



Cross Perspectives France/Italy on Knowledge Economy and Urban Change

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APPEL A CANDIDATURES

A la lumière des expériences étrangères, que nous disent les résultats du programme de recherche Popsu 2 ?





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**Cross Perspectives France/Italy on
Knowledge Economy and Urban Change.
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1. General objectives

This note highlights the main features of this scientific contribution promoted by the research group of the Politecnico di Milano, Department of the Architecture and Urban Studies (research hub 'Innovation, Productions, and Urban Space'), that critically engages in dealing with the nexus *knowledge economy/urban change* in a cross evaluation between:

- the French metropolises studied within the research program POPSU 2;
- some Italian metropolises, which are meaningful according to the investigated topic.

After some decades of intensive research focused on the relation between society / economic growth / territory (through dominant figures such as 'one company town', 'new industrial space', 'industrial districts', and then 'post- fordist' scenario), this issue has been declassified. For instance, under the blanket of a generic 'post-industrial transition', and (recently) assuming the existence of a new 'knowledge economy'. This is the so-called 'cognitive capitalism' (often based on a sharing approach), that is contributing to the implementation of current urban change processes and projects. On this concern, definitions of urban phenomena can no more refer to traditional compact cities and surrounding metropolitan areas only, but they should relate also to fragmented but networked contemporary urban dynamics, which extend to regional scale: from city-regions, to post-metropolitan spaces (Balducci, Fedeli, Curci, 2017).

Within this context, one thematic axis of POPSU 2 aims at understanding the role of knowledge economy in processes of urban development by taking into account the metropolitan dimension of contemporary urban issues and administrative organization in France.

The focus of this evaluation report is on the growing phenomena of knowledge economy considered through a territorial approach. It is articulated in **five tracks**:

1. **Concepts (What)**. This contribution aims at reflecting on differences detected in managing key concepts, which often overlap one each other. This is a crucial point to better define what we are talking about within an international theoretical framework that mixes and partially interchanges different concepts. Indeed, definitions of knowledge economy (and society), as well as innovative economy (also digital), and creative economy, proposed by the POPSU 2 reports, intercept wider issues of sharing economy (and society) and smart city, likewise difficult to define. At the same time, this contribution aims at reflecting on the role of proximity. That is, the variations in spatial/geographical, relational, institutional/organizational, and cognitive proximity, which are evoked by POPSU 2 essays.
2. **Spaces and scales (Where)**. This contribution focuses on different workplaces of knowledge economy in order to challenge academic debate and learnings concerning urban processes related to apparently self-evident or unintended socio-economic innovations. Whilst workplaces of knowledge economy are productive spaces dedicated to activities in which the separation between manufacturing, tertiary and consumption sectors is blurred, several are their potential typologies. They represent a crucial point to better understand which are the spatial organization and effects of knowledge economy, together with the scale which these phenomena occur in and refer to. From large urban transformation projects and related main urban functions (such as research centers and specialized firms, technopoles and university campuses), to wide urban regeneration processes (such as innovative clusters made by co-working spaces, fab-labs and makerspaces, incubators and innovation labs, cultural and creative industries, or other hybrid new workplaces dedicated to production of goods and services). On the other hand, from compact cities to wider urban regions.
3. **Actors (Who)**. This contribution deals with the variety of actors involved within the development of knowledge economy in different urban change projects and processes, in order to better identify their

effective and potential roles. This is a crucial point to better comprehend which is the relational milieu, that can favor the current metamorphosis of urban economy and spaces, and that is made by different networks of actors. From institutional actors/official policy makers, to different kinds of stakeholders (such as, universities, economic operators, cultural and social associations).

4. **Tools and mechanisms (How).** This contribution takes into account public policies and devices which are (or which could be) able to promote and support knowledge economy in contemporary cities. This is a further crucial point, according to current institutional, socio-economic and political crisis and changes, in which knowledge economy is growing. Indeed, this metamorphosis – that articulates at different scales, from local (urban, metropolitan, regional) to wider (national, European) – demands for new approaches and models of urban development.
5. **Time (When).** This contribution articulates the critical comparison between French and Italian case studies according to two different phases, before and during/after the crisis. This is a last, but not least, crucial point in order to better understand how the economic downturn has been affecting the growth of knowledge economy.

Within this frame, this evaluation contribution offers an up-to-date, trans-national interpretation of spatial and social manifestations of knowledge economy by verifying them in two meaningful and representative European countries in transition. Indeed, knowledge economy innovations, as also related to digital technologies, concern new geographies of working spaces and productions, affecting spatial patterns and uses, as well as social practices.

Against the backdrop of the need to develop a theoretical framework through which the nature of the nexus *knowledge economy/urban change* can be theorized, this contribution explores the different ways in which contemporary public policies (if any, at different scales), and innovative productive activities (material and immaterial) and workplaces ‘narratives’ establish roots in different spatial and socio-political contexts. Furthermore, this contribution discusses the ways in which, in two different international metropolitan fields, projects for new productive spaces relate to urban patterns and place-making, and such innovative workplaces constitute nodes of trans-scalar socio-economic networks. That is, the potential ways in which – during the crisis and towards a post-crisis – actors (such as universities, economic operators, or cultural and social associations) intersect urban policies and strategies, also implying changing dynamics of power and urban change. For instance:

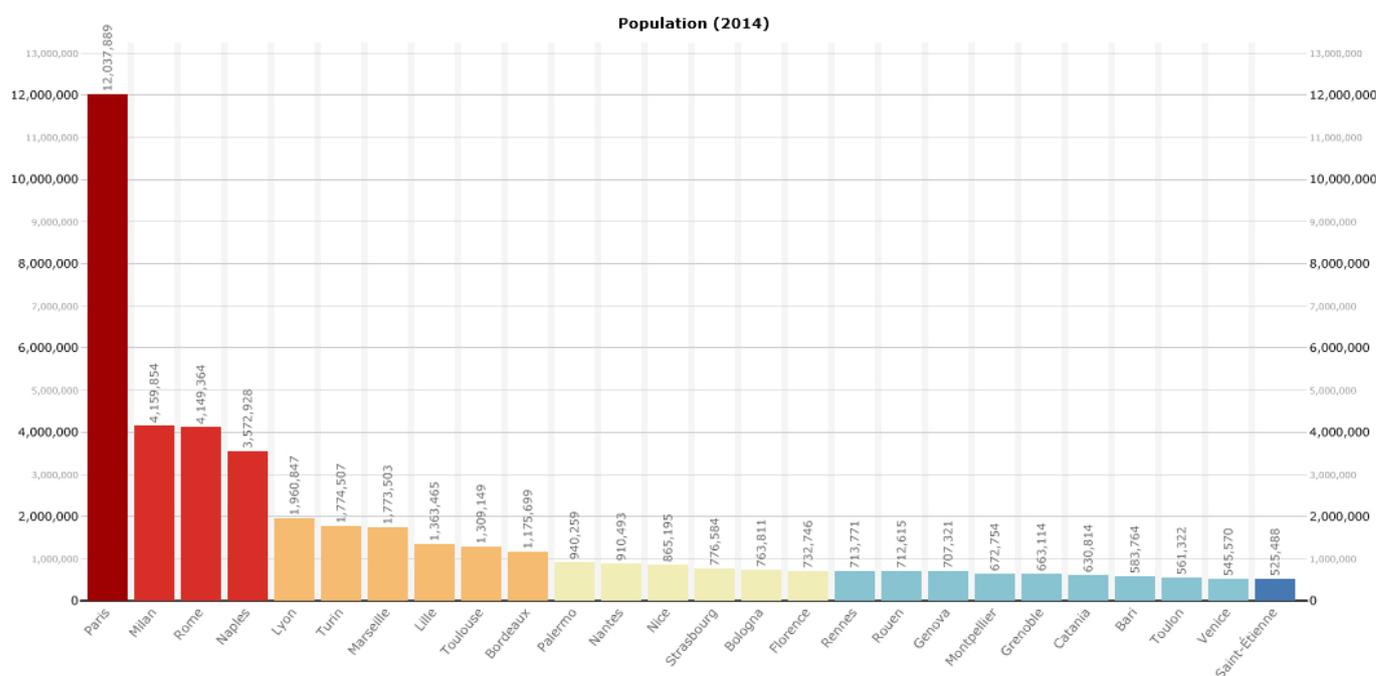
- by enabling innovative economic activities;
- by providing services for local communities that may partially compensate the shrinking capacity of intervention of public administrations;
- by developing urban transformation and regeneration projects.

Besides the general reflections on the theme *knowledge economy/urban change*, in the light of the Italian cases the evaluation contribution aims at deepening the outcomes achieved by the thematic axis *knowledge economy* of the research program POPSU 2 within the specific contexts of French metropolises. The following points outline the main potential findings of the international cross perspective, recognising original processes and gaps, as well as transferable drivers.

2. The dimension of urban phenomena and innovation within the comparison of the French and Italian national contexts

Before the critical description of the Italian cases in relation to the French metropolises analysed by POPSU 2, a general overview concerning some demographic and economic indicators of Italian and French large cities is proposed, in order to point out some main first features of urban phenomena and innovation within the two compared national contexts.

