significant in the Romer-Jones model, where takes a value of 0.10 which means that the GDP per employee in MED regions tend to be higher than in the average of the rest of regions. We can also introduce a dummy for each region in the estimation. Then, we observe that in the structure model most of the dummies are statistically significant but the differential impacts are positive and negative depending on the regions, counterbalancing each other, which explains why the MED dummy was not statistically significant, but probably catching the effects of the institutional framework for each region, which favours or hinders the relation between culture and regional wealth. With this interpretation we have a group of regions where the institutional framework favours the relation between culture and regional wealth, another group where it is not differentially significant, and a third where the institutional framework hinders the relation.

Table 16. Effects of the institutional framework in the MED Area

List of regions where the institutional framework improves the relationship between culture and wealth	List of regions where the institutional framework is not signicant in the relationship between culture and wealth	List of regions where the institutional framework worsens the relationship between culture and wealth
Marche, Toscana,Veneto, Lombardia, Emilia, Cataluña, Aragón, Piemonte, Lazio, Slovenia except Osrednjeslovenska, Umbria Friuli,Provence, Abruzzo, Comunidad Valenciana, Vzhodna Slovenija,Kypros/Kibris, Región de Murcia	Molise, Illes Balears, Languedoc, Liguria, Puglia, Corse	Andalucía, Basilicata, Alentejo, Sardegna, Campania, Algarve, Calabria, Sicilia, Rhône

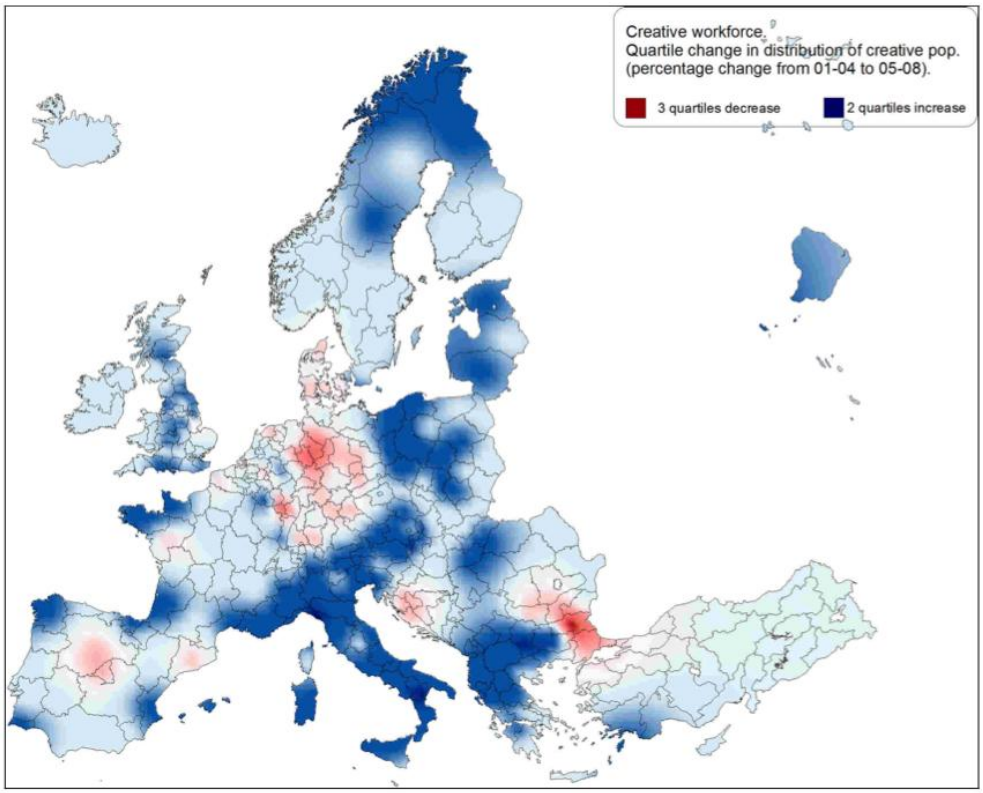
In the Romer-Jones model we can observe basically the contrary. The dummies are not statistically significant for most of the regions separately although the average effect for the complete sample of MED countries reveals to be significant.

THE CONVERGENCE OF THE MED AREA

The issue may change if we analyze it from a dynamic perspective, paying attention to where the most significant changes have occured in this first decade of the XXI century. As pointed out by Russo and Quagleri, (Russo, Quaglieri, 2011) such analysis takes on a wider array of overtones if we consider the dimension of change. The following map depicts the regions that have experienced a sensible change, captured by a quartile change in the distribution of the indicator of creative workforce. In this figure, which is in contrast with the traditional European banana, there are signs of a progressive update of the regions that used to be peripheral, some MED among them that dropped behind with reference to creative professions, both geographically and in terms of region typology. We can observe the good performance of tourist coastal and island regions, like the Balearic

Islands and the coast of Valencia, Algarve, Galicia, the basque coast, Cerdeña, the continental coastal regions of Greece and the Rodos island and Britain. Some authors refer to the tourist coastal areas as areas of "creative urbanization".

Figure 25. Evolution of the creative workforce. Quartile change in the distribution of creative jobs per 1,000 head of active population, 2001-2004 to 2005-2008. Source. Russo, A. Quaglieri, 2011



The differential behaviour can probably not be attributed to the mediterranean dimension, moreover, we observe that other peripheral areas participate in this process of convergence. As shown by the *European Competitiveness Report 2010, another explanation of the fast growth of the creative industries in the EU is that a number of less advanced EU countries are starting to catch up with the more developed Member States. In fact, empirical evidence shows that EU countries with a low initial employment share in creative industries exhibited a significantly stronger increase in the same employment share between 2000 and 2007 (with a correlation of -0.45). This relationship remains robust and highly significant when software consultancy and supply is excluded from the creative industries. Macroeconomic growth also explains the rapid increase in the overall share of the creative industries*

We can confirm, with another set of data that both data on wealth and on occupation in the creative industries indeed show a catch-up process between the mediterranean regions and the rest of Europe.

WEALTH

In order to analyse the evolution of wealth in a region we use three variables: the GDP per capita, available family income per capita, and the apparent work productivity. While the first is one of the most widely used variables, together with the GDP, to evaluate the economic development of an economy, the second variable extracts the tax effect, allowing us to determine the income available individually and effectively to gain direct profit; this aspect, however, obviates the social effects derived from the use governments make of tax resources. As for the third variable, its relation to employment creation and wage setting, along with it being a 'driver' of economic growth, make it another variable to consider when evaluating the wealth of an economy.

As we can observe from the analysed decade (Appendix 3), the GDP per capita had an average annual growth of 3.96%, or 3.60% in MED regions and of 4.04% in the rest, to be precise. The average regional values are around an average of 20,909 EUR (PPS), with a slight difference of less than 1,000 EUR between MED/Non MED regions. The test of average difference suggests that this difference is significant (t=2.58, p-value=0.009872). Nevertheless, when carrying out the same test considering only the last period (2008), the results (t=1.35, p-value=0.1797) indicate that we cannot reject the hypothesis according to which the average GDPpc among MED and Non MED regions is statistically similar. In the case of family income available per capita, there is no doubt as to the equality of its average values between both regional groups (t=-0,8974, p-value=0,3697).

EMPLOYMENT: GENERAL.

