

city, transformed

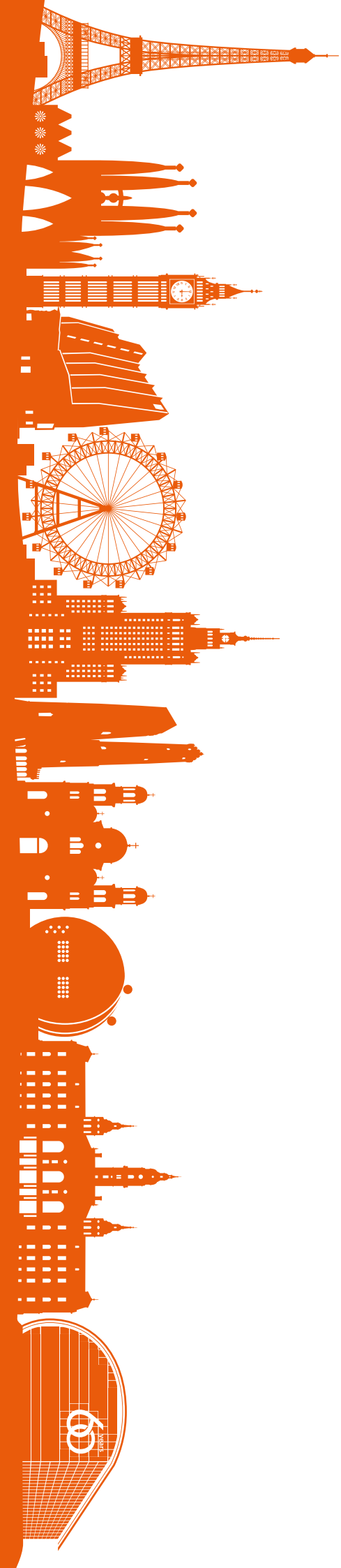
The Story of your city

Greg Clark, Tim Moonen, and Jake Nunley



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The Story of **your** **city**

Europe and its Urban Development, 1970 to 2020

By Greg Clark, Tim Moonen, and Jake Nunley

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Moonen, Nunley, Clark (left to right) © The Business of Cities

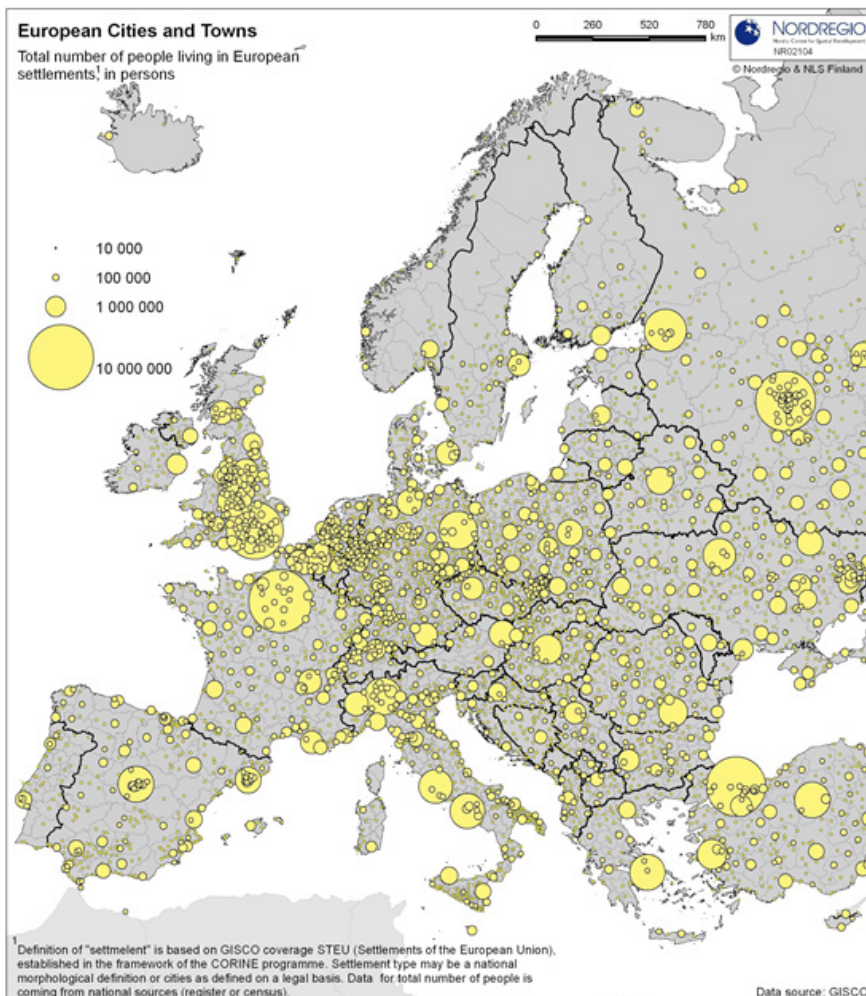
In the first of a series of essays on cities, we take a definitive look at how Europe's cities transformed from post-industrial decline to thriving metropolises that are as prosperous and liveable as anywhere on Earth.

1. Prologue

1.1 Europe and the metropolitan century.

Europe's cities are global leaders. Though they lack the clout that comes with ten million-plus populations or the headquarters of the world's largest firms, on important international agendas such as cultural production, public health, knowledge and education, and sustainability, the European metropolis leads. Europe's cities win on many measures of liveability and resilience, and these advantages are increasingly relevant in a world challenged by climate change, instability, and economic transition.

Figure 1: The distribution and relative size of European cities today



In this essay series, we will seek to reveal how Europe’s cities have emerged over the past fifty years, and what their prospects are. The world has entered an age of urbanisation, a metropolitan century, that is already one third complete. From roughly 1980 to 2080, humankind is on a great trek to the cities. By the time this century is complete, the world’s population will be 80% urbanised. Europe will be at the vanguard of this change, around 90% urbanised.

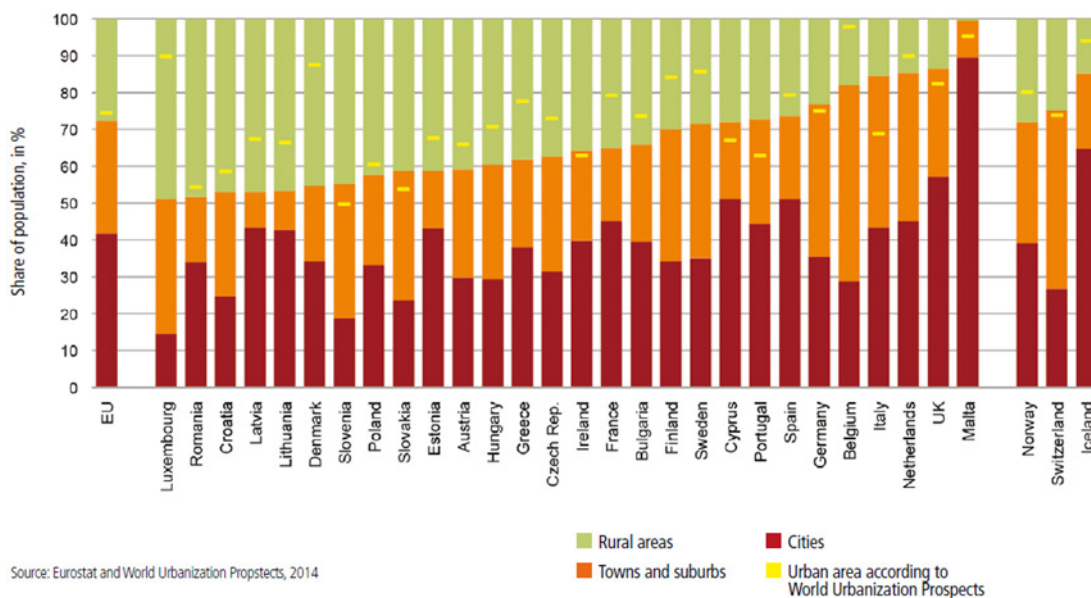
Within this metropolitan century we also expect to see human population growth tail off. A new generation of technologies will make living smarter, vehicles more autonomous, and work more automated. The great quest of our time – to address planetary warming and arrest climate change – will be played out through this urbanising century. How well we can use the new spatial concentration of people and activity, combined with machine learning and exponential technologies, to address key challenges of economic inclusion and planetary sustainability may well depend upon how our cities perform. Whether Europe’s cities have the tools and financing they need will in turn depend upon how capable and stable our political systems will be in addressing the challenges of dynamic capital markets, global insecurity, geo-political disruption, and populism.

With these sharp imperatives, Europe’s cities have become a critical platform for action and innovation. We start the story of these cities by asking how they have evolved and changed in the past fifty years. What have been the ingredients and recipes of urban transformation in Europe so far, and what part has investment played in helping our cities to adapt? Where has this transformative investment come from? And how can finance and investment know-how be applied into the future to help Europe’s cities make this new great urban trek successful and complete?

1.2 Europe’s cities: the past fifty years.

Observing the journeys that European cities have taken from 1970 to 2020 reveals some startling facts. Today, 72% of the EU28 population lives in cities and urban areas, but this average conceals pronounced differences between countries. Urbanisation rates vary from about 50% (Luxembourg, Romania, Croatia) to beyond 80% (Italy, Netherlands, UK). Closer examination also reveals a **huge diversity in the sizes and types of European cities**.

Figure 2: Share of urban population in EU and constituent countries as % of total



Europe’s urban system today consists of a **mixture of small, medium-sized, and large cities**, which can be seen to play distinctive roles and be at different points in their life cycles. By most definitions, Europe has no megacity. There is no single municipal area with more than 10 million people. But the wider city-regions of London, Paris, and Milan each have more than 10 million.

In 2012, the OECD and the European Commission reported that in the EU (plus Switzerland, Croatia, Iceland and Norway), there were 828 cities, including two global cities (London and Paris), six large urban centres in which the main city has around 3 million inhabitants (Athens, Berlin, Madrid, Barcelona, Milan and Naples), 18 second-tier metropolitan areas (1–2 million people), and 38 third-tier cities (500,000 to 1 million people). Of these third-tier cities, half are located in Germany, France and the UK. (The European Spatial Planning Observation Network defines first-tier cities as European capitals, and second-tier cities as “those cities outside the capital whose economic and social performance is sufficiently important to affect the potential performance of the national economy.”¹ Some studies refine this definition, by making Zürich Switzerland’s first-tier city, for example, rather than Bern, or by recognising a city as first-tier if it has a larger GDP than its capital – e.g. Munich, Frankfurt, Milan and Barcelona.² By all of these definitions, third-tier cities include all those cities not classified as second-tier.)

In Europe, cities with a population of below 250,000 account for 28% of city residents, lower than in Africa (33%), but higher than in North America (17%). Around 26% of residents live in cities with populations between 1 million and 5 million, and around 14% of Europeans live in cities with populations of over 5 million.

Figure 3: Share of urban population as % of total, by continent

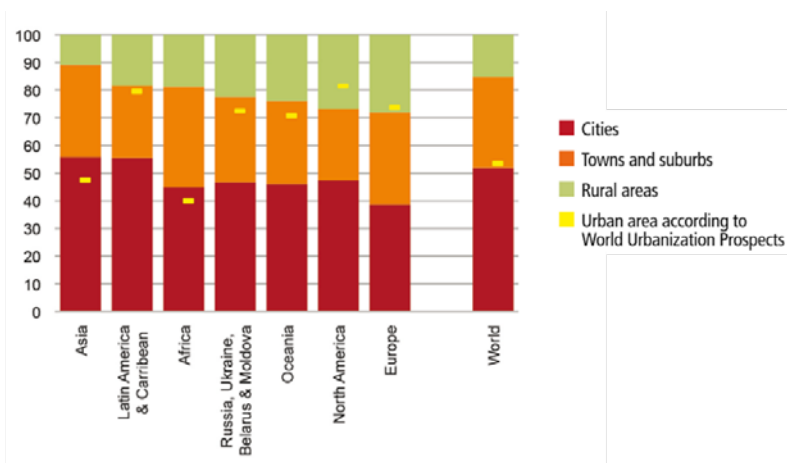
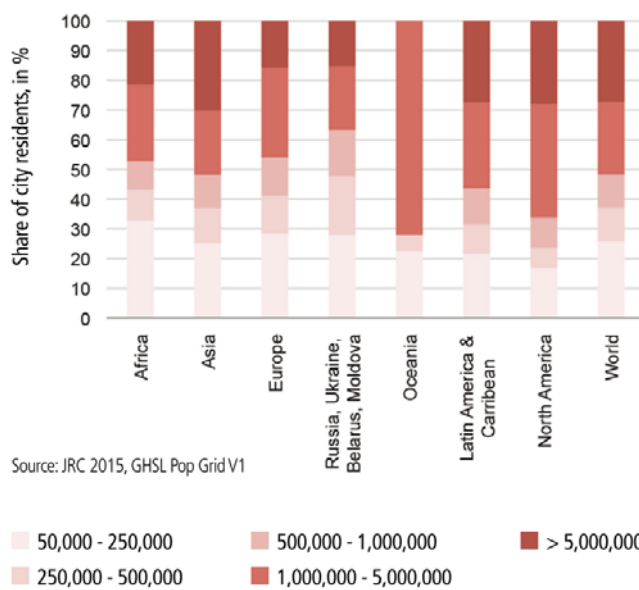


Figure 4: Share of city residents as % of total population by continent



But Europe has not always been so urban. Indeed, the past fifty years have seen **far-reaching changes to the way the European urban system is organised**. During these five recent decades, Europe has effectively shifted from being an industrial and primarily rural continent to one that is urban and metropolitan in nature.

The continent's 828 cities accounted for 37% of the population in 1961, growing to 40% in 1981 and remaining constant from there on, until more recent growth in the urban cores. Towns, suburbs, and the neighbouring areas, on the other hand, have consistently increased their population share over these five decades, due mainly to a combination of population moving out of the core cities into wider suburbs and urban regions, and from rural areas into towns. This process of shifts from rural to urban, core city to suburb, and single cities to neighbouring networks of locations has been accompanied by two other more recent trends of **re-urbanisation**, with substantial revitalisation happening in the cores of Europe's cities, and **metropolitanisation**, the formal and informal processes of consolidation of neighbouring cities, suburbs, and towns into combined settlements with shared systems of transport and public services.

1.3 A European system of cities?

The 28 EU Member States entered the Union at different times and with their own distinctive and settled urban systems and hierarchies. Each country began its journey into Europe with a clear sense of how their cities worked together and what national urban systems underpinned their respective roles.

EU integration has opened up these settled urban systems to external influence in the form of trade expansion, population shifts, new connectivity modes, opportunities for economic specialisation, and cross-border interchange and collaboration. As the EU has evolved, Europe's cities have adjusted to these new opportunities and positioned themselves within a much more open continental framework of an integrating Europe. As cities responded to new choices, opportunities, and connectivity, their adaptations have created a new phenomenon. There is now a clearly evolving **European interdependent and polycentric system of cities**, that co-exists with the ongoing national urban systems, which have themselves also become more dynamic as a result.

This new **European system of cities is highly heterogenous**, featuring not only the **ongoing roles of the 28 capital cities**, but also a larger range of **diverse cities with unique specialisms** (e.g. in advanced manufacturing, finance, professional services, creative industries, education, technology, ports and logistics, energy, tourism, health, or culture). Cities such as Munich, Rotterdam, Krakow, Gothenburg, Lyon, Manchester, Basel, Barcelona, Cork, Antwerp, Bologna and Oulu, are not the largest city or the capital city of their national urban system, but within the framework of EU integration they have seized the opportunity to become important specialist players on a European stage.

The new system also contains new **urban conurbations that cross-national borders** such as Vienna-Bratislava, Copenhagen-Malmö and Trieste-Ljubljana. There are macro-networks of cities that span historic empires (the Austro-Hungarian network), or geographic connectors such as seas (the Baltic Sea region and the Union for the Mediterranean), rivers (such as the Rhine-Ruhr and Danube regional networks of cities), and mountain ranges (such as the transalpine grouping of cities in Switzerland, France, and Italy).

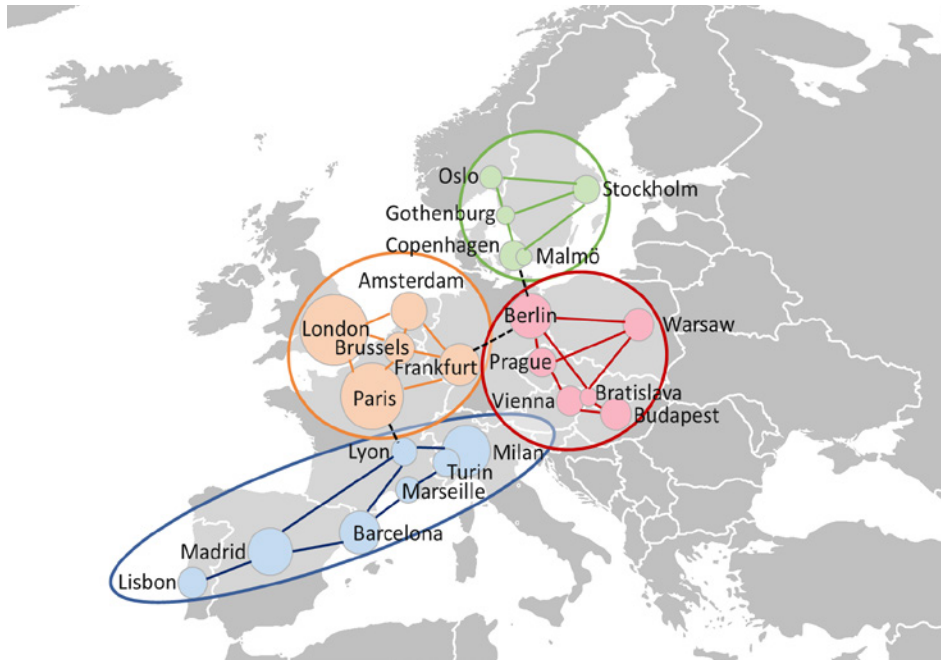
Increasingly, there also are **connected clusters of cities** centred around advanced services, innovation, and creative economies that are bound together by flows of people, labour, capital and ideas. Groupings such as the **northwest metropolitan core (Amsterdam, Brussels, Frankfurt, Paris, London)** that contain and combine more than 70% of advanced transactions in the EU share a common corporate presence, mobile labour forces, and are increasingly serviced by integrated rail systems as well as high density aviation connections. The emerging cluster of **Central European capitals (Berlin, Warsaw, Prague, Budapest, Vienna, Bratislava)** provides an important opportunity for a powerful cluster of connected cities to host advanced activities, and the increasing cooperation and connectivity between **Nordic cities (Oslo, Gothenburg, Stockholm, Malmö, Copenhagen)** shows the ambition to foster a combined 10 million-person urban region through complementary specialisation and borrowed scale.

