
Geographies of Knowledge-Creating Services and Urban Policies in the Greater Munich

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Abstract

The Munich case study examined in this chapter highlights the development path and special features of the economic transition to knowledge-intensive and creative services in the city and its region. The latter is characterised as a polycentric area with an increasing interdependence between the traditional core and the smaller towns surrounding it. An attempt is made to show how these new economic centres have been developed through a singular interplay of different production sectors, a well-integrated transport system and economic policy strategies featuring clusters of highly innovative firms that have helped to prevent territorial imbalances and disparities in relation to employment and household income. Particular attention is paid to investigating how, within this framework, the location choices of knowledge-creating services have been exercised. The study also highlights how aggressive economic promotion of the city has contributed to exacerbating competition for space between economic activities and the emerging urban elite, giving rise to both a marked increase in housing market prices and social inequalities. The capacity of local government to mitigate these processes, to foster economic development and shape urban policies focused upon place regeneration and the recapitalization of the city is examined by considering Munich's peculiar institutional thickness and its integrated development strategy based on socially equitable land-use.

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1 Introduction

Munich, the third largest city in Germany, is one of the leading centres of knowledge-intensive and technology-intensive economic activities and one of the most successful cities in Europe in terms of long-term investment in cultural facilities, education and innovation. It is part of a balanced national urban system, the strongest and the most resilient in Europe, and occupies a good location as a node of major communication networks, which have played a significant role in its development. Overall, the recognized success of Munich and its urban region stems from its development path and the interplay of place, policy and politics (Evans, 2012).

Profoundly affected by the trend towards globalization and with a prominent position in transnational urban networks,¹ Munich lies at the centre of an urban region with over 2.9 million inhabitants, almost half of whom live in the city. The urban region includes the capital city of the *Land* of Bavaria and eight surrounding counties (*Landkreise*) that constitute the hinterland of the city and which we refer to as the Munich metropolitan area (or the Munich region).² The Munich region in turn forms the heart of the Munich Metropolitan Region surrounded by the major regional centres.

The process of decentralization of productive activities and population, which was already well underway in the 1980s—stimulated not only by the lower levels of taxation in the municipalities of the hinterland,³ but also by the old problem of limited available space in the central urban area—was given a further boost by the creation, brought about through public policies at the various levels of government, of specialised clusters of advanced producer services and high-tech firms in the municipal areas in the immediate vicinity of Munich.⁴

¹ In the 2010 edition of the Global and World Cities Research Network (GaWC), Munich is rated as an “alpha-city”—the second in Germany after Frankfurt—in terms of its connectivity, i.e. its level of interaction within the network of global cities. If we consider that the Mega-City Region of Munich, which includes the eight secondary urban centres that surround Munich itself, and if we examine the intensity of intrafirm connectivity of advanced producer service firms, it is clear why the city of Munich has established itself as “a central node and international gateway for smaller centres in the emerging mega-city region and acts as an important international knowledge-hub” (see Lüthi, Thierstein, & Goebel, 2010, p. 128).

² The regional planning association of the Munich region comprises, besides the city of Munich administrative area, the county administrative districts of Dachau, Ebersberg, Erding, Freising, Fürstentfeldbruck, Landsberg am Lech, Munich and Starnberg.

³ The main sources of income for local authorities are business rates, income tax, retail and land use taxes and various local taxes (leisure, park management etc.) which municipalities have introduced to boost their revenues. With the highest investment rate of all German cities (705 € per capita in 2006, compared with Stuttgart 647 €, Dusseldorf 451 € and Frankfurt 383 €), Munich also continues to impose the highest city tax rates.

⁴ The intense suburbanization process has significantly changed the balance between the city of Munich and its hinterland. While in 1970, 80 % of the regional population lived in the Munich conurbation (and 62 % in the city), in the early 2000s this figure was less than 75 % for the conurbation and 49 % for the city. The location of industrial companies and advanced service activities has proved especially beneficial to the area immediately around Munich, which has grown at an extraordinary rate since the 1990s and which now contains as many as five of the ten richest urban and rural districts in Germany.

The transfer of the airport and the creation of a huge international hub to the north of the city, near Freising, has also given rise to new functional urban area.⁵

One consequence of these developments is that large numbers of employment opportunities and labourforce shifts have been distributed relatively evenly around the Munich urban region compared with other urban regions in Germany, although the magnetic force of the city remain high, with about 60 % of the region's workforce employed there (von Streit et al., 2010). In general, these functional interrelations show the emergent pattern of the spatial development of the Munich region, characterised by the dialectic between polycentric and monocentric tendencies, which are results of the same trend towards a more knowledge intensive economy (Lüthi, Thierstein, & Goebel, 2007; Thierstein, 2008). This essentially argues—as the case of Munich highlights—that a crucial driver of territorially balanced urban systems and territorial performance is government capacity, at different territorial levels. This government capacity, particularly at the local level, is also responsible for the recent economic transition of the city towards a singular development model, that consists of an original combination of diversification of the productive sectors and economic policy strategies.

Starting from the 1990s, Munich and its suburban surroundings have grown into one of Europe's leading concentrations of ICTs production and services, which can be considered as a cross-sectional technologies, and they have strengthened the relational proximity by which knowledge-intensive firms reap the benefits of both agglomeration economies and global-scale production networks.

Despite the fact that Munich has one of the highest proportions of immigrants in Germany and that social inequalities do exist, the presence of a sound national tradition of social protection and the generosity of welfare programmes, combined with the planning and governance strategies pursued by local government, have helped to attenuate the disparities and mitigate the socially selective logic of the urban market.

This case study presents an opportunity to explore the relationship between the performance of the knowledge economy, its locational strategy, and strategic governance capacity in an urban region characterized by a significant social and environmental performance of urban deconcentration and political decentralization through the establishment of specialized clusters.

The structure of this case study is as follows. The next section, after a brief impression of the current economic situation of Munich and its metropolitan area, outlines the main features of the post-industrial transition. Some explanation is also given of the main factors which have contributed to the present economic vitality and social profile of Munich and chart its development path. The second section

⁵ In the context of the urban region, Freising is the only functional area not to have Munich as the primary city in the connectivity-ranking of the new economic assets, especially in terms of advanced producer services firms (Lüthi et al., 2010).

examines the development of industrial clusters and their contribution to the diversification of the local economic base. The third section analyses the locational strategies of the knowledge-creating services (KCS) within the city and the metropolitan area and the fourth section tries to identify the main social and spatial implications generated by the emergence of the knowledge economy. The fifth section investigates how the policymakers have faced the unprecedented challenges and their impacts, in terms of social and economic inequalities.

2 Path Dependency and Development Trends of Munich and Its Metropolitan Area

Munich's tradition of science-oriented industry and the development of quality activities have received a strong impulse, especially in the second half of the nineteenth century and in the first decade of the twentieth century. In this period the city was transformed into a cultural, artistic and scientific centre of considerable importance (Hafner et al., 2007), in addition to its existing status as important financial centre. Major educational institutions and the most important cultural facilities were established at this time. The university system, in particular, played a decisive role in urban life,⁶ first as the engine of the economic take-off, and then as a determining factor in the development of highly innovative clusters based on triadic relationship between university, industry and government in the knowledge society that evolved at the end of the twentieth century.

Other factors that later contributed to reinforcement of the economic base and knowledge infrastructure of Munich included the establishment of BMW at Oberwiesenufer, in 1917, the foundation of the MAN-branch on the Northern fringe of the city, and the presence of a number of firms specializing in fine mechanical and optical products. The specific expertise of these latter industries and the development of the public broadcasters (von Streit et al., 2008), created favourable conditions for the development of several firms in the film industry; gathered in a central location in the city, they created a cluster that put down strong roots in time. The city was also the site of choice in the location strategies of important research institutes and a number of large business enterprises that moved there during the reconstruction period. Prominent in the latter group was Siemens, which had previously pursued its main activities in Berlin,⁷ but had an important branch in Munich. The relocation of the Siemens headquarters and the implantation of an advanced manufacturing company in the city helped Munich to develop its position as a leading centre of advanced production and specialist technology and also

⁶ Jean Gottmann was among the first to emphasize the function of this important institution as essential advanced service supporting the economic, urban and demographic development of cities (see Gottmann, 1961).

⁷ The main reason for the relocation of the Siemens headquarters to Munich was that the company expected that it would not have to pay as much in war reparations in the American sector (Rode et al., 2010).

became the base of other major companies, especially in the insurance sector, including Allianz, which returned to the city where it was founded. The important headquarters of these large companies created the nucleus for the move to Munich of other German and international companies.

In addition, Munich became the home of numerous publishing companies, which moved there from

Leipzig and other large cities in East Germany, and a number of companies connected with the film industry that had left Berlin as a result of the appropriation of Berlin's Ufa Studios by the Soviet Union (Bathelt, 2011).

In the post-war period, the headquarters of the Max Planck Institutes for Biochemistry and Physics also moved from Berlin to Munich,⁸ together with other important research centres of multi-national companies, which were attracted to the city by the presence of its leading research departments.⁹ These various developments led to the formation of a stable, growth-oriented knowledge cluster.

The industrial development of the Munich region thus took place substantially after the Second World War and benefitted considerably from well-directed policy decision of the State of Bavaria.¹⁰ It therefore received priority treatment for the development of several federal research and development institutions working in the field of nuclear and armaments research and having attracted relatively little heavy industry, Munich was scarcely affected by the serious decline suffered by this sector from the 1970s. The Olympic Games, allocated to Munich in 1966, gave a strong impetus to extensive associated infrastructural investment in the city and regional transport system¹¹ and in sports facilities.

But it was above all after the mid-1980s, due to a large extent to technology and arms policy (Castells & Hall, 1994), that the region experienced extraordinary structural, economic and social changes that led to the formation of its highly diversified economic base, characterised by the very substantial presence of economic sectors with high knowledge content (Krätke, 2007).

The sectors that showed strong growth, especially in the 1990s, were those offering financial and insurance services,¹² the new media, with several private

⁸ In later years Munich and its immediate hinterland were chosen not only for the administrative headquarters of the Max Planck Society, but also for the Institutes for Intellectual Property and Competition Law, Tax Law and Public Finance, Astrophysics, Extraterrestrial Physics, Plasma Physics and Quantum Optics (a Garching), and Neurobiology (a Martinsried).

⁹ These included the European Research Center of General Electric and the major research and development facility of Pfizer.

¹⁰ In the federal system of Germany, the Länder (states) are largely responsible for policies concerning research and development, university and education, culture and creative-cultural industries. Until the 1960s, Bavaria was an economically backward agrarian state, with unemployment rates well above the German average. Since then, Bavaria has evolved into one of the economically best performing federal states.

¹¹ With the financial support from the Federal government and the State of Bavaria, the first metro stations were opened, the circular motorway around inner city (*Mittlerer Ring*) was built and a regional railway network was developed.

¹² Munich is second only to Frankfurt in the German banking sector and it is the most important city in Europe as regards insurance.

broadcaster and other industry-related activities (Biehler et al., 2003). In addition to these, the biotechnology and life science sectors were marked presence and together with numerous ICT companies they helped the city to be characterized as an “innovation hotspot”.

Over the last two decades the strategy of developing clusters in the more advanced economic centres, implemented jointly by regional and local governments, has also led to the consolidation of significant synergies between the business world and those of advanced research and education.

Because of this combination of conditions—historical, cultural, structural and institutional—Munich has developed into one of the most dynamic and economically prosperous urban agglomerations in Europe.