The data related to employment confirm that the analysed decade was a decade of growth, where we can observe that the employment rate experienced an annual growth of 0.71%, and the disemployment rate dropped 3% per year. There are significant differences between the MED/Non MED regions for the average value of employment rate (t=18.32, p-value=0.0000), and disemployment (t=-6.82, p-value=0.0000), reflecting a differential fact in terms of employment creation. In the analysed decade, the MED regions present greater levels of disemployment and lower employment rates. Even so, they reduced their annual disemployment rate to –4.77%, while the rest of the regions did so at a decrease rate of a little over half (-2.41%), incrementing their employment rate 1.21%, more than double the rest of the regions (0.59%), perhaps in a movement that shows a process of 'catching-up' in terms of labour market.

EMPLOYMENT: SCIENCE AND TECHNOLOGY.

The series of indicators related to employment in science and technology are in line with those of employment in general, with significant differences between the average values for employment in high technology sectors, EHTS (t=12.98, p-value=0.0000), in science and technology, HRST (t=17.81, p-value=0.0000), and in research, RESE (t=9.18, p-value=0.0000), not

surprisingly the average growth rates for the studied decade are superior in the MED regions, again, probably due to a process of convergence.

EMPLOYMENT: CREATIVE INDUSTRIES.

In order to analyse the evolution of employment in the creative industries we resort to the operational definition of the European Cluster Observatory (see the APPENDIX). We consider both employment in the cultural and creative industries, as well as the employment in knowledge intensive professional services. From the data obtained during the month of July 2011, available on the observatory web site, the employment intensity variables have been designed in both sectors with respect to the total of the economy, as percentage.

Figure 26. Evolution of the variable Employment in creative industries, by NUTS 2 region; %total employment. Index numbers 1999=100.

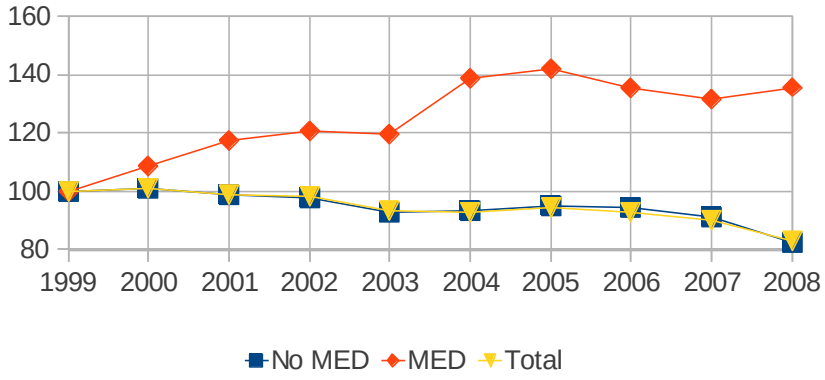
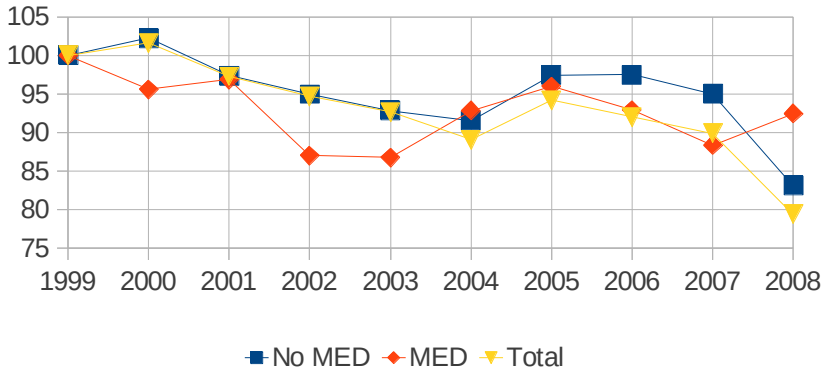


Figure 27. Evolution of the variable Employment in knowledge-intensive services, by NUTS 2 region; %total employment. Index numbers 1999=100.



The differences between the MED regions and the rest of the regions are significant for the intensity of cultural and creative employment, INTEICC (t=6.22, p-value=0.0000), as in knowledge intensive professional services, INTEKIBS (t=13.02, p-value=0.0000). However, this difference in average values is no longer relevant for the intensity of cultural and creative employment if we analyze only the last period, 2008 (t=0.64, p-value=0.5205).

HIGHER EDUCATION.

As regards the higher education indicators, despite the existence of significant differences in the variables related to the percentage of youth population undertaking higher education studies, STTER1 (t=-4.04, p-value=0.0000), the regional percentage of students in higher education with respect to the national total, STTER2 (t=6.93, p-value=0.0000), the same is not true in terms of the share of the total population, STTER3 (t=-0.05, p-value=0.9588), with differences being non-significant for the period 2008, STTER1 (t=-1.42, p-value=0.1598), STTER2 (t=1.64, p-value=0.1047), which suggests that the greater average annual growth rates in these variables have managed to close the difference between the MED regions and the rest of the regions. As it appears in other projects (ATTREG, 2001), another indicator in this class is the number of students at universities in the region as a proportion of young local residents, showing areas which enjoy a certain "creative environment" brought by student activity and the intensity of the educational output. This indicator shows high values in Central Italy, Northern Spain, Northern Greece, Poland and Scandinavia, and surprisingly lower scores in core regions of Europe, possibly indicating that areas with higher unemployment are those that push a larger share of young people to obtain higher education diplomas.

URBANIZATION.

The degree of urbanization is one of the characteristics that accompany both the economic growth and the evolution of creative and cultural industries. The cultural and creative phenomenon is an urban type of entity, therefore it is interesting to evaluate whether these characteristics are decisive or explanatory of the degree of development of the regional economy at European level. The differences between the two regional groups are not significantly different for the average population, POPU (t=-1.52, p-value=0.1352), population density, DENS (t=-0.35, p-value=0.7274), and degree of urbanization, HUA (t=0.46, p-value=0.6493).

Table 17. Variables of population and urbanization. MED and non-Med regions

2008	Regions		
	Non MED	MED	Total
POPU (Population in thousands)	1,755.54	2,296.33	1,868.78
DENS (Inhab/Km2)	306.09	354.70	316.27
HUA (% of homes in densely populated areas)	48.54	46.81	48.18

SOME INTERPRETATIONS

The analysis of the previous data leads us to believe that the relative process of *catching up* of the MED area, in terms of employment in the cultural sector was originated by a greater acceleration of youth access to higher education in the mediterranean area (perhaps due to the demographic composition and

the greater pressure of the immigration) and the process of urban growth and concentration. Nevertheless the scarce effect on the variations in regional wealth leads us to believe that the impact modes of culture and creativity in the MED area are significantly different from the European norm. As concluded in the studies by Russo and Quagliari, 2011, Mediterranean regions seem to have been "catching up" with respect to the creative workforce compared to core regions. Possibly, the increasing levels of quality of life, and successful policies focused on valorizing and branding localised place assets (be it environmental quality, cultural heritage, social diversity, or the quality of their tourism and leisure infrastructure) have started to invert the trend of migration of creative talents to economically thriving regions, and have managed to make the best of their creative workforce as astrategically fundamental component of their transforming economies.

In an attempt to find some signs of this differentiated reality we estimated both models for the 33 MED regions only (Table 12). The results are different from those for the total sample of regions:

Creative industries don't have a significant role in explaining the differences in wealth in MED regions: The share of jobs in creative services does not have an economically or statistically significant impact on the differences of GDP per capita or GDP per employee.The share of jobs in creative manufacturing has a positive (although small) impact in explaining the differences in wealth in the structure model, and it is statistically non-significant in the Romer-Jones model.