This new **European System of Cities** can also be observed to house **different types of cities**, among others:

- **Western European large and capital cities**, as points of centrality;
- **Deindustrialising cities**, which have recovered from crisis and reinvented themselves through investment;
- **Mediterranean cities**, which have invested in tourism and associated infrastructure and services; and

- **Eastern and Central European cities**, which have emerged from the collapse of the Soviet Union and invested to adapt to the realities of a modern market economy.

Figure 5: Stylised map of clusters of European cities and the linkages between them



Underpinning the shift towards this new system of cities have been a series of important economic and demographic trends. These include accelerated population movements, extended Foreign Direct Investment, enhanced technology and innovation systems, and associated corporate and economic organisation. To adjust to these shifts, European cities have **required different types of investment to adapt to distinctive and different urban futures**, a key theme of this essay series.

This essay begins with a discussion of the broad economic and demographic trends that have influenced the development of European cities over the past half-century. It then drills deeper into the new European system of cities, including what makes it unique, how it has evolved over time, and how it has been understood. The essay ends with a discussion of what has enabled this European urban shift, focusing particularly on the importance of adaptive investment. The final section discusses the areas where investment has been concentrated, and the role of different institutions, including the EIB, in enabling this investment to occur. The intention is to reveal how the metropolitan century is requiring Europe to invest in a flexible and resilient system of cities that are increasingly inter-dependent in character.

2. Europe's cities: the past fifty years.

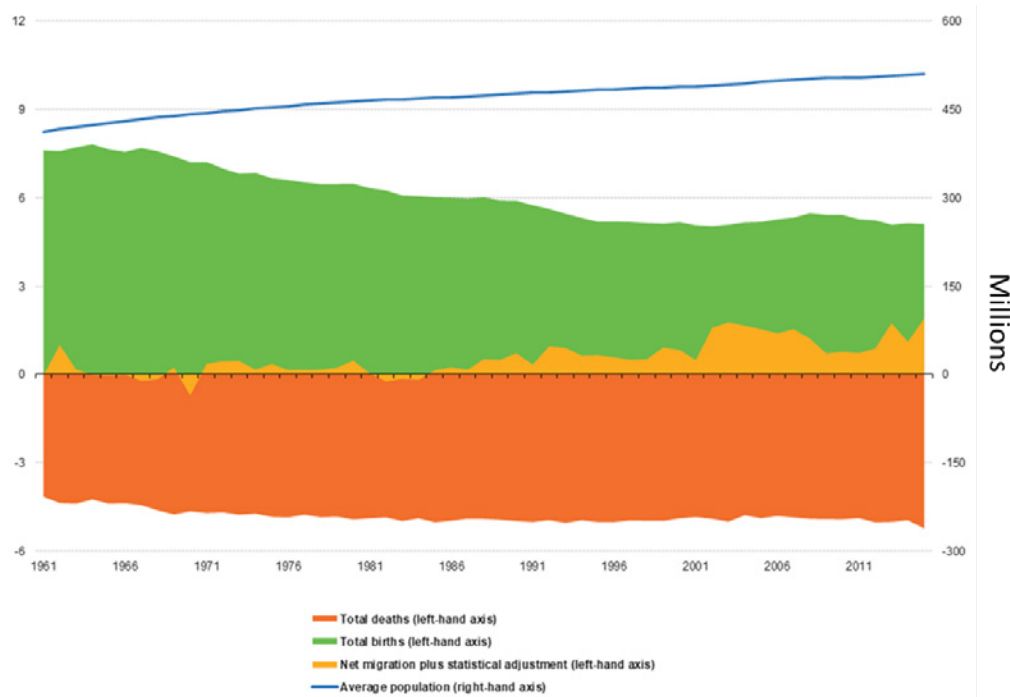
2.1 Population and settlement trends

The population of the EU member countries grew from about 650 million in 1970 to about 750 million in 2018. Larger cities and towns benefited most from the extra 100 million people accommodated. Today, population growth is occurring in the largest or capital cities at the expense of second- and third-tier cities. From 2002 to 2012, the total EU28 population increased by 3%, but population growth in the capital metro regions was 7%.

Although this pattern is not universal, it is particularly noticeable in geographically larger European countries, where international distances are greater. For example, it is highly pronounced in the case of London, Stockholm, Paris and Warsaw.³

The key driver of urban population change is net migration. Increases in life expectancy, declines in fertility, and new demographic norms such as later marriage and increased divorce have also shaped urban population trends.

Figure 6: Components of European population change, 1961 to 2016



Migration

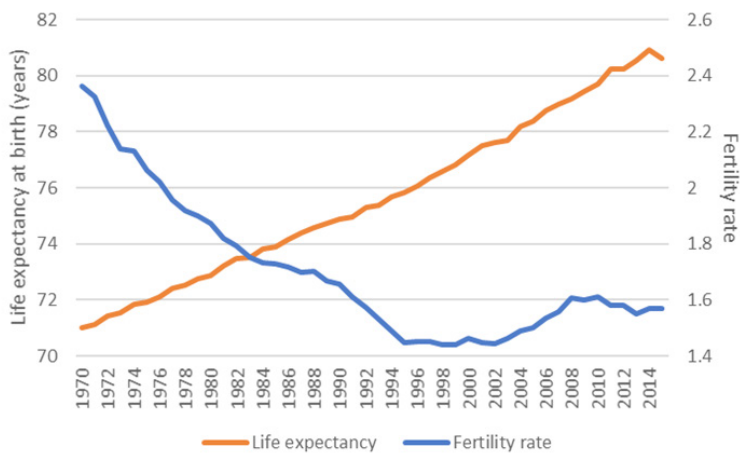
Over the past few decades, the most significant source of population growth in European cities has been migration – from other parts of the same country, other EU countries, or outside the EU.⁴ Between 2002 and 2012, net migration was higher than natural change in seven out of ten European cities, and between 1980 and 2009, migration boosted the population of Europe by 26.5 million people, or 3.8%.⁵ Migration into European cities has become more important over time. Inward migration flows increased rapidly from the late 1980s to the mid-1990s, fuelled by several interrelated factors including the liberalisation of political regimes, the deterioration of the economic situation in the former socialist countries of Eastern Europe, and the geopolitical instability in the Middle East and Africa.

By the late 1990s, these east-west flows had started to ease, as the new states of Eastern Europe had begun to enjoy the benefits of economic growth, new job creation and higher living standards. But while a market economy and democratised forms of political governance developed in Eastern and Central Europe, economic and political integration intensified in Western Europe, and migration continued apace. From the 1990s, migration has offset a larger percentage of population loss in Western European cities due to the surplus of deaths over births. The increasing disparity in population growth rates is not due to natural increase or decrease, but to net migration.⁶

Life expectancy

One key trend that has affected the population structures of European cities in the past few decades is the increase in life expectancy.

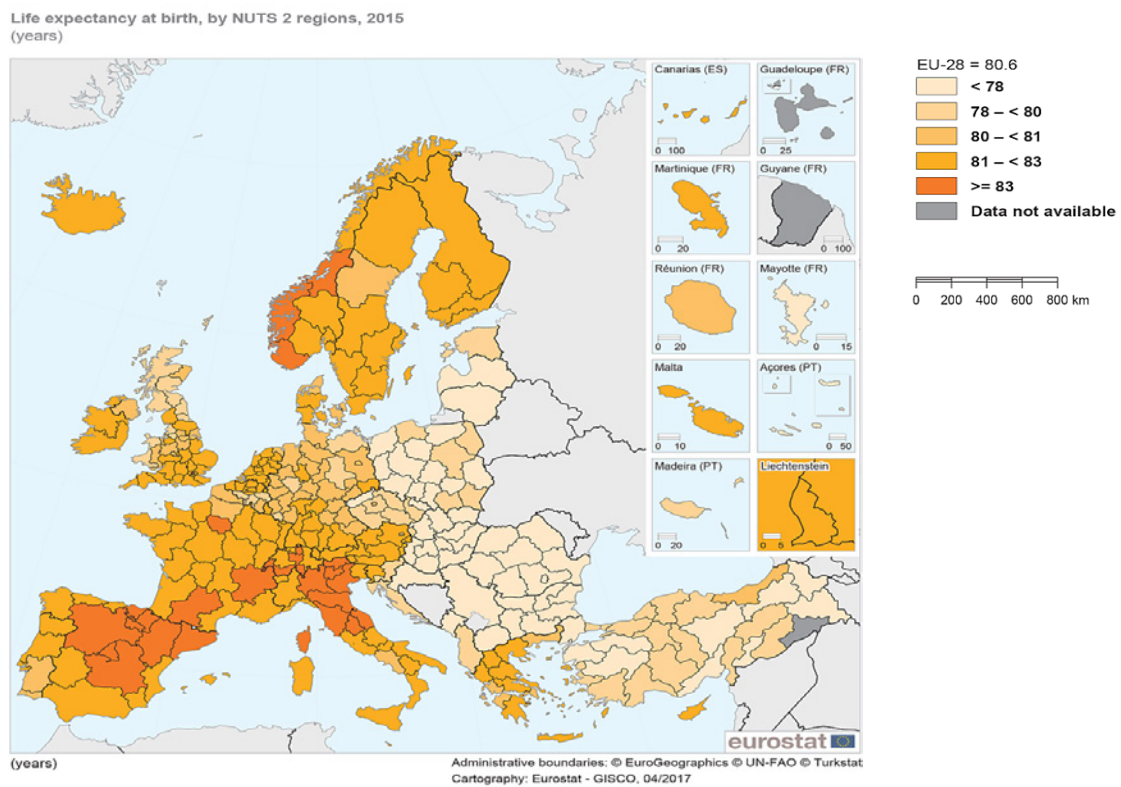
Figure 7: Change in life expectancy and fertility rate, EU average, 1970-2016



Since the end of the Second World War, improvements in healthcare have been considerable across Europe. But the European life expectancy map has changed profoundly in recent decades, with very different rates of progress across countries. Indeed, the steady overall increase in life expectancy conceals sharp divergences between regions in Europe.

Progress through medical innovation and behavioural changes occurred gradually in Northern, Western and Southern Europe, so that by 1985, there was little or no distinction between the three in terms of life expectancy. Deaths before age 65 have become very rare in these regions, with 85 to 90% of new-borns now able to expect being able to celebrate their 65th birthday. Increases in life expectancy have been less consistent in Central and Eastern Europe, due partly to shifting political and economic regimes. But life expectancy is now increasing rapidly in these areas.⁷

Figure 8 – Life expectancy at birth, 2015, by NUTS 2* regions



Note: EU-28 and Albania: estimates. Albania and Serbia: national data.
Source: Eurostat (online data codes: [demo_r_mlifexp](#) and [demo_mlexpec](#))

*NUTS (Nomenclature of Territorial Units for Statistics) refers to the statistical classification of EU localities and regions for purposes of collecting data, undertaking regional socioeconomic analysis and framing EU regional policies. An analytical tool rather than a ranking, the current NUTS classification came into force in January 2018. It lists 104 regions at the NUTS 1 scale (major socioeconomic regions), 281 regions at the NUTS 2 scale (smaller regions for application of regional policies), and 1,348 regions at the NUTS 3 level (small localities for specific, targeted diagnoses).⁸

This increase in life expectancy has in turn led to population ageing, which has been further accelerated by falling fertility. With a decline in mortality, the elderly population has undergone a twofold change in recent decades. Not only are more and more people living to retirement age, but retirement is lasting longer.

Figure 9: % of population aged 65+, EU

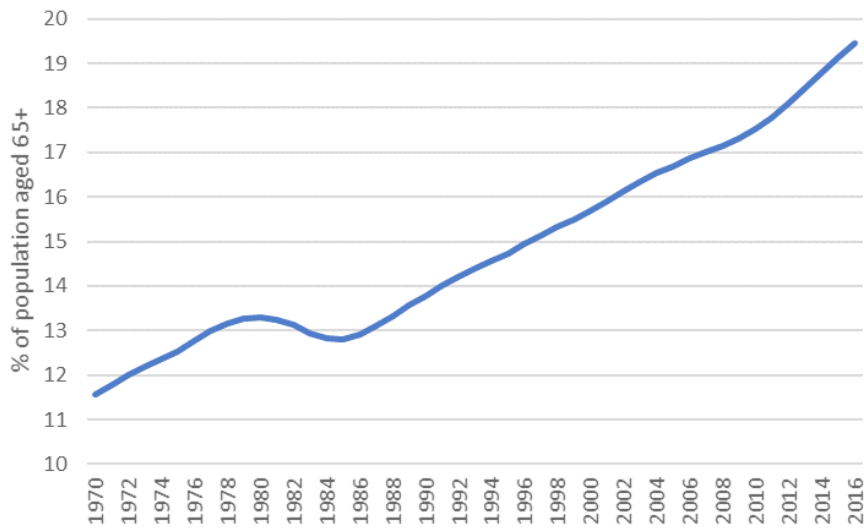
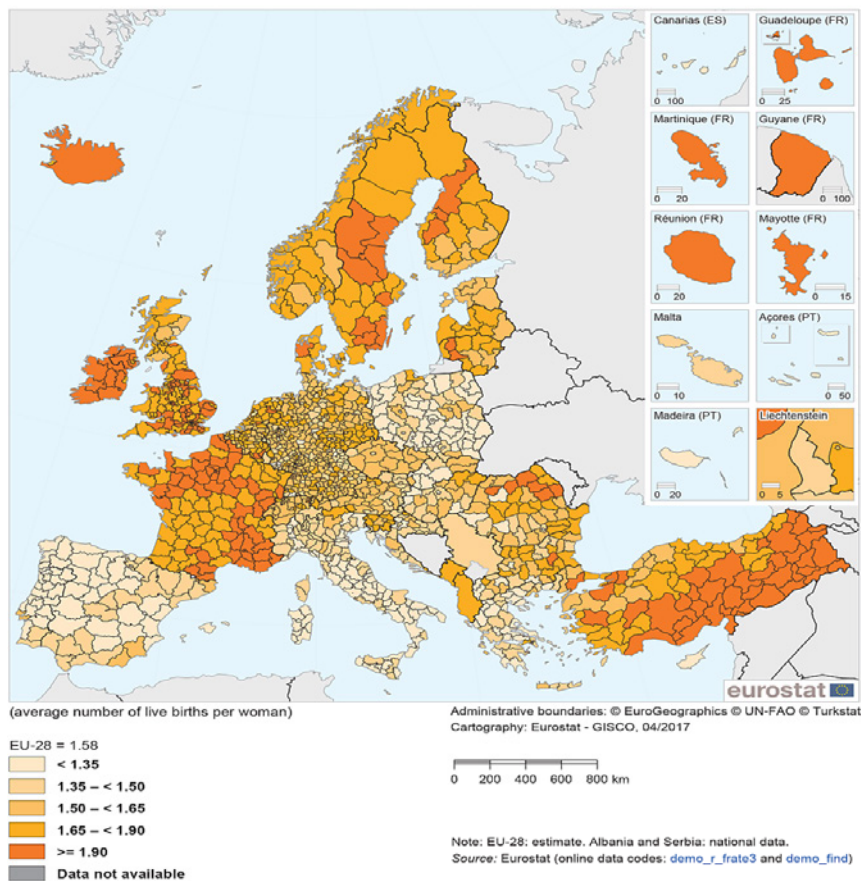


Figure 10: Total fertility rate, by NUTS 3 regions, 2015

Total fertility rate, by NUTS 3 regions, 2015
(average number of live births per woman)



New demographic norms

The ageing of European city populations has also been encouraged by the prevalence of new demographic norms. From the mid-1960s to the late 1980s, traditional family models were challenged, and a new model emerged, as legal constraints on demographic behaviour were eased (e.g. legalisation and simplification of divorce procedures, legal access to abortion and contraception, etc.).⁹

The late 1980s ushered in a period of consolidation and institutionalisation of these new types of families, including the growing acceptance of new forms of union, the creation of a corresponding legislative framework, and the combined recognition of conjugal relationships and parenthood outside traditional marriage. Marriage, for its part, has become later and rarer, and now contrasts starkly with the early and high rate of marriage in the post-war years, informally dubbed the “golden age of marriage”. This, together with increased opportunities for women in the workplace, has further depressed fertility rates across the continent.