The city and its metropolitan area have long been amongst the leaders in the national rankings and have reinforced their role at a global level. The Munich region’s share of national GDP is greater than its share of national employment (in 2007 these were 5.4 % and 4.1 % respectively: ESPON, 2012), and it is the economic driving force of a *Land* that makes the second highest contribution to the national economy and of an administrative district (*Oberbayern*) with a per capita income which exceeded the European average by 67.9 % in 2006.¹³

The most influential rankings show that Munich has also become one of the most attractive cities in Europe for foreign investors and entrepreneurs.¹⁴

The dominant sectors in the urban region are those of ICT, the automotive industry, the media, biotechnology and life sciences, corporate research and development and aerospace.¹⁵

The city is firmly rooted in the national economy, a fact which is recognizable from numerous global players of German origin that have their main headquarters there.¹⁶ Nevertheless, there is also a substantial presence of large and medium-sized foreign businesses operating in a wide variety of sectors.¹⁷ Functional networks, high-level infrastructures, a comprehensive, efficient, well-integrated transport system, the presence of important institutes of higher learning, several professional

¹³ Europa—Press Releases—Regional GDP per inhabitant in the EU27, 2009.

¹⁴ Over the last decade, Munich has consolidated his position among the top ten “leading cities for business” (European Cities Monitor) and has reached fourth place in the ranking based on assessment of the quality of life (Mercer Consulting) judged by political, social, economic and environmental aspects, and second place among the cities with the best infrastructure.

¹⁵ The aerospace sector has become the most important in Germany, with specializations in the emerging satellite navigation industry, and as a classic high-tech research-intensive industry, it is constantly providing other industries and the Munich economic region with significant technological impulses (IHK-LH München-Referat für Arbeit und Wirtschaft, 2007).

¹⁶ About 90 large companies have their headquarters in Munich, which is the home of global players such as Siemens, BMW, Linde, Infineon, MAN AG, Escada, Allianz, Munich Re, Knorr-Bremse AG, Rohde & Schwarz, HVB group, Hypo Real Estate and many others.

¹⁷ The more than 1000 major foreign companies that had either their German or European headquarters in the city or were represented there in 2010, included Apple, Sun, Microsoft Germany, Oracle, Yahoo, McDonald’s and Sony.

academies and vocational colleges, a range of private development and training facilities, which provide a constant flow of highly qualified people for the local market, and advanced services significantly broaden the range of benefits offered by the city.

It is also because of this combination of conditions that the occupational context of Munich appears particularly suitable for specialised professionals. Nearly 24 % of the population as the whole and 34.0 % of the population aged between 25 and 64 years were in receipt of tertiary education in 2007 (Evans, 2012). Munich also has one of the highest proportions of foreigners with secondary and tertiary education and highly skilled workers, compared with other German cities (Musterd & Murie, 2010). According to statistics issued by the Federal Ministry of Labour, 35.8 % of all employees in the city, and 33 % in the region are in highly skilled occupations. This aspect is peculiar to a city that has maintained an industrial profile and succeeds in being thoroughly competitive in the high-innovation sectors.

The significant professionalisation of the urban employment structure has coincided with an increase of low-skilled workers, especially in the service sector. Furthermore, the labour market is more polarized in the Munich region than in Germany as a whole. Although this fact has negative effects in terms of increase in income inequality, it is offset by a welfare system which tries to mitigate income disparities. Among the different policies adopted—as will be explained below—those related to integrated urban development strategy, the provision of affordable housing, social infrastructure and adult education and training are particularly significant.

The strong resurgence of Munich was in large part due to the role played by the *Land* of Bavaria from the 1960s.¹⁸ It very actively promoted the transition of the region into a knowledge economy (van den Berg et al., 2005; Hafner et al., 2007; Willems & Hoogerbrugge, 2012), with systematic investments in its knowledge infrastructure.¹⁹

A new approach based on dedicated programmes which targeted support for innovation and technology was introduced by the state government in the 1980s. Again in the early 1980s, the city of Munich, the Chamber of Industry and Commerce and the Chamber of Handicrafts teamed up to launch the Munich's business center company (MGH) and established the first series of parks. It was created as a tool to support small and medium-sized enterprises, became a hot

¹⁸ In the Federal Republic of Germany, the *Länder* have their own constitutions, administrations and parliaments and are key players in the area of knowledge economy strategies because they are largely responsible for culture, education, research and development policy and exercise a substantial influence on certain economic sectors, especially those of media and health-biotechnology.

¹⁹ Currently the Munich region has a superb educational system, one of the highest ranked in Europe, and caters for a very large student population. More than 104,000 students are enrolled in higher educational establishments based within the region (as of the 2011/2012 winter semester), 14.2 % of whom are foreign students; a large proportion of graduates are recruited by local business.

export to many other cities in Germany, and gave rise to the development of technology centres.²⁰

3 Formation of New, High Knowledge-Content Business Clusters and Diversification of the Economic Base

From the beginning of 1990s, Bavaria followed an entrepreneurship policy that fostered highly innovative firms, in part in order to withstand the possible threat of reduced economic attractiveness as a result of the reunification of Germany and the advantages offered by Eastern regions in terms of lower labour and land costs (Evans, 2012).²¹ The measures taken were especially aggressive in the field of technological up-dating. The “Future Bavaria Initiative” (*Offensive Zukunft Bayern, OZB*), launched in 1994, pledged an impressive budget of 4.2 billion euros, generated by the privatisation and sale of public shares in a range of enterprises, and it was directed at the development of new technologies, at education, at research and at the implementation of important infrastructural, social and cultural projects throughout the region.

This was the context too of the great “High-Tech Offensive”, started in 1999, which supplied venture capital, especially in more risky high-tech sectors, concentrated support on leading technologies, innovation networks and research facilities, start-up companies and related infrastructural investment.²²

The “High-Tech Offensive” was followed in 2006 by the “Cluster Offensive”, though this was financed at a lower level than the previous regional programmes, partly because the revenue generated by privatizations was now exhausted and partly because of the greater involvement of the private sector. For the period 2006–2009 the Federal Government also made considerable resources available through its High-Tech Strategy, most of them targeted at supporting research and development in key high-tech areas and promoting cluster development. One outcome of this combination of conditions is that the Munich region accounts for more than 40 % of the nation’s entire volume in the IT-Industry (Duell, 2006).

²⁰ The Munich Technology Center (MTZ), founded in 1984, was one of Germany’s pioneers in this sector.

²¹ In order to attract possible investors from former Middle-and Eastern-German provinces—as reported by Hulsbeck and Lehmann (2007)—Bavarian politicians used their talents to convince various industrial leaders to relocate their companies to Bavaria, and this kind of talent has resulted in economical growth as well as corruption scandals (e.g. the “Amigo Affairs” of 1993 and 2004).

²² According to the official statistics of the *Land* of Bavaria (Bayerische Staatsregierung), implementation of the *Zukunft Bayern* project, from 1994, involved total spending of 2887 billion euros, 49.1 % was used for training, research and high technology facilities, 15.1 % on support for start-ups and on infrastructures, 12.8 % on the labour market and related social policies, 12.3 % on environmental policies and new energy and 11.9 % on cultural policies. As regards implementation of the High-Tech Offensive, there was a total budget of 1.35 billion euros, of which 49.1 % went on the creation of high-tech centres, 19.8 % on infrastructures, 13.2 % on new technologies and 13 % on incentives for businesses to relocate to the region.

Despite the different political composition of the two administrations,²³ they both consistently focused their efforts on keeping conditions for economic growth in Munich at the highest level: the Bavarian economic development policy especially benefited the Munich region, while the city of Munich played a complementary role, launching several projects to improve its knowledge base. The local government also provided land, space and premises for the development of new sectors (such as life sciences in Freiham, and new media in Kuntspark Ost) and the preservation of existing activities. This latter commitment took the form of the institution of *Gewerbenhoefe*, specific areas where neo-artisanal industrial concerns could be concentrated in order to provide them with a supportive environment with premises available on long-term, affordable lease arrangements (City of Munich-Department of Urban Planning and Building Regulation, 2005).

The Cluster Offensive sought to boost networking, knowledge transfer and collaboration between business, research activities and venture capital firms in five main fields (mobility, materials engineering, life sciences and environment, IT and electronics, services and media) with considerable importance for the future of the region (Bayerisches Staatsministerium für Wirtschaft, Infrastruktur, Verkehr und Technologie, 2008; Evans, 2012).

The cluster is conceived as the most suitable environment for the fostering of direct contacts and informal networks based on frequent face-to-face interaction (Asheim, Coenen, & Vang, 2007; Storper & Venables, 2004), and for providing incentives to an open approach to knowledge as a resource and an inspiring climate. They are considered as important conditions to the attraction of creative people and highly qualified workers, and at the same time as a factor that contributes to the generation of agglomeration advantages. Among the clusters, as previously mentioned, there are many links between sectors belonging to different phases of the economic development of the Munich region (Schricke, 2013). As well as the aerospace cluster, the strongest developers are the audiovisual media and film production clusters and those of environmental technology and biotechnology-life sciences (Fig. 1).

The former includes many different media activities such as advertising and the information services industry, and has a number of areas of excellence, such as the cinematographic industry. Within this cluster, a number of agents play a dominant role. These encompass private firms, which are the key drivers of economic growth and have strong networking capabilities with a substantial local basis, governmental agencies, business associations and private developers (Bathelt, 2011). The local government played an important role in establishing a supportive institutional structure for this industry (Kaiser & Liecke, 2007; Zademach, 2009). Due to the substantial agglomeration of media firms in the Munich region, it has grown to become the largest and strongest centre of the TV and film industry in Germany,

²³ The Bavarian State government has a consolidated conservative CSU majority, whilst the city government is traditionally oriented towards the Social Democratic Party, which more recently has ruled in coalition with the Green Party.

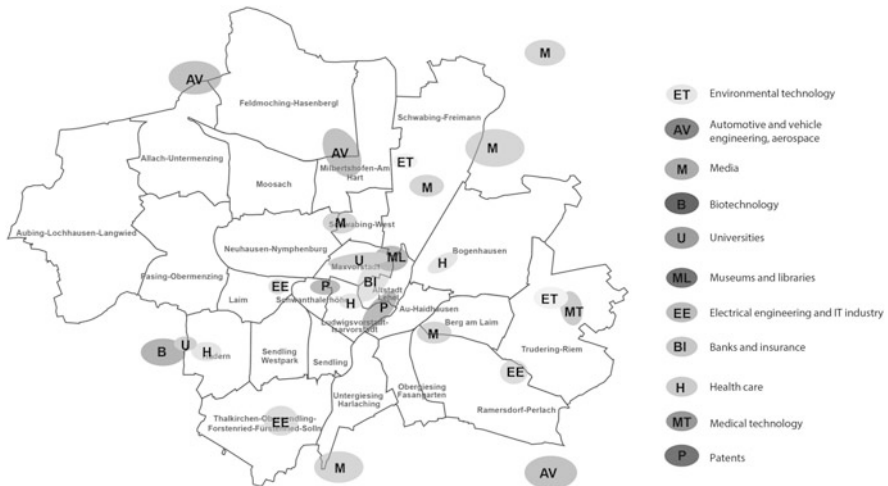


Fig. 1 Knowledge clusters in the Munich area. *Source:* City of Munich-Department of Labor and Economic Development (2005, p. 4)

with about 10 % of German media concerns. Munich also has developed into a world media city in terms of size and diversity (Biehler et al., 2003; Krätke & Taylor, 2004).