Within a wide system of studies, reports and ranks concerning the urban phenomena in Europe¹, often contrasting with the administrative organization of national states, this first general overview relates to data provided by the OECD Metropolitan Explorer (OECD, 2014). This consists of the 15 French largest metropolitan areas, such as Paris, Lyon, Marseille, Lille, Toulouse, Bordeaux, Nantes, Nice, Strasbourg, Rennes, Rouen, Montpellier, Grenoble, Toulon, and Saint-Etienne, thus including all the 10 cities investigated by POPSU 2. At the same time, it consists of the 11 Italian largest metropolitan areas, such as Milan, Rome, Naples, Turin, Palermo, Bologna, Florence, Genoa, Catania, Bari, and Venice, thus including 9 of the 10 Metropolitan Cities established by the National Government² (except Reggio Calabria), and 2 of the 3 Metropolitan Cities established by the Sicilian Regional Government³ (except Messina).



Tab. 1 Metropolitan population France/Italy (OECD, Metropolitan Explorer 2014)

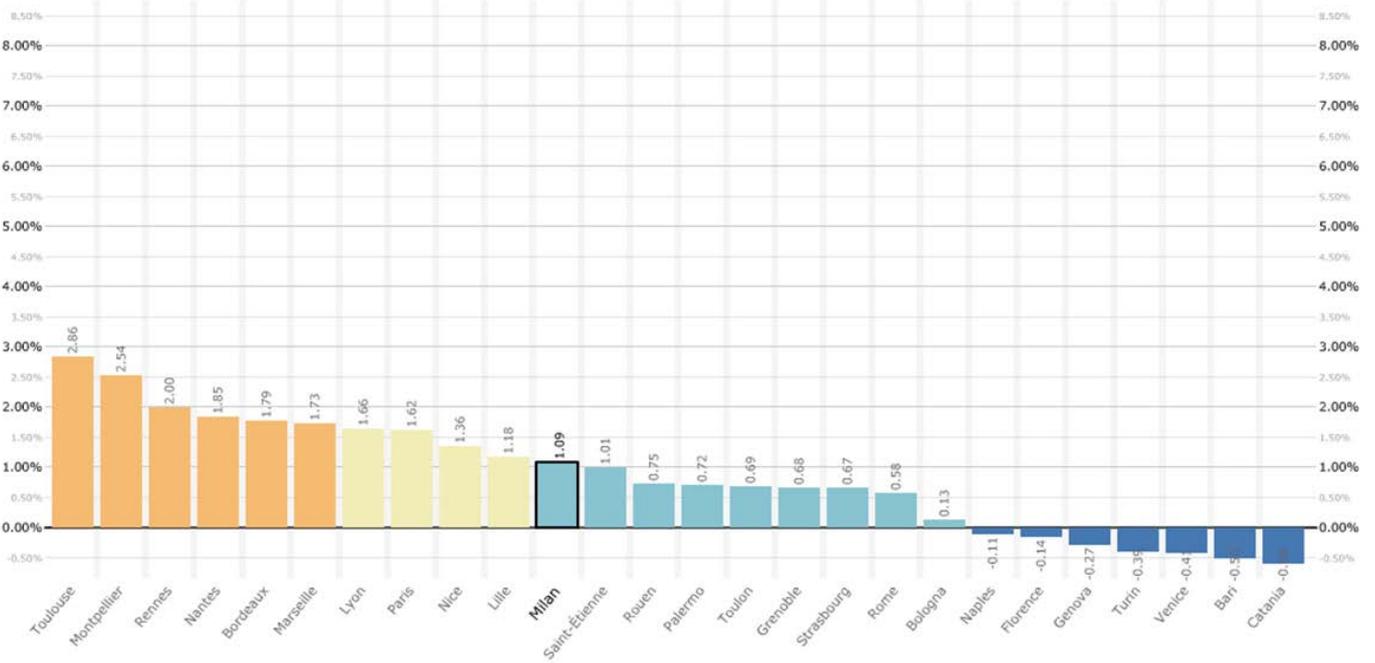
For what is concerning the ‘metropolitan population’ (Tab. 1), France is more ‘polarized’ towards its capital city. Therefore, there is a strong gap between Paris and the other French metropolitan areas. On the contrary, Italy characterizes for a more homogeneous urban network, led by Milan, Rome and Naples, whose demographic dimension is similar.

¹ For instance, from the Eurostat Functional Urban Areas (FUA) and Larger Urban Zones (LUZ), to the OECD Metropolitan Regions.

² National Law n. 56, April 2014.

³ Sicilian Regional Law n. 15, August 2015.

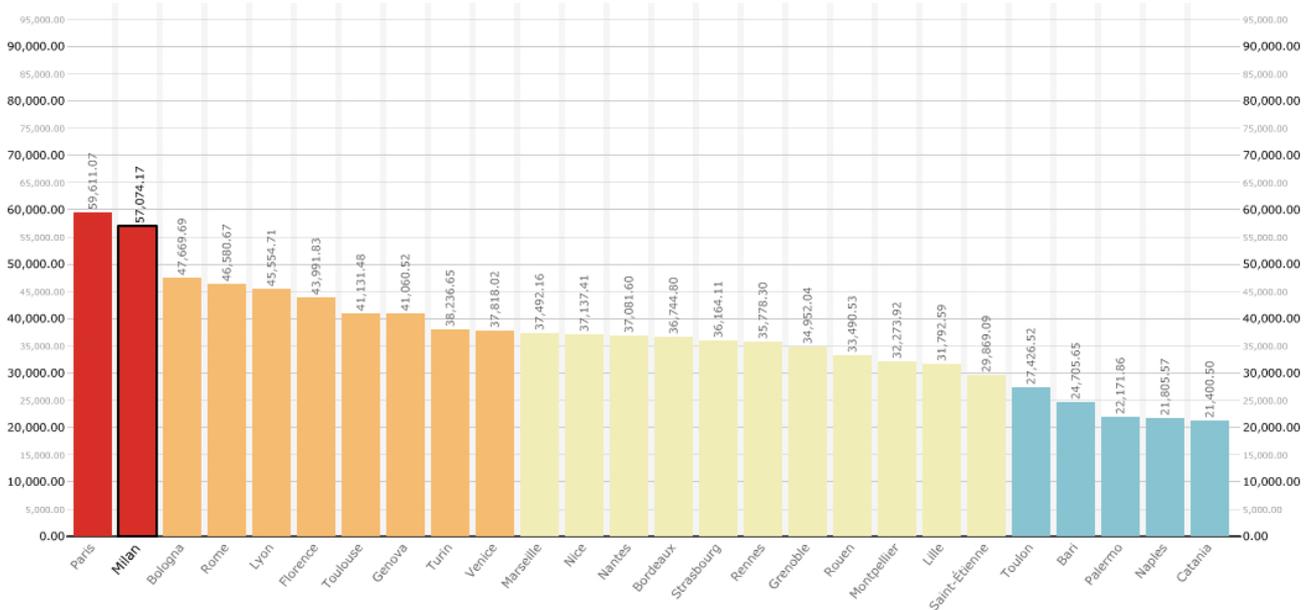
GDP growth (2000-13)



Tab. 2 Metropolitan GDP growth 2010-2013 France/Italy (OECD, Metropolitan Explorer 2014)

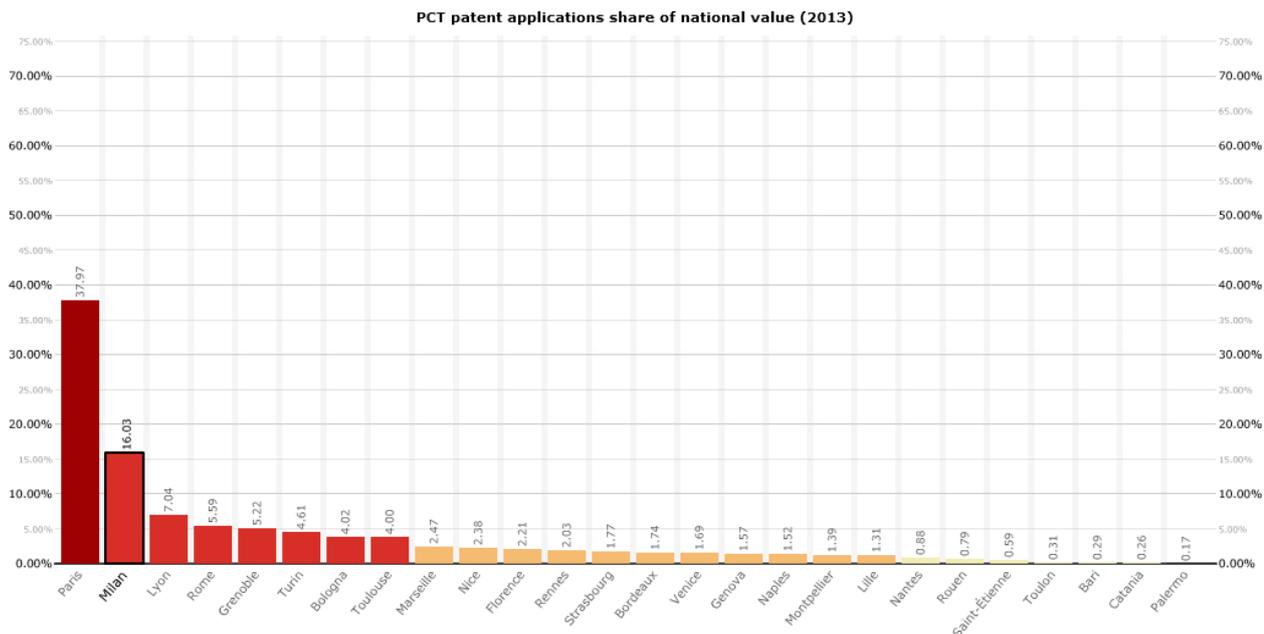
For what is concerning the ‘metropolitan GDP growth’ (Tab. 2), the first 10 of this 26 place rank are occupied by French cities, led by Toulouse, Montpellier, Rennes, and other minor metropolitan areas (Paris is only 8th). On the contrary, the last 9 places are occupied by Italian cities, thus highlighting that the world crisis effects are stronger in the Italian national context rather than in the French one. As exceptions, Milan and Palermo distinguish from the other Italian metropolitan areas (being 11th and 14th, respectively).