In the structure model, differentials in wealth are basically explained by the share jobs in knowledge-non intensive services, the diversity in the creative chain, and patents per capita. In the Romer-Jones model, differentials in wealth are explained by patents per capita and cultural endowments. However, we offered an additional estimation of the model including the share of creative class as an explanatory variable in 2001. This variable was not used in previous estimates because of its strong correlation with creative industries caused severe collinearity problems. When the creative class is included in the estimation (next Table, last column) it shows a high elasticity (0.43) and improves the performance of the model in a significant way, although the variable patents per capita approaches to zero and becomes statistically non-significant.

Despite the fact that MED regions include high and low innovative regions the estimates do not report real problems of heterogeneity in the sample and persistent outliers are not detected[27].

[27] However, normality is rejected. We used robust estimators to take into account this fact. In any case, and even if the results seems to be robust, the sample is small (33 regions) and results should be interpreted with caution.

Table 18. Models for the MED regions

	Structure			Romer		Romer	
		OLS Robust		OLS		OLS	
Dependent variable	GDP/POP			GDP/L		GDP/L	
	Coefficient	Elasticity		Coeff. & Elast.		Coeff. & Elast.	
Constant	3470.00	-		38.051		24.356	
		(0.350)		(0.000)		(0.000)	
% creative services	123.48	0.0358		-0.0439		0.0463	
		(0.680)		(0.682)		(0.480)	
% creative manufacturing	944.07	0.0602	***	0.0148		-0.0162	
		(0.001)		(0.493)		(0.258)	
% knowledge non-intensive services	302.29	0.4103	***	-		-	
		(0.004)		-		-	
Diversity in the creative chain in 2001	1523.80	0.2281	***	-		-	
		(0.001)		-		-	
Patents per million inhabitants 2004-2007	83.60	0.1159	***	0.0549	***	-	
		(0.000)		(0.009)		-	
Cultural endowments	-	-		0.0557	**	0.0499	***
	-	-		(0.030)		(0.003)	
Creative class	-	-		-		0.4396	***
	-	-		-		(0.000)	
R2		0.7597		0.5102		0.6679	
R2-adj		0.7152		0.4402		0.6205	
VIF		1.53		1.68		1.60	
Heteroscedasticity		No		No		No	
Normality		No		No		No	
Exogeneity		Accept		Accept		Accept	
Obs		33		33		33	

In summary, these results suggest that MED countries have a different economic structure and the way in which the processes of creation and innovation, as well as the way the externalities are working, is different from the rest of European regions. Even though the issues here inferred require more in-depth and precise studies, we can venture a few plausible hypotheses to be researched:

In the mediterranean Europe the connection between wealth and culture is explained, to a greater extent than in the rest of Europe, by the creative class (people) than by those working in the creative industry (economic organizations), which suggests that the dissemination mechanisms of innovations work through more informal and less structured networks in the economic logic, making social capital and the reticular models even more important. In this context, the models that relate the interactions between human capital and social capital of Sacco and Segre (2009) and Bucci, Segre (2011) would make sense.

The greater relevance of cultural endowments might be related either with the greater relative specialization in the tourist sector in the MED regions, in such a way that the greater the cultural endowment, the greater the capacity to broaden the demand, or to the contrary, with the role played by cultural endowments as infrastructures for the development of cultural services.

However, other studies (Rausell, Marco-Serrano, 2011) allow us to infer that those regions that are more specialised in the tourist sector show weaker links between the occupation in the cultural sector and the GDP per capita, maybe because cultural activities become providers or complementary to economic activities with low levels of productivity, like the tourist sector. This interpretation could weaken a widely used argument in the MED area on the role of culture as "complementary offer" for the tourist demand.

4. SOME FINAL THOUGHTS. CULTURE AS ECONOMIC AND SOCIAL INNOVATION FACTOR

The current state of the art, and our own research make a very strong point: cultural and creative activities are one of the key variables in explaining wealth in the European regions. Some of the evidence even stress the fact that it is *the* most important variable.

This circumstance makes us clearly reject Potts´ first proposal, on the relations between culture and economy, in which he presents culture as a net charge on the economy, which is worth paying for, since the global effect on welfare is a positive one. This is due to the production of high value cultural products but with a low market value. The intervention of cultural policy is justified by the consideration of "tutelary goods" or the theory of "market failures", since the market is unable to internalise the cultural value of the good. We are quite aware of the fact that cultural activities are not consumers but rather net generators of economic wealth.

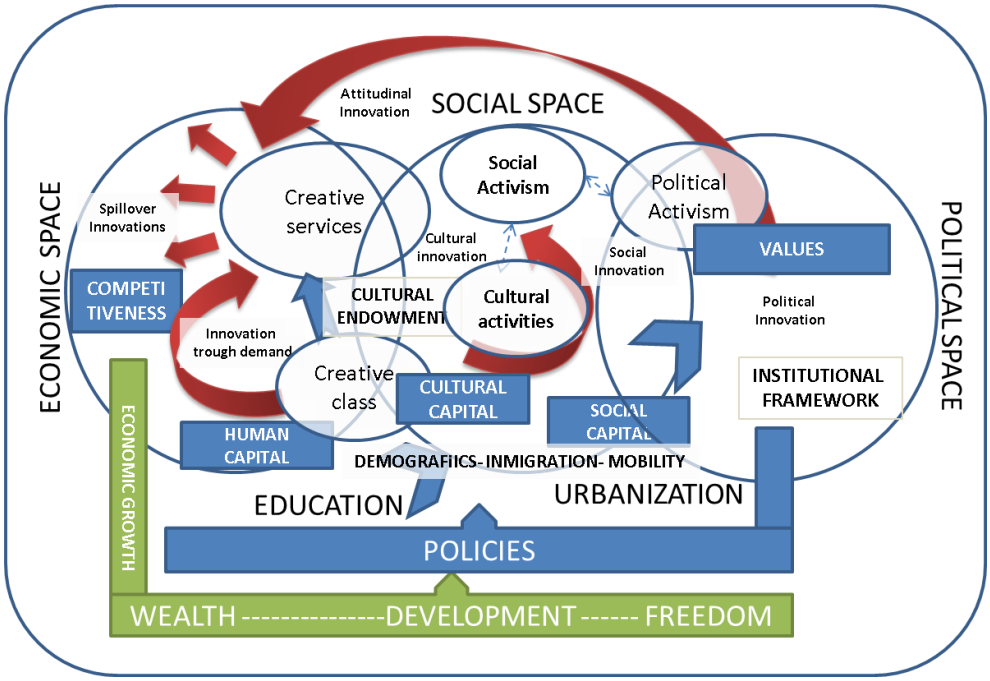
Starting from the different analyses of causality we can state that the relations are circular and that variations in wealth have an effect on the activation of cultural and creative experiences which translate into increased occupation in the sector.

Thus, if creative services impact basically on the wealth and their effects are highly local, they become a relevant objective for the regional-driven policy. If the geographical effects are supra-regional, national policy or coordination between regions could play an important role. If the effect is focused on concrete segments of firms, the scope of the policy changes radically. On the other hand, if the impacts of the creative services rely basically on the wealth from a supply-side, public policies should provide the conditions for their development and interaction, more than provide subsidies and price policies to protect the industries. Finally, if their effects on innovation spill over to the rest of the local economic system, different strategies like the financial support to creative services firms could be effective.