The increase in divorce over the past fifty years is common to the whole continent. But the rise has been steeper in the north and west, where legislative changes have been more far-reaching. Some 40-50% of marriages now end in divorce, compared with 10-20% in 1970.¹⁰

De- and re-urbanisation

From the 1960s to the 1980s, many Western European cities experienced population decline, as people sought to protect themselves from the problems of dislocation and alienation that accompanied city centre job losses tied to deindustrialisation.¹¹ The knock-on effects of population decline affected housing markets, neighbourhood services, schools and public transport, and showed up most acutely in the poorest neighbourhoods, where job losses were concentrated. Families moved to the suburbs in search of a higher quality environment. Poverty, joblessness and polarisation created a visible cleavage between poorer and richer neighbourhoods.¹²

Beginning in the late 1980s, populations moved back to cities. In the 1990s, the decline in population slowed in 40% of the EU28 cities, whilst in the 2000s, cities became more popular, and only 30% saw a reduction.¹³ On one hand, this can be explained by regeneration projects that encouraged city-centre living (see section 3, below). But economic and demographic changes also played an important role.

Figure 11: Number of growing and declining cities in Europe in terms of population growth, 1960-2005.

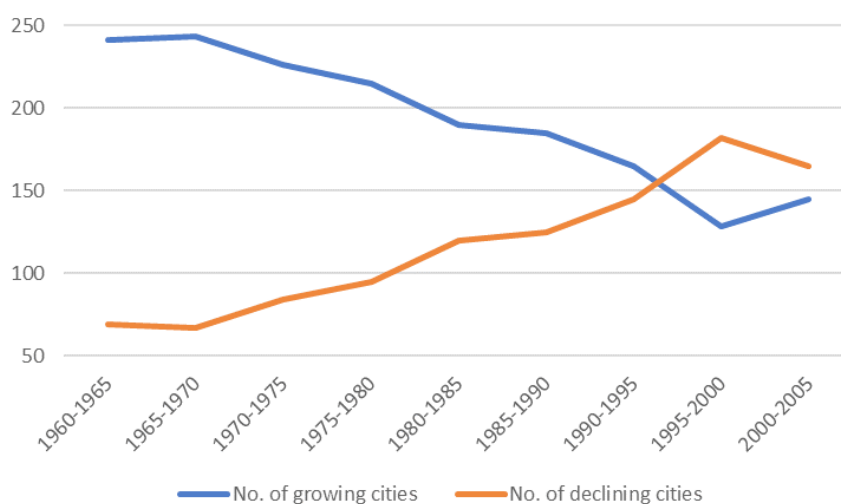
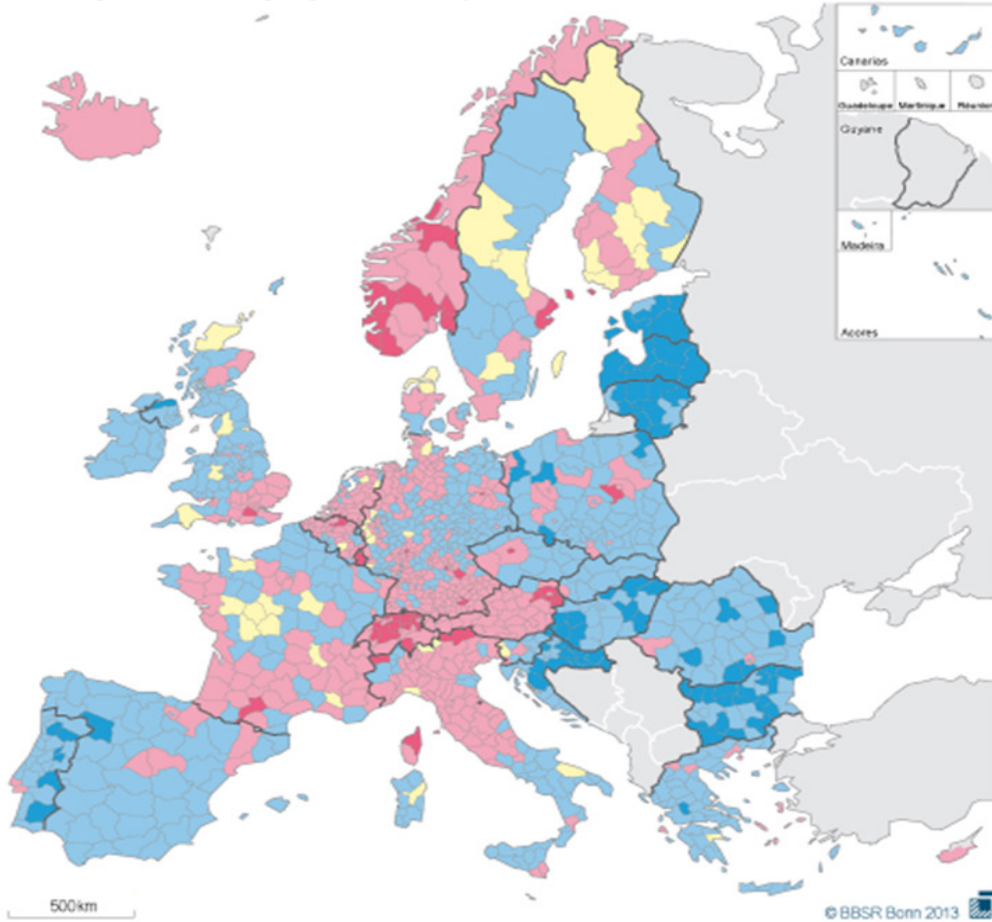


Figure 12: Population growth and shrinkage by NUTS 3 region, 1990-2000

Growing and shrinking regions in Europe



- Shrinkage**
- strongly shrinking
 - shrinking
 - stable
 - growing
 - strongly growing
- Growth**
- no data

Indicators considered:

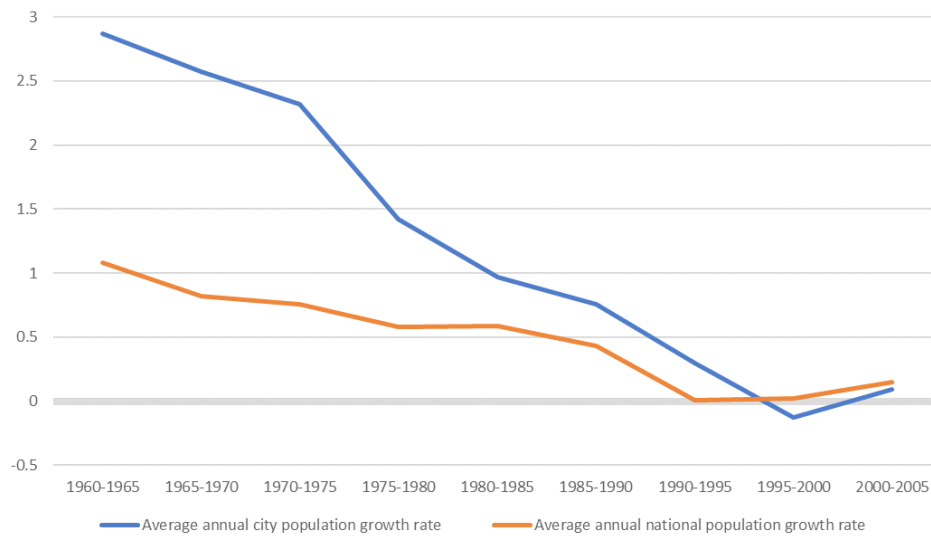
- Population development 2005 - 2010
- Net-migration rate 2007 - 2009 (three-year average)
- Development of persons employed 2007 - 2011
- Unemployment rate 2010
- Development of unemployment rate in percentage points 2007 - 2010
- Purchasing power of households 2012
- Gross domestic product (PPS per inhabitant) 2009
- Development of gross domestic product (PPS per inhabitant) 2006 - 2009

Database: European Spatial Monitoring System
 Eurostat REGIO, national statistical offices, GFK market data
 Geometrical basis: GFK GeoMarketing, NUTS 3 regions

Source: BBSR Bonn

The rise of the service economy, for example, increased demand for shorter-term living arrangements, while increased acceptance of conjugal living and higher property prices resulted in a rise in the share of rented accommodation. Today, most EU residents rent their accommodation. The share of tenants is twice as high in cities (45%) as in rural areas (23%).¹⁴ Some governments, including the UK, Germany and France, have begun to reduce financial incentives to sprawl, and embarked upon re-densification to generate increased demand for local services and greater economic activity.¹⁵

Figure 13: Average annual city population growth rate compared to average annual national population growth rate, Europe, 1960-2005



Source: adapted from <http://www.policy.hu/mykhnenko/Turok&Mykhnenko2007Cities.pdf>

2.2 Economic trends

From 1970 to 2020, several phases in economic change and transition among EU members can be observed. Although not all countries have deindustrialised, there is a long-term trend towards the loss of jobs in manufacturing, coupled with the rise of the service economy, and more recently the creative, knowledge, and innovation economies. A further feature is the rise of tourism and leisure economies, and the growth of a distinctive urban tourism and leisure sector fuelled by EU integration and low-cost travel.

1960s-1980s: Deindustrialisation and the oil crisis

From 1945 to 1973, successive trade and labour agreements saw Northern European cities experience rapid immigration from rural areas and from the south. In this period, the majority of the continent's most productive metropolitan areas were located within a triangle linking Amsterdam, Milan and Paris, which incorporated leading Swiss and West German cities.

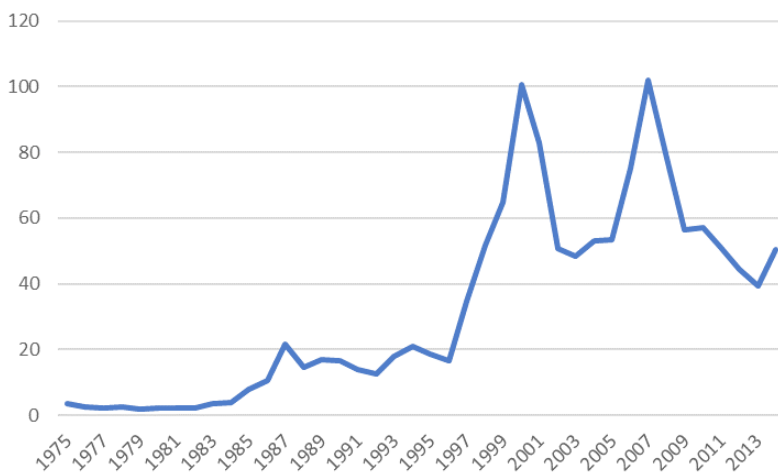
By the late 1960s, European cities had begun to deindustrialise, threatened both by **outdated infrastructure and a shift in the global economic order** that increasingly favoured Asian cities as the epicentre of manufacturing activity. The 1973 oil crisis was a major factor in accelerating this process of deindustrialisation.

By the early 1980s, unemployment rates had reached dangerously high levels in many European cities. Factories were closing, and the new economic order meant that migrant workers were no longer needed for cheap labour. The populations of cities, where industry had previously dominated, began to decline, and urban areas started to sprawl as people sought to escape the increasingly pervasive poverty of city centres.

1990s: The rise of the service economy

The prolonged economic downturn that followed the oil crisis was a major factor in the **emergence of new Europe-wide sectors led by financial and professional services**. By the 1990s, the service sector had become by far the most important source of employment in European cities. Of the five largest urban labour markets in the EU28 (London, Paris, Berlin, Madrid and Rome), service-sector employment today accounts for between 80% and 90% of all jobs.¹⁶ The rising importance of financial services is illustrated by the growing value of traded stocks and shares as a percentage of GDP (figure 14).

Figure 14: Total value of traded stocks as % of GDP, EU, 1975 to 2014



Source: World Bank.

In Central and Eastern European cities, the service sector is not yet quite as dominant, but many such cities are catching up to their Western European counterparts. Indeed, taken as a group, the growth rate of the service sector in Central and Eastern European cities has been faster than anywhere else over the past decade, reflecting the fast and deep structural change and economic transition that has taken place there in recent years.¹⁷

2000s onward: Globalisation and integration

The first decade of the twenty-first century was a period of both stabilisation and integration. New political and economic structures in Eastern and Central Europe underwent a period of stabilisation, whilst the eastern expansion of the EU led to a simultaneous strengthening of the European integration process. The **twin processes of European integration and globalisation** are together encouraging new continental dynamics in which Europe is reliant on the established headquarter strengths of London and Paris to act as the gateways for business, investment and tourism.¹⁸

As transport and communication costs have declined, it has become increasingly feasible to divide industry into different phases and to locate these different phases in different places.¹⁹ This in turn has led to increased intra-industry trade between economies at different levels of development. As a result, in the twenty-first century, simple or clear distinctions between economies based on the industries they contain have been replaced by more subtle and hard-to-measure patterns of economic difference and connection.²⁰

2.3 Spatial trends 1970s-2000s

From the 1970s to 2000, European urban development gave rise to a series of distinct spatial trends with far-reaching implications for the continent's system of cities. These trends can be grouped into three categories:

- Sovietisation and de-Sovietisation of Central and Eastern Europe.
- Deindustrialisation, the rise of the service economy and intensifying inter-regional disparities.
- Increased connectivity and transnational travel and migration, and the emergence of a new tourism and leisure economy.

This period also saw the impact of far-reaching political changes on the European urban landscape. Spain underwent a transition from dictatorship to democracy, and thirteen of the now EU28 members transitioned from the Soviet Bloc to fully fledged market economies.

Deindustrialisation and the rise of the service economy

From the 1970s onwards, many Western European cities began a long process of deindustrialisation. As cities deindustrialised, their manufacturing base declined dramatically. In the 1980s and 1990s, European cities lost on average between 30% and 80% of their manufacturing jobs. In all cases, deindustrialisation worsened intra-city inequality, as job losses were concentrated in the poorest neighbourhoods. But in some cases, deindustrialisation also impacted upon inter-regional disparities. This was particularly the case where industry was concentrated in certain parts of the country, such as in Italy, the United Kingdom or Germany, and where entire city regions deindustrialised at once, such as in the Rhine-Ruhr valley.

The rise of the service economy from the early 1980s accentuated further the trend towards intensified inter-regional disparities. As the service sector gained traction, transnational corporations increasingly concentrated in certain nodes of the European economy – notably, in large Western European cities such as Paris, London and Brussels.

In any given country, these new service sector hubs were often not the same cities as those where industry had been most concentrated, which effectively meant that the spatial specificity of these two phenomena – deindustrialisation and the rise of the service economy – worked together to increase disparities between cities. In the German context, this manifested itself in more intense urban specialisation, and a clearer division of labour between its major cities – particularly between Frankfurt, which became the financial centre, and Berlin, which was still in the throes of socialism.

But deindustrialisation also affected Central and Eastern European socialist countries. As the Soviet economy grew increasingly complex throughout the 1970s and 1980s, it required more and more complex disaggregation of control figures and factory inputs. As the number of enterprises, trusts and ministries multiplied, the economy began to stagnate, and was increasingly sluggish in response to change or in providing incentives to improve growth.²¹ Increasingly, citizens migrated from smaller cities to larger, capital cities, accentuating the process of decline. Deindustrialisation in these cities increased further following the collapse of the Soviet system in the early 1990s, as their economies had to rapidly adapt to the reality of the ever more influential post-industrial, service-oriented model.

Increasing connectivity

The period from the 1970s to 2000 also saw huge increases in transport connectivity, as Europe embarked on a long quest to build motorways, extend train networks, and improve aviation services. By the early 1980s, the beginnings of mass aviation, together with an increasing number of trans-border highways and railways, had resulted in an explosive growth in cross-border shopping and commuting – particularly in regions such as France, Italy, Switzerland and Austria. As a result, the significance of national borders began to break down. Railways experienced a particularly rapid phase of expansion in the late 1980s and early 1990s (figure 15).

Figure 15: Total length of railway routes in the EU (km)



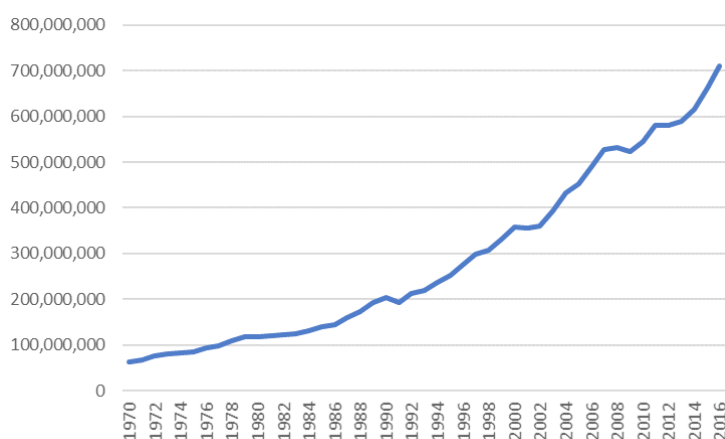
Source: World Bank

The growing leisure economy

By the 1970s, the foundations for mass tourism had emerged. In response to the economic situation, commercial tour operators and travel companies had begun to offer cheaper holidays abroad. Travel agencies and tourist organisations were established, and department stores began to offer package holidays. Later, charter tourism occupied a flourishing market sector and promoted even cheaper holidays.²²

This worked in tandem with the increasing availability and affordability of air travel. From the mid-1980s in particular, there was a revolution in the economic and regulatory landscape of European air travel, as the EU gradually moved towards implementing a single aviation market through a series of packages of legislation. These new packages limited the rights of governments to object to the introduction of new fares and accorded airlines greater flexibility regarding seat-capacity sharing.²³ As a result of these innovations, the transcontinental tourism economy exploded. By 1991, the number of European teenagers and adults taking a foreign holiday had risen to 32 million, up more than threefold since 1951.²⁴ This in itself gave rise to several important spatial trends, including a rise in the number of people retiring to places that they had previously visited on holiday, particularly in Southern European destinations such as Spain, Portugal and Italy, and stronger seasonality in labour patterns, again concentrated in Mediterranean locations.

Figure 16: Number of air passengers carried, EU, 1970 to 2016



Source: World Bank.