GDP per capita (2013)



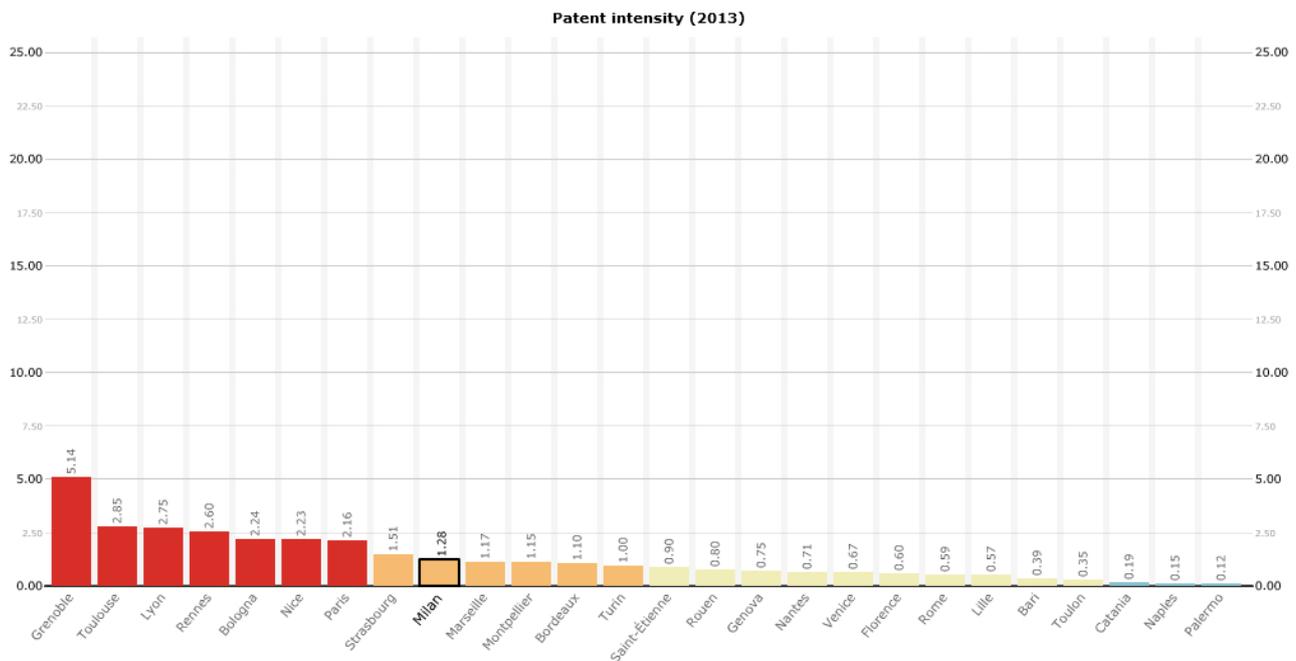
Tab. 3 Metropolitan GDP per capita 2013 France/Italy (OECD, Metropolitan Explorer 2014)

For what is concerning the ‘metropolitan GDP pro capita’ (Tab. 3), in comparison with the previous metropolitan GDP growth, the gap between the two national contexts is not so tidy, even though the two countries confirm their different spatial and socio-economic organization and trends. Paris leads, together with Milan and other Northern Italian metropolitan areas (being Bologna 3rd, Rome 4th, Florence 6th, Genoa 8th, Turin 9th, and Venice 10th). Besides, French minor metropolitan areas follow, and Southern Italian cities close this rank. Accordingly, in France the main gap appears between Paris and the rest of the country, whereas in Italy it confirms itself between the North and the South of the country.



Tab. 4 Metropolitan Patent application, share of national value 2013 France/Italy (OECD, Metropolitan Explorer 2014)

For what is concerning the ‘PCT patent applications share of national value’ (Tab. 4), the above mentioned difference between the two countries, and the above pointed out contrasts inside each one of them are more or less confirmed. Whilst Paris (1st place) clearly detaches other French metropolitan areas (beginning with Lyon, Grenoble, Toulouse, Marseille and Nice, in the top 10 places), Milan (2nd place) is the leading Italian city, even though its detachment in comparison with other Northern Italian metropolitan areas is not so marked (beginning with Rome, Turin and Bologna, in the top 10 places).



Tab 5 Metropolitan Patent intensity 2013 France/Italy (OECD, Metropolitan Explorer 2014)

On the contrary, a different scenario characterizes the ‘metropolitan patent intensity’ (Tab. 5), where France metropolitan areas (8 of the top 10 places) lead in comparison with the Italian ones (only 2 of the top 10 places). This result highlights how the sector ‘Research and Development’ is historically penalised in Italy in comparison with other European countries. Moreover, this rank is led by small metropolitan areas, but traditionally devoted to university and research, so that their patent intensity is higher than in largest ones: from Grenoble in France (1st place, whereas Paris is only 7th, after other four French cities) to Bologna in Italy (5th place, whereas Milan is only 9th, even though before all the other Italian cities).

Knowledge economy directly relates to research and innovation, processes of internationalisation, sharing and exploitation of knowledge and creative talents. Therefore, it needs for a smart economy, that is one of the urban smartness components, and that refers to a synergic collaboration between public authorities, private firms, and research institutions, in order to develop a dynamic socio-economic system, also enabled by ICTs (ONSC, 2014). The research POPSU 2, through its thematic axis dedicated to the *economie de la connaissance*, emphasizes the importance of knowledge economy for the development of cities and, notably, large metropolitan areas, as well as for related urban change processes. Accordingly, it points out the main concentration of knowledge economy within the urban spaces: both spread in the urban tissues (such as in creative districts), or concentrated in large centralities (such as in university campuses or research centers). Therefore, according to the French context, the research seems to confirm a world trend (Florida, 2005; Pratt, 2008; Scott, 2014; van Winden, Carvalho, 2016). Referring to the above mentioned connections between knowledge economy and urban smartness⁴ (ONSC, 2014), this world trend can be recognised also in the Italian context where, for instance, several of the leading smart cities of the country frequently correspond to some of the new Metropolitan Cities – established by both the National State or independent Regions (as Sardinia or

⁴ According to the *Smart City Index 2016*, that ranks 116 Italian smart cities, urban smartness relates to environment, governance, living, mobility, people, and economy, that includes also knowledge economy (ONSC, 2014). Similarly, according to the *iCityLab 2015* (Forum PA, 2015), that ranks 106 Italian smart cities, urban smartness relates to applications and services, service delivery platforms, sensors, and infrastructures, which are also the basic conditions for the development of knowledge economy (Guallart, 2012).

Sicily)⁵. Accordingly, even though the differences between France and Italy – which have been mentioned above and make the two contexts not completely interchangeable – knowledge economy could be considered as an important common reading key for their comparison.

In order to confront the French metropolitan areas – investigated by the research POPSU 2 within the thematic axis dedicated to the *economie de la connaissance* (see Campagnac-Ascher, 2015). – and the Italian ones – in relation to the role of knowledge economy in processes of urban change – meaningful Italian case studies are identified in the Metropolitan Cities of Bologna, Genoa, Turin and, notably, Milan. Indeed, these are the Italian metropolitan areas where the transition from fordist to new productions, the public and private investments in ICT innovation and, therefore, the development of knowledge economy have been stronger.

⁵ As partially anticipated by footnotes 2 and 3, new Italian Metropolitan Cities have been established by the National Law n. 56, April 2014.