Although our analysis has focused mainly on the relations between the creative sectors and economic growth and not on the systemic effect on the innovation model, there are many signs that lead us to believe that the creative ecosystem affects innovation in the whole economy. Causality channels are complex and contain both direct impacts derived from the greater flexibility of labour relations in the cultural sector, which involves a high sensitivity to the needs for innovation in the rest of the economy, also

from the greater proneness a la to innovation or the greater productivity of this sector, but we sense that they reflect profound alterations of changes in the productive model much like the more sophisticated models on the transforming role of culture as an economic and social innovation factor.

Figure 28. An integral vision of culture as a factor of economic and social innovation



The effect of culture as an element of economic and social innovation is beyond doubt, both for supply and demand reasons. The cultural space is not only a source of innovation in the marketplace by generating new products or services or the use of new processes in the economic space and therefore improving the competitiveness of the economic system, but also in the cultural field it is a petitioner of innovation (as user or participant). The next link has to do with the porosity of the creative class as economic agent and as cultural actors in the social space. Individuals who work in cultural and creative sectors are also those who participate in the generation, provision and distribution of cultural activities and services of the social space and consequently they are also facilitators of the expansion of social innovation.

Ultimately all these interactions that range from the cultural to the social and political activism form a corpus of values. There is an ethical reframing of the needs of the individuals, that are connected with wanting to participate, communicate, share, deliberate, express. The field of culture is externalizing values that permeat the entire socio-economic space and on the backdrop of the crisis we find that they are much more in line with the concept of sustainable development. They reflect a new hierarchy that includes aspects like the explicit wish to innovate, relational consumerism (as opposed to transactional) and free exchange, critical thinking, personal development, solidarity, cooperation, networking, the value of diversity and beauty, participation, the importance of the recreational and vital dimension as

opposed to purely economic gain. In other words, the actions of creativity are not governed by the vectors of instrumental rationality alone but expressive values, as well as values of exchange and mutual benefit are also at work.

These new values spread from the field of culture through the conventional social spaces but also from the new ethics that radiate from the social movements articulated on the Internet. From *copyleft* to *commons* they create new universes of values that affect the economic and the social space. Policies are left with the role to avoid that these processes run out and to incorporate these dynamics to larger groups in the communities, accelerating the development and broadening their degree of freedom.

The effect of politics needs to be that of favouring and intensifying these dynamics in such a way that they create the regulatory framework for the recognition of rights and for a governing that facilitates the increase in income generated by the cultural and creative activities. It thus becomes an inclusive process that surpasses the limited effect of the "creative class" to turn into development in the comprehensive sense as Sen pointed out and so that the radiation of innovation in the economic as well as in the social and political field broadens the spaces of freedom of the individuals and pushes the límits of the possibilities of the communities.

The opportunities of Europen competitiveness in this moment of global change are articulated with few plausible alternatives, around the positioning of the activities related to creativity, innovation and talent. The role of cultural policies, understood in the broader sense, should play a less peripheral role than usual and the knowledge system should be able to provide rigorous and contrasted interpretations and visions on this new frontier of possibilities.

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7.

8. APPENDIX 1.

ECONOMIC MODELS LINKING CREATIVE INDUSTRIES AND WEALTH

A naïf model linking regional wealth and productive structure

De Miguel et. al. (2011a,b) have recently proposed an empirical model in order contrast the effects of agglomerations (number of regionals specializations) and the productive structure in terms of knowledge and creative intensity on the GDP per capita of the European regions.

The empirical model is not based on a formal theoretical model, and assumes that the differences in GDP per inhabitant in the European regions is due to these two elements, combined in levels in a linear and additive form, so that:

$$GDPperinhab_i = Const + \beta_1\, LQHigh + \beta_2\, LQMedHigh + \beta_3\, LQMedLow + \beta_4\, LQLow\ non\text{-}creative + \beta_5\, LQHTKIS\ non\text{-}creative + \beta_6\, LQOKIS\ non\text{-}creative + \beta_7\, LQLKIS + \beta_8\, LQcreative + \beta_9\, PtgLHigh + \beta_{10}\, PtgLMedHigh + \beta_{11}\, PtgLMedLow + \beta_{12}\, PtgLLow\ non\text{-}creative + \beta_{13}\, PtgLHTKIS\ non\text{-}creative + \beta_{14}\, PtgLOKIS\ non\text{-}creative + \beta_{15}\, PtgLLKIS + \beta_{16}\, PtgLcreative + \varepsilon_i \quad (3)$$

The variables are described in following table:

Table 19. Variables in the regression model

Dependent variable	**GDP per inhabitant**	
Independent variables	**1.**	**LQs: Number of industrial agglomerations in each region for each one of the following collectives:**
		• **LQs in high-tech manufacturing** • **LQs in medium-high-tech manufacturing** • **LQs in medium-low-tech manufacturing** • **LQs in low-tech non-creative manufacturing** • **LQs in high-tech knowledge-intensive non-creative services** • **LQs in other knowledge-intensive non-creative services** • **LQs in less-knowledge-intensive services** • **LQs in creative industries**
	2.	**Industrial structure of the region: percentage of workers in each region for each of the following collectives:**
		• **% workers in high-tech manufacturing** • **% workers in medium-high-tech manufacturing** • **% workers in medium-low-tech manufacturing** • **% workers in low-tech non-creative manufacturing** • **% workers in high-tech knowledge-intensive non-creative services** • **% workers in other knowledge-intensive non-creative services** • **% workers in less-knowledge-intensive services** • **% workers in creative industries**

After the first estimation, all the agglomeration variables are removed from the equation due to the fact that they are highly correlated to the structure variables, and the later one better captures the differences in GDP per capita.

Despite its simplicity, the model has the ability to explain that a high part of the variance only in terms of productive structure. In a second step, the share of creative industries is considered as potentially endogenous so that an instrumental regression is also introduced.

Creative industries and the Romer's model of endogenous technological change

A more elaborated proposal can be achieved following the line of the endogenous growth models. In particular, Romer's model (Romer 1990, Jones 1997) explain cross-country or cross-region income and growth differences on the basis of differences in innovation, due to differences in the production of ideas.

Formulation of the Romer-Jones model with only an input

The economy produces two kinds of goods: rival goods in the form of typical goods and services (Y) and non-rival goods in the form of ideas (A). We introduce a simplified version of the model where there is only an input in the economy, labour28:

$$Y = AL_y \quad (4)$$

Labour force of an economy can be addressed to the rival goods sector (L_y) or to the ideas sector (L_A):

$$L = L_A + L_y \quad (5)$$

and operating:

$$L_A = S_R L \quad (6)$$

$$L_Y = 1 - L_A = (1 - S_R)L \quad (7)$$

, being s_R the share of labour in the creative sector. In the original endogenous growth models this was assimilated with the share of people in the R&D sector, although it is a restrictive view of the process of generation of innovations dominated by the so called "linear model of innovation". It seems more consistent to introduce all those sectors focused on the creation of knowledge, this is, creative industries.