2000s onwards

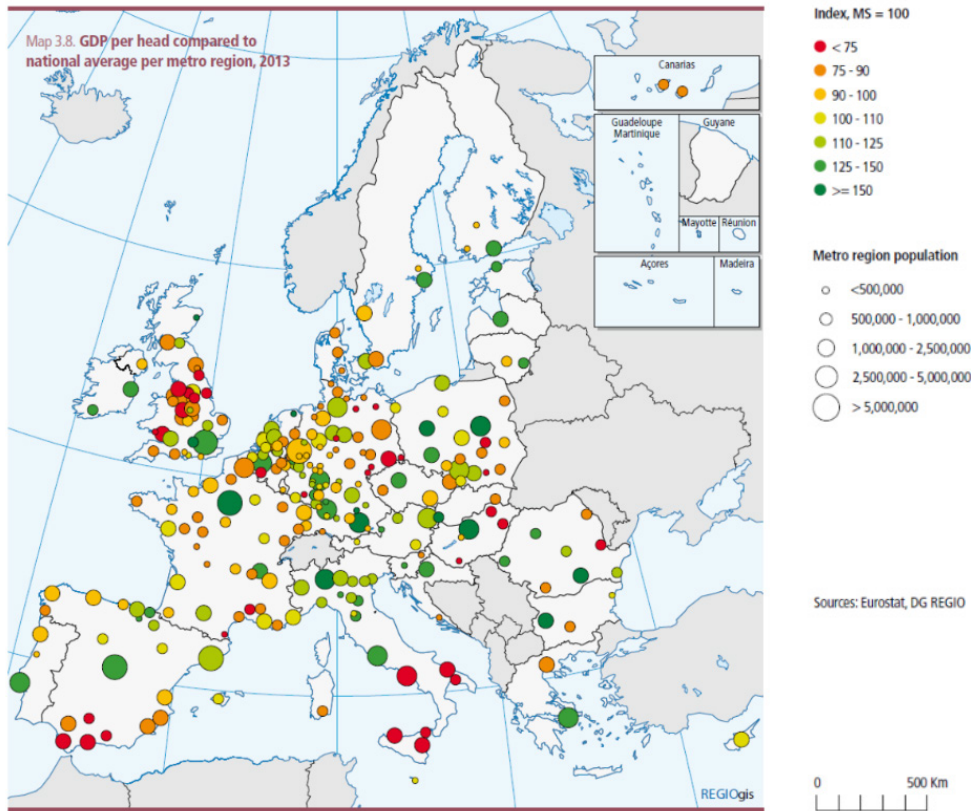
Since the 2000s, many of these trends have intensified. The shift to the innovation and creative economy has seen concentration of economic activity intensify further and has given rise to a number of new districts specifically dedicated to these sectors. At the same time, cities have continued to develop functional specialisms depending on their ability to adapt to new sectors. These include the leisure economy, health and life sciences, and maritime and marine industries, amongst others.

The period since the 2000s has also seen European cities continue to improve their connectivity. By 2009, Europe had 7,500 km of high-speed rail routes, and this is scheduled to double by 2020. High-speed trains have resulted in huge decreases in travel times between Europe's major cities – 43% between Brussels and Frankfurt, and 60% between Brussels and London.²⁵

European cities have also continued to improve their position in terms of air connectivity. Since 2007, direct connectivity across the continent has increased by 16%, driven mainly by the growth and expansion of low-cost-carriers and the consistent growth in numbers of tourist arrivals. The number of scheduled weekly seats available within the EU increased from 5.5 million in 1992 to 13.9 million in 2015, while the number of intra-EU routes between EU Member States has increased from 874 to 3,522 (6.2% average growth per year).²⁶

Since 2000, employment in European cities has grown by around 7%, while it has declined in the rest of the EU. GDP generated in cities also grew faster than elsewhere, by a magnitude of around 50%.²⁷ Today, many European cities outperform their country in terms of productivity, employment, education and innovation. This is partly the result of the globalisation of services, which has led to increasing agglomeration in and around cities. But middle-income cities are increasingly at risk of falling into what is known as the "middle-income trap". This is because, as productivity and wages grow, they risk becoming less attractive for labour-intensive or low-skill activities.²⁸

Figure 17: GDP per head compared to national average per metro region, 2013



Source: European Commission.

Second- and third-tier cities, which are more reliant on niche roles in international value chains to achieve competitive performance, are struggling for productivity, especially in Western Europe. Cities that are not among the largest six to ten in their country are recording particularly poor performances, with output that is significantly lower than the national average.²⁹ These cities, especially those which are outside the “blue banana” (a central axis stretching from Manchester to Milan), are also struggling to retain population and talent. Many of them require new strategies and pathways towards internationalisation that involve forging stronger relationships with neighbouring cities and a new assessment of how to compete in global markets.³⁰

Cities in Central Europe are emerging onto the global scene at different paces and with varied success. Several of the region’s larger cities have transitioned relatively smoothly to a market economy, diversified their urban economies, and attracted international investment. These cities include Bratislava and several Polish cities, which are making substantial progress as a result of purposeful national policies. Many of the region’s other capitals and large cities have the potential to successfully compete in the European economy, but they require further modernisation, particularly in terms of urban governance capacity building, and coordination and infrastructure enhancements. This is particularly true of the nexus of Central European cities, including Berlin, Budapest, Prague, Vienna and Warsaw, which have not yet developed a combined growth dynamic.³¹

Cities in the south and east of Europe have lost much of the impetus gained in the last economic cycle and are increasingly experiencing the negative effects that globalisation can bring. Many are low-risk cities in medium-risk countries and face critical levels of youth unemployment. Economic fundamentals in Rome, Milan, Athens and Madrid are causing a decline in relative investment and financial services performance in the current cycle. Barcelona has been relatively immune to these trends, due mainly to investment in smart technology and entrepreneurialism.

2.4 Policy trends

Coupled with these demographic and economic trends are a series of distinct policy trends. Indeed, since 1970, cities have implemented a number of different policies to respond to socioeconomic change (see table, below).

Throughout the 1970s and 1980s, European urban policy focused primarily on correcting the ills that had come to define inner cities and remote districts in the wake of deindustrialisation, particularly in Western Europe. In the 1970s, this began with land reclamation and environmental upgrading, as cities began to turn polluted and semi-abandoned urban landscapes into usable and attractive assets. This was coupled with a focus on jobs, enterprise and skills, as cities increasingly prioritised locally targeted skill-building and support programmes to help former manufacturing workers and a new generation of marginalised youth into new jobs based around the service sector.

In the 1980s, policy shifted slightly to focus more concretely on achieving large-scale inner-city regeneration. Cities began to implement large-scale neighbourhood renewal schemes that targeted the relatively recent large housing estates and older and decaying inner-city neighbourhoods that had been damaged by the deindustrialisation process.³² Cities also increasingly worked hard to rebuild a sense of place by reinvesting in central squares and civic monuments. New publicly sponsored agencies were created to deliver change in this period.

By the 1990s, the policy focus had shifted again, this time to focus more on overall city competitiveness. As tourism began to surge, a key focus became attracting tourists and investing in cultural assets. Cities increasingly bid for world sporting events, established world-class museums, and created alluring city centres through pedestrianisation and a focus on the public realm. Residential conditions were improved to attract leading global companies and the creative classes on which they increasingly depended. Transport also began to emerge as a key priority. In the 1990s, the European Commission launched the Trans-European Transport Network as a means to improve connectivity and competitiveness.

By the 2000s, it became apparent that competitiveness was increasingly dependent on establishing coherent metropolitan-level governance structures. Coordinated metropolitan governance therefore became the order of the day, as cities looked to create new structures, including two-tier metropolitan authorities, new consolidated metropolitan cities, and in some cases combined authorities with directly elected mayors that had responsibility for the entire metropolitan area. Liveability also became a key policy priority in this period, as cities sought to address externalities associated with growth, including congestion, air pollution, and unaffordable housing.

The current policy period is defined by a focus on specific sectors and agendas. Today, very few European cities can be assured of sizeable economic growth and job creation. This is due both to the sluggish character of global growth and diminished budgets, and widespread risk aversion. This in turn has led to a growing focus on enhancing European city business climates as a tool for economic development.³³ In particular, the focus has been on specific sectors, including smart specialisation, and technology and innovation, as a means to carve out new sectors for growth. Resilience and the climate change agenda have also emerged as a key policy priority in this period.

Date	EU members	Europe Macro-Developments	Key events	Urban Policies
1970s	9 (6 founders and 3 new)	Early common market reforms	Deindustrialisation and oil crisis	Job replacement Environmental remediation
1980s	12 (3 new)	Blue Banana	Globalisation	Inner-city problems Housing Placemaking
1990s	15 (3 new)	TENs*	Collapse of Soviet system	Culture and tourism Competitiveness
2000s	27 (12 new)	Enlargement Macro regional strategies	Global financial crisis Terrorism	Metropolitan governance Liveability
2010s	28 (1 new)	Combined mega-regions	Austerity Brexit	Smart specialisation Resilience Technology and innovation

*Trans-European Networks, meaning the modern and efficient infrastructure intended by the EU to underpin free movement of goods, services and people.

3. The evolving European system of cities

3.1 The European system of cities today

The current European system of cities is highly heterogeneous in nature. Today, Europe's urban landscape is characterised by more than 1,000 small, medium-sized and large cities, all of which vary in their role and function.

Compared to other parts of the world, many of Europe's urban regions have a **polycentric structure**, where multiple towns and cities have overlapping catchment areas and form parts of polycentric conurbations. People live in one area, work in another, and shop in a third. In some cases, these conurbations extend across national borders.³⁴

This interdependent urban system represents an important change from the 1970s, when cities had little interaction with one another and were **locked into narrowly defined national urban hierarchies**.

The European urban system as it stands is made up of the following types of cities:

- **International hubs** with a pan-European or global influence. These include knowledge hubs, at the forefront of international industry, business and finance; established capitals that are firmly positioned at the top of their national urban hierarchy; and reinvented capitals that have become engines of economic activity for new Member States.
- **Specialised poles**, which play an important international role in at least some aspects of the urban economy. These include national service hubs, which fulfil key national functions in the service sector; transformation poles, which have an industrial past, but are currently in the process of reinvention; and gateways, or larger cities with dedicated port infrastructure. Other examples of specialised poles include platforms for innovation and multinational activities, centres for research and higher education, and cities that handle large flows of visitors or have a services sector geared towards tourism.

- **Regional poles**, which include deindustrialised cities and satellite towns, along with regional market and regional public service centres.³⁵

Figure 18: Typology of European cities, 2007-



Source: European Commission.

There are at present only two truly global cities in Europe with the genuine scale, quality and experience to function as all-round global hubs – London and Paris. Furthermore, unlike other regions, **Europe depends very heavily on successful "middleweight" metropolitan cities within successful national economies for a significant proportion of its global trade.**³⁶ The EU has 271 metropolitan regions, which, in 2013, accounted for 59% of the population, were responsible for 62% of all employment, and generated 68% of GDP, highlighting their important role as centres of population, economic activity and employment.³⁷

3.2 Comparisons with other urban systems

European cities are low-growth and medium density by global standards. Since 1993, the twenty largest metropolitan areas in Europe have achieved annual income growth of 1.6%, less than a quarter of the 6.2% recorded by their counterparts in the emerging world.³⁸ The median density of European cities is around 3,000 residents per km², which is almost double that of their North American counterparts, but half that of Asian and African cities.³⁹

With the exceptions of London and Paris, large city urbanisation effects have, until very recently, not been the primary economic driver in Europe in the way that they have been elsewhere in the world. Compared to other cities, **European city residents are overwhelmingly concentrated in cities with populations of between 250,000 and 5 million.** Indeed, of the 79 cities in the world with over 5 million inhabitants, only ten are located in Europe. Moreover, only one in seven European city residents lives in such a city, compared to one in four globally. This means that European cities generally have to compete with one another much more on quality than on quantity.⁴⁰

The relative absence of megacities in Europe's system of cities is partially a product of the number of **different nation-states, each of which has its own urban system and policy priorities.** This is one reason that explains why, despite the growth in cross-border trade and exchange, and despite the emergence of an interdependent Europe-wide system of cities, European urban performance is still very closely tied to national geography. German cities, for example, have by some distance collectively outperformed British cities since 2007, as a result of this quirk.⁴¹

3.3 The evolution of the European urban system

Over time, economic shifts have led to different sets of cities succeeding, and to different ways of viewing the European system of cities.

The back story: European cities from 1945 to the 1970s

During the thirty years following the end of the Second World War, European economies transformed almost beyond recognition.⁴² Western Europe in particular experienced a so-called "Golden Age" of economic growth from the early 1950s to the early 1970s, during which the average rate of real GDP per capita stood at just over 4% per year, and total GDP per capita nearly doubled.⁴³

Initially, the European economy grew rapidly, simply through repairing wartime damage, rebuilding capital stocks, and redeploying men drafted into the war effort to productive, output-creating industries. Indeed, the rapid economic expansion of the early post-war years can be described as a process of "catch-up growth," in which the continent was able to sustain growth primarily by exploiting the backlog of new technologies that had been developed between the two world wars but that had not yet been put to any commercial use.⁴⁴

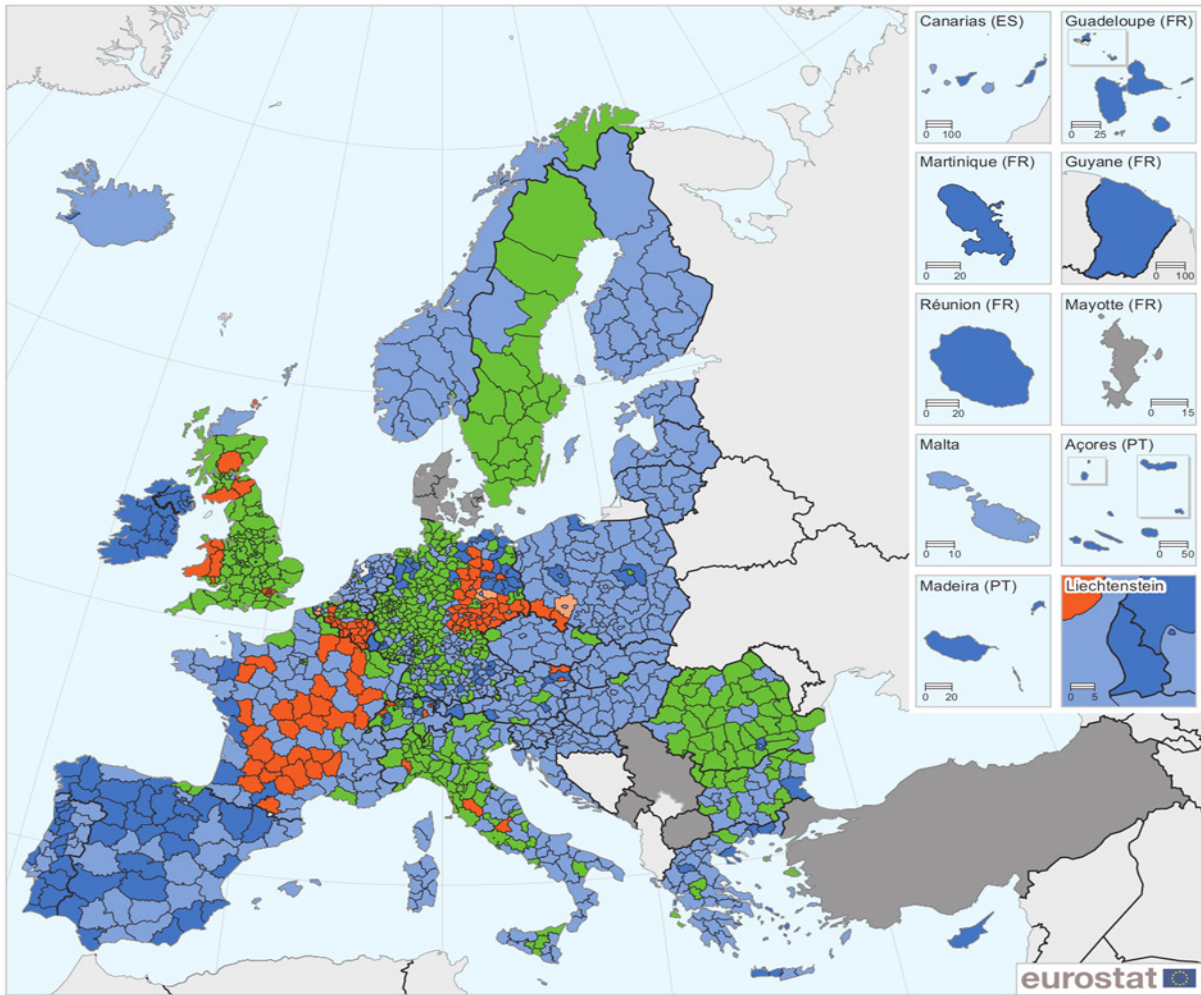
Even in these early years, however, growth was uneven across the continent, which in turn led to the emergence of a distinct post-war industrial economic geography. This geography reflected a number of distinct characteristics operating at a variety of different scales, including proximity to markets, raw materials and cheap labour sources, pre-war industrial specialisations, and the new post-war European geopolitical order.

At a national level, catch-up growth tended to be strongest where there were solidaristic trade unions, cohesive employers' associations, and growth-minded governments.⁴⁵ Moreover, industrial growth prevailed in the six countries that joined the European Coal and Steel Community in 1951 and later set up the European Economic

Community – Germany, France, Italy, and the Benelux countries – and in countries receiving U.S. support, including Marshall Plan aid.

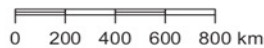
Figure 19: Dwellings by most common period of construction by NUTS 3 region, 2011

Dwellings by most common period of construction, by NUTS 3 region, 2011
 Most common period of construction for dwellings



- Most common period of construction for dwellings
- < 1919
 - 1919 – 1945
 - 1946 – 1970
 - 1971 – 1990
 - 1991 – 2011
 - Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
 Cartography: Eurostat — GISCO, 02/2016



Source: European Statistical System, the Census Hub (<https://ec.europa.eu/CensusHub2>)

Source: European Statistical System Census Hub (European Commission).