3. Knowledge economy/urban change in the comparison between French and Italian metropolises

3.1. Concepts (What)

The aim of this first track is to challenging traditional interpretative categories and assumptions concerning the controversial nexus between innovation/creativity/knowledge⁶. The growth of ICTs –that has been contributing to the development of knowledge economy (and society) – has been determining the raise of knowledge workers, as well as the spread of new productive activities and spaces, which have potentially been providing different effects: both spatial (large brownfields’ and small buildings’ reuse) and socio-economic (knowledge transfer, informal exchange, interaction and collaboration). ICTs are significant drivers of spatial and socio-economic changes, as they have been contributing to shift place-based mass production to knowledge-based flexible organization (Fernández Maldonado, 2012). The challenge of the twenty-first century is the resumption of productivity, albeit in new and more specialized forms mixing manufacturing and services, now difficult to distinguish. Indeed, the recent advances in ICTs have been fostering not only transmissions of information, but also interactions among users, with a consequent boom in shared production and consumption of goods, services, ideas, skills, or time. This has been leading to a shift from centralized models of resource management in industrial society (from large-scale production centers to small-scale individuals) to distributed models in information society connecting people with people, objects with objects, buildings with buildings, or communities with communities (Guallart, 2012). The relocation of traditional manufacturing in developing countries, started in 1970s, and the ongoing effects of the world financial crisis and global economic downturn, broken out in 2008, are demanding for spatial and socio-economic innovations, according to which ICTs are fundamental tools, and knowledge is an essential requirement (Anderson, 2012).

Within this fluid transition, several are the concepts and definitions which have been provided by different scientific disciplines, and which frequently overlap one each other.

Thanks to telecomputing technologies and, consequently, to the ubiquitous access to dematerialized information and data, knowledge workers (mainly self-employers and freelancers) can work anytime and anywhere (Bizzarri, 2009), even though they still tend to concentrate within large cities and urban regions (Florida, 2005). The ICT development has massively reduced the transaction costs, associated with overcoming spaces and multi-locality (Di Marino, Lapintie, 2015). Accordingly, the digital revolution seems to have increased the democratization of work, society, and urban space (Anderson, 2012). However, whilst ICTs favour high flexibility and hybridization of workplaces – including unusual places like libraries, cafes, hotel and airport lounges – knowledge workers still need face-to-face contacts. Social and professional interaction remains essential to reduce risks of isolation (particularly high in home working) and increase meeting opportunities (Johns, Gratton, 2013; Moriset, 2014).

The transfer of tacit knowledge, as well as the development of creative and innovative skills are favored by different forms of proximity⁷: spatial/geographical, relational/social, institutional/organizational, cognitive (Boschma, 2005). Indeed, these seem able to reduce risks of opportunism and transaction costs, and to favour common understanding of technological matters. The Marshallian industrial district theory recognizes the spatial concentration of small businesses as the first genetic element of a district (Becattini, 1975; Bagnasco, 1977). The theory of *Milieu Innovateur* identifies the relational proximity between economic agents as source of interaction and cooperation, and of collective learning and socialization (Aydalot, 1986; Camagni, 1991).

⁶ The POPSU book (Campagnac-Ascher, 2015) dedicated huge attention to the research framework. See pp. 11-12 (‘Cadrage et definitions’), p. 163 (‘Poids des activités culturelles et creatives en France’), p. 164 (‘Activités de l’économie creative dans les métropoles françaises’), p. 166 (‘Les trois groupes de la classes creative française’), and pp 267-272 (‘Approche genealogique’).

⁷ The POPSU book (Campagnac-Ascher, 2015) developed a deep analysis on proximity issues. See Chapt. 1, pp. 20, 23 (‘Proximite territoriale/geographique e organisationelle’) and Chapt. 4, pp. 88-89 (‘Proximite physique, proximite géographique et innovation’).

The theoretical context of Learning Regions refers the institutional proximity to a common set of rules and codes, stimulating organizational forms which enable cooperation and interactive learning processes (Lundvall, Johnson, 1994). Finally, cognitive proximity between economic agents relates to their common knowledge base, guaranteeing a mutual understanding that is essential to support processes of innovation.

3.2. Spaces and scales (Where)

The objective of this section is dealing with effects on emerging spatial patterns of both large-scale public policies and molecular practices and projects of urban change connected to digital technologies, new productions and economic activities, and related social practices.

The empirical milieu is the wide urban change process related to knowledge economy (Gandini, 2016), that is ongoing despite/because of the local effects of the global crisis started in the last decade, within the Italian case studies of Bologna, Genoa, Turin and, notably, Milan, which French metropolises are compared to. Obviously, this contribution is focused not only on the compact cities enclosed by their municipal borders, but also on contemporary geographical and institutional dynamics at a wider scale, as in the French metropolitan areas involved by the research POPSU 2.

For what is concerning **Milan**, this is the Italian economic capital since the Italian unification in 1861, and at the beginning of the 2000s it is one of the crucial nodes of world urban networks and knowledge economies. The spatial and socio-economic change of the Milan urban region is an original and curious example of metropolitan evolution not exclusively related to knowledge economy, and it offers an interpretation of the relationships between late capitalism and work in the aftermath of the economic crisis and in the traditional manufacturing decline (Tab. 6). From certain aspects, the Milan urban region – into the wider Northern Italy city-region – recalls the situation of highly developed world city-regions. After the service metamorphosis implemented since the 1980s through large real estate development projects, currently the city highlights an experimental transition connected to neo-manufacturing and innovation perspectives. This process concerns the combination between some local and traditional economies – such as fashion, design, business tourism and culture – and some specialized services (health, high education and research, finance) and productions (mechanic, mechatronics, chemical and pharmaceutical, logistics, aviation, silk, plastic, taps) (Centro Studi PIM, 2016). This production combination of advanced goods and services bases on strong relationships between the urban core of the compact city and its urban region, to encourage the development of a new generation of knowledge workers in the production of value.

Sectors	Weight %
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⁸ For instance, whilst in Germany medium-tech makes up 8.2% of the total employment and in Italy as a whole it is at 4.9%, in Milan and in Lombardy it is 7.7 %, half a point below the German figure (Assolombarda, 2015). Furthermore, Milan has a genetic code of which 16.2% of workers are employed in manufacturing (including fashion and food, engineering and chemistry), 7.2% in information and communication services, 10.8% in professional scientific and technical activities and 6.3% in finance.

	1981	1991	2001	2011	1981	2011
Agriculture	50	301	584	223	0,0	0,1
Industry	61.198	63.212	76.022	69.097	33,7	19,0
- <i>Manufacturing</i>	48.251	44.351	42.939	31.080	26,6	8,6
- <i>Construction</i>	12.758	18.675	32.830	36.752	7,0	10,1
Tertiary	120.138	163.015	256.334	294.013	66,2	80,9
- <i>Commerce</i>	76.120	78.887	80.565	72.844	43,0	20,0
- <i>Enterprises services</i>	30.484	62.450	141.527	174.302	16,8	48,0
- <i>Other services</i>	13.534	22.678	34.242	46.867	7,5	12,9
Tot. Firms	181.386	226.528	332.940	363.333	100	100

Tab. 6 Firms in Milan Metropolitan City (*Istat, Infocamere, data source*)

Whilst the Milan urban region has always been the main Italian economic and financial hub – well integrated with global networks and characterized by diversified sectoral patterns – from the late 1970s to the 1990s it was affected by a long and complex metamorphosis from a mainly (but not exclusively) industrial-based economy to a mainly (but not only) service-based one. Furthermore, this happened with limited social costs (Armondi, Di Vita, 2017). It has become a gateway city, placed at the 8th position in the worldwide ranking, and at the 3rd position in the European ranking for connectivity (Taylor, 2004). Despite the Italian fragmentation of local business (Tab. 6), Milan is still registering fair economic performances at international level (OECD, 2006) and despite the problems of efficiency and competitiveness (Tab. 2 and 3) it has been favoured by a polyarchy of public and private actors able to mobilize local resources and to attract external investments, talents and technologies. Therefore, since the beginning of the 2008 global crisis, Milan economic performances were better than other Italian cities in terms of: (i) unemployment rate; (ii) growth of new firms; (iii) foreign direct investments; (iv) limited decrease of real estate prices; (v) foreign or ethnic entrepreneurship⁹. Following recent Italian institutional reform on local governance at national and regional levels, this urban region is open to new strategic interpretation by politics and policies, and it could represent a crucial platform of this French/Italian comparative evaluation of urban phenomena: in particular, according to the nexus knowledge economy/urban change.

The Milan urban region is interweaved with other urban nodes of the Northern Italy city-region, as well as with other world cities. For instance, through the *Milan Food Policy Pact*, or the new links with the post Brexit London. For what is concerning the Milan resilience during the transition from old manufacturing (and traditional services) to advanced services (and new manufacturing), a core role has been played by universities as both producers of knowledge-based urban assets and urban developers, thus contributing to important large-scale redevelopment projects in brownfields (Balducci, Cognetti, Fedeli, 2010). This is the case of the new Università degli Studi di Milano Bicocca in the former Pirelli factory, or the new Politecnico di Milano's campus in the former Bovisa gasometers and industrial buildings, opened at the end of the 1990s, as well as the new Università Bocconi's campus in the former milk factory, under development at Porta Lodovica.

⁹ The ethnic firms in Milan Metropolitan city are 41.928, the 11,71% of the total.

