
LSE Cities Next Urban Economy Series

Barcelona

Global repositioning of an emerging metro

Global Metro Summit

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The Next Urban Economy

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Chicago, 7-8 December 2010

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Conference Paper

Contents

Executive Summary	3
1 Introduction	4
1.1 Background	4
1.2 Barcelona's transformation	4
1.3 Methodology	4
1.4 Structure of the report	4
2 The metro context	6
2.1 Geography	6
2.2 Economic history	6
2.3 The problem and the opportunity	6
3 Intentionality to advance the next economy	8
3.1 Approach	8
3.2 Governance	8
3.3 Interventions	9
4 The success story	19
4.1 Economic success — core indicators	19
4.2 Economic success — internationalisation and entrepreneurialism	20
5 The crisis and the future	23
6 Conclusion	24
Selected bibliography	25
List of interviewees	26

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The LSE Cities Next Urban Economy series

Munich: staying ahead on innovation
Torino: reclaiming and diversifying local strengths
Barcelona: global repositioning of an emerging metro
Seoul: orchestrating an innovation-led economy

In the context of strong metropolitan growth, and the promotion of innovative approaches to urban and regional development policy at city, regional, national and European Union (EU) levels, over the past two decades, the *Next Urban Economy* project looks to three European cities for investigation and analysis. The three cities - Munich, Torino and Barcelona - have each overcome challenging crises in the past and shown significant economic progress and urban transformation in the recent past, especially in terms of promoting innovation, global repositioning and internationalisation, and the fostering of a greener economy. The *Next Urban Economy* series also includes one of the fastest growing cities in Asia, Seoul, as shifting patterns of urban growth increasingly require us to look beyond Europe and North America. Taken together, these city profiles provide city leaders, policymakers and practitioners with valuable resources as they respond to the challenges posed by the current global economic recession and develop their own next urban economy. The city profiles will be available at www.lse.ac.uk/lsecities and www.globalmetrosummit.net.

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Executive Summary

Overview

Barcelona has achieved an extraordinary transformation in its economy since the 1980s. The capital of Catalonia, the largest economic region in Spain, Barcelona successfully reinvented itself following nearly 40 years of General Franco's dictatorship, strengthening its position in Europe and attracting foreign investment, international entrepreneurs and tourists. While Barcelona has been hit hard by the recent financial crisis, it offers important insights into the fundamentals of urban economic transformation in a country that is Europe's fifth largest economy and the eleventh largest economy in the world.

The Challenge

Franco's death in 1975 heralded the beginning of democracy in Spain, but left Barcelona with a substantial legacy of economic problems that were compounded by competitive pressure and oil crises during the 1980s. By 1986, unemployment reached 21% and parts of the city fell derelict. The creation of the European Single Market in 1993 provided the city and its metro region with a unique opportunity for economic renaissance.

Leadership and intentionality to advance the next economy

Democracy brought a strong political mandate for change, which was firmly seized by early Barcelona Mayors Narcís Serra and Pasqual Maragall. Maragall initiated the city's first highly-participatory strategic planning process in 1988, creating a common vision of Barcelona as the capital of the Mediterranean. The government of Catalonia became increasingly powerful in areas such as economic development, planning, infrastructure and land development. New agencies were created, combining public and private sectors in agile and effective companies and consortia. This was especially important given the metro's fragmented governance, and effectively involved the dynamic private sector in Barcelona's transformation.

Interventions

City and regional governments and consortia drove forward a set of interconnected initiatives, mobilised by new governance models and a vision of Barcelona's future. These included:

Making the world take notice: For Barcelona, international promotion has been about much more than tourism. Mayor Serra's successful decision to bid for the 1992 Olympic Games shone a light on Barcelona and attracted the international investment needed to kick-start its transformation. Major urban re-developments and investment in infrastructure have made the most of the city's coastal location, climate and the high quality of life that the city now affords.

Stimulating entrepreneurship and moving into new sectors: Barcelona's attractive brand is now effectively leveraged to develop priority growth sectors such as design, media, logistics and biotechnology, and to attract international entrepreneurs.

Barcelona Activa. In 1986, the city council founded Barcelona Activa, a pioneering local development agency that has remained ahead of the curve. Its creation marked a

step-change in Barcelona's approach to employment and economic development, positioning new entrepreneurship at its heart. Barcelona was one of the first cities in Spain to create a business incubator and seed capital fund, and the first city in Europe to develop an online business incubator. Barcelona Activa has been quick to respond to changes in technology and new markets, and is committed to a personalised, client-oriented approach which combines both virtual and physical spaces for learning, networking and collaboration.