The biotechnology-life sciences sector began modestly in 1990 as a spillover from the pharmaceutical companies and during the 1990s it became a rich ecosystem in which some of the world leaders in the field are present, together with a large number of renowned research institutes.

The more dynamic and robust clusters are settled in small villages within the Munich city borders. The “Gene Valley” (the biotechnology park) is located in Martinsried/Großhadern, where about half of the Munich biotech companies are installed. Its development was strongly supported by the State of Bavaria, which set up a new financing and promotion company (BioM) in the form of a public-private partnership, owned by the pharmaceutical industry, banks, venture capitalist and several private investors (van den Berg et al., 2005).²⁴

The Life Science Park is located in Freiham and is part of a new settlement that is spread over a large area. Further life sciences campuses (including medical technologies) are located in Garching and Weihenstephan.

The media clusters, which exhibit a hybrid structure that combines planned and directed elements with more spontaneous development, are located in Unterföhring (ProSiebenSat.1, Media AG, BR), Geiselgasteig (Bavaria Filmstadt) and Ismagin (Agrob Mediapark), and the support of the State policy programmes

²⁴ On the whole, about 200 biotechnology companies and several university departments and research institutes, employing over 13,000 staff are based in the biotechnology clusters, and almost half of the companies are financed through venture capital.

provided the grounds for the spontaneous growth of private broadcasters. In addition to these, the Media Works Munich Competence Centre and a number of “communication islands” located in the central urban area (mainly in Schwabing and in the Loden-Frey area), and in the older manufacturing cores, where there were many vacant production and factory buildings and intensive wider communication facilities.

The aerospace cluster is subdivided into several centres, including Ottobrunn, where the world’s largest aerospace company (EADS) and its huge production and development facilities are located, Oberpfaffenhofen, which is home to a major site of the German Aerospace Center, and Garching. Together they account for 53 % of the employees in the aeronautic sectors and 80 % of the employees in the satellite navigation companies. Garching, in particular, has seen the formation of a significant concentration of research and scientific educational institutions,²⁵ and it is also home to the Garching Innovation GmbH, the Munich-based subsidiary of the Max Planck Society (IHK-LH München-Referat für Arbeit und Wirtschaft, 2007).

These clusters concentrate major company, renowned universities and scientific research institutes, technical service suppliers, business and technology centers, business incubators, as well as a multitude of small and mid-size suppliers, component producers and engineering companies. They are characterized by a close relationship between training activities and scientific research on the one hand and production sectors on the other and numerous connections have been established between them. These facts facilitate the development of synergetic effects and—as Stahlecker and Koch (2004) point out—“combined build the base for a high endogenous potential for the foundation of knowledge-intensive business services”.

4 Main Features of the Tertiary Transition of the Urban Region

Although Bavaria has become predominantly a centre for service industries—which employ 64 % of the workforce—it retains a significant manufacturing sector, with 25 % of workers in 2011 (1,176,000 employees), more than half of whom work

²⁵ The Garching Research Center comprises several scientific departments of the two main university (TUM, LMU), the headquarters of the European Southern Observatory (ESO), the Federal Research Institute for Food Chemistry, the Bavarian Center of Applied Energy Research, the Reactor Safety Research, the General Electric Global Research Center, the Walter Meißner Institute (low-temperature physics) and the Leibniz-Rechenzentrum (central computing facilities for the Munich universities and other research institutes) of the Bavarian Academy of Sciences and Humanities, the BMW Motorsport (high performance motorsport vehicle research and development), and several Max Plank Institutes (for Astrophysics, Extraterrestrial Physics, Plasma Physics, Quantum Optics).

Table 1 Distribution of employment by economic sector in the city of Munich, 2011 (employees registered for social security)

Economic sectors	Employees (abs.)	%
Agriculture, mining	516	0.07
Manufacturing	95,007	13.39
Construction, energy and water supply	29,686	4.18
Retail, catering, transportation	130,351	18.37
Information and communication	54,795	7.72
Financial and insurance services	57,588	8.12
Property, consultancy, business services	160,113	22.56
Public administration	33,500	4.72
Education and teaching	29,891	4.21
Health and social sector	76,413	10.77
Other public and private services	41,720	5.88
Total	709,580	100.00

Source: Federal Employment Agency; City of Munich-Department of Labour and Economic Development (2013)

for high-tech companies (Bavarian Ministry of Economic Affairs, Infrastructure, Transport and Technology, 2012).²⁶

The city of Munich has established itself as a center of services—72 % of employees—while the manufacturing sector accounted for 13.39 % in 2011 (City of Munich-Department of Labour and Economic Development, 2013). According to data for 2011, provided by the Department of Labour and Economic Development (Table 1), the main source of employment for the overall total of 709,580 employees is property, consultancy and business services (22.56 % of employees), followed by retail, catering, transportation (18.37 %), manufacturing (13.39 %), health care and social work (10.77 %), financial and insurance services (8–12 %) and information and communication (7.72 %).

If we consider the information, communications and media industry²⁷ as one, accounting for 29,086 companies and 232,550 permanently employed staff in 2009, 75 % and 89 % respectively are sited in the city and the administrative county of Munich.

²⁶ A high proportion of oldest high-tech industries are located in the city of Munich. In 1987, there were 1325 high-tech companies registered inside the city limits. Analysis of the incidence of newly founded businesses in the high level technological sectors shows that, at the end of the 1980s, the city of Munich already led in these fields (Sternberg, 1998).

²⁷ Since 1999 the Chamber of Industry and Commerce for Munich and Upper Bavaria and the Department for Employment and Business of the city of Munich have analysed the development of this industry. In the 2010 survey (IHK-LH München-Referat für Arbeit und Wirtschaft, 2010) the economic sectors analysed have been the following: media (publishing, printers, sound processors, image and data carriers, film and video producers, broadcasters, manufacturers of radio and television programmes); advertising, market communication and research; journalism, information services and agencies; software, data and IT services, e-commerce; transport, cable and network operators; parts and components; terminal equipment and devices; distribution (commercial agencies and wholesalers).

Measured by the number of companies, the advertising, market communication and research sector, with 35 % of the companies—more than 80 % of which are located within the city boundaries—has overtaken the field of software, e-commerce, data and IT services (with 33 %) compared to 2007. The media sector accounts for the third-largest share of all companies working within the information, communications and media economy (with an incidence of 16 % of the total number of companies in the sector, 80 % of which are located in the city).

The creative field (Hafner et al., 2007)²⁸ encompasses artists, the cultural and creative professions and a mixture of more market-oriented lines, while the knowledge-intensive industries include the segments of information and communications technology, banking, insurance, legal and other corporate services, research and development and higher education.

In 2004, some 28 % of the companies in the Munich region operated in creative and knowledge-intensive industries which gave work to 33.5 % of all employees who pay compulsory social insurance contributions.²⁹ This sector comprised more than 60,000 enterprises in the region, almost 60 % of which were located in the city of Munich. Considering the different segments, the proportion of employees was 12.7 % in creative industries, 4.4 % in information and communication technology, 7.1 % in finance, 6.8 % in legal and other corporate services, 2.5 % in R&D.³⁰

The city of Munich had a higher proportion of creative and knowledge-intensive companies than the wider region. More than a third of the companies in the city operated in these industries which gave work to 37.45 % (about 250,000) of all Munich employees. The amount of employment in different sub-sectors was 13 % in the creative industries, 4.7 % in information and communication technology, 9 % in finance, 8.5 % in legal and other corporate services, and 2.2 % in R&D.

Between 2004 and 2007 there was a considerable reduction in the incidence of employment in the creative knowledge sector as a whole, both in the region and in the city of Munich (City of Munich-Department of Labour and Economic Development, 2008; von Streit et al., 2010).³¹ In the same period, considerable jobs gains

²⁸ The definition of creative industries assumed in the ACRE Report covers the core aspects of the cultural segment, including journalism, films and video, television and radio, music, interactive leisure software, the visual and performing arts and the retail of cultural items, plus architecture, design, advertising and software engineering.

²⁹ Statistical analyses, derived from the ACRE Report 2.7, are based on data supplied by Bundesagentur für Arbeit (BAA). The figures concerning employment would be higher if freelancers, self-employed persons and civil servants were included in the employment statistics.

³⁰ Among highly the qualified professional group, the incidence of data processing experts, banking professionals, insurance experts, entrepreneurs, senior executives, division managers and electrical engineers is particularly significant in the Munich region.

³¹ This trend confirms the general decrease in employees subject to social insurance contributions that started in 2000 in the sub-sector of creative industries, and led to drastic reductions in certain segments, above all the art/antiques trade and architecture as well as video, film, music and photography, and the emergence of other segments, such as computer games, software and electronic publishing, as well as Radio and TV, and advertising.

Table 2 Employees in the creative knowledge sector registered for social security, in absolute figures and in relation to all employees, in 2004 and 2007 (NACE classification of creative knowledge sectors)

	Munich region (<i>Planungsregion 14</i>)						Munich city	
	2004		2007		2004		2007	
	Employees (abs.)	%	Employees (abs.)	%	Employees (abs.)	%	Employees (abs.)	%
All sectors	1,069,510	100.00	1,102,318	100.00	663,961	100.00	673,398	100.00
Creative knowledge sector (altogether)	358,446	33.51	330,568	29.98	248,628	37.45	226,315	33.61
1. Creative industries	135,748	12.69	89,405	8.11	85,977	12.95	55,412	8.23
Advertising	7,243	0.68	8,204	0.74	5,107	0.77	5,903	0.88
Architecture	19,028	1.78	4,529	0.41	11,611	1.75	2,765	0.41
Art/antiques trade	31,796	2.97	2,591	0.23	20,871	3.14	1,715	0.25
Designer fashion	3,333	0.31	2,961	0.27	1,424	0.21	1,464	0.22
Video, film, music and photography	19,089	1.78	8,927	0.81	11,880	1.79	4,653	0.69
Music, visual and performing arts	5,170	0.48	5,497	0.50	4,653	0.7	4,922	0.73
Publishing	15,048	1.41	14,874	1.35	10,829	1.63	11,229	1.67
Computer games, software, electronic publishing	26,360	2.46	31,622	2.87	14,843	2.24	17,464	2.59
Radio and TV	8,681	0.81	10,200	0.92	4,759	0.72	5,298	0.79
2. Information communication technology	47,375	4.43	54,601	4.95	31,352	4.72	31,961	4.75
3. Finances	76,064	7.11	72,543	6.58	59,866	9.02	56,065	8.33
4. Law and other business services ^a	72,551	6.78	82,616	7.49	56,529	8.51	64,234	9.54
5. R&D and higher education	26,708	2.5	31,403	2.85	14,904	2.24	18,642	2.77

Source: Hafner et al. (2007, p. 58) (data source BAA 2006); von Streit et al. (2010, p. 10) (data source BAA 2010)

^aProfessional workers (such as lawyers and notaries) are not represented in the data

were made in the sub-sectors of law and other business services as well as in R&D and higher education (Table 2).

Although the area surrounding the city has been affected by high growth rates during the last decade, also as a consequence of the clusters growing stronger, the increased number of employees in the city has consolidated its supremacy in the field of high quality creative services.