The growth of the ideas can be expressed as:

$$\dot{A} = A_t - A_0 = \bar{\delta} L_A^{\lambda} \quad (8)$$

where

28 Relaxing this assumption with the introduction of other productive factors such as capital does not change the general performing of the model. See Romer (1990) and Jones (1997) for complete forms of the model.

$$\bar{\delta} = \delta A^{\phi} \quad (9)$$

So that:

$$\dot{A} = \delta L_A^{\lambda} A^{\phi} \quad (10)$$

The growth rate of generation of ideas is then:

$$g_A = \frac{\dot{A}}{A} = \delta \frac{L_A^{\lambda}}{A^{1-\phi}} \quad (11)$$

The parameter λ measures the existence of scale economies. The parameter ϕ measures if the productivity of the ideas. If $\phi > 0$ there are increasing returns to scale in the creation of ideas, and if $\phi < 0$ there are decreasing returns in the creation of ideas. Notice that if $\phi = 0$, there are constant returns in the creation of ideas, which means that productivity in the creation of ideas is independent of the existence of previous knowledge and only depends then on the share of labour force addressed to create new ideas.

For simplicity, we introduce that λ =1 (scale economies) and $\phi = 0$ (constant returns in the creation of ideas), so that the creation of ideas can be expressed as:

$$A = \frac{\delta s_R L}{g_A} \quad (12)$$

Then, the production of the economy is:

$$Y = A\big((1 - s_R)L\big) \quad (13)$$

or, equalling $s_y = 1 - s_R$:

$$Y = As_y L \quad (14)$$

And the output per worker (y) is obtained dividing by L[29]:

$$y = As_y \quad (15)$$

$$y = \frac{\delta s_R L}{g_A} s_y \quad (16)$$

Taking logarithms we can linearize the equation:

$$\ln y = ln\,\delta + lns_R + lnL + lns_y - lng_A \quad (17)$$

And finally, we can also isolate from what depends the contribution of the creative sector:

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[29] If capital is also included in the initial equation, the solution adds a second term $\left(\frac{s_K}{n+g_A+d}\right)^{\alpha/(1-\alpha)}$ multiplying the current solution, where s_k is the rate of accumulation of capital, *d* is the exogenous rate of depreciation for the capital, and *n* is the population. This expression means that those economies that invest more in capital will be wealthier.

$$lns_R = lny - ln\delta - lnL - s_y + g_A \quad (18)$$

Regarding our problem of causality, these two equations are explaining that:

1. The output per capita of a region depends positively on the share labour in the creative industries in the region s_R, because these industries are in the basis of the generation of ideas for innovation

2. The share of labour on creative industries in the region also depends positively on the output per capita *y* because it allows allocating a larger share of workers in the creative sector

3. Both are endogenous factors when determining each one the other.

Modelling g_A

The $g_A = \frac{\dot{A}}{A}$ term of the equation is assimilated with the technological change so that assumes the existence of a regional production function $\dot{A}$. Glaeser et al. (1992) and Henderson et al. (1995) provide an explanation for these functions in a regional way. For Glaeser et al, g_A is a function of MAR knowledge-dynamic externalities (Marshall – Arrow - Romer), which in practice involves the regional degree of specialization in an industry, the diversity of the regional productive structure, the regional degree of competition, and the historical conditions. Henderson et al. (1995) combines static and dynamic externalities so that the regional production function A and the technological change $\dot{A}$ depends on the current and past industry scale (level of employment in the industry in the region), regional characteristics (such as the access to major urban market centres and local metro area demand for capital good products), the regional specialization in the industry (that facilitates spillover or "network" information flows among relevant firms and the development of location specific knowledge, relative to a location with diffuse economic activity) and the productive diversity of the regional environment.

For the specific case of creative industries, g_A could be related to the factors that Lazzeretti et al. (2009) introduced as determinants of the geographical concentration of creative industries in the so called Culture - Agglomeration – Creative class model:

1. Cultural heritage includes historic places, buildings, monuments, paintings, and artefacts and is the reflection of intangible historical aspects of the local culture (traditions, customs, language, lifestyle, etc.). Heritage influences the creative industries from two points of views: first, art, culture, beauty, and history affect the perceptions and attitudes towards creativity; second, it promotes cultural activities such as conservation, enhancement, and economic management of these resources (Camagni et al. 2004). An additional historical factor is the “capitality” of the regions, which is also associated with an accumulation of resources and access to public funds.

2. Agglomeration economies, broadly defined as advantages in costs or quality due to the spatial concentration of productive resources and actors (population, firms, institutions, and other collective agents). Agglomeration economies are classified as either internal or external to the firm. Internal economies arise from the scale of the firm, scope of products, savings in transaction costs, and internal R&D activities. Like Henderson et al. (1995), external economies, include both time-static and dynamic localization (specialized local labour market, specialized suppliers, knowledge spillovers) and urbanization economies (size of the local market, productive and social diversity, density, related variety).

3. Florida remarks that some places are poles of attraction for the creative class, and, accordingly, the driving force behind the development of a city or region turns out to be its ability to attract and retain creative individuals which nourish creative industries. Florida introduced the theory of the 3Ts (Technology, Talent, and Tolerance), which shifted the focus from the creative industries to the human factor and its creative habitat. The first T (Technology) is related to the specialization of the region in high-tech industries. The second T (Talent) is related to the human capital in the form of educated, skilled or talented people. Finally, Tolerance is associated with the openness of the region to people and ideas, and usually measured using the share of foreign people and gay couples living in a place regarding the national average.

Based on the previous contributions and the way the Romer-Jones's model work, we propose the following form for g_A:

$$g_A = \frac{E_A}{E_Y} C_H C_c \quad (19)$$

, where E_A are agglomeration economies related to knowledge (MAR, using the Glaeser-Henderson nomenclature), E_Y are static agglomeration economies, C_H is culture and heritage, and C_c represents the creative class (3Ts).

The logic underlying this equation is that knowledge-related agglomeration economies (E_A) will contribute to the technological change so that imply the use of a higher share of creative jobs. On the contrary, those agglomeration economies fostering the production of bulk goods (E_Y) could reduce the rates of technical change and involves a larger share of jobs in non-creative industries. The role of culture and heritage seems unclear, as on the one hand it could inspire new ideas whereas from another hand a rich heritage could be seen as a stock and can make unnecessary to create new ideas. Finally, creative class foster creativity and contribute to the technical change, with results in higher shares of jobs in creative industries.

Therefore, the final equations derived from the Romer's model takes the form:

$$\ln y = ln\ \delta + lns_R + lnL + lns_y - lnE_A - lnC_H - lnC_c + lnE_Y \quad (20)$$

$$lns_R = lny - ln\delta - lnL - s_y + lnE_A + lnC_H + lnC_c - lnE_Y \quad (21)$$

In the original Romer's model, the variables yt and gA are clearly endogenous to the model. However, we didn't any hypothesis about how the share of jobs in creative industries sR is obtained. In an enhanced version of the model, Jones (1998, chapter 5) solves sR by equalling the salary of the production of goods to the salary in the creative sector. When this is done, it is possible to observe that sR depends on the growth rate of the economy (which is also equivalent to g_A) but not exactly on the output per capita. Thus, if an economy grows faster it will have a larger share of jobs in creative industries as the expected return of creating new ideas is higher. In practice, this means that sR can be treated as an exogenous variable. In any case, as explained in section 3.3, the assumption of exogeneity can be tested in econometric regressions.

Another interesting feature of the model is the interpretation of the terms of g_A, particularly MAR agglomeration economies and the creative class. They are introduced a first time in the equation inside the sR term, and in this way affecting positively the creation of wealth. However, they subtract resources for the production of goods, so that when they are explicitly introduced as a part of the technological change, they take a negative sign in the equation. By contrast, static agglomeration economies have a positive sign as they are related to the production of goods.