The growth of knowledge economy through the ongoing socio-economic metamorphosis within the densest core of the Milan urban region – that mostly neglected the provisions of the 1980 urban plan, in the lack of a strategic scenario for both the city and its metropolitan area – has been articulated into different spatial scales:

- the transformation of large brownfields promoted by the Milan Trade Fair, that has become one of the main real estate promoters – from the new exhibition venue within the former Alfa Romeo industrial area at the Portello, in the 1980s (recently integrated by the new Milano Convention Centre), to the new exhibition venue within the former Agip refinery in Rho, in the first 2000s;
- the reuse of abandoned buildings or vacant spaces for the strengthening of the city cultural offer – such as the new Museo del Novecento, Museo delle Culture, Foundation Feltrinelli, and Foundation Prada;
- the mainly spontaneous processes of urban regeneration, and the related development of creative and cultural districts, frequently hosting temporary events like the Milan Design Week or the Milan Fashion Week – such as Brera-Porta Garibaldi, Isola-Sarpi, Lambrate-Ventura, Porta Genova-Tortona, or Porta Romana.

Furthermore, the entire Milan urban region, that hosted the 2015 World's Fair, represents the core of the Italian knowledge, creative, digital, and sharing economy (Mazzoleni, 2016), thus being the city hosting the largest number of the Italian co-working spaces (Mariotti, Pacchi, Di Vita, 2017), and fab-labs and makerspaces (Arondi, Bruzzese, 2017). Indeed, bottom up initiatives, in particular in the social and cultural sectors, are very frequent¹⁰, also because:

- the role of private actors (profit and non-profit), of higher education institutions, and of diverse other stakeholders, has always been as important as that of Local Authorities in setting the Milan urban agenda and in implementing the related projects.
- the growing knowledge exchanges with local universities, the raising cooperation with local innovative firms investing in innovation, and the significant spatial support by specific local policies promoted by the City Council.

Therefore, Milan has reacted to the recent economic downturn by exploiting its traditional economic and social strengths (such as its high levels of entrepreneurship and social cooperation), and by integrating them with both the ICT innovations, and the related growth of the sharing economy (Centro Studi PIM, 2016).

At the urban scale of the Milan municipal area, the main effects of co-working spaces in terms of practices are identified in their contribution to the development of innovative city events and services¹¹, which are mainly devoted to urban communities of – self-employed and freelancers – knowledge, creative, and digital workers. These are events and services able to contribute to the increase of the traditional attractiveness of the city for local and international new workers. On spatial terms, this trend can be recognized within the strengthening of – mainly spontaneous – urban regeneration processes in growing creative districts¹².

Besides the leadership of Milan, although also the other three case studies (Bologna, Genoa and Turin) are representative of the deep transition from fordist to new productions (where knowledge economy matters), their origins, processes and outcomes are radically different.

On the one hand, together with Milan, Genoa and Turin were the other two metropolises corresponding to the vertexes of the so-called Italian North Western industrial triangle. However, differently to Milan – where

¹⁰ This is one of the main differences between the French metropolises and the Milanese context.

¹¹ For instance, the organization of dedicated events (such as the Italian and European Co-working Conferences, both held in Milan in 2015), or the growth of local, national, and international co-working space networks.

¹² A completely different initiative at the municipal level to develop the creative neighborhood is that of *L'île de Nantes*. See Campagnac-Ascher, 2015, pp. 204-223 ('L'île de Nantes: quand la création prend ses quartiers').

industrial productions have always coexisted with other urban functions and services – Genoa has been the main Italian port, integrated by iron and steel industries, whereas Turin was the main ‘one company town’ of the country, in relation to FIAT. Therefore, from both the spatial and socio-economic point of view, this phase of de-industrialization was stronger than in Milan, thus demanding for specifically dedicated public policies aimed at reusing large brownfields through the development of new (and often cultural-driven) urban functions.

On the other hand, **Bologna** – that traditionally hosts the oldest university of the world and (also) consequently intense cultural activities, and that (according to its geographical location) is a trading city – is one of the main urban nodes of the so-called ‘Terza Italia’ (Bagnasco, 1977). Therefore, the service metamorphosis of the city, that followed its previous industrial development, was not characterised by large and iconic projects (as in the other case studies), also according to a smaller dimension of abandoned industrial plants and to a long tradition of advanced public policies.

For what is concerning the case of **Genoa**, the overcoming of the port and industrial crisis, started in the 1970s, was politically managed in a very determined way, from the 1980s to the 2000s, through an organic system of urban change projects. They were completely located in the central municipal area, excluding the rest of the metropolitan area. Furthermore, they were mainly based on public funds (European and national) and on major events (such as the Colombian Expo 1992, the G8 2001 and the European Capital of Culture 2004), on the background of the 2001 urban plan and the 2002 strategic plan. The transformation of large industrial brownfields was integrated by the regeneration of the historical centre and waterfront of the city. In particular, the so-called ‘Porto Antico’ was transformed in a new urban centrality by hosting new cultural and leisure functions (such as the new Aquarium, a conference centre, several museums, and new university campuses). However, the cultural metamorphosis of this former port and industrial city has led to an improvement of the urban quality, but not to its international repositioning. This is due to different reasons: the weaknesses of the urban marketing, the delays in the development of new strategic infrastructures (motorways and railways), as well as the never solved conflict between two different political visions for the future of the city: the international opening, oriented to culture and tourism, and the traditional development, based on the port and its related industries¹³. Without a new, clear strategic vision, the previous process of urban change, also penalized by the 2008 world crisis, has slowed down, including the strategic project for the relaunch of the city as international research hub: for instance, through the building of the new scientific and technologic park on the top of the Erzelli hill, integrating firms and research institutions. This park, slowly under development, is going to host also new laboratories of the ‘Italian Institute of Technology (IIT)’, that since its foundation (in 2003) has been representing one of the most innovative urban function within the nexus knowledge economy/urban change, in Genoa.

Also for what is concerning the case of **Turin**, the urban metamorphosis, that followed the industrial decline of the city – mainly connected to the national and international de-localization of the greatest part of the FIAT car production – aimed at diversifying local society and economy through the support of the 1995 urban plan, and a system of strategic plans (approved in 2000, 2006 and 2015), extending from the municipal area to the densest urban core of the Metropolitan City. The undergrounding of the railway line, crossing the city from North to South, has led to the improvement of the sustainable mobility inside the city, as well as to transform the former industrial areas along this axis. Whilst this process of urban change was accelerated by the 2006 Winter Olympics, these brownfields have been mainly reused not only for housing, retail and sport venues, but also to expand the local university facilities with the opening of new campuses (of both the Politecnico and

¹³ Indeed, Genoa is still hosting one of the main Italian ports, with internationally famous shipbuilding industries (such as Fincantieri), as well as important industrial multinational companies (such as Ansaldo, Ericsson, and Siemens).

Università degli Studi di Torino). These projects frequently integrate new research centres: from the one by General Motors within the new Politecnico di Torino's campus, to the Environment Park in the former Michelin. This process of urban metamorphosis has enabled the Turin's international repositioning – from industrial one company town, to cultural, creative and touristic city – also supported by the opening of specific new agencies¹⁴, the renewal of important cultural institutions¹⁵, as well as the celebration of sport and cultural events¹⁶. Unfortunately, the 2008 global crisis – integrated by the deep public debt provided by the (in any case) successful 2006 Olympic Games – have been penalising the completion of this process, that demands for the strengthening and systematisation of supra-local synergies, for instance with a world city as Milan.

As underlined in the POPSU 2 research document¹⁷ on the contrary of Italy, in the French context there is not only a neighborhood as a privileged place for innovation, but an entire city. In fact Grenoble seems the embodiment of the three components of innovation dynamics and economic development: universities and schools, star ups, and finally public power (State and civil societies), which are not completely present in the Italian urban context. Notwithstanding this background, the POPSU 2 research underlines also a flawed correlation between economic dynamism and innovation capacity in Grenoble – through a new set of indicators that is an added value in the research – emphasizing the urgency of a mobilisation of other productive urban systems (e.g. Bordeaux, Rennes and Toulouse).

3.3. Actors (Who)

This section aims at rethinking vocabularies and scales related to urban change processes concerning knowledge economy sectors by comparing the role of actors.

Even though a low level of cooperation between different academic institutions, and a not completely successful coordination by the public actors (e.g., the Lombardy Regional Government and the Milan Municipality), **Milan** universities have made an important contribution to anti-cyclical initiatives and to economic performances of the urban region, also through the cooperation with public institutions (Briata, Di Vita, Pasqui, 2016). In the face of the crisis, the role of the Milan universities has articulated within different roles and actions. Some traditional, as the development of real estate initiatives (even though in a period of severe crisis of the real estate market). Some others new, such as:

- the supply of innovative services for both students and other urban populations;
- the promotion of innovative entrepreneurial activities;
- a growing role in the organization and management of large and small events.

For what is concerning the nexus *knowledge economy / urban change*, several potentialities may be identified within the involvement of Milan universities within the ongoing¹⁸, but still uncertain, post-event reuse of the Expo 2015 site:

¹⁴ Such as Torino Incontra, Torino Internazionale, Agenzia Turismo Torino, Convention Bureau).

¹⁵ Such as the Museo del Cinema, the Museo Egizio, the Museo dell'Automobile, as well as the Savoy palaces spread in both the municipal area and the Metropolitan City.