Several of the recent research studies suggest that the balanced economic structure known as “Munich Mix” (*Münchner Mischung*)—i.e. an economic base both in the city and the metropolitan area composed not only of highly diversified sectors but also of dimensionally different businesses (from global players to small and medium sized enterprises, small start-ups and traditional crafts), and the close integration of high-tech companies and businesses in the manufacturing sector—is the distinctive feature of the transformations that have marked the recent economic transition of the city.

The peculiar combination of different production sectors and economic policy strategies, represented by clusters of entrepreneurial, research and training institutions with a quite homogeneous territorial diffusion, together with Munich’s “institutional thickness”³² are the most important ingredients of the economic success of the city (van den Berg et al., 2005; Bontje, Musterd, & Pelzer, 2001; Willems & Hoogerbrugge, 2012).

Munich is in fact characterized by political stability, a strong interventionist tradition and a potent technology-led development pursued by public institutions; a qualified critical mass consisting of a mix of high-value economic activity, high quality universities and a network of public research intermediaries; multiple connections and strong collaboration between elites (business, university and public research communities). Due to the close and intensive collaboration between private partners, public institutions and universities/research institutions, the “triple helix”—as identified by Etzkowitz and Leydesdorff (1997)—seems to be fruitful within the region.

These combined conditions “have helped Munich—as the EMI research report stated—to become a powerful policymaking machine” (Willems & Hoogerbrugge, 2012, p. 12).

They also help to produce a favourable local business climate and strong positive effects on the diversity and flexibility of the local labour market, which is characterized by the lowest unemployment rate of any large German city.

³² According to the definition in use, the concept of institutional thickness refers to broader social, political, and economic structures, the qualities of the institutional arrangements, the legitimacy of institutions and their level of interaction in a region conducive to economic growth (Amin & Thrift, 1995; Rode et al., 2010).

5 Spatial Distribution of Knowledge-Creating Service Companies in the Munich Region

As well as determining a new framework for economic and social relations, the reorganization of the local economic systems has made the roles played by the territory more selective. Over the last two decades, a multi-layered suburbanisation process has enriched the suburban regional system through the emergence of new and more specialised functional structures within metropolitan regions. In the case of the urban region of Munich, the economic transition has been characterized, as has already been mentioned, by the formation of new centralities. Initially, this occurred spontaneously, through the relocation of several firms from the city centre towards the peri-urban fringes, and was subsequently consolidated by the cluster development policy. The process underlay the creation of close integration of the economic base of the urban region with the specialization of the city of Munich itself, and the simultaneous emergence of a number of minor centres that increased their capacity to attract.

The formation of a polycentric settlement structure and the creation of a highly integrated network of public transport and road infrastructures which fostered the increase of intraregional functional interconnections (commuter relations),³³ facilitated the spread of development opportunities for economic activities and residential functions for different segments of demand, thus helping to reduce territorial inequalities in relation to employment and household income.

This therefore is the framework for location decisions as regards advanced services expressly dedicated to the processing of cognitive codes, classified as Knowledge Creating Services (KCS). The analysis³⁴ not only considers KCS activities as a whole and broken down into three categories (Core KCS, Core-Related KCS and Collateral Services to KCS), but also separates them into two groups in relation to their yearly turnover.

³³ The intensifying interrelationship between the city, its surrounding region and the rest of Bavaria is reflected in the increased number of commuters. The Development Report 2005 (City of Munich-Department of Urban Planning and Building Regulation, 2005) shows that the overall number of individuals commuting into Munich rose by 25 % between 1995 and 2000, from 260,000 to more than 300,000 per day, whereas the number of commuting out of the city rose by 22 % to around 106,000. However, given that Munich remains the key economic centre of Bavaria, the outward movement of population generates a substantial amount of in-commuting.

³⁴ The analysis is based on the 2011 Register of Companies of the Chamber of Industry and Commerce (IHK) for Munich and Upper Bavaria. The database is divided into two business groups, according to the business's yearly turnover (with less or more than 17,500 €). Selected economic activities (the data of which are anonymous) are those classified as KCS, a total of more than 77,000, of which 55 % are located within the city of Munich. About half of these companies belong to the group with a yearly turnover of less than 17,500 €, which are not normally registered in any statistics. Most of these are very small service providers (consisting of one person) or businesses which operate in creative industries, mainly start-ups, but also include jobs that were previously subject to social insurance contributions, which have been converted into freelance jobs (see von Pechmann, 2012; Söndermann, 2006).

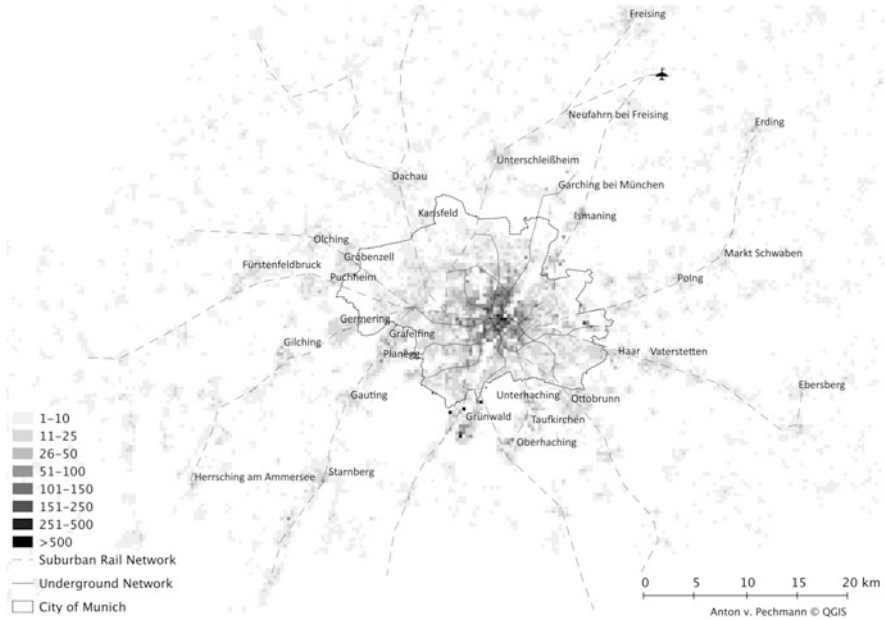


Fig. 2 Spatial distribution of KCS (all) in the Munich region (2011). *Source:* Chamber of Industry and Commerce (IHK) for Munich and Upper Bavaria, Register of Active Companies (our data processing)

The KCS as a whole (Fig. 2) are seen both to be concentrated in the central urban area, especially the part within the inner-city ring road system (Mittlerer Ring), the areas served by the underground railway system and the north-eastern part of Munich (the airport axis), and to be subject to a tendency to gather as nuclei around the main interchanges in the rapid transit railway lines. Altogether, these locational dynamics are the outcome of a transit-oriented development, designed to maximize access to public transport (Fig. 3).

The most numerous of the KCS activities considered, at the level both of the city of Munich and its metropolitan area, are those classified as core KCS belonging to the segment of the business and management consultancy services, followed by the segments of advertising agencies, consultancy activities for hardware or software and other information service activities. These data confirm that Munich is a leading centre for management consultancy services. In this case the city—as Johannes Glückler (2007) has stated—functions as a “reputational node”, because of these specific firms’ proximity to the decision-making centres of industry and financial institutions, as well as to the central transport infrastructure, and is an important criterion in the choice of location.

The increased incidence of KCS firms outside the boundaries of the city of Munich has been especially marked in the suburban municipalities, most of which have become islands of prosperity, with a high leisure quality that provides



Fig. 3 Potential settlement areas at the stations of the regional railway system according to the regional plan of Munich. *Source:* City of Munich-Department of Urban Planning and Building Regulation (2005, p. 33)

exceptionally positive soft locational factors. In these areas there are established centralities or new ones have been set up.

The former consist of business parks, formed initially by businesses that had moved from Munich, and by prime residential zones, as in the cases of Oberhaching, Eching, Neufahrn, Germering and Vaterstetten, or else of headquarters of important institutions or big businesses and multinationals that had settled in Unterschleißheim and Fürstenfeldbruck. Among the companies that have recently relocated to these suburban centres, there are numerous small and medium-sized companies belonging to the service sectors of information technology (mainly software), telecommunications, medical technology and environmental technology. Of these centres, those that are characterized by a higher concentration of KCS activities are in particular Germering and Vaterstetten, which—as well as the overwhelming number of business and management consultancy services and information technology activities—feature a significant presence of public relations and communication services.

The other centralities have grown from the formation of specialist clusters, especially in Garching, Ismaning, Ottobrunn, Taufkirchen and Grünwald (all of which lie within the Munich county administrative district). In these centres too the main activities belong to the segments of business and management consultancy services and consultancy services in the field of information technology. Ottobrunn, the home of prominent companies from the clusters of aerospace, energy, safety and satellite communications, is also home to numerous advertising agencies, while Grünwald, in part because of its proximity to Bavaria Studios—and to Pullach im Isartal—has a large number of financial service activities as well as many head offices and management consultancies.

There is also a significant concentration of KCS activities in the major centres of Dachau, Starnberg and Freising. Along with Grünwald, Starnberg is the wealthiest municipality in Germany and a popular recreation area. Freising is the largest centre (with about 50,000 inhabitants), in the vicinity of Munich airport, and has a high concentration of leading business sectors enterprises, and it is also home to a renowned university campus and numerous research institutions. Freising has a significant number of landscape and garden services activities which are collateral to KCS, while a large number of advertising agencies and head office activities are located in Starnberg, and advertising and market research services in Dachau.

Whereas, of the three categories under consideration, it is especially the activities classified as Collateral Services to KCS with a yearly turnover of less than 17,500 € that tend to congregate in the central urban area, in the vicinity of the underground railway system and in the suburban centres, Private Core KCS activities with a yearly turnover exceeding 17,500 € have a marked tendency to be located in the historical centre. The KCS with a yearly turnover of less than 17,500 € are most densely present in the central urban sectors of Maxvorstadt, Schwabing-West and Ludwigsvorstadt-Isarvorstadt (Figs. 4 and 5), close behind the historic city centre, and in those adjacent to Au-Haidhausen, Schwanthalerhöhe, Sendling, Laim and Neuhausen-Nymphenburg (Fig. 6). These districts, with the exception of Laim and part of Sendling and Neuhausen-Nymphenburg lie within the Mittlerer Ring.

The main cultural and educational infrastructure of the city is concentrated in the district of Maxvorstadt, whereas Schwabing is considered as Munich's bohemian neighbourhood due to its extraordinary high number of bars, clubs, movie theatres, bookshops and restaurants. This urban area has become a fertile ground for gentrification and the theatre of great social conflicts in recent years, and with its high cost of living it no longer offers favourable conditions for the settlement of small and new businesses in the cultural and creative industries.

The Ludwigsvorstadt-Isarvorstadt districts are among the central urban areas with the highest proportion of foreigners (who account for more than 27 % of the resident population). Ludwigsvorstadt is popularly called "the Little Istanbul", owing to the high concentration of Turkish markets, eateries and shops. The space around this old structure has been increasingly taken up by small start-up businesses and artists. Isarvorstadt is more residential in character and its heart is the most vibrant part of the borough. Within the neighborhood there is the distinctive "enclave" of Glockenbach, which still enjoys a reputation as one of the most distinctively alternative corners in Munich, with many art galleries, music stores and boutiques.