At a more local level, growth increasingly became concentrated in areas which were able to leverage previous industrial specialisations (such as textile production in Northern Italy), enjoyed close proximity to national and continental markets, and could attract cheap sources of labour. Growth was also favoured in regions in close proximity to raw materials, such as metal, and to energy sources, such as rivers and mountains. Together, these factors effectively directed industrial growth to three key industrial areas in Europe: Northern Italy, Central and Northern England, and the Rhine-Ruhr valley.

Figure 20: Major industrial regions in Europe, 1945-1970



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Source: <http://slideplayer.com/slide/10698625/>

Northern Italy's post-war development was spearheaded primarily by a stable currency, cheap access to raw materials, inexpensive labour, and massive inflows of aid from the U.S. However, other factors were also important. The discovery of hydrocarbons in the Po valley vastly accelerated the growth of the global superpower oil company ENI and enabled the nation's most prominent and long-established industries, including textiles, to continue growing. Moreover, trade unions were weak and politically divided until the late 1960s, and Northern Italy in particular benefited from the added advantages of hydroelectric power, a critical mass of raw material processors and assemblers, and the import of advanced machine tools, paid for through a trade surplus in textiles – all of which helped to give rise to a growing electrical appliance and white goods industry.

But perhaps even more significant than any of these, the post-war period in Italy was a time of unprecedented population mobility. Following the war, Italy entered a period of rapid economic growth. The prosperity of the urban areas – particularly the industrial triangle of Lombardy-Piedmont-Liguria – increasingly contrasted with the continued hardship and poverty in upland and rural areas, especially in the south. Rapid industrialisation in these urban centres acted as a strong “pull” factor, encouraging an influx of migrants to cities such as Rome, Milan, Turin and Genoa. This in turn led to major agglomeration economies in these areas, further fuelling industrial growth. Overall, national growth rates in Italy remained above 6% from 1956 to 1964.⁴⁶

The United Kingdom, although not initially a part of the Coal and Steel Community, emerged from the Second World War with a distinct technological edge in the fields of aircraft, aerospace, computers and electronics.⁴⁷ Moreover, factories throughout Central and Northern England generally survived any major bomb damage, and, home to the same critical mass of engineers and innovators that had made the industrial revolution in the first place, were further aided by U.S.-donated money. All of these factors worked together to enable the shift towards a new, accelerated phase of industrial development.

Amidst the inflation and economic crisis of the interwar years, the Rhine-Ruhr valley leveraged its large coal and iron reserves to establish a concentrated mass of large-scale iron and steel companies. In the post-war period, rapid economic growth created a heavy demand for such assets, which in turn led to the development of a massive steel, locomotive and armament industry throughout the valley's constituent countries.⁴⁸

The 1973 crisis and the start of the shift to services

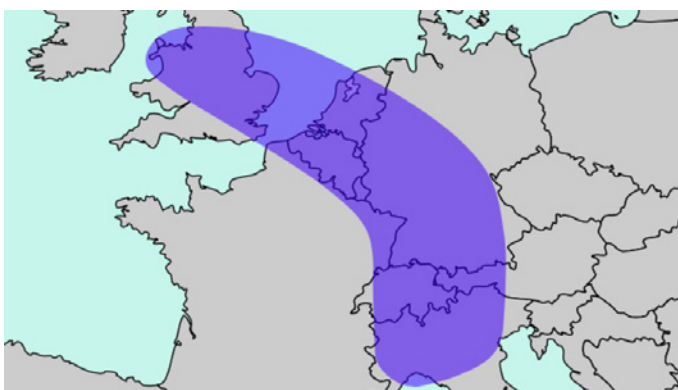
In 1973, European economies were affected deeply by the global oil crisis, which signalled the beginning of a slower period of growth. Faced with increases in the prices of oil and raw materials, and the exhaustion of early opportunities for catch-up and convergence, the continent had to find other ways of sustaining its growth. As such, European economies, throughout the 1970s and 1980s, increasingly switched from growth based on brute-force capital accumulation and the deployment of previously known technologies to growth instead based on advances in efficiency and internally generated innovation.⁴⁹

The Ruhr region was particularly hard hit by the crisis. Not only had coal mines become exhausted, but German coal was no longer competitive. Moreover, the steel industry experienced a sharp decline, as its prices were increasingly undercut by lower-cost suppliers in the Asia-Pacific region, particularly Japan.⁵⁰ As demand for coal continued to decrease, the area underwent a series of structural crises. Industrial diversification, including the development of the service industries and high-technology advanced manufacturing, was undertaken in an effort to maintain economic growth.

The "Blue Banana"

By the late 1980s, a new urban geography had emerged in Western Europe from the deindustrialisation crisis, focused around a combination of advanced manufacturing and tertiary occupations. London and Paris were pre-eminent in the new transnational model, and the most successful cities were located along a central axis that widely became known as the **"blue banana" that stretched from Manchester to Milan.**

Figure 21: The Blue Banana



The core of the arc incorporated many European cities that had partly withstood the pressures to deindustrialise and had instead developed increasingly capital intensive, highly specialised and innovative manufacturing capabilities, such as Rotterdam, Stuttgart and Turin. A major 1989 assessment of European city dynamism concluded that eight of the ten leading cities at the time were located in the arc, including Venice, Bonn, Strasbourg and Dusseldorf.⁵¹

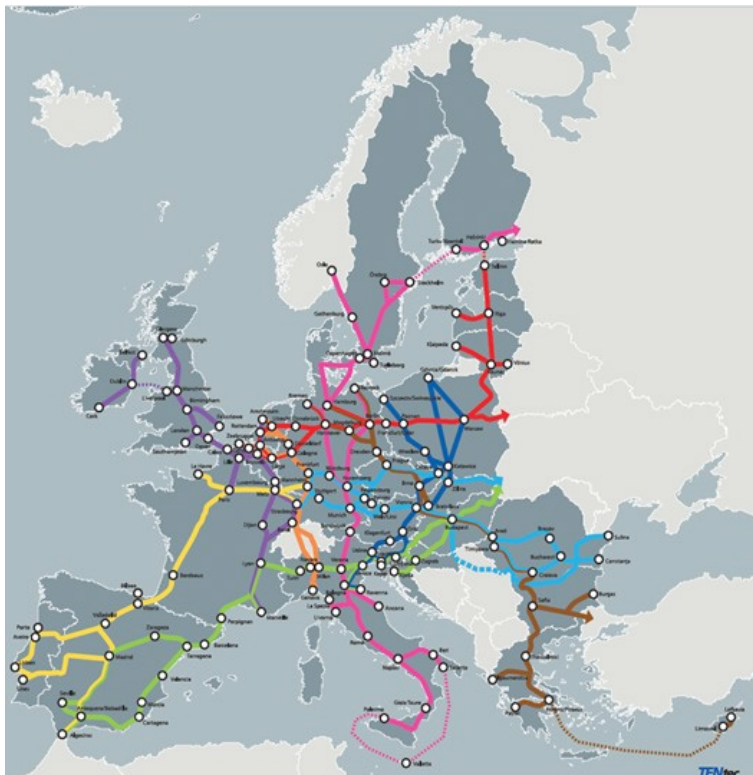
Today, the “blue banana” still exists, but different cities are succeeding. Cities such as Berlin, Stockholm and Cambridge are outperforming Amsterdam, Birmingham and Milan by enhancing their global specialisations in high-growth sectors such as digital and creative industries, biotechnology and the low-carbon economy.⁵²

The shift towards polycentrism and new ways of conceptualising Europe

By the mid-1990s, the benefits that had been accruing to the cities in the “blue banana” had begun to drive up costs. This in turn allowed other cities, which were further afield, to begin to compete with them. High rents, together with ageing populations, congestion, pollution, and declining liveability ultimately prompted a **more extensive European city system** to emerge. Spurred by regeneration projects and the growth of the creative economy, growth began to extend outwards from the arc, towards modernising, entrepreneurial and youthful cities including Barcelona, Dublin, Glasgow and Warsaw.⁵³ Many of these cities consequently began to **break out of national hierarchies and achieve their own distinctive international growth trajectories and identities for the first time**. With European integration proceeding apace, the foundations were in place for the emergence of a new continental system of cities, based around each city having its own unique specialism at a continental scale.

This shift ultimately led to the development of new ways of typologising Europe’s cities, many of which focused on cross-border alliances. Some frameworks began to highlight the core role of the north-western European metropolis network, including Amsterdam and Brussels. Others focused on the emerging economy of Central Europe, including Berlin, Budapest, Prague, Vienna and Warsaw. It was increasingly recognised that **investment was required to equip European cities for new futures**. This was particularly pressing given that the future was becoming more and more uncertain, as a result of continually deeper integration.

Figure 22: The 9 TEN-T (Trans-European Transport Networks) Core Network Corridors

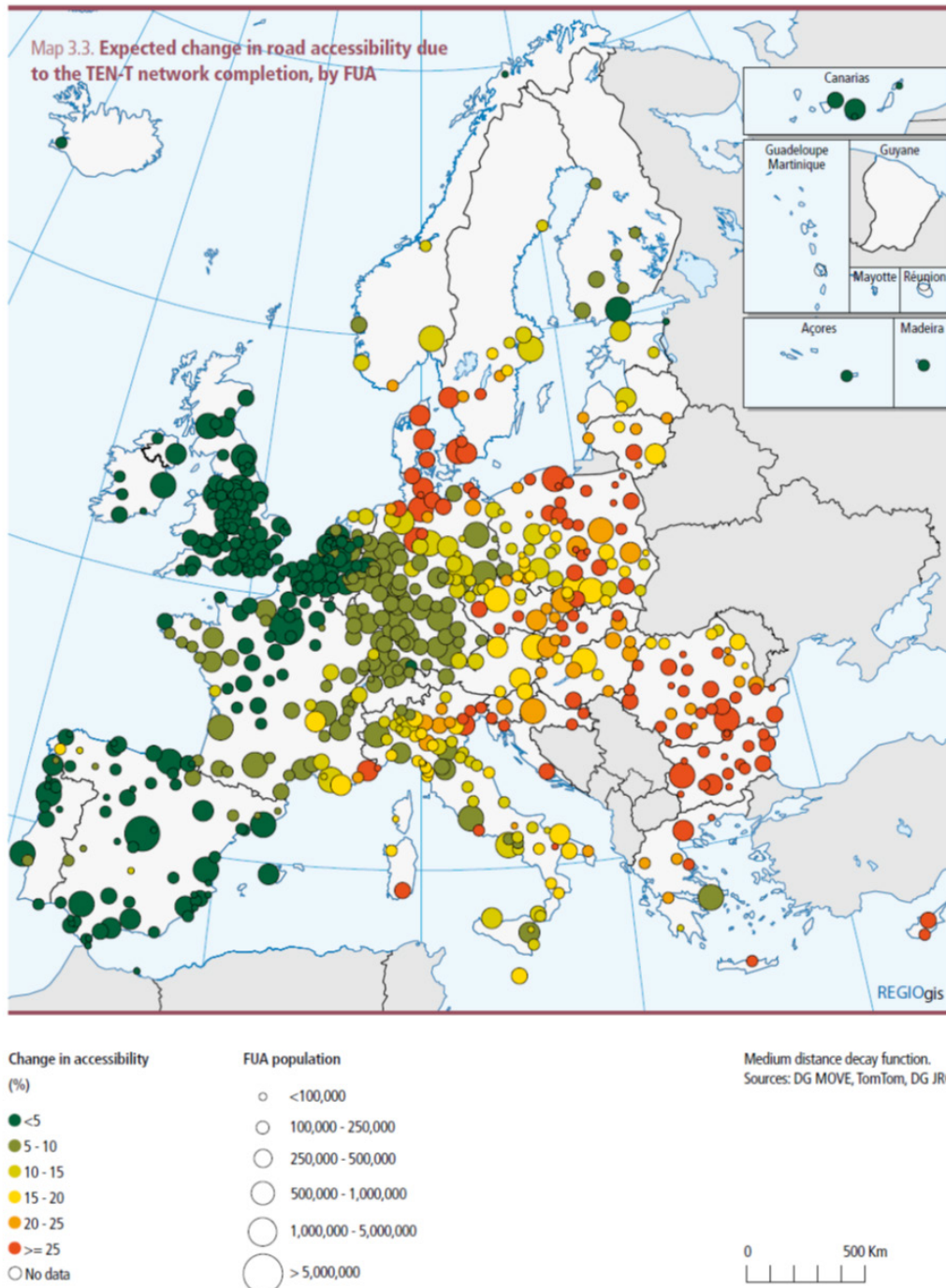


Source: Tentec.

Other ways of conceptualising Europe’s macro urban geography also came to the fore at around this time. The Trans-European Transport Networks initiative, launched in the 1990s, established a dual-layer structure for EU transport routes, comprising both a comprehensive network and a core network. The core network consists of

those parts of the comprehensive network that are of the highest strategic importance for both European and global transport flows, while the comprehensive network established a wider geography to be made accessible by 2050 (figure 22).⁵⁴ Once completed, the new network will have far-reaching implications for the accessibility of European cities, particularly in Central and Eastern Europe (figure 23).

Figure 23: Expected change in road accessibility due to the TEN-T Network completion, by functional urban area



Source: European Commission.

The 2000s: EU enlargement and new clusters of cities

By the mid-2000s, continued growth of the innovation and creative economy had resulted in the emergence of several new categories of internationally facing European cities. Meanwhile, the **2004 and 2007 expansions of the EU** represented the apex of European integration, which was key in the emergence of a truly European system of cities. Free movement of labour and people enhanced a new urbanising dynamic, supported by the Erasmus programme and other knowledge exchanges, enabling people to move from city to city and encouraging an open system of capital, trade, labour and people.

The enlargement of the EU has also created the impetus for the **development of new urban clusters**. Sponsored by the EU and other foreign organisations, cluster initiatives have been launched in many EU accession countries. The most prominent example is Slovenia, a country that has received widespread attention for its cluster programme and the important role played by clusters in the country's recent impressive economic performance.⁵⁵ Some other examples include:

- Sofia's emergence as the 21st most significant European emerging industries hotspot
- Vilnius, which emerged as the eighth most significant European cluster for the presence of Gazelle companies (high-growth companies whose revenue has doubled over a four-year period)
- Riga's emergence as the second best European logistics cluster, behind London.⁵⁶

Finally, recent European-level strategy has increased the importance of **new clusters of cities**, particularly around the Danube, the Baltic Sea, and the Alps. These new clusters have primarily been driven by European Commission strategies aimed explicitly at increasing the economic competitiveness of these regions.

4. How the system of cities evolved: adaptation and investment in European cities

4.1 Cycles of development and investment in Europe's cities.

How, then, have European cities managed to bounce back from demographic and economic decline? And what was it that enabled them to break free of national hierarchies and reorganise themselves into a new system based around concentrated clusters and flows?

The answer to these questions, at least in part, lies with investment. European cities initially used investment to encourage growth and reverse city-centre decline. Later, investment was directed towards regional specialisms and new industries, such as technology and innovation. This helped to establish the current system.

The first cycle of European urban investment: 1980s – 2000s

Beginning in the 1980s, cities invested in large-scale regeneration programmes as a means of encouraging city-centre growth. In many instances, cities leveraged their immense but dilapidated civic assets, including town halls, public libraries, universities, parks and public squares, to redevelop their heritage and culture.⁵⁷

Old civic buildings were restored, industrial properties reused, and popular pedestrian zones created. Cities also actively supported the start-up of new service businesses through the provision of incubator spaces and the repurposing of old and abandoned sites. This, in turn, generated a new economic climate that favoured the private sector and created new jobs. Consequently, the physical environment improved, and residents moved back to the city centre, reversing the decades-long decline.⁵⁸

Government leadership was essential, providing funding support for the transformation of physical assets, as well as the resources to drive forward with large-scale recovery programmes.⁵⁹ However, one of the main reasons that urban regeneration was so successful was that it attracted into city governments skills from the private sector to

help make the investment a reality.⁶⁰ Without the private sector support, many of the far-reaching transformations that characterised the 1980s and 1990s – including Barcelona, the London Docklands, and the Manchester central business district – would not have been possible.

Cities also invested heavily in transport infrastructure. Major upgrading of public transport systems aimed at overcoming the dominance of car traffic and the continued expansion of roads. It also aimed at unlocking new districts, increasing productivity and improving air quality. Over the past few decades, European cities have invested primarily in improving the coordination of public transport services. The first fully integrated public transport system was the Verkehrsverbund, established in Hamburg in 1967. Between 1970 and 2000 most large cities developed similar systems, with coordinated services and fares.⁶¹

But cities have also invested in modernising and expanding their public transport services. Modern equipment replaced almost all rolling stock, and new stations, tracks and guidance systems expanded and modernised rail infrastructure. Improvements in the quantity and quality of public transport services, together with low fares, have led to considerable growth in public transport use in European cities over the past few decades, particularly in Western EU cities: a 39% increase in passenger kilometres for metro and tram, 38% for rail, and 11% for bus.⁶²

The second cycle of European urban investment: 2000s-

Since the 2000s, cities have also invested in technology and innovation to enhance competitiveness. One of the thematic objectives of EU Cohesion Policy during the 2014-2020 period is to enhance access to, and the use and quality of, information and communications technology, including developing products and services and strengthening applications. The EU eGovernment Action Plan (2016-2020) currently sets out concrete actions to accelerate the implementation of existing legislation and the related uptake of online services.⁶³

Investment is also increasingly directed towards the climate action and environmental agenda. For several decades, cities were seen as environmental problems, and urban policies throughout Europe focused primarily on poverty, crime, and urban decay. Recently, climate change and the environment rapidly climbed the urban agenda, as European governments started to set tougher and more ambitious targets. COP21, the UN Conference of Parties climate meeting in Paris in 2015, was a key milestone, demonstrating the widespread recognition of cities as global solutions.⁶⁴

Over the past decade, cities have come to occupy a central role in the global response to climate change. Several cities, investing in their industrial and engineering expertise, have become pioneers of new environmental industries. Many cities, including Stockholm, Berlin and London, have also begun to decouple economic prosperity from increasing levels of resource consumption, in what is increasingly seen as a fundamental component of a sustainable European urban future.⁶⁵

The European Commission is particularly committed to putting in place the necessary reforms to give incentives to the financial sector to contribute to this “green transition”. The Investment Plan for Europe – the Juncker Plan – has already generated considerable investment and has mobilised several other sources of European financing, including the structural funds, to fund numerous projects in the fields of energy efficiency, renewable energies and the circular economy.⁶⁶

4.2 Financing Europe’s cities.

Where has the funding come from?