Towards new metropolitan growth and governance: The Barcelona brand is also being leveraged internationally across the metropolitan region through the Barcelona Economic Triangle, providing a taste of the benefits to come when Barcelona's forthcoming metropolitan agency kicks into action.

Barcelona Economic Triangle. This important metro-wide initiative is formed of three sets of clusters, each specialising in different aspects of the next economy. It includes the Llobregat area (with an aerospace, mobility and logistics focus), the Vallès area (with an energy, science and technology focus), and the Besòs area (with an innovation and creativity focus), including the 22@Barcelona innovation district, a significant urban transformation project for the new knowledge economy, focusing on five strategic sectors: ITC, media, biotechnology, energy and design. Together, the three areas create a metropolitan triangle for the next metro economy, providing 7 million m² of land with the potential to generate more than 200,000 new jobs. The Barcelona Economic Triangle brings together the relevant municipalities and regional government with other players, and involves significant public investment.

Results

The results of these actions are impressive. Catalonia has grown faster than Spanish and European averages over the past two decades. By 2007, unemployment in Catalonia had fallen to 6.5%, a significant achievement given its starting point in the 1980s. 8.4% of the working age population engage in some form of business creation activity each year, compared to the European average of 5.4%. Barcelona is now ranked as the fourth best city in Europe to do business.

Catalonia is Spain's leading export region, responsible for 27% of total Spanish goods exports. Medium-high tech exports now make up 51% of all industrial exports by value. The Port of Barcelona is one of the fastest growing ports in Europe, is well positioned in relation to emerging economies, having captured 38% of traffic between China and Spain, and benefits from the largest logistics cluster in southern Europe. Airport and rail capacity have also increased: the city has an operating high-speed rail link to Madrid and a link to France under development. These new infrastructures have allowed a massive increase in tourism. Tourist arrivals grew from 1.8 million a year in 1992 to over 6.7 million in 2008.

While the current global financial crisis has severely impacted Barcelona, it has a robust framework, a clear vision, and a myriad of actors to help it achieve the next stage in its transformation.

1 Introduction

‘Barcelona has come to be a great city ... a global metropolis ... The economic, financial and urban transformation of Barcelona between 1986 and the present day, in those twenty-five years, is an absolutely incredible story.’

Joan Trullén, Director, Instituto de Estudios Regionales y Metropolitanos de Barcelona (Barcelona Institute of Regional and Metropolitan Studies)

1.1 Background

Barcelona is the capital and economic engine of Catalonia, the region responsible for nearly one fifth of Spain’s total GVA, and 26.9% of total Spanish exports in 2007. It has an enviable international reputation and brand, which is capable of attracting foreign investors, entrepreneurs and holidaymakers. Barcelona also has a strong tradition of entrepreneurialism, and a flexible and diversified industrial base of small and medium sized exporting enterprises. 8.4% of the working age population in Catalonia engaged in some form of biz creation in 2007, compared to average of 5.4% across the EU (Global Entrepreneurship Monitor, 2007).

The city emerged as a major Mediterranean port and centre of commerce as early as the ninth century, and later became one of the first cities to industrialise during the Industrial Revolution. Barcelona developed the world’s first steam-powered textile industry in 1832, and later developed a strength in automobiles that is still present today: Martorell in the metro region is home to SEAT’s HQ and a major plant, and the Llobregat logistics, technology and mobility cluster is home to a second SEAT plant and a major Nissan plant.

Barcelona’s growth was, however, stunted by the repressive rule of military dictator Francisco Franco, which left the city with a legacy of economic isolation and under-investment by the time of his death in 1975. These problems were compounded by the oil crisis and political uncertainty during the democratic transition: the city deindustrialised rapidly, driving unemployment up into double figures. Spain’s entry to the EU in 1986 and the creation of the European Single Market in 1993 presented Barcelona with an opportunity to secure the city’s economic renaissance and to capitalise on its strategic geographical position in Europe, and in particular in the Mediterranean region.

Barcelona seized this opportunity firmly, securing an extraordinary transformation in its economy over the last 30 years. Together with the wider region of Catalonia, it has achieved 104% real growth between 1986 and 2007, compared to an European Union 27 average of 83.4% (Eurostat). Barcelona has been rated the top European city for quality of life since 1998 (European Cities Monitor), the third best-known city in Europe and 19th in the world (European Cities Monitor, 2009; Global Attractiveness Survey, 2008), and the fourth European destination for business and international investment (European Investment Monitor, 2008). These high rankings are reflected in Barcelona’s success in attracting tourists and foreign companies: from just 700,000 visitors in 1981, Barcelona attracted over 6.7 million visitors in 2008, while Catalonia was home to 34% of all foreign companies operating in Spain in 2008.