The Schwanthalerhöhe district lies to the north of the Theresienwiese (the large space that hosts the Oktoberfest), and at the beginning of 2000, the district still had a high incidence of foreigners and considerable poverty levels. During the last decade, the area has been affected by large urban regeneration actions and induced gentrification processes.

The Au and Haidhausen quarters are characterised by the presence of good condition housing, which fostered the formation of one of the largest areas of

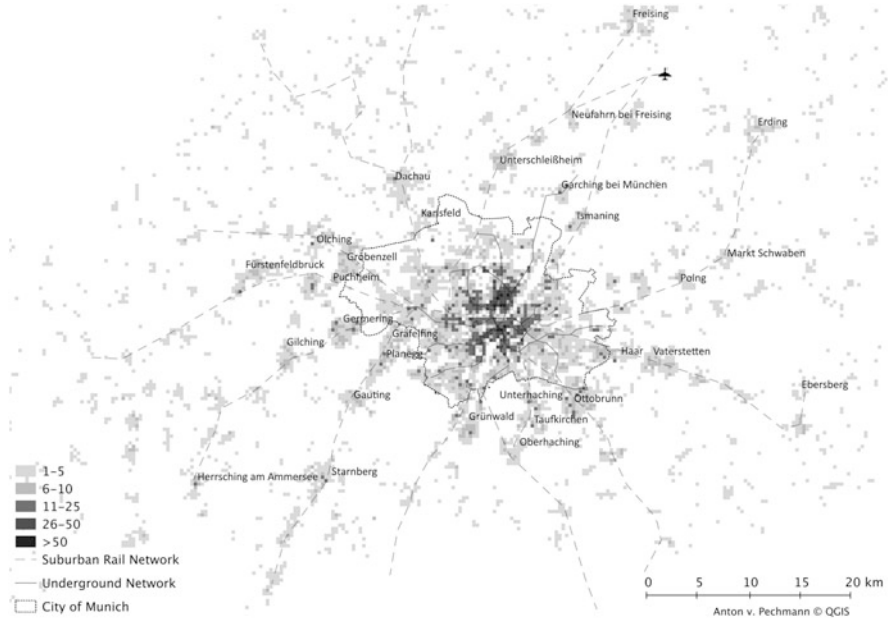


Fig. 4 Spatial distribution of Core KCS with a yearly revenue of less than 17,500 € in the Munich region (2011). *Source:* Chamber of Industry and Commerce (IHK) for Munich and Upper Bavaria, Register of Active Companies (our data processing)

redevelopment in the 1970s, alongside Schwanthalerhöhe with which these quarters share a high incidence of people with an immigrant background. Haidhausen in particular has preserved its historical urban fabric and competes with Schwabing as a trendy area to live in Munich.

Sendling is another mainly residential and multicultural quarter, with a large percentage of foreigners among its inhabitants. The squares around the historical centre of the quarter are the business points in Munich-South, with important educational facilities. Neuhausen-Nymphenburg is the district with the more relaxing atmosphere due to the presence of the Nymphenburg Place gardens, the Botanical Garden and several museums. Its more residential parts are characterized by the persistence of a historic urban fabric with well-preserved residential and office buildings.

Laim is a district outside the Mittlerer Ring that has a predominantly residential character and still retains much of the building fabric constructed during the inter-war period. Laim railway station is an important marshalling yard node of a large rail precinct. Recently the edge of the area along the railroad tracks has been affected by one of the redevelopment plans for new small business centres (the *Gewerbehof* programme).

All KCS with a yearly turnover exceeding 17,500 € show a marked concentration in the historic center and in its immediate vicinity, and a significant density in



Fig. 5 Spatial distribution of Core-related KCS with a yearly revenue of less than 17,500€ in the Munich region (2011 data). *Source:* Chamber of Industry and Commerce (IHK) for Munich and Upper Bavaria, Register of Active Companies (our data processing)

Geiseltasteig, on the southern edge of Munich, where the Bavaria Film Studios are located, and in the suburb of Pullach (Figs. 7, 8 and 9).

As can be evinced from the study contained within the report of the Department of Labour and Economic Development (2005), the central area bounded by the Mittlerer Ring features the maximum interplay of agglomeration advantages and localized synergies generated within the multifaceted clusters of firms. Here in fact there is a high concentration of knowledge clusters, educational and cultural infrastructures, a diversified research establishment, government agencies, company headquarters, finance and law services, insurance companies, venture capital firms, publishers, multimedia, advertising and information services, new media companies, patent system, institutions and centres for technology transfer and for supporting start-ups.

While software firms and telecommunications companies³⁵ are less concentrated in the inner city, the media enterprises show a significant spatial concentration in the central area (Fig. 10).

³⁵ Munich is the second largest telecommunications centre in Germany and it is formed by small-scale service providers and shops and by major cable and network operators with global activities (e.g. Siemens AG, BT Germany, 02 GmbH).



Fig. 6 Spatial distribution of collateral services to KCS with a yearly revenue of less than 17,500 € in the Munich region (2011). *Source:* Chamber of Industry and Commerce (IHK) for Munich and Upper Bavaria, Register of Active Companies (our data processing)

For these latter activities key advantages of this location include its proximity to other relevant agents and to customers, the presence of a vibrant mix of live entertainment venues, as well as image factors and a thriving urban culture. Otherwise the highly specialized media clusters located around Munich, such as the Media Park of Unterföhring or the Bavaria Film Studios, are perceived as “communication islands”. Despite the close proximity of media firms, these remain insular in their activities and there is hardly any interaction between their employees (Bathelt, 2011).

We might say that the distribution of the different segments of the new economy classified as Core KCS activities on the whole coincides significantly with the inner-city space, where there is a high-density overlap of historical layers as well as social and economic relationships. Besides the presence of high-ranking cultural, educational and infrastructural facilities and social overhead capital, the inner city is characterized by the integrity of the urban form with its preserved textures, where streets and traditional blocks can be recognized as structural elements, and by the continuity and the quality of public space. Here the peculiarity of the built environment and social milieu, a highly diversified mix of functions, the presence of multifaceted entertainment districts, a dense network of commercial services and -high-quality recreational spaces all help to foster interaction, to reshape the



Fig. 7 Spatial distribution of Core KCS with a yearly turnover exceeding 17,500 € in the Munich region (2011). *Source:* Chamber of Industry and Commerce (IHK) for Munich and Upper Bavaria, Register of Active Companies (our data processing)

functional connection between fields of activities and to stimulate creative synergies. Combinations of attributes such as these in the city's core contribute to its special atmosphere—as Andreas Philippopoulos-Mihalopoulos points out in his contribution to this volume—and confirm its character as a potent source of localized competitive advantage, especially for the activities belonging to the creative and cultural economy, which have a transactions-intensive nature and mainly make use of the city's stockpile of knowledge, traditions, memories and images (Scott, 2007, 2010).

The dynamic of locational agglomeration of these activities confirms the strong impact of the new economy on the city (Scott, 2006) and shows how this is expressed in an urban development process which, though it engenders high levels of innovation and successful urban growth, is also rife with numerous social tensions.

In the case of Munich, the economic promotion of the city has been instrumental in exacerbating competition vis-à-vis new economic activities and emergent social classes. Although this trajectory has prevented the occurrence of a dualism between center and periphery within the urban region, it has nevertheless given rise to negative externalities, including more pronounced social and economic inequalities and the concomitant socio-spatial segmentation.



Fig. 8 Spatial distribution of Core-related KCS with a yearly revenue exceeding 17,500€ in the Munich region (2011). *Source:* Chamber of Industry and Commerce (IHK) for Munich and Upper Bavaria, Register of Active Companies (our data processing)

6 Demographical Development, Population Structure and Spatial Inequalities

Of the major European cities affected by intense processes of suburbanization of population and jobs in the 1970s and 1980s, Munich is one that has not suffered a rapid decline in population. Even the suburban migration flows did not lead to a negative balance for the city.

The presence of foreign immigrants is particularly high in the city and represents the most striking demographic change. In 2009, they formed 25 % of the population, the highest of all German cities.³⁶ In the Munich region the proportion of foreigners is lower, amounting to 17 % in 2004. However, the city attracts a large share of foreign workers, which in the same year was around 70 % of the total of the urban region (Hafner et al., 2007).

The economic success of Munich has been the main factor in attracting a substantial flow of foreign immigrants. This phenomenon started in the period of rapid economic growth, when Germany stipulated bilateral agreements on labour

³⁶ German Federal Statistical Office, 2009 data. If we consider the incidence of the population with a migrant background, the proportion rises to 35 % in the same year.



Fig. 9 Spatial distribution of Collateral Services to KCS with a yearly revenue exceeding 17,500 € in the Munich region (2011). *Source:* Chamber of Industry and Commerce (IHK) for Munich and Upper Bavaria, Register of Active Companies (our data processing)



Fig. 10 Spatial distribution of media activities in the Munich area. *Source:* City of Munich-Department of Labor and Economic Development (2005, p. 30)

recruitment (“guest workers”) with various Mediterranean countries, especially with Turkey, to cope with the labour shortage in industrial centres.

In recent years the pattern of foreigners coming to Munich has undergone a partial change. There has been an ongoing rise in qualification levels among immigrants, promoted by the federal government through targeted immigration policies. This positive trend adds to that of foreign students, whose presence has become significant, and in 2011 exceeded 14 % of the total number of students (City of Munich-Department of Labour and Economic Development, 2013). If on the one hand, the city is seeking to attract highly skilled foreign workers and foreign students, on the other it seems increasingly to encounter difficulties in stabilizing their presence, considering the high cost of living and the high selectivity towards the top end of the housing market.

Despite Munich’s economic prosperity, selective immigration and suburbanization processes have generated considerable inequalities, and these have affected the spatial organization and the population structure, especially within the urban area. These inequalities have been exacerbated due to the chronic shortage of available and affordable housing in the city, the competitive pressure exerted on the urban area by advanced services and prospering business sectors as well as affluent high-income social groups and the related considerable rise of prices in land, real estate and housing. Taking into account the fact that Munich has the most expensive rental property market (with a residential rental index exceeding the national average by more than 70 %), and the highest prices for residential real estate, at the national level (LH München-Referat für Stadtplanung und Bauordnung, 2012a), we can understand how the housing market has become crucial as a location factor, for a considerable time in quantitative terms, and increasingly in qualitative terms.

The emigration of people with medium-high income has continued apace over a prolonged period, whereas within the urban area the supply of rental housing has continued to be substantial (approximately 70 %, in 2004), the highest among the German cities.

In the suburbs, according to the 2007 figures (Heins & Bucher, 2010), the share of households with children, young persons (under 18 years old) as well as people aged 65 years and over and indigenous population is higher than in the city of Munich. Although the city features a relatively young population structure (it has the lowest share of the under 18 age group), at the same time the working age population (25–64 years old) dominates its age structure; the share of the 20–39 age group (33 %) as well as singles and single-households is very high, whereas the percentage of the elderly (65 years and older) is the lowest in relation to the metropolitan area (17 %).