¹⁶ Such as the Universiade 2007, the World Congress of Architecture 2008, the World Design Capital 2010, or the 150th Anniversary of the Italian Unification.

¹⁷ Talandier, 2015, in Campagnac-Ascher, ed., pp. 24-28.

¹⁸ Nonetheless the Milan Universities have had strong efforts in the internationalization process of the city, also compared with the difficulties of French universities underlined in the POPSU 2 book (Campagnac-Ascher, 2015). See p. 250 ('Un rapprochement universites/collectivites encore inabouti'). Only Lyon and Bordeaux have tried to rethink the nexus between metropolitan scale and universities (see Chapt. 9, pp. 243-248: 'Le lancement de plans et de projets d'amagements universitaires a l'echelle de la metropole').

- the proposal of the Università degli Studi di Milano to transfer its scientific campus, now located in the Città Studi district, integrating research and teaching spaces with leisure and accommodation facilities;
- the development of the Human Technopole (dedicated to the predictive medicine), promoted by the National Government and coordinated by the ‘Italian Institute of Technology’ (IIT), involving Politecnico di Milano, Università degli Studi di Milano and Università degli Studi di Milano Bicocca;
- the integration with the productive district Nexpo, promoted by the industrial association Assolombarda, and dedicated to innovative and technological firms¹⁹.

For sure, the 2015 World’s Fair has been an occasion for innovation and improvement of city services and infrastructures, beginning with the new technological endowment of both the event site and the Milan urban region. Nevertheless, besides the event, also the Milan Municipality has been investing in technological innovation and social inclusion, with positive effects in terms of knowledge economy’s growth. For instance – on the background of the Milan Smart City association (formed in 2013 by the Milan Municipality and Chamber of Commerce) and of a long participative process – the approval of the Milan Smart City Guidelines (May 2014) and of the Milan Sharing City Guidelines (December 2014) highlight the importance of ICTs as engines of urban change, and the meaning of cooperation and sharing economy for future urban development.

In the face of the global crisis, and also through the support of European and national policies, investments in urban smartness have been taken by several cities as an opportunity to boost economic innovation, as well as to increase environmental sustainability and social inclusion, on the background of the advancements in digital technologies. However, the exponential growth of smart city policies and projects offers not only potentials in terms of new uses of space, physical regeneration, socio-economic innovation and environmental requalification. Even though these policies and projects are frequently considered as opportunities, several are the risks of an exclusively technocratic and market-oriented approach. That is, the risks of an approach mainly due to business needs expressed by ICT firms, or to city branding demands expressed by policy makers. In order to face them, ICTs should be considered not as goals, but as tools and opportunities to support innovation. A city can be considered smart if investments in infrastructures (such as transports and ICTs) lead to economic, environmental and social development, as well as to new opportunities and forms of urban governance and participation. That is, if it integrates into a networked urban pattern goals and actions of environment protection, social sharing, energy efficiency, economic sustainability, as well as urban management participation. ICTs are not enough, whereas innovation should be embedded in a wider development vision, which require multi-disciplinary skills and actions.

As in the case of the Milan Smart City association, participative processes help to avoid the risk of an exclusively technocratic and market-oriented approach of urban smartness. Similar are the experiences promoted by the other case studies, which are pioneer and leading smart cities in Italy:

- the **Bologna** Municipality promoted the project platform Bologna Smart City in 2012, together with Università degli Studi di Bologna and Aster²⁰, that aims at exploiting the ICTs to promote the development of green economy and society, and the enhancement of environmental and cultural resources;
- on the background of a participative process, started at the beginning of 2010, in the same year the **Genoa** Municipality with Università degli Studi di Genova and Enel Distribuzione established the

¹⁹ Beginning with the IBM and its first European centre Watson Health.

²⁰ An Emilia Romagna regional consortium, aimed at promoting the technological innovation and transfer.

Genoa Smart City Association²¹, that aims not only at improving the quality of life and environment, but also at stimulating the economic innovation, also by supporting research activities and their collaboration with business ones, on the base of a participatory approach.

- the **Turin** Municipality created the Foundation Turin Smart City, to involve and coordinate different stakeholders within the same project platform, such as public institutions, research institutions, firms and civil society.

For what is concerning, in particular, the case of Turin – where the process of urban innovation within the nexus *knowledge economy/urban change* (launched by the Municipality and FIAT through the transformation of the historical Lingotto car factory into a poly-functional centrality) has been penalised by both the global crisis and the local Olympic debts – the local policy makers traditionally aim at strengthening and improving the existing supra-local synergies with Milan. Several are the examples of this collaboration between the two cities, which mainly cooperate in the fields of culture (i.e. the ‘MiTo Settembre Musica’ Festival), high education (the ‘Alta Scuola Politecnica’ between the Politecnico di Milano and the Politecnico di Torino) and economy (i.e. the joint venture between the Milan and Turin Chambers of Commerce). However, this collaboration is not systematic, and sometimes the competition between the two cities prevails. Whilst the Turin policy makers are looking for a collaboration between the project ‘Parco della Salute’ in the Lingotto district with the future Milan Human Technopole, in 2017 the Milan Trade Fair organises its first Book Exhibition (located inside and spread outside the fairground), in direct competition with the 30th edition of the Turin International Book Fair (placed at the Lingotto exhibition centre).

3.4. Tools and mechanisms (How)

The goal of this section is promoting a critical observation and interpretation of the contemporary urban phenomena related to knowledge economy through an analysis of urban initiatives promoted by public policies.

Since June 2011 (with the new Mayor Giuliano Pisapia) and continuing since June 2016 (with the new Mayor Giuseppe Sala), the **Milan** City Council has chosen to promote economic innovation and social inclusion as one of the main characters of its smart city agenda, according to which it has developed a strategy based on coordination rather than implementation. The promoters of this agenda and this approach are the City Councilor for *Employment Policies, Economic Development, University and Research*, and the Head of the *Department of Economic Innovation, Smart City and University*.

The underlying vision promoted by the Milan public policy approach considers the smart city not only as an occasion for technological innovation but, according to the current debate (Gill Garcia et al., 2015), it recognises it as a multifaceted and place-based concept. Therefore – together with the exploitation of ICT potentialities – the Milan approach to smartness is between the social and the spatial (De Boyser et al., 2016) because it is based on the use of new technologies, while combining economic development and social inclusion, infrastructures and human capital, innovation and training, as well as research and participation. Accordingly, it inspires smart policies and projects focused not only on ICT potentials, but also on vulnerable populations (e.g. children, young and elder people, people with disabilities, migrants) in order to increase equal opportunities and eliminate discrimination.

In general, social inclusion, as a principle, has a strong mobilizing power in reaction to economic and technological interpretations and applications of innovation (Moulaert et al., 2013). So it can be assumed to be the antithesis of a first generation of ‘smart city’ rhetoric. The attempt of the Milan Municipality, involving an

²¹ Technological partners – as ABB, Elkrom, Enel, Ericsson, Poste Italiane, Selex Elsag, Siemens, Singularity, Telecom Italia and Toshiba – have been involved.

unprecedented framework is based on a mix of private and public investment. As first step, the Milan Smart City association organized a first public event (April 2013), entitled 'Public Hearing: Smart City towards Milan Smart City', with the goal of involving the main city stakeholders in creating a governance network. Also through other public debates, as well as a systematic process of confrontation with experts and researchers, one of the results of this participative process has been the delineation of the so-called 'Milano IN' policy²².

This new policy approach is also joined with the Milan Municipality Resolution n. 1978/2012 (Comune di Milano, 2012), that has focused on the reuse of vacant public spaces or buildings to foster economic development and social inclusion²³.

The ongoing Sharing Cities project, in the same city sector, that aims at transforming an entire neighbourhood into a wider smart district. Against the backdrop of new sharing workplaces and productions, in addition to the registers of 58 accredited co-working spaces and of 9 accredited fab-labs – which could benefit of specific funds dedicated to improve their spaces and sustain the start-up of their activities – the Municipality promoted ad hoc public actions by focusing on the nexus between workplaces and social innovation in peripheral neighbourhoods. Besides the support to the crowdfunding through the development of a dedicated web platform, some initiatives have been crucial. For instance, FabriQ, in the Quarto Oggiaro neighbourhood²⁴, is an incubator for the social economy and innovation, which opened in January 2014.