Table 20. Explanatory variables: structure model and Romer-Jones

% creative services$_j$	**= jobs in creative services (see table xx) divided by the total jobs in the region**
% creative manufacturing$_j$	= jobs in creative manufacturing (see table xx) divided by the total jobs in the region
% high tech manufacturing$_j$	= jobs in high-tech manufacturing (see table xx) divided by the total jobs in the region
% medium-high tech manufacturing$_j$	= jobs in medium-high tech manufacturing (see table xx) divided by the total jobs in the region
% medium-low tech manufacturing$_j$	= jobs in medium-low tech manufacturing (see table xx) that are not creative divided by the total jobs in the region; creative industries have been removed to avoid double counting
% high-tech services$_j$	= jobs in high-tech services (see table xx) that are not creative divided by the total jobs in the region; creative industries have been removed to avoid double counting
% other knowledge-intensive services$_j$	= jobs in knowledge intensite services that are not high-tech services (see table xx) and that are not creative divided by the total jobs in the region; creative industries have been removed to avoid double counting
% knowledge non-intensive services$_j$	= jobs in knowledge non-intensive services (see table xx) that are not creative divided by the total jobs in the region; creative industries have been removed to avoid double counting
Total employment$_i$	= total number of jobs in the region
Firm size in creative industries in 2001$_j$	= number of jobs in creative industries (both manufacturing and services) divided by the number of firms in creative industries. The variable has been lagged to 2001 to force exogeneity; data for sectors non available in the previous NACE Rev.1 classification have been imputed using 2008 data.
Firm size in the rest of	= number of jobs in non-creative industries divided by the number of

industries in 2001$_j$	firms in non-creative industries. The variable has been lagged to 2001 to force exogeneity; data for sectors non available in the previous NACE Rev.1 classification have been imputed using 2008 data. The variable has been lagged to 2001 to force exogeneity.
Diversity in the creative chain in 2001$_j$	= inverse of the Hirschman-Herfindahl index calculated by the sub-sectors in the creative industries. The variable has been lagged to 2001 to force exogeneity
Density of population in 2001$_j$	= Population in 2001 divided by the area of the region. The variable has been lagged to 2001 to force exogeneity
Productive diversity in 2001$_j$	= inverse of the Hirschman-Herfindahl index calculated by all the sub-sectors in the economy . The variable has been lagged to 2001 to force exogeneity
R&D expenditures per capita in 2006$_j$	= expenditures in research and development divided by the population of the region. The variable has been lagged to 2006 to force exogeneity and to give time enough to the effects of R&D to translate to production
Patents per million inhabitants 2004-2007$_j$	= number of EPO patents divided by the total population of the region. The variable has been lagged to force exogeneity. The use of the average value of several years is usual in the innovation literature to avoid undesirable effects caused by random peaks of patenting in a year/region.
Cultural endowments	= number of events in Via Michelin in the region multiplied by the number of Michelin stars of the events and divided by the total area of the region.
% of tertiary graduates in 2001$_j$	= number of tertiary graduated divided by the population of more than 25 years. The variable has been lagged to force exogeneity.
Creative class in 2001 $_j$	= percentage of jobs in the groups 1 and 2 of the ISCO classification, divided by the total active population in the region. The variable has been lagged to force exogeneity.

Table 21. Aggregations of creatvies industries based on NACE Rev. 2. Adaptation to 2 digits. Source: Elaborated from UNCTAD (2010) and Eurostat.

Manufacturing	**Creative**	**Non-creative**
High-tech		**21, 26**
Medium-high tech		**20, 27, 28, 29,30**
Medium-low tech		**19,22, 23, 24, 25, 33**
Low-tech	14, 15, 18,	**10, 11, 12, 13, 16, 17, 31, 32**
Services	**Creative**	**Non-creative**
High-tech Knowledge-intensive services (HTKIS)	59,60, 62,72	**61, 63**
Other Knowledge-intensive services (OKIS)	58,71, 73, 74,90, 91, 92, 93	**50, 51,64, 65, 66, 69,70, 75, 78,80, 84, 85, 86, 87, 88**
Less-Knowledge-intensive services (LKIS)		**45, 46, 47, 49,52, 53, 55, 56, 68, 77, 79, 81, 92,94, 95, 96, 97, 98, 99**

NACE Rev.2 Codes: (10) Manufacture of food products; (11) Manufacture of beverages; (12) Manufacture of tobacco products; (13) Manufacture of textiles; (14) Manufacture of wearing apparel; (15) Manufacture of leather and related products; (16) Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials; (17) Manufacture of paper and paper products; (18) Printing and reproduction of

recorded media; (19) Manufacture of coke and refined petroleum products; (20) Manufacture of chemicals and chemical products; (21) Manufacture of basic pharmaceutical products and pharmaceutical preparations; (22) Manufacture of rubber and plastic products; (23) Manufacture of other non-metallic mineral products; (24) Manufacture of basic metals; (25) Manufacture of fabricated metal products, except machinery and equipment; (26) Manufacture of computer, electronic and optical products; (27) Manufacture of electrical equipment; (28) Manufacture of machineryand equipment n.e.c.; (29) Manufacture of motor vehicles, trailers and semi-trailers; (30) Manufacture of other transport equipment; (31) Manufacture of furniture; (32) Other manufacturing; (33) Repair and installation of machinery and equipment; (45) Wholesale and retail trade and repair of motor vehicles and motorcycles; (46) Wholesale trade, except of motor vehicles and motorcycles; (47) Retail trade, except of motor vehicles and motorcycles; (49) Land transport and transport via pipelines; (50) Water transport; (51) Air transport; (52) Warehousing and support activities for transportation; (53) Postal and courier activities; (55) Accommodation; (56) Food and beverage service activities; (58) Publishing activities; (59) Motion picture, video and television programme production, sound recording and music publishing activities; (60) Programming and broadcasting activities; (61) Telecommunications; (62) Computer programming, consultancy and related activities; (63) Information service activities; (64) Financial service activities, except insurance and pension funding; (65) Insurance, reinsurance and pension funding, except compulsory social security; (66) Activities auxiliary to financial services and insurance activities; (68) Real estate activities; (69) Legal and accounting activities; (70) Activities of head offices; management consultancy activities; (71) Architectural and engineering activities; technical testing and analysis; (72) Scientific research and development; (73) Advertising and market research; (74) Other professional, scientific and technical activities; (75) Veterinary activities; (77) Rental and leasing activities; (78) Employment activities; (79) Travel agency, tour operator reservation service and related activities; (80) Security and investigation activities; (81) Services to buildings and landscape activities; (82) Office administrative, office support and other business support activities; (84) Public administration and defence; compulsory social security; (85) Education; (86) Human health activities; (87) Residential care activities; (88) Social work activities without accommodation; (90) Creative, arts and entertainment activities; (91) Libraries, archives, museums and other cultural activities; (92) Gambling and betting activities; (93) Sports activities and amusement and recreation activities; (94) Activities of membership organisations; (95) Repair of computers and personal and household goods; (96) Other personal service activities; (97) Activities of households as employers of domestic personnel; (98) Undifferentiated goods-and service-producing activities of private households for own use; (99) Activities of extraterritorial organisations and bodies.