Both national governments and cities have an important role to play. On one hand, attracting external capital investment is not yet a core responsibility of all city governments, and there are gaps in the competencies, capacity and skills of city governments to undertake such tasks. In Europe, city governments do not generally have the same degree of fiscal and financial freedom as cities in North America. Even cities in more devolved national systems do not have the capacity to single-handedly meet all of their investment needs.⁶⁷ On the other hand, national governments

have committed themselves to external fiscal disciplines (such as the Stability Pact/Maastricht Principles for Euro membership), which means they cannot easily raise the rate of public investment through public debt.

In Europe, municipalities mainly resort to their own resources to finance infrastructure investment, which accounts for 50% of financing. This is followed by transfers from national and sub-national governments (23%), external finance including bank loans (18%), and EU funding including EU structural funds (8%).⁶⁸

Trends in European urban investment

It is increasingly recognised that achieving EU policy goals is only possible if Europe's cities are fully engaged in attaining their own long-term success. To achieve this, development and investment requirements must be met. This imperative has resulted in a notable trend towards the private sector becoming more involved in investment.

In most cases of successful city investment over the past five decades, public and private capital have played complementary roles. It has gradually become clear that private investment is essential to bridge the numerical gap in financing, as well as to add market discipline, raise the quality of the deliverable, and demonstrate to investors that the city is attractive.⁶⁹

The "investment gap"

Over the past five years, 42% of EU municipalities have reported an increase in investment activity.⁷⁰ But although cities are attracting investment effectively – and in a way that generates both a reasonable internal and external rate of return – this does not mean that all European cities have all the investment that they need or would like moving forwards. Indeed, there is still an "investment gap" in cities throughout Europe.

This gap, however, is more than just a capital gap. It is also:

- **An institutional framework gap** – returns on public investments are expected over short timescales, giving rise to shorter pay-back periods that are not always realistic and do not provide the right incentive for large-scale public investment.
- **A collaboration gap** – lack of coordination between different public bodies active in the same cities, plus the fact that PPPs and other methods of investment delivery have not yet evolved to be comprehensively applicable or universally trusted.
- **A knowledge gap** – lack of knowledge among public and private actors about how each other works and what is required for effective collaboration, plus information gaps on available investment opportunities.⁷¹

New directions in European urban investment

In an attempt to overcome this investment gap, several new strategies for better capitalisation have been put forward. In the last ten years in particular, there has been a renewed focus on increasing investment flows. Several key innovations stand out.

Firstly, there has been an increased focus on bankability, meaning that the likelihood of profit is more reliable. Institutions are helping cities to become more bankable by allowing them to develop advanced asset management and corporate finance systems. Partly, this is based on the recognition that different types of cities have different types of investment gaps, and therefore require different strategies. As the European system of cities has become more differentiated, it has also become apparent that different kinds of cities are on distinctive journeys and need investment that supports their distinctive needs. Knowledge hubs, for example, experience different types of investment gaps to research centres, and require different investment strategies to close these gaps.⁷²

Emphasis has also been placed on helping cities to develop sound fiscal strategies. This is the first step in building the necessary foundation of trust that will enable cities to promote themselves in such a way as to engender confidence among financiers.

Secondly, different forms of lending are coming to the fore. Aside from traditional bank loans, longer-term, structured financing techniques, such as bond financing, are rapidly gaining in popularity. These new forms of lending have been enabled by the emergence of new lending instruments and tools, such as revolving loans, and guarantees and incentives, which are increasingly used to lower the risks of private investment.

4.3 The role of the EIB

The European Investment Bank has been fundamental in promoting the expansion of European urban investment. Its key contribution has been in making long-term finance available for sound investment. The EIB raises substantial funds on capital markets, which it then lends on favourable terms to projects that further EU policy objectives.⁷³ Of the EIB's EUR 50-70 billion of annual lending, more than 10% is allocated specifically to urban projects, and indirect investment in the urban sector exceeds 40% of its overall portfolio.⁷⁴

But the EIB has also been key to enhancing investment in other ways. It has led the way in developing new funding tools, such as the framework loan, which quickly became the most important financial instrument in integrated urban development following its introduction in the 1990s. The framework loan is essentially a line of credit afforded to municipalities that supports the funding of eligible projects in each city's capital programme. Its transformative power in terms of European urban development lies in its ability to cover a portfolio of projects across multiple sectors, authorise a city or region to manage the allocation and disbursement of funds, and blend national, regional and loan funding as a means of overcoming barriers related to project size.⁷⁵

Finally, the EIB has been fundamental in developing new financial instruments and advisory techniques. Together with the European Commission, the EIB launched the new "Urban Investment Support" (URBIS) initiative in early 2018 to help cities plan and implement their investment strategies. The initiative, which is effectively a dedicated city advisory service, allows cities to benefit from an easy-to-access entry point and the full technical and financial advisory capacity of the EIB. It also adopted a new financial instrument known as the Smart Finance for Smart Buildings Facility, which is designed to make energy efficiency projects for buildings more attractive to private investors by using EU grants as a guarantee.⁷⁶

The final essay of our series will address the role of the EIB in more detail, illustrating how it has sought to respond to the investment imperatives of EU integration, and to shape the financial systems that support it. Before that, the series will extend through a range of essays on urban development in specific cities.

5. Featured Cities in this series

This section of our introductory essay outlines a summary of the cities that will be the focus of the rest of the series.

5.1 Vienna

Austria's historic capital and largest metropolitan area, Vienna, is consistently recognised as one of the highest-achieving medium-sized cities in the world. Its economic institutions, cultural diversity, investment potential and attractive lifestyle place it firmly among Europe's most important and dynamic cities.

In the early 20th century, Vienna was widely heralded as one of the world's greatest cultural and commercial centres. However, war and the destruction of its Jewish population badly damaged the city's confidence in the post-war period. Between the end of the First World War and the fall of the Berlin Wall, political instability meant that Vienna's international status waned and many of its leading intellectual and business figures emigrated. The city ultimately became peripheral to a thriving post-war Western European economy.⁷⁷

In the 1970s, the arrival of the UN headquarters marked the beginning of a turnaround for the city. The fall of the Iron Curtain in 1989, and Austria's subsequent accession to the EU in 1995, led to a dynamic development over the past

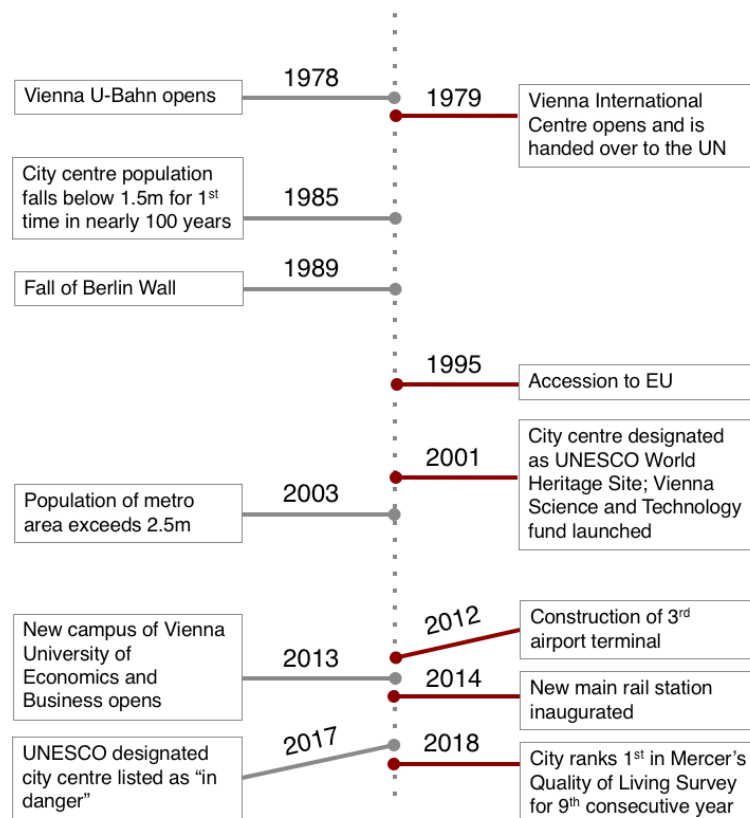
two decades. The city gradually established itself as Central and Eastern Europe’s pre-eminent global city, and the easing of labour movements throughout the 1990s pitched Vienna as an important transnational gateway to and from the east of the continent.⁷⁸ But Vienna’s outreach has also been held back over the past two decades, primarily by national political hostility and inconsistent financing partnerships with adjacent Eastern European states. Regional cross-border co-investment efforts have been constrained by a lack of consistency in neighbouring governance processes and tension in interstate relations.

In this context, Vienna’s growth trajectory over the past 25 years has been based primarily on major investment in infrastructure, transport and social housing. Since 2008, all four major railway stations of Vienna have been reorganised, modernised and upgraded, and non-stop connections to the airport have been established.⁷⁹ Vienna airport’s capacity has increased substantially to manage the increased demand from both west and east. Extensions to the wider Vienna region, including St. Pölten, Loosdorf, Ybbs, Amstetten and Linz, are improving the integration of the city-region, while links to the wider Austrian and Central European systems of cities also continue to improve, allowing Vienna to play a leadership role.

At the same time, Vienna has maintained an outstanding system of affordable housing, enabled by ongoing upgrades to stock and wider regeneration, and has successfully pivoted its economy towards science, innovation and technology. The city established an international reputation for life science laboratory research and grew its base of international students and faculties at its universities through investment in expanded institutional space and capacity.⁸⁰

Since 2000, the city of Vienna has grown by 250,000 inhabitants, and is forecast to grow to 2 million over the next 10-15 years.⁸¹ With more than 200 regional headquarters, Vienna is also now working to grow its retail, tourism, finance and legal sectors, and has made remarkable progress as a business location for start-ups. Vienna has firmly established itself as one of the leading European regions in terms of research output, scientific publications and R&D personnel.⁸² Recent funding and organisational arrangements have also placed innovation higher on the agenda.

Today, the city enjoys a strong reputation across several different sectors. Its public transport system is regarded as one of the best in the world, in terms of the density of the network and the number of stops, quality of service and affordability. The city’s unusually high housing affordability remains the envy of other European cities, as does its reputation for consistently meeting targets of ambitious environmental programmes and its effective implementation of a vision of the smart city.⁸³



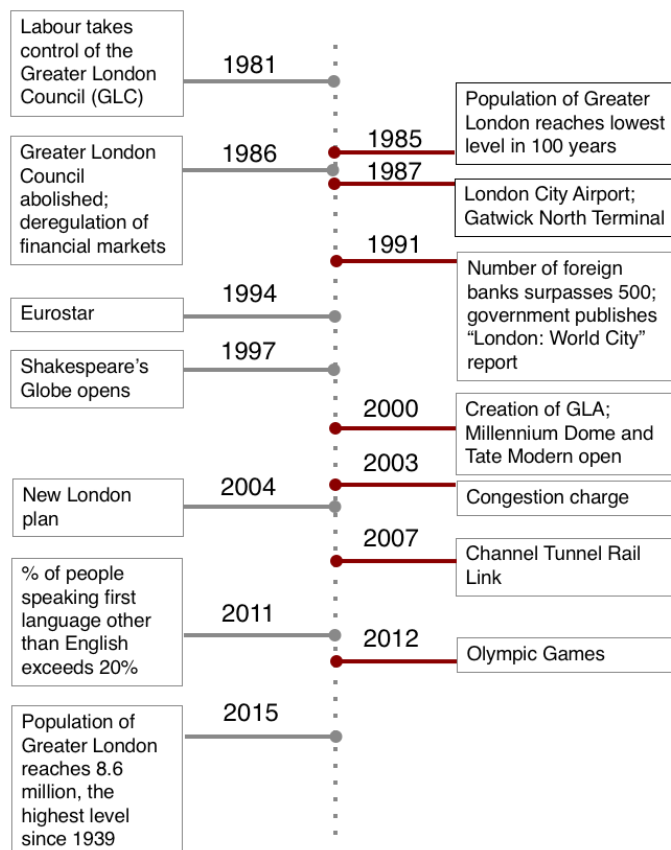
5.2 London

Europe's largest metropolitan area has undergone profound changes over the past fifty years, effectively evolving from an under-governed and depopulating national capital to a diverse global centre that benefits from high-quality integrated systems management.

In the 1970s, London felt the effects of deindustrialisation first-hand, as its principal ports moved downstream. As the city's manufacturing base declined, thousands lost their jobs, setting in train a process of mass emigration. By 1981, over 2 million people had left the capital, and the containment of growth by London's Green Belt encouraged "leap frog" development into towns far beyond the city limits. The 1970s also saw a cycle of rapid social housing construction, which later became inextricably linked with disaffection, poverty and crime and resulted in outbreaks of violence and rioting into the 1980s.⁸⁴

By 1985, London's population had reached the lowest level seen in 100 years, and in 1986, city-wide government was abolished, leaving the city without a central administration. Recognising the urgent need for action, central government established a new urban development corporation to activate growth in derelict brownfield areas. It was in this context that London became the poster-child of post-industrial development.

This coincided with the "big bang" deregulation of financial markets, which enabled London to leverage its strategic location in the European and African time zone and its proximity to European markets. London quickly established itself as one of the world's three leading financial centres. By the latter part of the 1980s, population decline had stabilised, and the economy had begun to grow again, as gradual improvements in schools, safety and public spaces began to attract talent back to the urban core. But governance was still a pressing issue, and it was increasingly apparent that the city's infrastructure was not of a scale or quality that could match its emerging status as a global financial hub.



Infrastructure became a key priority in the decades that followed. Throughout the 1990s, large-scale projects focused primarily on improving the city's transport infrastructure, by introducing new metro-rail links (such as the Docklands Light Railway) and extending and expanding the city's airports. By the late 1990s, projects also included high-speed rail links, including the Heathrow Express and the Channel Tunnel Rail Link, which were designed to further increase the connectivity and accessibility of the city, particularly to Western European centres such as Brussels and Paris.

In recent years, infrastructure delivery has been scaled up once again. Innovative funding mechanisms have been introduced as a result of the increased costs the scale-up has entailed. Crossrail, Europe's largest ever construction project, has been delivered through an innovative mix of business rates levies, developer contributions, and predicted future revenue. The increase in scale of these transport improvements has also necessitated the supplementing of transport infrastructure with other critical infrastructure. Recent years have therefore seen a renewed focus on social and affordable housing and the construction of a new mega-sewer tideway tunnel designed to enhance water treatment in the city.

Over the past decade, the UK government has decided to manage the stresses of London's world city growth path, rather than to intervene and change the formula for success.⁸⁵ It has focused primarily on promoting London as an international city and has sought to manage the growth it brings by improving public service delivery, social inclusion, and quality of life. This has been greatly aided by a coherent metropolitan-level government that has gained incremental powers since its formation in 2000.

By 2015, London's population had reached 8.6 million – the highest level recorded since 1939 – and was growing by 100,000 people per year. Notwithstanding the uncertainties surrounding Brexit, London continues to maintain its position as the world's leading investment destination, with more international retailers and ultra-high net worth individuals than any other city worldwide. It is also routinely ranked among the top performing large cities in terms of quality of life, infrastructure and accessibility.

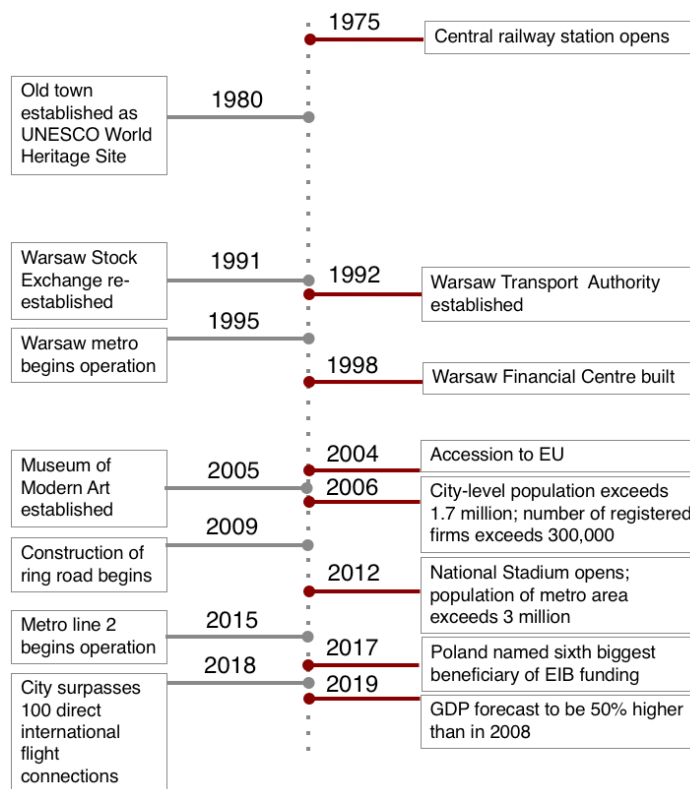
5.3 Warsaw

The metropolitan Warsaw region is today the ninth most populated capital city in the EU, with 3 million residents. But it has undergone a series of far-reaching changes to its economic structure over the past fifty years to attain this status.