Even in the face of criticism about public policies supporting self-employment and freelance work²⁵, it is not possible to neglect their post-crisis potentialities. Without ignoring the risks of this phenomenon²⁶, planners and policy makers of the new Milan Municipal Administration (2016-2021) should take strongly into account the general and specific features concerning the local system of new workplaces. After the cycle of ad hoc public policies promoted by the previous City Administration (2011-2016), different, but potentially integrated strategies should be developed in order to encourage a stronger and more resilient innovation environment²⁷

Also according to this sometimes not systematic, but rather experimental approach (from both the public and private sectors points of view), as well as to the Expo 2015 and the post-event dynamics, in the current phase Milan is involved in a deep process of urban innovation that contrasts with the national context in which it is located, characterised by economic and political weaknesses and difficulties. Therefore, Milan is confirming itself as the main Italian socio-economic and financial hub, as well as its leadership in the nexus *knowledge economy/urban change*, so that it could be considered as an economic and political laboratory, as well as an important best practice for other cities of the country (Armondi, Bruzzese, 2017). Nevertheless, interesting tools and mechanisms can be identified also in the other three cases which, even though not continuously as

²² For instance: the new Co-Hub, located in the historical centre; Base, located in the dynamic south-western city sector of Porta Genova/Zona Tortona, by reusing the buildings of the former Ansaldo factory; the Mhuma (Milano Hub Makers), located between the historical centre and the new Porta Nuova centrality, an incubator specifically dedicated to makers and digital manufacturing; the ongoing Smart City Lab, located in the dynamic south-eastern city sector of Porta Romana, that aims at becoming an incubator specifically dedicated to the development of ICT-based goods and services. They are specifically located in the urban core. This process is similar to the spread of the French 'Cantine Numerique' based on the Paris model, as presented in the POPSU 2 book (Campagnac-Ascher, 2015). See pp. 272-279 ('Les cantines et les acteurs du numerique').

²⁴ Quarto Oggiaro is a deprived and marginal public housing neighborhood built in the 1960s for immigrants from southern Italy. Today it suffers from social segregation, poverty, diffused micro criminality, and an overall high rate of unemployment (youth unemployment around 70%).

²⁵ Because of their high risks of low payments, short-tenured jobs, low value-added per worker, and little innovation capability (Moriset, 2014).

²⁶ Such as the precariousness of knowledge, creative, and digital workers; the frequent low profitability of co-working spaces and makerspaces; or the real estate speculation on this new brands.

²⁷ The rationabilities of these policies are very different if compared with French urban policies for creative neighbourhoods. See POPSU 2 book (Campagnac-Ascher, 2015), Chapt. 8, pp. 202-203.

the case of Milan, has recently activated interesting initiatives to face the opportunities provided by the ICT development and the criticalities determined by the crisis.

Within its smart city platform, **Bologna** has elaborated a new civic digital network called 'Iperbole 2020 Cloud and Crowd', that integrates contents and services provided by both the public administration, and firms and citizens, and that aims at stimulating the participation of local stakeholders to the development of municipal projects concerning the environment, mobility, culture and economy. One of this project is the recent 'Piano per l'innovazione urbana', that promotes a new strategy of urban regeneration for the future development of the entire Metropolitan City, also focusing on social inclusion and economic innovation. In particular, this plan aims at coordinating a system of, otherwise, fragmented projects connected to different extraordinary funds²⁸, which risk to be penalised by the lack of a wider strategic vision (Pasqui, Fedeli, Briata, 2016)²⁹.

Also **Genoa**, within its smart city policies and projects, has been trying to stimulate the participation of citizens, associations and enterprises. For instance, it is partner of the European project 'Creative Cities', that aims at establishing and consolidating an international network of creative districts, located in different European cities. At the same time, it is investing on the development of new services through the cloud computing and the Internet of Things.

Finally, for what is concerning **Turin**, the Municipality has been investing on: the project 'FaciliTo Giovani' and the platform 'Turin Social Innovation', to support (with information, technical suggestions and funds) the start-up of new economic activities promoted by young citizens and related to new social needs; the participative elaboration of an inclusive masterplan for the smart city at the scale of the metropolitan area, called SMILE, and promoted by the Foundation Turin Smart City and the Turin Municipality in collaboration with Turin Wireless, involving public authorities, universities and research institutions, foundations and associations, as well as private firms.

Even though all the analysed Italian case studies (Bologna, Genoa, Milan and Turin) have been investing in wide participation to develop their new policies of urban innovation, the monitoring and assessment of this practice is however essential, because the involvement of stakeholders in decision making processes is necessary, but not sufficient, to produce positive outcomes. At the same time – besides Turin (with its strategic plans and its smart city masterplan SMILE), and except some other fragmented or weak initiatives (such as the Strategic Plan for the Milan Metropolitan City, or the 'Piano per l'innovazione urbana' in Bologna) – a systematic change of scale is generally necessary. On the base of clear and sharing ideas for the development of wide metropolitan areas, the governance, plans and economic resources could improve their efficiency in the coordination of usually fragmented initiatives, which risk to mainly refer to exceptional funds provided by the National State or the European Union, or to episodic private investments (Pasqui, Fedeli, Briata, 2016)³⁰.

3.5. Time (When)

The goal of this final section is to promoting a critical observation and interpretation of the contemporary urban phenomena related to knowledge economy, and dedicated policies, according to the deep break produced

²⁸ For instance, the funds connected to the POR FESR 2014-2020 and the PON Città Metropolitane, the national Piano Periferie and Piano Città, as well as the European Horizon 2020 Urban Innovation Actions.

²⁹ Within these projects, the most oriented to the nexus knowledge economy/urban change are: the new metropolitan digital agenda, that provides digital services to citizens, associations and enterprises; the project 'Laboratorio urbano aperto', that will physically integrate different cultural facilities within the historical centre; the project 'Rock', that aims at regenerating the historical university district; the transformation of 'Villa Salus' in a poly-functional hub for hospitality, business, welfare and wellbeing.

³⁰ However, compared with the incremental Italian practices, the 'French tech' label is an example of top-down approach with critical aspects, as underlined in the POPSU 2 book (Campagnac-Ascher, 2015, p. 286): first of all, the loss of identities by the digital local micro-societies under the homogenous label.

by the world crisis between a pre-crisis and a post-crisis effects. Whilst the process of urban metamorphosis of Bologna, Genoa and Turin has been deeply affected by the recent economic downturn, also in this case **Milan** confirms a different capability to assimilate the crisis effects, as well as to react against it, and relaunch new development trends and opportunities. Therefore, it seems to prove how the crisis has been able to divert a long-term process of spatial and socio-economic de-centralisation and de-localisation into a renovated process of re-centralisation (Knieling, Othengrafen, 2016; Perulli, 2017).

During the last 10 years Milan has been affected by a complex interaction among political and socio-economic cycles, that changed the urban agenda after a long period of stability. The economic crisis hit Milan and its urban region after 2008 through four main dynamics:

- the stagnation of the urban market, with the consequent interruption of a long positive real estate cycle, and with the stop or redefinition of many relevant urban development projects;
- the raise of new socio-spatial inequalities, and the growth of social fragilities for many families and individuals (especially concentrated in some areas and neighbourhoods of the urban region), which confirm the potential trade-off between cohesion and competitiveness in a phase of economic crisis (Ranci, Cucca, 2017);
- the crisis of local finance, with the dramatic reduction of resources for the local authorities (especially municipalities) and the consequent difficulties for the local welfare (Costa, Sabatinelli, 2013);
- the crisis (and sometimes the failure) of many companies, in industrial, service and retail sector, with problems of unemployment and growing insecurity in employment contracts (Centro Studi PIM, 2016).

Even if these effects of the global crisis have affected deeply the economic base, in the decade 2006-2016 Milan is one of the few Italian cities to face the crisis with broadly encouraging performances (Milan Chamber of Commerce, 2016). In particular, the Milan metropolitan area is characterized by a low level of unemployment rate, compared to that of other Italian cities; a high number of new firms established in the urban region; the raise of tourists attraction, also favoured by the Expo 2015, that attracted more than 20 million visitors.

Which are the reasons of this performance? First, Milan has always been characterized by a not specialized, but plural economic base, with an important role of many different economic clusters. Second, Milan is a highly international city, the only Italian city able to attract highly skilled human capital and relevant foreign direct investments, not only in the real estate sector (Milan Chamber of Commerce, 2016). Third, Milan institutions have been able to support the growing attractiveness of the city, by contributing to change the imaginary and the social perception on the city for tourists, buyers and investors, besides for its citizens (Bruzzese, Di Vita, 2016).

According to these reasons, the interaction between politics, policies and economic dynamics has been crucial for strengthening the responsiveness of Milan to the crisis.

In comparison with the other three cases of Bologna, Genoa and Turin, the case of Milan highlights the beginning of a new phase of the urban metamorphosis process that followed the end of Fordism. After a first phase, where knowledge economy was instrumental to the development of huge real estate projects (Pasqui, 2017), the new phase is characterised by the completion of long-term processes of urban regeneration, also through the support of local policies and in relation to the mainly bottom up spread of new hybrid workplaces, which are dedicated to innovative productions of goods and services, interpreting the growing sharing face of knowledge economy;

Even though this dynamic urban environment – made by several public and private efforts in a polyarchic governance and in an articulated system of small and large projects – the comparison with French case studies emphasizes the lack of a strategic vision.