Furthermore, the share of unemployment in the city is somewhat higher than in the other counties of the urban region, there has been an increase in poverty and more vulnerable residents, especially among foreigners, and income inequality between the richest and poorest has grown. If in 2000, the city showed (LH München-Sozialreferat, 2010) a slight majority of economically privileged citizens (more than 12 %) compared with those living below the poverty level (10.1 %), the last poverty report issued by the City of Munich found that the share of people at risk of

poverty has risen in recent years, reaching 14.7 % in 2011 (LH München-Sozialreferat, 2012), a proportion slightly lower than the national average of 15 %. This is also evidenced by the increasing number of people dependent on social welfare, which is supported by municipalities and highlights another significant gap between the city and its surrounding counties. Whereas in the first decade of 2000, the number of residents receiving welfare in Munich's surrounding counties stabilized at around 2 %, in the city there was an increase which pushed the number of those in receipt of welfare up to 7.7 % in 2011. Amongst the latter, a disproportionate number are found in the non-German population.³⁷ In the same period the city has accounted for a high proportion (almost 75 %) of the total number of residents in the Munich region classed as long-term unemployed or in poorly paid and temporary employment (LH München-Sozialreferat, 2012), and also in this case foreigners are the part of the population most affected by the phenomenon.

Social and economic inequalities have spread across different parts of the city's districts and are clearly reflected in the housing market structure and the function and the building types of the area. Cross-analysis of the distribution of more vulnerable residents and foreigners in the urban districts highlights a strong relationship in the spatial concentration of these two categories (Figs. 11 and 12).

The greatest density of low-income residents and the far above average percentage of foreign residents are mainly in the northern (especially the districts of Feldmoching-Hasenberg and Milbertshofen-Am Hart) and southern parts of Munich³⁸ (particularly the districts of Berg am Laim and Ramersdorf-Perlach). Further residential areas with a high proportion of low-income population are located at Aubing-Süd and Hadern, towards the western edges of the city.

Altogether it is a matter of urban precincts, predominantly with a residential character, mostly with fewer social facilities and a high concentration of state-subsidized housing.³⁹ An exception is the more recent residential development of Messestadt Riem, created through the regeneration of the area of the former Munich-Riem airport, in which a significant incidence of low-income residents can be explained by the presence of a large proportion of social housing and subsidised private ownership, mainly for young families with children.⁴⁰

Pockets of poverty have also formed in districts closer to the city centre, such as Sendling-Westpark and Au-Haidhausen, as well as in the district of Schwanthalerhöhe, where the recent redevelopment of the former trade fair site has allowed the creation of a significant share of subsidised housing.

³⁷ The section of the population most severely affected by poverty and in need of social assistance are children and young people up to 14 years old (12 % in 2011).

³⁸ With the exception of Feldmoching-Hasenberg, these are the districts where recently (2007–2011) there has also been an increase in the numbers of people drawing social welfare, particularly among the non-German population (LH München-Sozialreferat, 2012).

³⁹ According to City of Munich's official statistics, in 2005, around 11 % of the city housing market stock were state-supported homes. This proportion places Munich in the mid-range among the major German cities.

⁴⁰ This also explains why the district of Trudering-Riem has had the highest increase of the population receiving social assistance (from 5.6 % in 2007 to 7.1 % in 2011).



Fig. 11 Foreign people in the city of Munich (2011). *Source:* LH München-Sozialreferat (our data processing)

Whilst in central and semi-central areas the process of replacing the existing population with others higher up the social ladder has been more marked in recent years, in areas with a higher concentration of elderly disadvantaged population (especially in the districts of Ramersdorf-Perlach, Milbertshofen-Am Hart and Trudering-Riem) there has been a reinforcement of disparities in the income sector and an increasing impoverishment of residents (LH München-Sozialreferat, 2012).

Due to the cutback of state-subsidised housing and state funding in general, since the 1990s the city government has treated localised and themed action programmes in these city districts with special development needs as strategic intervention, also participating in joint initiatives with the federal and regional governments.

The other side of the coin consists of the central residential areas characterized by high social prestige, such as Schwabing, Nymphenburg, Isarvorstadt (in particular the neighborhood of Glockenbach, recently gentrified by the fashion and design business), which comprise the old urban fabric, as well as Pasing, with its large settlement of villas and cottages, Bogenhausen (especially the residential area of Herzogpark), Harlaching, Solln and Prinz-Ludwigshöhe, whose edges along the river Isar are occupied by exclusive residential settlements.

Considering all these aspects, the Munich government has devised various policies in order to rectify the social imbalance of urban areas, establish affordable



Fig. 12 Per capita purchasing power by district in the city of Munich (€ 2011). *Source:* LH München-Referat für Stadtplanung und Bauordnung (2012a, p. 50)

housing solutions for social groups more at risk, protect social stability and sustainable district development, and extend control of rents. These policy instruments have played a key function in the urban development process and attribute great importance to the issue of housing supply as well as the social spatial mix and varied public environments.⁴¹

7 Options and Capacities of Urban Governance in Addressing Key Social and Economic Challenges

As illustrated above, the trajectory of Munich's development towards an advanced service economy, strongly supported by aggressive location marketing promoting the Munich area, had the effect of increasing pressure in the urban core on

⁴¹ The outcomes of these policies, in quantitative terms, can be considered significant. Since the launch of the housing policy action programme "Living in Munich" (*Wohnen in Muenchen*) in 1990, a total of 115,000 new housing units have been created and about 20 % of them have been financially supported (LH München-Referat für Stadtplanung und Bauordnung, 2012a).

economic activities to become more competitive and promoting the emergence of a new gentrified urban elite. These processes, while they did not lead to real social polarization, have nevertheless created new forms of social stratification, and have given rise to progressive replacement of the population.

For several decades, the urban middle classes have been the main driver of suburban growth and this is one reason why this component of the social structure of the city of Munich falls clearly below the national average.⁴² The middle-class people living in inner Munich have experienced relative deprivation, as has happened in other emerging European cities, and they appear to be suffering from marked instability as regards both housing and work conditions.

The most significant factor underlying the vulnerability of this social group, which has no access to the subsidized housing market, is the increased value of housing units and consequently of the rental property market.

In the case of Munich, the disruptive effects of these processes have been alleviated by the particular structure of the existing housing stock and by public policies related to an integrated urban development strategy and embedded in an appropriate governance framework.

In relation to the former aspect, the presence of a significant proportion of old municipal housing stock built during the 1920s and the 1930s and in the period of post-war reconstruction by municipal companies (GEWOFAG and GWG)⁴³ for wide sections of the population, as well as of several apartment buildings owned by housing cooperatives, have ensured the stabilization of the tenant structure in the various urban areas and a local social balance.⁴⁴ This important stock of affordable rental housing is in addition to the vast amount of social purpose housing which was built in the years up to the 1970s.⁴⁵

⁴² LH München, Statistisches Amt, München 2006.

⁴³ GWG was founded in 1918 and it is one of the oldest local authority housing associations in Germany and a major pillar of publicly funded rental housing construction in the city of Munich. GEWOFAG was founded in 1928 and is a municipal company. Both these publicly owned companies currently manage a housing stock of more than 62,000 flats (publicly funded and privately financed), mostly concentrated in the urban districts of Milbertshofen-Am Hart, Ramersdorf-Perlach, Feldmoching-Hasenbergl, Moosach, Au-Haidhausen, Sendling-Westpark, Hadern, Berg am Laim, Giesing, Neuhausen and Sendling/Laim. Thirty percent of the privately financed stock is let to tenants on low and medium incomes. They support more than 100,000 tenants and the total housing stock managed amounts to almost 10 % of the total rented housing in the city of Munich.

⁴⁴ Recently these companies have undertaken as their primary task the extensive renovation and energy modernization of older buildings along with the preservation and maintenance of public spaces and green areas and the improvement of infrastructural services.

⁴⁵ From the end of the war until 1960, 134,500 apartments were built, 40 % of them state-subsidised housing, and until 1970 whole districts were developed, such as Neuperlach, Hasenbergl and Fürstenried-West, which contain a significant portion of public housing (Hafner et al., 2007).

A further large section of the rent sector was owned by a property management company (GBW), a former non-profit organization, that has so far ensured accessibility to affordable housing among middle income households.⁴⁶

Local housing policies play a key role in the whole urban development process and are defined within a long-term, integrated and flexible framework—“Perspective Munich” (*Perspektive München*)—for the orientation of the development of the city, as well as the surrounding region. This policy tool, which aims to make the city a relatively unitary economic and political actor, is supported by the regulatory device and procedural principles of socially equitable land use (*Sozialgerechte Boden Nutzung*—SoBoN). Both are a clear expression of strong political leadership and its intention to pursue socially sustainable economic development, reconciling economic competitiveness, environmental sustainability and social cohesion. This intentionality is based on a vision of the future transformations of the city guided by an approach to spatial development which can be summarized as “compact, urban, green”, and entails a responsible usage of land reserves and the creation of a high quality urban environment, assured by a mix of functions and living standards.

The principles of socially equitable land use, which allow the public administration to recapitalize the city, were initially introduced in Munich in order to address the serious imbalance between the housing demand structure and the supply structure (LH München-Referat für Stadtplanung und Bauordnung, 2006) and to bind the actors of urban transformation together in a long-term cooperative strategy. The SoBoN device, approved in 1994 and then translated into a legal measure at the national level, links the granting of new development—or urban transformation—rights to a willingness on the part of the property owners to contribute up to two thirds of the increase in land value to fund the physical and social infrastructure and other origination costs (e.g. technical infrastructures, community facilities, open spaces, green spaces, and the financing of state-subsidised housing). It has been applied to all projects for the redevelopment of disused sites, not owned by the municipality, and consolidated as indispensable factor both to prevent the opportunistic behaviour of private actors and to continue large-scale creation of scope for development (City of Munich-Department of Urban Planning and Building Regulation, 2005). Whereas redevelopment is predominantly carried out by private actors and is subject to a set of shared negotiation rules, the major transformation projects are promoted and implemented by the municipality in public areas or

⁴⁶ GBW manages more than 10,000 apartments in Munich, with about 85,000 tenants. Since almost all of GBW’s shares are held by the state-owned bank BayernLB, the latter’s decision to liquidate its holdings has given rise to widespread social strains. In order to maintain social stability, the local government plans to allocate more than 24 % of its 3-year expenditure budget (2012–2016) for housing and the possible acquisition of the shares in GBW company, while 32 % is reserved for educational infrastructure, child day care and nurseries (City of Munich-Department of Labor and Economic Development, 2013). More than half the city budget is thus being employed to prevent the displacement of tenants and to ensure good living conditions in different neighborhoods around the city.

purposely acquired (e.g. disused military barracks, railway and airport land) through pilot projects.

“Perspective Munich” is conceived as a process of managing the interdependences within the large field of economic and social actors, the various functional autonomies and administrative departments, as well as the different levels of the political-administrative system and the participative decision-making process. This strategic governance is also applied to each individual project, and is aimed at achieving the broadest possible consensus and the legitimacy of public action.

It requires continuous evaluation and updates to ensure that local government can react appropriately in the definition of the field of action of local policies, and operating targets are regularly reviewed and adapted to socio-economic and demographic changes.

“Perspective Munich”, adopted by the city Council in 1998, is underpinned by long-term principles, such as economic prosperity, regional cooperation and governance, social balance and equity, reduction of sprawl and land consumption by the redevelopment of the city, and sustainable mobility. These principles are embodied in associated projects, focusing the financial, spatial and personnel resources of local government on areas of activity of strategic importance, and concretised through implementation-oriented strategic and thematic guidelines, as well as inter-departmental action plans, local or sectoral concepts and localised action programmes (City of Munich-Department of Urban Planning and Building Regulation, 2005). These latter refer both to sectoral policies⁴⁷ and specific urban areas,⁴⁸ and are budgeted, precisely scheduled and regularly updated.