When Warsaw returned to a market economy in the 1990s, it inherited a unique set of conditions. These included ubiquitous pre-fabricated housing blocks, a distinct lack of single-family homes, numerous empty spaces, a very complex ownership pattern with hundreds of historic property owners demanding restitution from the new state, and almost no legal or regulatory instruments to prevent sprawl.⁸⁶ This in turn led to a cycle of haphazard development, sprawl, and a proliferation of low-density suburbs, particularly as the previous planning office was replaced by private companies that lacked planning experience.

Over the past twenty years or so, however, Warsaw's economy has bounced back. This recovery is due primarily to a cycle of investment in infrastructure that emphasised the metropolitan scale of development and avoided the car-dependent model of growth. It also benefited from Poland's accession to the EU in 2004, which facilitated free movement of European labour and capital into the city.

Key interventions have included investment in the construction and modernisation of sewage treatment plants and railways, the procurement of new modern rolling stock for the city metro network, and the construction of a city ring road to relieve congestion and link the city to other major European centres including Helsinki, Berlin and Gdansk.⁸⁷ The EIB has been instrumental in enabling such interventions. Since the beginning of EIB activity in Poland in 1994, over 40% of loans have focused on transport. Over time, investment has also emphasised improvements to the city's healthcare, social and education services.⁸⁸



Today, Warsaw is recognised as an alpha global city, a major international tourist destination and a significant cultural, political and economic hub. It is expected that by 2019, the city's GDP will be 50% higher than in 2008, making it the wealthiest capital city in Central and Eastern Europe, alongside Berlin.⁸⁹ Warsaw is also currently in the middle of a surge in new commercial development and has some of the best medical facilities in East-Central Europe, including one of the largest and most modern oncology institutions in Europe.⁹⁰ The imminent extension of the city's second metro line is unlocking major opportunities for housing development, while a series of densification projects triggered by universities and other cultural anchor institutions, such as the new Powisle project, is re-activating the street-life of key riverside districts.⁹¹

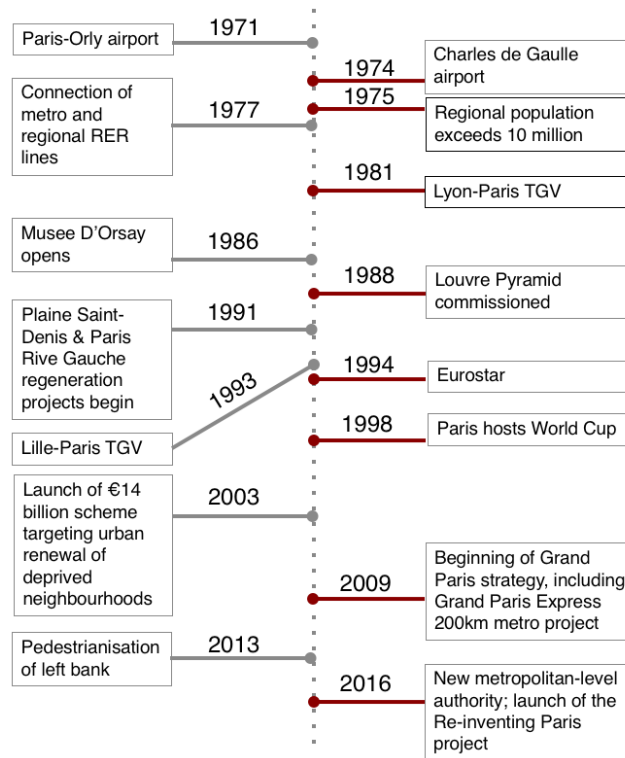
5.4 Paris

Paris has been one of Europe's foremost centres of finance, commerce, fashion, science and the arts since the 17th century.

Throughout the 1960s and 1970s, Paris was a fast-growing urban region with low- and middle-class families migrating to the suburbs into new social housing estates, low-rise residential allotments and planned *New Towns* partly inspired by the Swedish model. The population of Paris declined from around 2,850,000 in 1954 to just 2,150,000 by 1990, while the population of the region increased from 7,320,000 in 1954 to 10,660,000 by 1990. The city was hit hard by deindustrialisation in the 1970s, as technological advances relocated thousands of manual jobs. Migration was particularly dramatic between 1962 and 1975, when deindustrialisation was accompanied by a spike in affluence among working class families and rapid gentrification of inner-city quarters. The loss of Paris's manufacturing jobs continues to this day. Between 1990 and 2010, the number of manufacturing jobs dropped by 64% within the city and by 48% region-wide.

With a now much-reduced manufacturing base, the municipality of Paris was able to leverage new transport and cultural infrastructure to attract young professionals and to quickly establish itself as a key node in the new service

economy. Throughout the 1970s and 1980s, the opening of two new international airports, a new high-speed train between Paris and Lyon, and the connection of the metro with regional RER lines vastly improved the connectivity of the city to the rest of Europe and the world. These improvements, together with new flagship cultural attractions in the 1980s, such as the Musée D'Orsay and the Louvre Pyramid, proved key in attracting transnational companies to relocate to the region. Between the 1970s and the 1990s, the regional economy shifted from industry to high-value-added service industries and high-tech manufacturing, including electronics and aerospace.



As Paris continued to grow in scale throughout the 1990s, brownfield redevelopment emerged as a key means of accommodating sustainable growth. The Paris Rive Gauche and Plaine Saint-Denis projects became a guiding example for this process. In the Plaine Saint-Denis, 750 hectares of brownfield land just north of Paris was in the mid-1990s regenerated into a new major multi-event stadium for the Paris region, new metro and RER stations, and associated new housing development, kickstarting a major new cycle of real estate investment in the north of the city.⁹²

In recent years, the impetus for brownfield development has been strengthened further by the Grand Paris project, the largest European urban development strategy in recent decades including a new 200-km automatic regional metro system. The Grand Paris project, effectively a response to the recent slowdown in the Ile-de-France's economic competitiveness in relation to emerging economies, involves two major components: major extensions to the metro system to improve connectivity between business districts, airports and universities; and extensive suburban brownfield development to create regional activity hubs and a new metropolitan identity.⁹³ Other key motivations of the project include reducing traffic jams that contribute to smog and improving suburb-to-suburb accessibility, which is particularly incisive, given that over the last decade many large international corporates have left the central office markets to relocate to the suburbs.⁹⁴

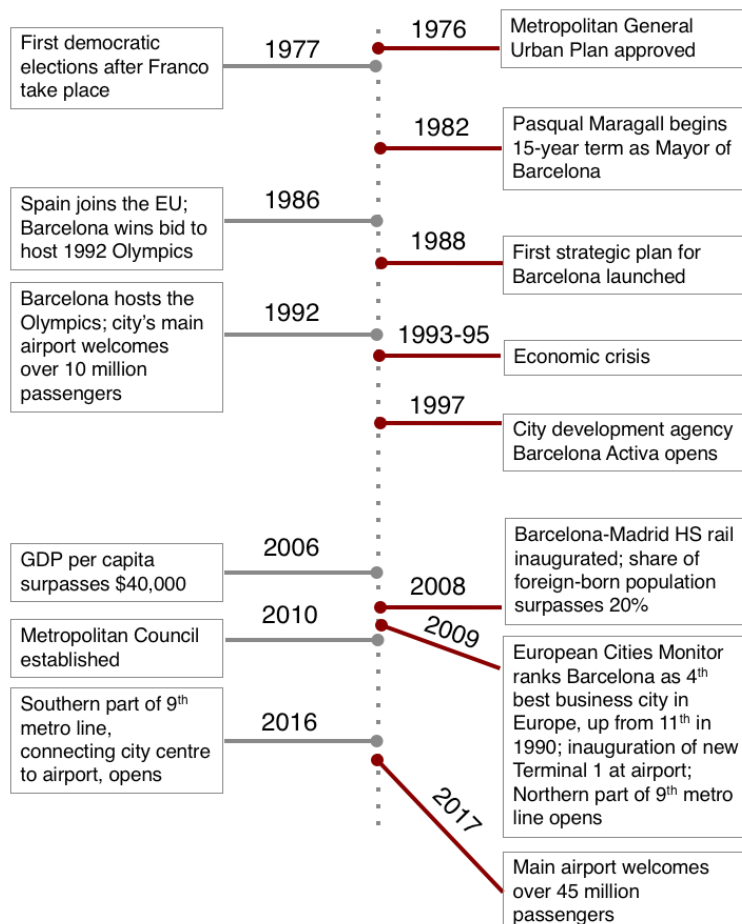
Today, the Ile-de-France has a population of over 12 million people, more than three times as many as in 1900. Due to high property prices, many residents have had to relocate to 30 kilometres outside the city with poorer transport connections.⁹⁵ Nevertheless, a new metropolitan-level authority is helping to coordinate infrastructure improvements across the region – particularly the Grand Paris project – while ambitious city-centre initiatives, such as the Vélib bicycle sharing scheme and the pedestrianisation of the left bank of the Seine, have resulted in a fresh wave of tourism and city-centre living.⁹⁶

5.5 Barcelona

Barcelona has become a global poster child of urban transformation in the 40 years since Spain's transition to democracy. The city had always been a major centre of Mediterranean trade and industry, with a distinct vernacular thanks to its design by Ildefons Cerdà in the mid-19th century. But by the late 1970s, it was beset by unemployment, political instability, a decaying physical environment and few cultural projects.

Upon Barcelona's return to democracy, the city benefited from the existence of a powerful Metropolitan General Plan. This plan not only overcame strong opposition from vested interests, but also provided the basis for rational and attractive urban development. This allowed Barcelona to achieve its potential while also enabling important devolution of powers to its region of Catalonia.

Under Pasqual Maragall, the mayor from 1982 to 1997, the city council's administrative structure was overhauled. His pragmatic and inclusive leadership built a positive new vision for the city and fostered productive relationships with trade unions, civil society and businesses. Maragall also worked successfully with the government of Catalonia, which had recently gained enhanced powers in infrastructure and land development. In this phase, Barcelona de-prioritised large-scale road projects and instead shifted towards encouraging public transport and customised interventions in public space in both the city centre and the suburbs.⁹⁷



The award of the Olympics in 1986, in the same year as Spain's accession to the EU, proved to be a defining moment in Barcelona's transformation. Not only did it trigger a historic cycle of investment in the built environment, telecommunications systems and airport connectivity, but it also strengthened the region's self-confidence. Eliminating the rail line that separated the city from the sea helped give continuity to Cerdà's original design and activated new urban areas close to the beaches. Improvements to the city's road and sewerage infrastructure, together with new public spaces, proved critical in generating incentives for private investment, especially in the tourism sector. The Olympics not only helped to enable a collaborative ethos to be forged between the public and private sectors, but also encouraged the private sector to become a much more active investor and leader in the region.⁹⁸

By the late 1990s, Barcelona had become an established destination for media, arts, education, food, design and tourism. Pioneering development agency Barcelona Activa started to help encourage a new generation of entrepreneurs to start businesses in the city. Meanwhile, city government adopted a sequence of forward-thinking strategies stating a clear international ambition to become a top European location for events, students, trade, and innovation.

In the years after 2000, Barcelona witnessed a rapid surge in immigration, especially from Latin America and Asia, and its export and investment links with Europe and China grew substantially, aided by development of the city's port and logistics capabilities. Passenger numbers through its main airport rose from 5 million in 1977 to 33 million by 2007, while the number of hotel rooms doubled between 1990 and 2004.⁹⁹ The high-speed rail line linking the provincial capitals of Catalonia with Zaragoza and Madrid and to the north with France has also been instrumental in the transformation of Barcelona's mobility and business environment. In 2017, the line carried 4.1 million passengers, making it the busiest high-speed railway in Spain.

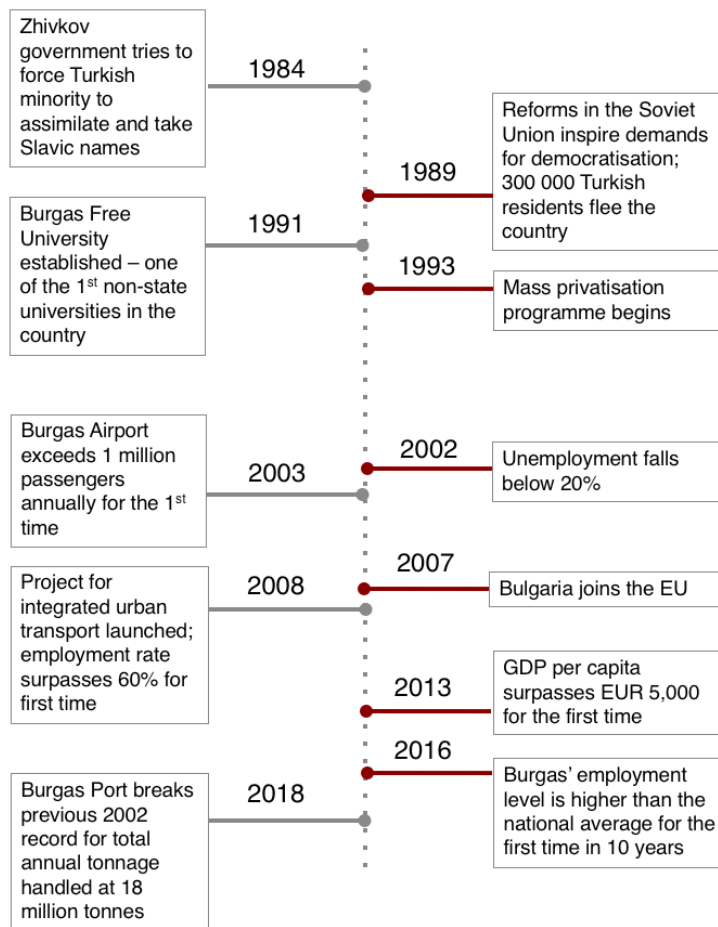
In recent years Barcelona has had to manage not only the externalities of its growth and success, but also the double burden of chronic youth unemployment and other structural macroeconomic challenges arising from the global economic recession. In order to drive growth and combat out-migration, city leaders have increasingly focused on supplementing Barcelona's very strong visitor brand with an improved business and investor brand, while also protecting quality of life for local communities amid concerns about "over-tourism".

An inherited challenge for the City of Barcelona is its relatively small administrative area. The Metropolitan Corporation – created in 1974 and reformulated in 2010 as a Metropolitan Area consisting of 35 municipalities – has helped to coordinate a wider group of local governments on issues of planning and economic development.¹⁰⁰

Consistent infrastructure investment has been particularly important in enabling the city to become not only the European city with the best investment prospects, but also one of the most attractive cities worldwide.¹⁰¹ But this appeal has generated externalities, such as rising rents and opposition to perceived "over tourism".

Barcelona Metropolitan Area's current aim to strengthen its position as Europe's southern gateway and leading Mediterranean logistics hub requires additional investments in the port area and further development of the airport. But it also requires the conclusion of major projects such as the central part of metro line 9, the rail connection to the airport and the renewal of the suburban rail lines, in order to cope with growing public transport demand, and the creation of new affordable social housing geared towards young families and the elderly.¹⁰² The city is also now pivoting into smart city and mobile technology as a vehicle for creating new jobs in high value-added sectors, improving urban efficiency and exporting expertise abroad.

5.6 Burgas



Burgas, Bulgaria's fourth largest city, has long been a nationally important industrial, transport and cultural centre. Today the country's largest port and the centre of Bulgaria's fishing and fish processing industries, Burgas has undergone profound changes over the past fifty years – not least due to its transition from the Soviet era in the early 1990s – and increasingly proves that it deserves to be called one of Central Europe's smartest cities.

When the Communist Party came to power in 1944, Burgas was a prime example of a flourishing European multicultural town. However, the beginnings of socialism brought about profound changes to the city's urban fabric. New rulers, insistent on developing heavy industry and constructing vast swathes of pre-fabricated multi-storey housing estates, damaged or destroyed much of the city's previous heritage. This, together with a national drive for Turkish minority inhabitants to assimilate and adopt Slavic names, resulted in much of the city's Turkish and Greek population emigrating to resettle in their home countries.¹⁰³

Following the fall of Communism, Burgas began to experience a new influx of primarily Bulgarian immigrants from rural areas and the surrounding smaller towns, attracted by the city's decades-long entrepreneurial spirit and the prospect of securing higher-paid work. This meant that although the population of the city itself has stayed relatively stable at around 200,000, the population of the entire metropolitan area has grown substantially to around 300,000, putting pressure on the city's relatively underdeveloped infrastructure. From 2001 to 2011, GDP per capita, corrected for purchasing power, more than doubled, from EUR 5,600 to EUR 11,400.

In more recent times, Burgas has garnered a reputation for its smart city vision and solutions. One of the city's key priorities in its transition to a capitalist market economy has been to improve its mobility and infrastructure platform

so that it is able to “catch up” with other Western European cities. Burgas is famously the first city in Bulgaria to entirely transform and modernise its public transport system. Sustainable mobility has been on the city’s agenda since the mid-2000s, when Burgas launched an integrated public transport plan.¹⁰⁴

Over the course of its transformation, Burgas has closely cooperated with top European cities such as London and Milan on the implementation of smart mobility solutions. It has also used EU funds to develop an integrated transport system with car-free zones, dedicated bike lanes and eco-friendly buses. Paid parking has been introduced to central areas to encourage pedestrianisation, while special mobility services for disadvantaged people, including children, the elderly and those with disabilities, have recorded an uptake of over 20,000 trips per year.¹⁰⁵ As a result of these interventions and others, the share of roads deemed to be in acceptable condition has increased from less than 10% in 2006 to 42% in 2016.