Whilst the implementation of these last projects (that is, the Città della Salute and the Human Technopole) is not yet definitive because of some economic and political problems not yet solved, the main weakness can be recognized in the governance system and, therefore, in the coordination between different-level policies (national, regional, metropolitan, and municipal), that reflects in the lack of a strategic scenario. At the scale of the urban region, this scenario could help to avoid the competition and to strengthen the coordination between different initiatives, both in spatial and economic terms. At the same time, at a wider scale, if Milan has been invested, at the national level, as the unique Italian city able to drive a post-crisis phase, according to its historical cultural and socio-economic resources, this scenario should involve other cities of the countries, beginning with (at least) its above mentioned neighbour cities such as Bologna, Genoa and Turin. This could be a re-formulation of the historical industrial triangle (made by Genoa, Milan, and Turin), by extending it to Bologna, and by involving not only the main urban vertexes, but also the in-between areas which, otherwise, risk to be further impoverished. That is, an opportunity to avoid an internal competition and to improve a supra-local cooperation.

At this purpose, the recent Agreement signed by the Municipality of Genoa, Milan and Turin – concerning a potential sharing of smart city projects – should be really implemented, as well as extended and re-oriented.

4. Conclusions. Recommendations and open questions

Starting from the comparative survey between Italy and France, two general results emerge: weakness of Italian national and metropolitan policy as opposed to strengths of French national and metropolitan interventions. Furthermore, Italy lacks in updated databases and in innovative indicators, whereby in France there is a convincing field of research in database and indicators innovation³¹.

The POPSU 2 research contents underlines the need to articulate the knowledge economy in its different components. The research on the French metropolises deals with four thematic axes (‘économie de la connaissance et dynamiques de croissance; économie de l’innovation; économie de la créativité; société de la connaissance’) aiming at go beyond a deterministic approach of the nexus between knowledge economy and metropolisation processes, emphasizing the role of public policies.

A comparative approach has several limits in relation to the differences within the two (Italian and French) compared contexts: beginning with their administrative organization. However, the several suggestions provided by the Italian cases, as well as the development of this evaluation contribution within a research hub dedicated to the same issues of the POPSU 2 thematic axis, are strengths to be exploited. In the followings sections we underline some of the issues at stake in terms of advices and open questions.

An analysis of the multifaceted effects of the global economic crisis, also in the development of the knowledge economy field of the French metropolises, is almost completely absent in the POPSU 2 reports³². The risk is to fall in the “telescopic urbanism” underlined by Amin (2013), in which the selected account of the new urban economic centrality is a familiar one³³. Telescopic urbanism, in focusing on specific sites, leaves out everything else, above all the myriad hidden connections and relational doings that hold together the contemporary city as an assemblage of many types of spatial formation, from economically interdependent neighbourhoods to infrastructures, flows and organisational arrangements that course through and beyond the city. These relational geographies do not return the city as an integrated or singular entity – there is far too much variety, porosity and autonomy in contemporary urban life for this to happen (Amin, Thrift, 2002) – but they show the parts of the city held apart by telescopic urbanism to be interdependent.

To conclude, in the forthcoming POPSU 3, new research actions could be crucial, such as the ones indicated in the following recommendations:

1. An evaluation of the new public policy (at the metropolitan and at the national scale) engendered to deal with the heterogeneous consequences of economic crisis in France³⁴;
2. An evaluation of the effect in the different contexts of knowledge economy explored in the POPSU 2 documents (in particular, in the Grenoble, Lyon, and Toulouse metropolitan areas), matched with other similar European urban regions (e.g., Barcelona, Milan, Turin, Manchester, Glasgow)³⁵.

Accordingly, the following open questions – aimed at challenging the existing theoretical frameworks – could be identified:

³¹ See Chapters 1, 2, 3 in , in Campagnac-Ascher ed., 2015.

³² There is, only about Grenoble, an analysis of the evolution of the urban economic base during the last years. See Talandier et al. 2015 in Novarina, Seigneuret, eds., Chapt.1, p. 25.

³³ The account of French ‘zones technopolitaines’ written by Eveno, 2015 – in Campagnac-Ascher, ed., Chapt. 10, p. 284 – is emblematic of this approach.

³⁴ In particular, the Presqu’île scientifique in Grenoble analysed by Demazière et al. 2015, in Campagnac-Ascher, ed., Chapt. 4, p. 101.

³⁵ See the international networks in Appendix.

- Are places, and urban regions, inside the contemporary territorial construction of cognitive resources? In the POPSU 2 reports there is a huge amount of reflection on the theoretical background definition of knowledge economy ³⁶, but a lot of work is needed to clarify the nexus between knowledge and actions in current practices, policies, and governance framework.
- Are the French creative economy neighborhoods an effective solution, according to the synergies between growth, equity and sustainability, provided by appropriate interventions in the city's built, economic and cultural environment³⁷?
- What are the mechanisms and outcomes of activity clustering in cities? Or, is “the cluster” an outmoded concept? Is the “third spaces” category a promising epistemology³⁸?
- What are the varying material outcomes of new working practices in contemporary French metropolises in comparison with international contexts?

³⁶ Liefoghe, 2015, in Campagnac-Ascher, ed., Chapt. 6.

³⁷ An archetypal example is the public project for *L'île de Nantes*, analysed by Liefoghe, 2015, in Campagnac-Ascher, ed., Chapt. 8, p. 204

³⁸ The paragraph dedicated to ‘Tiers-lieux’ – by Eveno, 2015, in Campagnac-Ascher, ed., Chapt. 10, p. 268 – is a prominent early attempt.

Appendix – International network

University (and Researcher)	Issues	References	Case studies
Aalto University, Department of Architecture (Kimmo Lapintie, Mina Di Marino)	Coffee shops, libraries and co-working spaces as temporary and hybrid workplace	Di Marino M., Lapintie K. (2017), "Emerging workplaces in post-functionalist cities", in <i>Journal of Urban Technology</i> (forthcoming) Email: mina.dimarino@aalto.fi	Helsinki (Finland)
University of Birmingham, Birmingham Business School (Lisa De Propis)	MAKERS project funded under the EU Research and Innovation programme Horizon 2020	http://www.makers-rise.org/ Email: l.de_propis@bham.ac.uk	
City University of New York, College of Technology, Brooklyn Waterfront Research Center (Richard Hanley)	Waterfront regeneration	Hanley R. (2015), "Made in Brooklyn: New Manufacturing and the Redevelopment of the Brooklyn Waterfront", Presentation, RSA Annual Conference Email: richard.e.hanley@gmail.com	New York City, New York (USA), Brooklyn waterfront
Institute for Advanced Architecture of Catalonia (Vincente Guallart)	ICTs and the cities: self-sufficient cities and Internet of Cities,	Gualart V. (2012), <i>The self-sufficient city</i> , Actar, New York Email: vincenteguallart@gmail.com	Barcelona (Spain)
Lulea University of Technology, Architecture Research Group (Agatino Rizzo)	Knowledge megaprojects and post-carbon economies	Rizzo A. (2017), "Why knowledge megaprojects will fail to transform Gulf countries in post-carbon economies: the case of Qatar", in <i>Journal of Urban Technology</i> (forthcoming) Email: agatino.rizzo@ltu.se	Doha (Qatar), Education City
McGill University, School of Urban Planning (Richard Shearmur, Filipa Pajevic)	Big data and innovations in cities, works and workplaces	Pajevic F., Shearmur R. (2017), "Catch me if you can: Big Data and Workplace Mobility", in <i>Journal of Urban Technology</i> (forthcoming) Email: filipa.pajevic@mail.mcgill.ca	
Michigan State University, School of Planning, Design and Construction (Mark Wilson)	Knowledge economy, information society, planning	- Wilson M., Kellerman, A., Corey K.E. (2013), <i>Global Information Society: Technology, Knowledge and Mobility</i> , Lanham: Rowman & Littlefield - Corey K., Wilson M. (2006), <i>Urban and Regional Technology Planning: Planning Practice in the Global Knowledge Economy</i> , London: Routledge. Email: wilsonmm@msu.edu	

Université Jean Moulin Lyon 3 (Bruno Moriset)	Creative economy and co-working spaces	Moriset B. (2014), "Building new places of the creative economy. The rise of coworking spaces", paper presented at the <i>2nd Geography of Innovation International Conference</i> (Utrecht). Email: bruno.moriset@univ-lyon3.fr	
University College London, Bartlett School of Planning (Jessica Ferm)	Co-working spaces	Ferm J. (2015), "From managed workspaces to co-working spaces: the changing nature of public sector support in the UK and challenges in an era of deregulation", Presentation, RSA Annual Conference Email: j.ferm@ucl.ac.uk	London (UK)
University of Hong Kong (Becky Loo, Wang Bo)	Co-working spaces	Becky L., Wang B. (2017), "Hubs of internet entrepreneurs: The emergence of co-working offices in Shanghai, China", in <i>Journal of Urban Technology</i> (forthcoming) Email: bpyloo@hku.hk	Shanghai (China)
University of Portsmouth (Carol Ekinsmyth)	Spatial Reconfigurations of Work in Cities	Seminar at the University of Portsmouth (21- 22 April 2017) entitled <i>Spatial Reconfigurations of Work in Cities</i> Email: carol.ekinsmyth@port.ac.uk	
University of Washington, Tacoma, Urban Studies Program (Yonn Dierwechter)	Smart growth: transports and workplaces	Dierwechter Y. (2013), "Smart city- regionalism across Seattle. Progressing transit nodes in labor space?", <i>Geoforum</i> 49 Email: yonn@uw.edu	Seattle, Washington (USA)

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