9. APPENDIX 2.

Previamente a la definición del modelo, procedemos a un análisis de la estructura subyacente de las relaciones entre las variables analizadas en el apartado anterior, a las que hemos añadido la tasa de crecimiento acumulativo medio del PIB per cápita (gGDPPC). Habiendo empleado el algoritmo PC de Spirtes y Glymour (1991) , diseñado para obtener estructuras de causalidad, obtenemos el siguiente grafo de relaciones entre las variables, dónde ninguna de las relaciones es contraintuitiva o contraria a las teorías y hechos estilizados macroeconómicos y del desarrollo económico; sin embargo, encontramos que la dirección causal entre GDPPC e INTEICC es desde el primero hacia el segundo. Nótese, a su vez, que existen una serie de variables 'terminales', o efecto puro (no causan); son DIPH, INTEICC, y EHTS y HRST, estando estas dos últimas correlacionadas.Los constructos 'Educación Superior' y 'Urbanización' son considerados variables exógenas, mientras que 'Empleo Creativo' y 'Riqueza' son consideradas variables endógenas. La mejor aproximación al indicador de la educación superior ha sido la combinación lineal de las variables STTER2 y STTER3, mientras que el indicador de urbanización está formado por las variables HUA y DENS. Ambas variables tienen efecto sobre el empleo en los sectores creativos, índice construido a

partir de las intensidades del empleo en los sectores ICC y KIBS; a su vez, existe una causalidad bidireccional entre ésta y el indicador de riqueza, representado por la renta familiar disponible per cápita y el crecimiento medio acumulado de la renta per cápita. Sin embargo, a pesar de que todos los coeficientes son significativos y el coeficiente de ajuste es de 0,90, existen indicios de inestabilidad en el modelo ajustado.

Ahora bien, una vez reconsiderada la definición de 'Empleo Creativo', restringiendo éste a sólo la variable INTEICC, dicha inconsistencia pasa a desaparecer. No obstante, la definición de 'Riqueza' también varía respecto al modelo anterior. A su vez, el modelo ajusta también si definimos 'Empleo Creativo' en su vertiente de empleos del conocimiento, INTEKIBS. Este fenómeno de relación de tipo negativo entre la 'Riqueza' y el 'Empleo Creativo' se ha observado en investigaciones anteriores para el caso europeo y español, véase por ejemplo Rausell y Marco-Serrano (2010)i y Rausell et al. (2011)ii, dónde se apuntaba hacia la existencia de causalidades entre el empleo en cultura y la riqueza regional pero con efectos retardados hasta dos periodos. De este modo, cabe la posibilidad de que nuestro modelo se muestre inestable debido a su carácter estático.

10. APPENDIX 3

Variable: DENS *Valores medios*

Year	Regions (NUT II)		
	No MED	MED	Total
1999	411	174	366
2000	417	175	374
2001	414	175	370
2002	385	344	378
2003	387	346	380
2004	387	348	379
2005	384	349	378
2006	379	350	374
2007	381	351	376
2008	306	355	316
Total	**385**	**303**	**370**
Cre.Medio	**-3,21%**	**8,24%**	**-1,62%**

Fuente: EUROSTAT y elaboración propia

Variable: DIPH *Valores medios*

Year	Regiones		
	No MED	MED	Total
1999	10.985	11.221	11.027
2000	11.241	11.684	11.320
2001	11.905	12.288	11.975
2002	12.271	12.736	12.355
2003	12.392	12.617	12.433
2004	12.832	12.620	12.793
2005	13.279	13.126	13.252
2006	13.805	13.686	13.784
2007	14.288	14.396	14.307
2008			
Total	**12.570**	**12.722**	**12.597**
Cre.Medio	**3,34%**	**3,16%**	**3,31%**

Fuente: EUROSTAT y elaboración propia

Variable: EHTS *Valores medios*

Year	Regiones		
	No MED	MED	Total
1999	4,37	2,9	4,14
2000	4,58	3,17	4,35
2001	4,76	3,26	4,51
2002	4,62	3,17	4,37
2003	4,53	3,35	4,35
2004	4,26	3,26	4,1
2005	4,24	3,37	4,11
2006	4,22	3,44	4,1
2007	4,37	3,39	4,22
2008	4,46	3,26	4,25
Total	**4,43**	**3,26**	**4,25**
Cre.Medio	**0,25%**	**1,33%**	**0,31%**

Fuente: EUROSTAT y elaboración propia

Variable: EMPLKIBS *Valores medios*

Year	Regiones		
	No MED	MED	Total
1999	37.370	55.602	37.819
2000	40.614	56.078	41.068
2001	47.529	56.597	47.796
2002	46.557	45.486	46.525
2003	46.515	47.713	46.550
2004	53.600	61.859	54.558
2005	54.816	63.995	55.882
2006	56.158	51.276	55.355
2007	57.771	49.853	56.468
2008	62.812	57.064	61.747
Total	50.374	55.379	50.842
Cre.Medio	**5,94%**	**0,29%**	**5,60%**

Fuente: Cluster Observatory y elaboración propia

Variable: EMPLLS *Valores medios*

Year	Regiones		
	No MED	MED	Total
1999	2.923	696	2.496
2000	2.969	711	2.536
2001	3.545	733	3.005
2002	3.835	774	3.248
2003	3.811	797	3.232
2004	4.133	3.981	4.104
2005	4.076	3.999	4.061
2006	4.137	4.685	4.242
2007	4.116	4.753	4.238
2008	4.201	5.705	4.489
Total	**3.775**	**2.683**	**3.565**
Cre.Medio	**4,11%**	**26,34%**	**6,74%**

Fuente: Cluster Observatory y elaboración propia

Variable: EMPLSTD *Valores medios*

Year	Regiones		
	No MED	MED	Total
1999	345.822	646.986	353.240
2000	359.617	586.181	366.281
2001	444.257	598.265	448.787
2002	459.390	610.734	463.842
2003	459.886	635.848	465.062
2004	562.944	778.695	587.986
2005	567.934	792.918	594.048
2006	572.651	653.800	586.005
2007	579.139	668.499	593.844
2008	628.432	792.577	658.829
Total	**498.007**	**715.288**	**518.303**
Cre.Medio	**6,86%**	**2,28%**	**7,17%**

Fuente: Cluster Observatory y elaboración propia

Variable: GDPPC *Valores medios*

Year	Regiones		
	No MED	MED	Total
1999	17.220	16.955	17.171
2000	18.425	18.108	18.366
2001	19.048	18.988	19.037
2002	19.852	19.420	19.773
2003	20.151	19.665	20.061
2004	21.176	20.255	21.007
2005	22.052	20.880	21.840
2006	23.220	22.133	23.024
2007	24.436	23.194	24.211
2008	24.586	23.318	24.357
Total	**21.048**	**20.292**	**20.909**
Cre.Medio	**4,04%**	**3,60%**	**3,96%**

Fuente: EUROSTAT y elaboración propia

Variable: HRST *Valores medios*

Year	Regiones		
	No MED	MED	Total
1999	31,4	23,47	29,92
2000	32,03	24,6	30,63
2001	32,41	25,69	31,09
2002	32,83	26,04	31,52
2003	33,63	26,86	32,35
2004	34,88	28,51	33,69
2005	35,43	29	34,23
2006	35,89	30,79	34,94
2007	36,78	30,84	35,69
2008	37,14	30,86	35,98
Total	**34,3**	**27,7**	**33,06**
Cre.Medio	**1,88%**	**3,09%**	**2,07%**