Among the local concepts, one of the most important is the inner-city concept which defines guidelines and measures designed to ameliorate and upgrade the urban core where, as mentioned above, the impact of the structural change that has affected the economy⁴⁹ is stronger.

The planned interventions are designed to retain the established diversity of inner city utilization, promote residential use, improve the structure of public areas

⁴⁷ The most significant of the sectoral policies are: the long-term action programme “Living in Munich”, concerning housing policies; the “Munich Employment and Qualification Programme”, for the promotion of innovative labour market projects; the “Munich Gewerbehof-programme”, aimed at safeguarding the craft trades and traditional industries, and the “Climate Protection Implementation Programme”, aimed at making environmental protection an integral part of urban development.

⁴⁸ The main localized action programmes are the Middle Ring action programme, for improving the quality of life adjacent to this busy traffic artery, and the “Social City” programme, for the promotion of self-renewal processes in the city districts with a significant need for social environmental action.

⁴⁹ The inner city has been most affected by the gentrification processes and the resident population has consequently declined by up to 7000 inhabitants. Although in recent decades the availability of residential spaces has increased, the resident population has remained constant. This is due primarily to the fact that the housing demand of single-person households is particularly high in this area (LH München-Referat für Stadtplanung und Bauordnung, 2012a).

and accessibility infrastructure, while ensuring a sustainable urban form. Given the strong pressure exerted on the central area, a structural plan has been designed to extend it spatially, involving the large area located in front of the Ostbahnhof (Eastern railway station).

At the same time, to compensate for the strong selective function exercised by the urban market in the inner city, a number of exemplary urban regeneration projects, providing for new settlements of mixed character, both social and functional, have been carried out in disused areas at the edge of the city centre (i.e. Ackermannbogen and *Theresienhöhe*).

In the whole urban development process, local housing policies are consistently given priority and are one of the most important aspects of local government's responsibility to achieve sustainable district development.⁵⁰

Different tools contribute to the implementation of housing policies: the long-term action programme "Living in Munich",⁵¹ which defines targets and actions for new housing construction and housing stock policies and is subject to periodic updates in relation to current challenges in the housing market and consequent new priorities; the local authority sponsorship programme "Munich Model", which is a financing device consisting of three types of housing subsidies (i.e. for the rental, property and cooperative sectors of housing), the wide range of local housing funds, and the SoBoN device, which ensures the effective linking of the strategic and the operational dimensions of land management.

The main guidelines for the transformations and development of the urban area are defined by the land development plan, which identifies strategic areas within which both private investments and medium-term public investment in infrastructures and community facilities are to be directed. In order to achieve sustainable development of the city as a whole, attention has been concentrated on the reuse and revitalization of disused areas. About two decades ago the availability of land for residential purposes and the development of economic activities seemed

⁵⁰ The main ambition of these policies is to combine the supply of affordable housing with the concepts of social and functional mix and land use control, with pilot projects embodying the motto "compact, urban, green".

⁵¹ The action programme "Living in Munich", launched in 1990, was then integrated into "Perspective Munich", and for the period 2001–2006 provided for the creation of an average of 7000 dwellings per year, over 25 % of which were built with public-sector subsidies. Due to the unfavourable economic climate, no more than around 4500–5000 units were completed each year between 2001 and 2004, while in the same period targets for subsidised housing construction were almost achieved (City of Munich-Department of Urban Planning and Building Regulation, 2005). With the programme update for the period 2007–2011, increased funds were disbursed by the municipality, and more effort was directed towards the rental sector, according to the "Munich Model for Rental Housing", which caters mainly for families with children belonging to the lower/middle-income group; the programme also attracted financial resources from the federal state, managed by local government to subsidize home-ownership by granting loans at affordable rates. The latest programme update for the period 2012–2016 identifies new priorities and provides for the construction of an average of 3500 housing units a year, of which over 50 % relate to subsidized units targeted at different demand segments.

very limited, but the subsequent privatisation of the rail and postal systems, the increase of disused industrial and commercial areas and the downsizing of the armed forces consequent on the reunification of Germany, are processes that have contributed decisively to change the situation. So the city had extensive supplies of land available for designation both for new settlements and to reserve for future community needs, as set by the long-term oriented land reserve policy of 2003.

In addition, further new residential accommodation was obtained through an increase in settlement density in the immediate catchment areas, which benefit from efficient public transport, as well as in the planned district centres and in district centres to be upgraded. The densification of the existing urban fabric has been, however, accompanied by measures to safeguard and strengthen green areas, which aim to create an extensive networking of open spaces.⁵²

Within the framework of the programme Living in Munich and the financing device Munich Model, whose main intention is to keep families with children in the city, local housing policies have been implemented through several large-scale urban construction programmes over the last few decades. During this period, several redevelopment projects are regarded as exemplary implementation of the principles and strategic guidelines of the Perspective Munich programme, as well as being prototypes for the housing policies of Munich: “Messestadt Riem”, “Theresienhöhe”, “Ackermannbogen” and “Zentrale Bahnflächen”.

The first two relate to an integrated strategy for the conversion of large areas previously used for important urban infrastructures, namely the airport and the trade fair site.

Messestadt Riem is the most complex of the urban transformation projects; it is located at the eastern edge of the city and, involves reutilization of the area of the former airport, moved to the north of Munich, for the development of a new community of around 14,000 people, and the creation of the new trade fair facility. The urban planning concept envisioned a green place to live and work, due to the predominance of green areas, and provided for the creation of 13,800 jobs and various community facilities. As regards housing policy, the creation of the new residential settlement has imposed close links between the various subsidised and non-subsidised units, as well as applying the “one-third rule”,⁵³ in order to ensure a social mix and facilitate social integration (City of Munich-Department of Urban Planning and Building Regulation, 2006a).

Although this new urban part is well connected with the central area through a metro line, has an ample supply of open spaces in both recreational and natural areas, social services and community facilities, presents a mix of building types catering for different sectors of housing demand, with a high proportion of public assistance and housing allowance recipients, and distinguishes itself by the

⁵² Reduction of the existing deficit of green spaces in the various districts has been mainly assigned to the special redevelopment projects, particularly in areas bordering on the inner city.

⁵³ This measure applied to housing means the building of one third non-subsidised, one third subsidised according to the Munich Model, one third standard low-income housing.

presence of the trade fair and two business parks, it lacks urban character, despite its mixed-utilization characteristics. The conformation of the residential settlement seems still to be traditional, with the various buildings separated from each other by green areas and the presence of a large-scale shopping centre.

In the area previously occupied by the trade fair site, close to the historical centre, an urban regeneration project—Theresienhöhe—has been implemented as an exemplification of the Munich mix model. The area was municipally owned and, in order to achieve economically sustainable urban renewal and generate the revenue needed to build the new trade fair site, a large number of real estate lots were sold. Prior to the architectural competition, district residents and future inhabitants of the neighborhood were involved in the definition of the master plan for the area. The results of this participatory process became an essential part of the competition's mission statement.⁵⁴ The new settlement, which is spread over an area of approximately one-third the size of the historical centre, is configured as a mixed-use environment, characterized by high variety and density housing, with 50 % of the total housing units for publicly subsidised rent; it has more than 4000 workplaces, and its public spaces cover more than 50 % of the total surface area.

Among the different sites of the former military complexes, Ackermannbogen—south of the Olympic Park—is the first conversion project to turn a barracks into a residential and working neighbourhood. During the updating process, specific types of Munich Model housing subsidies were activated, first to make the rental housing market available for lower and middle-class income sectors, and then to promote the interests of cooperations and building associations, also through a significant increase in subsidy funds. The new neighbourhood is made up of four different sections separated by a central green axis, which in turn divides the settlement into individual residential areas, equipped with collective services (children's day care centre, nursery) and characterized by different housing typologies, and areas with prevalent mixed use.⁵⁵

The largest precincts being restructured within the city boundaries consist of the central railway areas, that develop linearly from the main railway station via Laim to Pasing. Due to the privatisation of the German Federal Railway (DB) in the middle of the 1990s, more than 170 ha fell into disuse and became available for coordinated interventions of urban regeneration. A master agreement, signed in 1997 by the property subsidiaries of the German Federal Railway and the city of Munich, provided the opportunity to restructure these areas and to integrate the new built structures into the existing urban fabric. In total, areas holding up to 19,000 workplaces in the fields of trade, advanced services, new technologies and social services, as well as in the small business centres included in the *Gewerbehof*

⁵⁴ During the several meetings with the project's advisory group, real estate and business actors were also involved and the open planning process led to a high degree of agreement.

⁵⁵ In Ackermannbogen, some 40 % of the apartments are developed by building cooperatives and community building groups and a significant proportion of the "Munich Mix" for housing consists of rental housing promoted by income-oriented subsidy funds provided by the City of Munich and the Bavarian government.

programme, residential units for around 16,000 inhabitants and a significant variety of cultural and leisure facilities are being developed.

The orientation which has prevailed in these urban transformations and has achieved greater social consensus is substantially the predilection of traditional residential settlements, more dense than compact, which are not able to form an urban fabric, and are configured as “archipelagos” separated by green areas. The mixed use is then obtained through proximity rather than by integrating different urban functions and experimenting with new urban building typologies, as in the cases of Berlin and Hamburg. These aspects help to delineate the perceived atmosphere of the city as a very wealthy place, relaxed and almost like a big village (Hafner et al., 2007). For the majority of the creative knowledge workers the preferred residential location which corresponds best to their working patterns and lifestyles continues to be the inner city districts, which are the only ones to have a real urban atmosphere.

Although Munich’s cultural qualities are certainly excellent and the percentage of foreigners is the highest in Germany, it does not have the image of being an important location for artistic and cultural experimentation, or of being a very international city, with a vibrant life and a multicultural flavor (Hafner et al., 2008).

As regards the localised and themed action programmes, one of the most significant concerns specific interventions in urban areas with special development needs. The city of Munich has focussed its special “Social City” programme⁵⁶ on two districts with overarching social and economic problems, specifically Milbertshofen and Hasenberg. On the basis of an integrated approach, several projects combining physical with social, cultural and economic targets and aimed at enhancing social inclusion and educational qualifications and providing training and jobs were put into effect.⁵⁷

The strategic instrument Perspective Munich encompasses almost all aspects of urban policy, including those concerning economic development, which involve the urban region. In this regard, the basis for metropolitan planning was provided by the transport development plan. The action plan defines a comprehensive and complex bundle of measures to ensure the functionality of traffic as well as ensuring its urban compatibility (City of Munich-Department of Urban Planning and Building Regulation, 2006b). It is strictly coordinated with the land utilization plan and

⁵⁶ This special programme consists of a joint initiative of the federal and state governments launched at the end of the 1990s to prevent rising social polarisation and its manifestation in urban space.

⁵⁷ The Social City programme was funded by the federal government, the government of Bavaria and the city of Munich, while the basic programme for urban development funding was funded by the government of Bavaria (60 %), and the city of Munich (40 %). The total funds allocated to the district refurbishment programme have been provided by public authorities, private organizations and public-private partnership (LH München-Referat für Stadtplanung und Bauordnung, 2011, 2012b). Since 2001 the regeneration programmes have also been started in other urban areas and the Social City programme has been extended to further districts situated on the Mittlerer Ring. The various actions of district refurbishment envisaged have been implemented with the active involvement of the inhabitants and the local actors at an early stage.

with further partial area and sectoral concepts which are mainly concerned with the areas of the Mittlerer Ring, parking, public metropolitan and suburban commuter railway systems, as well as cycle and pedestrian traffic.