Other priorities for the city in the recent period have included the rehabilitation of railway infrastructure and the promotion of energy efficiency. A recent upgrade of the Plovdiv-Burgas railway line has reduced journey times between Burgas and Sofia and improved regional connectivity, while the city’s inclusion in schemes such as the Covenant of Mayors and the Sharing Cities Programme has encouraged the upgrading of the city’s public buildings to make them more energy efficient.¹⁰⁶ JASPERS assistance and the JESSICA funding mechanism have been fundamental to the success of these initiatives.¹⁰⁷

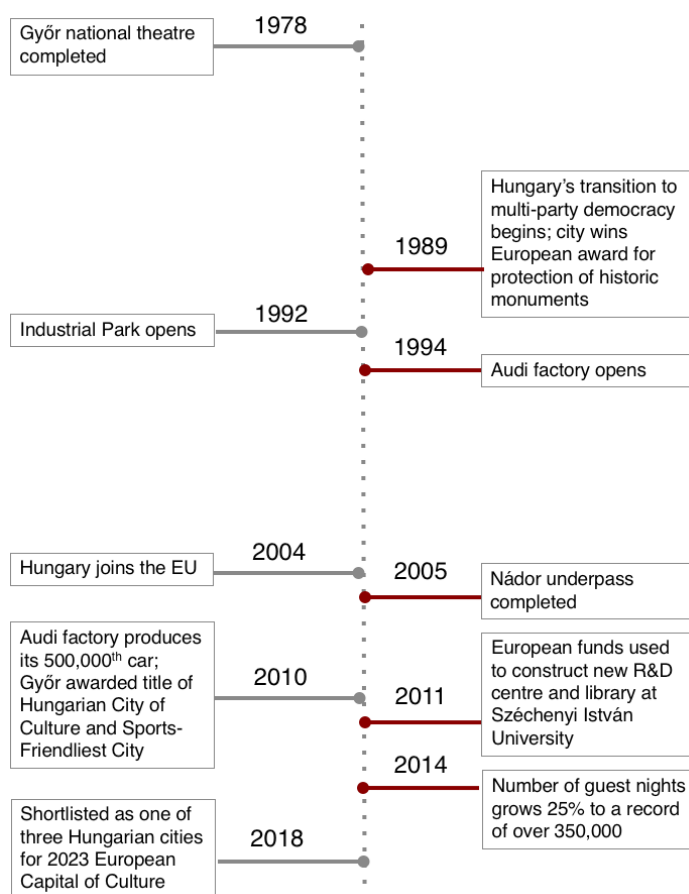
Today, investments in infrastructure are having positive spillover effects. The economic potential of Burgas now places it second among all Bulgarian municipalities, and more than 16,000 companies operate in the city. Employment is on the rise, and in 2016 was higher than the national average for the first time in ten years.¹⁰⁸ Meanwhile, GDP per capita is rising twice as fast as the national average, and passenger traffic at Burgas airport is increasing at an annual rate of over 20%.¹⁰⁹

This increase in wealth further boosts demand for infrastructure. A new ferry route from Burgas to Georgia marks the city’s ambition to become a major logistics centre at the crossroads of Southeast Europe and Western Asia, and low-cost airline Ryanair recently chose the city as its second base in Bulgaria following an investment of €80 million.¹¹⁰ This all ties into a new city plan which is designed to open up the city to the sea by designating several new residential neighbourhoods and highways.

5.7 Győr

Situated within the Budapest-Vienna-Bratislava triangle, and at the intersection of mainland and riverine trade routes, Győr is, despite its relatively small size, arguably the most important city in Northwest Hungary.¹¹¹ Designated as one of the seven main regional centres of the country, in the current European urban hierarchy system Győr and its surroundings are classified as a functional urban area of national and international importance.¹¹² Like many other central European cities, Győr has undergone profound changes to its urban fabric and economy over the past half-century.

Since the 1970s, Győr has grown quickly and has been targeted by foreign direct investors at a rate disproportionate to its small size. A leading factor in this economic development has been the city’s historically strong and well-developed automotive industry, but other factors, such as high rail and road accessibility and a better developed infrastructure platform than the Hungarian average, an embedded culture of equal opportunities and high standards of education and training, have also been important.



From the first third of the 1990s, when the majority of Győr's state-owned companies were transformed into economic corporations, growth accelerated further. Two key watershed moments for the city in this period were the opening of the industrial park in 1992, which has since gone on to achieve global recognition, and the opening of an Audi subsidiary factory in 1994. Today, the industrial park is home to more than 100 companies from fourteen countries.¹¹³

Győr's economic growth has also been reinforced by reconstruction of the city centre, which also began in the 1970s. In 1989, the city won a European award for its dedication to the protection and preservation of monuments, although it was only after the millennium that the city embarked on its biggest construction and renovation projects. Some of the most significant projects include the construction of the Nádor underpass and new multi-storey car parks to relieve downtown traffic congestion, the renovation of the inner-downtown district, including several high-profile civic squares, and the launch of a free city bus service which can be used by anyone to get anywhere in the downtown area. The renovated historic monuments and newly refurbished castle bastions have provided new authentic venues for heritage events in the city.

Economic growth, in turn, has created imperatives for a more integrated infrastructure platform for the city, and it is here that the role of the EIB can be most clearly seen. As the city has grown, the EIB has helped finance new rolling stock for the city's rail connections in an effort to provide higher quality rail services on the Austrian-Hungarian cross-border rail network. It has also assisted in the upgrade and extension of the city's electricity transmission network, integrating the greater urban area of Budapest with the northwest of the country.¹¹⁴ In recent years, European funds have funded a new research and development centre and library at one of the city's major universities.¹¹⁵

Today, Győr outperforms the national average on many measures of economic success. The city's GDP per capita is 12% higher than the national average, and residential house prices are increasing at a rate of 10% year-on-year.¹¹⁶ Future plans highlight the city's intentions to continue developing its infrastructure platform, but also to branch

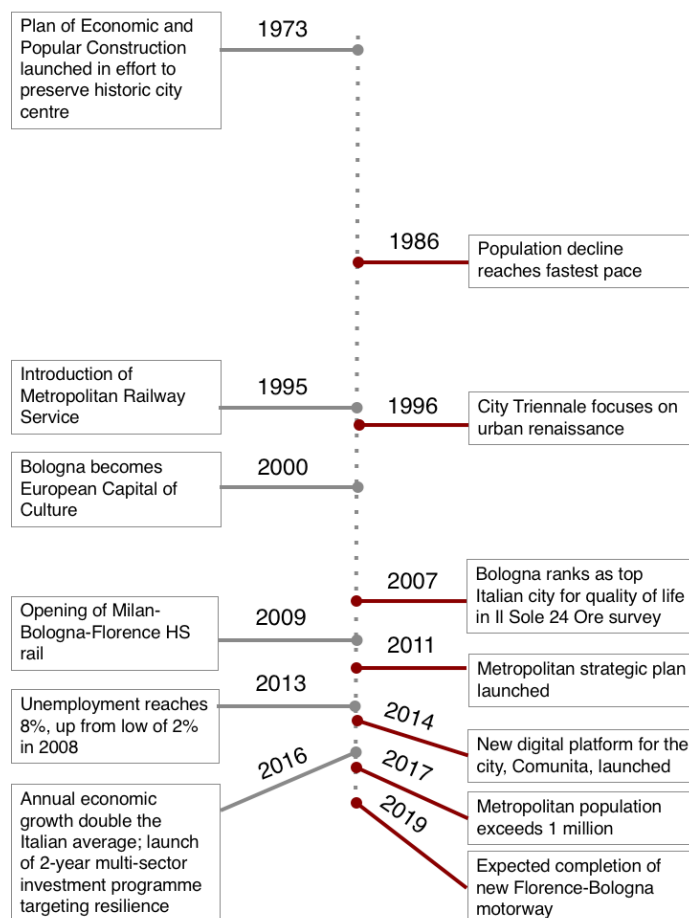
out into culture and to consolidate its emerging reputation as a sports city. An inner-bypass ring road is forecast to begin construction in 2019, while the city and regional bus terminal and rail station are to be renovated and integrated. This will help ensure that Győr continues to contribute to Hungary's economic growth.¹¹⁷

Meanwhile, the site of a more-than-100-years-old factory close to the historical downtown and the river is to be replaced by a new master-planned community. This is an effort to position the city as a counterpoint to the opportunities offered by nearby Vienna and Budapest. The city has recently been shortlisted as one of the contenders for the 2023 European Capital of Culture.¹¹⁸ The ultimate goal for the city, as outlined by the mayor, is to grow to a city of 300,000, in which tourism, culture and education combine to ensure a liveable environment for all.

5.8 Bologna

Although in many ways a typical thriving Northern Italian post-industrial metropolis, Emilia-Romagna's capital Bologna possesses a number of institutional, spatial and socioeconomic specificities that set it apart from its regional and national context.¹¹⁹ As an important agricultural, industrial, financial and transport hub, Bologna is today Italy's seventh most populous city, at the heart of a metropolitan area of about one million people.

In the post-war years, Bologna positioned itself as a thriving industrial centre and a political stronghold of the Italian Communist Party. The city has a long history of progressive political thought and had an uninterrupted series of left-wing mayors between 1945 and 1999. In the 1970s and 1980s, Bologna, like many other European cities, was subject to discontentment with deindustrialisation. Between 1975 and 1995, the core city of Bologna was losing around 2,000 inhabitants per year, although the wider province gained around 2,500 per year, as people fled to the suburbs in search of a safer and more pleasant environment.¹²⁰



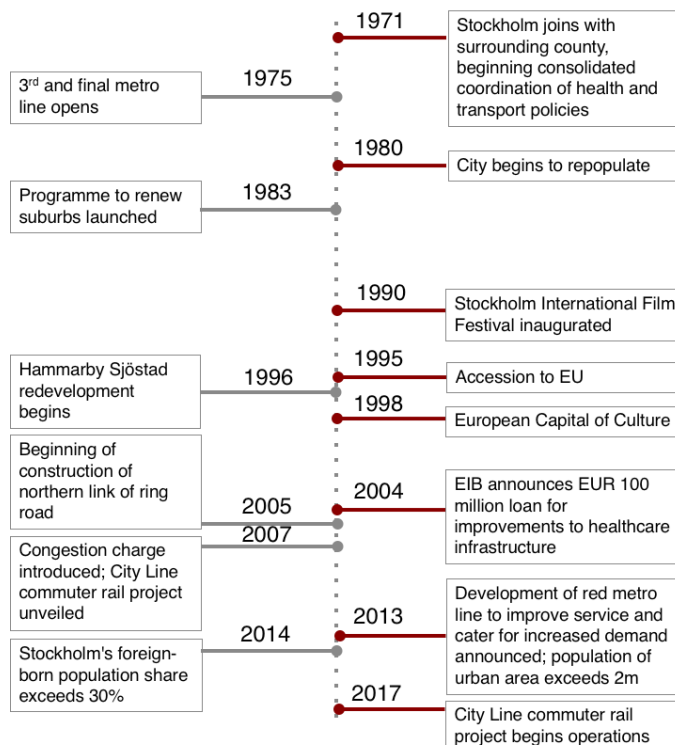
Since the 1980s, Bologna's urban development has been underpinned by a strong cycle of investment in intra- and inter-city transport links. In the 1980s, Bologna was one of the first European cities to experiment with the concept of free public transport. In the 1990s, investment in the Milan-Bologna high-speed train network cut journey times between the two cities from 105 to 60 minutes, vastly enhancing the attractiveness of inter-city commuting and encouraging inner-city corporate investment.¹²¹ Finally, since the 2000s, Bologna has also benefited from an increased rate of centrally funded investment in highways and motorways. A new Florence-Bologna motorway, to be completed in 2019, will replace the obsolete one built in the 1960s and cut the journey time between the two cities from 90 to 50 minutes.¹²²

In recent years, the focus has increasingly shifted to honing the city's inherited strengths in education and resilience. Bologna is unique in that it is home to the oldest university in the world and so has a distinctly cosmopolitan character. A new two-year, multi-sector programme has been launched that focuses on re-affirming this, by making the city a more attractive place in which to live and invest, and by enhancing resilience to earthquakes and climate risks.¹²³ The programme includes renovation of municipal buildings, roads, public spaces and schools, together with the completion of an encircling bicycle path and upgrades to the city's parks and open public spaces.¹²⁴ In this context, the EIB, in tandem with various promotional actors such as the university and public utility companies, has been important not only in providing urban framework loans to the municipality, but also in assisting the development of the overall metropolitan area.

Today, Bologna enjoys a reputation as one of Italy's pre-eminent smart cities and has the third highest total GDP per capita among Italian provinces after Milan and Bolzano.¹²⁵ The city has affirmed itself as a European leader in the development of innovative transport policies, with zero tariffs during rush hour and special rates for students and pensioners. It is also known for the high quality of its child-care and education services, careful integration of green space into the urban fabric, and the presence of a major university.¹²⁶

Bologna has been particularly successful since the global financial crisis. By 2016, the Emilia-Romagna region was posting growth of 1.9%, almost double the Italian average. Local entrepreneurs attribute the city-region's resilience to its proximity to the creative hub of the University of Bologna and to the fact that its mostly small and mid-sized companies have been able to respond more quickly than multinational corporations to market changes.¹²⁷

5.9 Stockholm



Stockholm, the economic centre of Scandinavia and Sweden's commercial capital, has actively pursued a policy of compact city development for the past thirty years. It is now recognised as one of the most successful metropolitan areas in Europe, for its commitment to sustainability and its attractiveness to talent and investment.

In the post-war years, Stockholm, like many other European centres, experienced the effects of deindustrialisation. Companies collapsed, jobs were lost, and inner-city residents increasingly moved to surrounding municipalities. But compared to other cities, the effects were not as severe. The city began repopulating in 1980, far earlier than elsewhere in Europe. There are at least two reasons for this. Firstly, Stockholm's economy, though based on shipping, also depended heavily on domestic corporate firms, which were to a large extent insulated from deindustrialisation. Secondly, in 1971, Stockholm joined with the surrounding county in a move that formalised county-level coordination of health and transport policies and encouraged greater cooperation over city and regional planning. This, together with Stockholm's emerging consensus on densification, re-encouraged city-centre living.¹²⁸

Over the past thirty years, as the consensus on densification has become more entrenched, Stockholm's urban structure has evolved in tandem with public transport. The city has effectively pioneered a model of densification that emphasises historic character, public dialogue, and additional green space to compensate for loss of land. In the 1990s, one key project, Hammarby Sjostad, a highly renowned and successful mixed-use, high-density brownfield redevelopment, set the standard for all subsequent developments.¹²⁹

EIB lending has been fundamental in enabling Stockholm to achieve its densification targets. The city's initial phase of densification relied on the EIB-funded "Dennis Package" of transport investments designed to improve spatial integration. The programme, which ran from 1991 to 2005, included three quarters of the city's ring road, as well as tram, rail and metro and bus line extensions. It proved key in encouraging inner-city, car-free living by unlocking new districts, increasing connectivity, and enhancing capacity. Into the 2000s, investment loans have increasingly focused on fostering the city's latent innovation potential, especially in the health sector. Investment is helping the city to leverage its unique mix of healthcare institutions, medical industry, and digital expertise and to improve healthcare infrastructure city-wide.¹³⁰

Today, Stockholm is one of the most rapidly growing city regions in Europe and is witnessing significant demand from investors as a result. The city's long-established comparative advantages in software, gaming, music and architecture are migrating south, while the old central business district is becoming more defined by finance, law and business. Meanwhile, other large institutions are establishing themselves near the central train station, as the city looks to develop a series of new clusters, including digital media and fintech. Stockholm is now home to some of Europe's fastest-growing start-ups and has the world's most unicorns per capita after Silicon Valley.¹³¹ In 2010, Stockholm was also the first city awarded the title of European Green Capital, thanks to a 25% reduction in carbon emissions from 1990 levels.¹³²

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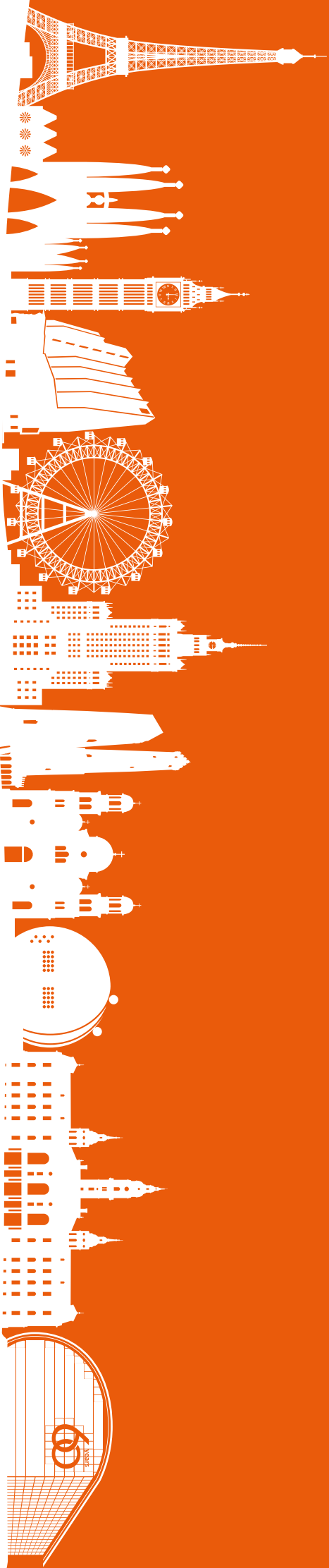
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