Fuente: EUROSTAT y elaboración propia

Variable: HUA *Valores medios*

Year	Regiones		
	No MED	MED	Total
1999	47,09	44,5	46,46
2000	48,41	46,77	48,02
2001	48,7	46,47	48,18
2002	48,12	46,34	47,72
2003	48,62	47,94	48,47
2004	48,19	45,83	47,65
2005	48,47	46,86	48,1
2006	47,32	47,13	47,28
2007	46,87	46,59	46,82
2008	48,54	46,81	48,18
Total	**48,02**	**46,53**	**47,68**
Cre.Medio	**0,34%**	**0,56%**	**0,41%**

Fuente: EUROSTAT y elaboración propia

Variable: RESE *Valores medios*

Year	Regiones		
	No MED	MED	Total
1999	0,36	0,1	0,34
2000	0,42	0,31	0,38
2001	0,4	0,37	0,39
2002	0,4	0,42	0,4
2003	0,46	0,31	0,42
2004	0,45	0,31	0,41
2005	0,62	0,33	0,56
2006	0,6	0,41	0,58
2007	0,63	0,41	0,61
2008	0,63	0,28	0,59
Total	**0,52**	**0,33**	**0,49**

Fuente: EUROSTAT y elaboración propia

Variable: UNEM *Valores medios*

Year	Regiones		
	No MED	MED	Total
1999	8,33	13,23	9,23
2000	8,04	11,75	8,75
2001	7,9	9,84	8,27
2002	8,29	9,79	8,57
2003	8,65	9,71	8,85
2004	9,02	9,67	9,14
2005	8,85	9,32	8,93
2006	8,26	8,57	8,31
2007	7,08	8,06	7,26
2008	6,68	8,52	7,01
Total	**8,1**	**9,81**	**8,42**

Fuente: EUROSTAT y elaboración propia

Variable: PROD *Valores medios*

Year	Regiones		
	No MED	MED	Total
1999	27.511,57	31.554,00	28.270,56
2000	29.000,83	32.978,77	29.760,85
2001	29.831,42	33.706,92	30.584,99
2002	31.092,51	34.050,82	31.656,54
2003	30.972,98	33.884,53	31.515,43
2004	32.578,76	34.263,20	32.890,23
2005	34.001,89	35.087,04	34.215,43
2006	35.323,56	36.834,43	35.620,88
2007	36.022,08	38.312,82	36.436,27
2008	35.596,32	38.402,71	36.183,99
Total	**32.200,16**	**34.936,22**	**32.724,46**

Fuente: EUROSTAT y elaboración propia

Variable: STTER1 *Valores medios*

Year	Regiones		
	No MED	MED	Total
2000	45,28	48,37	**46,14**
2001	44,8	50,77	**46**
2002	45,88	53,01	**47,29**
2003	48,88	52,66	**49,69**
2004	50,5	55,35	**51,74**
2005	51,74	60,24	**53,88**
2006	53,51	57,03	**54,22**
2007	55,04	62,34	**56,92**
2008	56,62	63,67	**58,43**
Total	**50,72**	**56,86**	**52,16**
Cre.Medio	**2,83%**	**3,50%**	**3,00%**

Fuente: EUROSTAT y elaboración propia

Variable: STTER2 *Valores medios*

Year	Regiones		
	No MED	MED	Total
2000	8,84	5,93	**8,03**
2001	8,1	5,93	**7,66**
2002	8,79	5,93	**8,22**
2003	9,96	5,42	**8,99**
2004	10,13	5,28	**8,89**
2005	9,93	5,42	**8,8**
2006	9,93	5,44	**9,05**
2007	10,53	7,27	**9,69**
2008	10,48	7,23	**9,65**
Total	**9,71**	**6,05**	**8,85**
Cre.Medio	**2,16%**	**2,52%**	**2,32%**

Fuente: EUROSTAT y elaboración propia

Variable: STTER3 *Valores medios*

Year	Regiones		
	No MED	MED	Total
2000	0,91	0,94	**0,92**
2001	0,89	0,94	**0,9**
2002	0,89	0,94	**0,9**
2003	0,89	0,89	**0,89**
2004	0,9	0,85	**0,89**
2005	0,89	0,9	**0,89**
2006	0,9	0,9	**0,9**
2007	0,9	0,9	**0,9**
2008	0,91	0,88	**0,9**
Total	**0,9**	**0,9**	**0,9**
Cre.Medio	**-0,05%**	**-0,84%**	**-0,26%**

Fuente: EUROSTAT y elaboración propia

Variable: EMPLCCI *Valores medios*

Year	Regiones		
	No MED	MED	Total
1999	24.506	17.562	24.216
2000	25.007	16.189	24.587
2001	23.652	17.040	23.399
2002	22.788	17.833	22.605
2003	21.771	18.348	21.645
2004	21.421	28.334	22.264
2005	21.577	29.133	22.500
2006	21.746	23.184	21.994
2007	21.603	23.124	21.865
2008	22.013	26.464	22.837
Total	**22.413**	**24.487**	**22.642**
Cre.Medio	**-1,18%**	**4,66%**	**-0,65%**

Fuente: Cluster Observatory y elaboración propia

Variable: INTEICC *Valores medios*

Year	Regiones		
	No MED	MED	Total
1999	1,82	1,06	1,8
2000	1,85	1,15	1,81
2001	1,8	1,24	1,78
2002	1,78	1,27	1,76
2003	1,69	1,26	1,68
2004	1,7	1,46	1,67
2005	1,73	1,5	1,7
2006	1,72	1,43	1,67
2007	1,66	1,39	1,62
2008	1,51	1,43	1,49
Total	**1,72**	**1,4**	**1,68**
Cre.Medio	**-2,11%**	**3,44%**	**-2,06%**

Fuente: EUROSTAT, Cluster Observatory y elaboración propia

Variable: POPU *Valores medios*

Year	Regiones		
	No MED	MED	Total
1999	1.727	2.131	1.802
2000	1.730	2.139	1.806
2001	1.734	2.149	1.811
2002	1.725	2.163	1.805
2003	1.729	2.185	1.813
2004	1.734	2.210	1.822
2005	1.724	2.232	1.816
2006	1.729	2.253	1.824
2007	1.734	2.275	1.832
2008	1.756	2.296	1.869
Total	**1.732**	**2.203**	**1.819**
Cre.Medio	**0,18%**	**0,84%**	**0,41%**

Fuente: EUROSTAT y elaboración propia

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Variable: EMPR *Valores medios*

Year	Regiones		
	No MED	**MED**	**Total**
1999	64,09	54,48	62,28
2000	64,67	55,51	62,92
2001	64,57	56,48	63,01
2002	64,37	57,09	62,98
2003	64,11	58,04	62,98
2004	63,99	59,03	63,08
2005	64,8	59,43	63,74
2006	65,6	60,08	64,51
2007	66,92	60,57	65,77
2008	67,6	60,69	66,35
Total	**65,1**	**58,17**	**63,79**
Cre.Medio			

Fuente: EUROSTAT y elaboración propia

Variable: INTEKIBS *Valores medios*

Year	Regiones		
	No MED	**MED**	**Total**
1999	4,95	3,32	4,89
2000	5,06	3,17	4,97
2001	4,82	3,22	4,76
2002	4,7	2,89	4,63
2003	4,6	2,88	4,53
2004	4,53	3,08	4,36
2005	4,82	3,19	4,61
2006	4,83	3,09	4,5
2007	4,7	2,93	4,4
2008	4,11	3,07	3,89
Total	**4,69**	**3,06**	**4,5**
Cre.Medio	**-2,04%**	**-0,87%**	**-2,53%**

Fuente: EUROSTAT, Cluster Observatory y elaboración propia

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