Both the transport development plan and the Munich regional plan, together with the associations that have been formed between several local governments in order to protect recreational areas, carry out joint marketing, economic development and tourism initiatives, converge towards strengthening polycentric settlement structure. Despite these guidelines, the harmonisation and coordination of development processes at the urban region level are quite difficult to put into effect. They require a joint effort to improve cooperation between the multitude of small municipalities surrounding the city of Munich; since responsibility for land use regulation rests with the local governments, the spatial competition for jobs and housing, in view of the fiscal benefits, is very strong, and policy making and implementation are mostly fragmented. The city of Munich is actively promoting inter-authority procedures covering central aspects of planning at this level, but the pressure on land of the different interests involved in fostering urban growth remains strong, and the competition between outlying municipalities in attracting retail stores, housing and firms continues to manifest itself.⁵⁸ Given these conditions, and considering that regional cooperation has remained on a voluntary and consultative basis and no planning authority has been transferred to the regional level, in contrast to other German city-regions, there is at present no adequate institutional device ensuring that an integrated development strategy can be adopted at this level. Nevertheless the city of Munich is experimenting with innovative policies and projects to safeguard its land reserve and combat urban sprawl.⁵⁹

Munich's economic policies, which have complemented those of the Bavarian government in many respects, seek to combine the promotion of employment with the development of skills for growth and social stability. Despite the significant decline in unemployment during the last few years and the good employment condition of the city, the local government's labour market policy has been further strengthened to cope with the increasing labour demand of foreign immigrants and to achieve labour market integration.

One of the main pillars of the local labour market policy is the promotion of innovative labour market projects, which is part of the Munich Employment and

⁵⁸ Municipalities are very interested to develop land because they retain a percentage of income tax generated in each Land, in accordance with their population size, and receive both transfer payments, depending on the extent of their service responsibilities, and property taxes (Evans, 2012).

⁵⁹ The success of Munich in the field of land consumption control has recently been recognized by the European Environment Agency which, in its report on urban sprawl in Europe, pointed out that "only Munich has remained exceptionally compact if compared to many other European cities and it is the only urban area among the 24 urban areas studied where the built-up areas have grown at a clearly slower pace than the population" (EEA, 2006, p. 46). According to the Agency, the lesson from Munich can provide the good practice basis for sustainable development that many other cities throughout Europe urgently require.

Qualification Programme (MBQ). This policy instrument is the most extensive local government programme on employment at the national level and is supported on a voluntary basis. It aims to provide suitable jobs and vocational training opportunities for various target groups, and improve the employment prospects mainly of those at a disadvantage on the city's labour market (LH München-Referat für Arbeit und Wirtschaft, 2011).

In accordance with its general orientation towards pro-active economic and labour market policies, Munich has for decades invested in several promotion programmes targeted at SMEs, and more recently micro-enterprises in the emerging sector of the creative economy, to enhance structural change and economic competitiveness. For this reason, improvement of the business start-up environment has increasingly become one of the main tasks of the local government.⁶⁰

To support the development of small and medium-sized businesses, a special programme—the “Munich business park programme MGH” (*Gewerbehofprogramm*)—and the Munich Technology Centre (MTZ), directed specifically at the handicraft and technology sectors, were established at the beginning of the 1980s. The long-term aim of the MGH is to establish a citywide network of centres for small businesses, safeguarding accommodation within the urban area for the craft trades, traditional manufacturing and commercial activities, which would otherwise be ejected from the market, owing mainly to the rise in property values. These small business centres are set up in redevelopment areas or in precincts affected by densification and functional diversification projects, in order to contribute to the formation of a mix urban fabric.⁶¹

Further programmes that help to strengthen the Munich's labour market and employment policies, and at the same time to increase social cohesion are those addressed directly to the inhabitants. They are designed in particular to strengthen the knowledge base, especially in the fields of adult education and schooling, and to develop childcare facilities. These programmes have recently been given priority by the various government levels.⁶²

⁶⁰ The Munich Entrepreneurship Agency (MEB), founded in 1998 in cooperation with the Chamber of Industry and Commerce for Munich and Upper Bavaria, has established itself as key instrument of this policy. It is made up of several integrated services, including the “Munich fund” loan grants, provided by local saving banks for a defined period, to enable small enterprises to start their own business. As shown by a recent evaluation of the activities carried out by the MEB, about half of the service users have achieved tertiary education and more than 70 % have become individual entrepreneurs (LH München-Referat für Arbeit und Wirtschaft, 2010).

⁶¹ The eight structures at present developed—which have a total rentable area of approximately a 100,000 m², and can accommodate more than 340 companies—guarantee long-term oriented rental contracts with lower rent, despite their central location in the city.

⁶² In relation to childcare facilities, the local government has resolutely oriented the resources derived from the application of the SoBoN device towards the creation of kindergartens, allowing more than 80 % of children to use this service (LH München-Referat für Arbeit und Wirtschaft, 2012).

Munich has sought to consolidate its reputation as a city of knowledge and training and its leadership at the national level.⁶³ It is trying to meet the challenges that the knowledge society poses to the work environment by setting up new schools and strengthening the system of life-long adult training. In this regard, the activities of the *München Volkshochschule* (MVHS), the Munich adult education school for adults, have been further enhanced.⁶⁴ Currently, through this historic institution, which is the largest European adult education establishment in public responsibility, in addition to the employment and qualification programme and further education establishments, the city is able to offer a significant contribution to life-long-learning, also through cooperation with local businesses in training and further education opportunities.

Examination of the policies implemented by the city to strengthen the education and training systems shows how the local government considers investment in human capital and improvement of the functional interdependence between the training system and the labour market as essential both to the promotion of social inclusion and maintenance of the competitive edge of the Munich economy.

8 Conclusions

As we have tried to demonstrate, Munich's enhancement of its strong base of assets, which has been skillfully exploited by local leaders who developed the "institutional thickness" necessary to achieve long-term, focused policy interventions, has enabled the city to build its technological capacity, to become an important example of the national "triple helix system" and shape, together with more established regions of advanced manufacturing, Germany's distinctive "service-manufacturing-nexus" (Rode et al., 2010).

The creation by the State of Bavaria of an efficient and extensive network of mobility infrastructure on a metropolitan scale, such as the regional rail lines and the new airport, and the substantial investments this government has made in launching an aggressive technology-led development and promoting the spatial clustering of new specialised high-value activities in the metropolitan region, have responded to the productive and residential locational dynamics displayed in the

⁶³ With 39 general and 78 vocational training schools and 36 highly specialised vocational training centres operated by the municipality, Munich has the largest municipal school and training system in Germany.

⁶⁴ According to the report drawn up in 2005 (City of Munich-Department of Labour and Economic Development, 2005), in recent years, the MVHS has promoted several educational programmes every year involving overall more than 200,000 people. It organizes life-accompanying learning in several fields, frequently in cooperation with other Munich-based cultural and educational institutions, universities, societies and associations. The education programme for senior citizens alone has more than 10,000 participants per year. Courses, which can be attended by people from various walks of life and various backgrounds, are run at 95 schools distributed mainly in the inner city.

suburban areas of the city. This made it possible to shape a polycentric development of the urban region, which has been driven by activating forms of cooperation between the various local governments and by strategic plans aimed at coordinating the development of new settlements with the strengthening of the public transport network.

Although the voluntary body representing the city of Munich and its surrounding municipalities has made significant progress in this direction, the best results have been achieved in improvements to transportation systems, in major infrastructure investment and in the protection of green recreational areas. However, the multitude of small municipalities that make up the region have not yet really adopted as a common purpose the need to secure a coherent territorial approach to land management and planning in order to shape the context in which the market-driven locational choices and investment decisions (both of firms and households) are made. For this reason, the construction of an integrated development strategy at the urban region level, and the improvement of territorial governance on this scale are crucial and remain the main challenge facing Munich.

If on the one hand the economic and settlement development in the urban region is still configured as a balanced polycentric system which has benefited significantly in terms of employment and wealth distribution, and is characterised by good environmental conditions, on the other the development of highly attractive production sectors and the ongoing changes in the production system related to the strong tertiary transition of economy have generated disruptive effects, above all in the urban area. Like other global cities, Munich has in fact experienced an intensification of foreign immigrant flows, consequent growth in the multiethnic composition of its population and inequality in income distribution among social groups; at the same time, it has seen increasing concentrations of more vulnerable residents and a socially segmented internal structuring of the city. New social and territorial inequalities have in fact become apparent as a consequence of the rise of the new urban elite occupied in the service activities of the leading and more competitive economic sectors, as well as of the increasing housing costs. Despite the presence of a polycentric settlement structure, in this case too, the pressure and concentration of knowledge-intensive services in the inner city, especially those classified as Core KCS, have proved to be very high and have given rise to strong competition between economic activities within the urban area. Although Munich has invested heavily in enhancing its attractiveness, the impact of such processes has been much lower compared to other German cities. This is due to the fact that the effectiveness of the policies implemented by the local government, even more than the role played by a national welfare system with a solid tradition, has contributed significantly to attenuate economic and social disparities, while preserving economic diversification, reducing the formation of areas of social segregation and ensuring a high and widespread urban quality.

Munich has faced the challenge of balancing economic, social and environmental goals by developing—from as early as the 1990s—a strong governance framework, within which several programmes have been designed to maintain and improve its public assets, including the old municipal housing stock, to provide

new adequate and affordable housing, to mitigate the replacement of population and economic activities and ensure the preservation of the social and productive mix, along with the creation of public goods. Unlike cities—such as Milan, one of the case studies examined in this book—which have resorted to short-term reactive urban policies, substantially arising from profit-maximising motives, typical of the market-driven approaches to spatial development, and have seen the increasingly disruptive effects of spatial competition of social groups and economic activities, in order to grasp the opportunity offered by ongoing changes in the urban production system and generate investments, Munich has engaged in long-term efforts towards local capacity-building, both social and institutional. The Munich experience demonstrates effectively that an increase in the level of global competitiveness of cities, which continue to be a specific form of local society (Bagnasco & Le Galés, 2000), is not necessarily matched by an increase in their levels of inequality or social exclusion, especially if they are able to provide both appropriate tools and policies to ensure the development of “places of sociability” helping to strengthen economic transactions (Amin & Thrift, 2002).

But if on the one hand, Munich’s territorial and spatial development has been properly concentrated on areas within the city, efficiently served by public transport, and focused on the reuse and regeneration of disused sites, as well as on the creation of new urban social and functional mixes, on the other the new districts do not differ in their configuration from traditional residential neighborhoods, despite the presence of other functions. The creation, in these new areas, of an environment with urban features, through a compact fabric and a strong function admixture, as well as a social mix, would have allowed the inner city to be expanded, offering greater location opportunities to the growing demand for centrality by advanced services, while at the same time reducing the congestion of the urban centre and improving its habitability.

This is another of the key challenges that faces Munich: considering that there are still numerous areas to be reused, especially the former barracks and the influx of population is expected to continue for the next 20 years, as is the development of knowledge intensive services, it is necessary to shift the focus of housing policy, which has been mainly on quantitative dimensions, toward qualitative aspects. The new urban regeneration projects should in fact provide for the building of diverse, high quality housing, reflected above all in the fine-grained mix of uses (e.g. living accommodation, workplace and leisure uses), in order to satisfy the housing demand of the new knowledge workers that the city needs to attract to maintain the competitive edge of its economy.

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