1.2 Barcelona’s transformation

This report tells the story of Barcelona’s emergence from the neglect and isolation of the Franco dictatorship, led by visionary and capable Mayors and a powerful city municipality, by flexible and collaborative institutions, and by its dynamic and cohesive private sector. These actors, through a combination of strategic planning and project-led development, were able to pursue multiple initiatives in an experimental and ambitious approach towards these common goals.

By hosting the 1992 Olympic Games, Barcelona was able to kick-start the correction of its infrastructure deficiencies and to rebuild its international reputation. Effective city branding and promotion were used to attract foreign investment, foreign entrepreneurs and tourism, and later to promote high-growth sectors, such as design, media, logistics and biotechnology. Major improvements were made to Barcelona’s port, airport, rail and road infrastructure over a twenty year period, delivering significant increases in Barcelona’s strategic importance in Europe and in the competitiveness of its firms. Investments in transport infrastructure were linked with the re-configuration of urban and metropolitan space for new knowledge-based and high-tech industries, creating an attractive environment for the new economy. New agencies and programmes were put in place to drive innovation and entrepreneurialism, and to help firms reposition themselves and develop their export capacities in rapidly changing international markets, building on the energy, ambition and confidence of Barcelona and Catalonia’s small and medium enterprises (SMEs). Although the financial crisis has hit Barcelona hard, investment in connectivity infrastructure has continued through the recession, including a new high-speed rail station, a new metro line and a new airport terminal, boosting confidence and providing jobs. The new metropolitan governance arrangements that are currently being put in place may potentially provide Barcelona with a stronger framework through which to secure the next phase in its transformation. It has, too, a new strategic metropolitan plan, Barcelona Visió 2020, to guide its future development, including through increasing orientation toward emerging economies.

1.3 Methodology

This is a mixed methods study, involving a) academic evidence review, b) Catalonia and Barcelona policy review, c) descriptive statistics and d) semi-structured interviews with ten key stakeholders and experts, undertaken in July 2010. Quotes from the interviews are included in this report in italics.

Barcelona has been selected for detailed study because of the substantial transformation it has achieved over the last thirty years. The focus has not been on its very recent economic performance in the context of the global financial crisis from 2007 onwards, although this is, of course, taken into account (see Section 5).

1.4 Structure of the report

This report is formed of six sections. Firstly, Barcelona is placed in context, as its geography, economic history and the lead-up to its transformation are explored. The processes and interventions pursued, and the governance arrangements put

Figure 1
Autonomous Community of Catalonia (Comunidad Autónoma de Cataluña) **7,475,420 people**
Barcelona Metropolitan Region (Àmbit metropolità de Barcelona) **4,992,193 people**
City of Barcelona (Ayuntamiento de Barcelona) **1,621,537 people**



- regional boundary
- metropolitan boundary
- district boundary
- ✈ airport
- 🚢 port
- highways
- intercity rail

P

in place to do so, are then introduced. A range of data is presented to demonstrate the nature of the transformation achieved by Barcelona. In the context of a global financial crisis, the effects of which are still working their way through Barcelona, the report reflects on the impact of the crisis so far, and on its implications for the future. Section 6 concludes the report by setting out the main processes and interventions underpinning Barcelona's transformation.

2 The metro context

2.1 Geography

Barcelona is Spain's second city and the capital of the Autonomous Community of Catalonia, situated on the north-eastern Mediterranean coast (Figure 1). Being geographically constrained on all sides - by the sea to the south and east, by mountains to the north and west, and framed by two rivers - Barcelona has developed as a compact city. 1.62 million people now live in the City of Barcelona itself, an area of 102 square kilometres (63.4 square miles), resulting in a population density of 16,000 inhabitants per square km (25,600 inhabitants per square mile), one of the densest in the EU (Idescat, 2009).

The urban area of Barcelona extends beyond the municipal boundaries of the City of Barcelona, into the surrounding municipalities of Baix Llobregat to the west, Vallès Occidental and Vallès Oriental to the north, and Maresme to the east. This urban area is known as the Àrea Metropolitana de Barcelona (Barcelona Metropolitan Area; AMB). According to Demographia, Barcelona is the sixth largest urban area (considered to be a continuously built-up area of urban development) in Europe by population, comparable to the Boston, Detroit and Phoenix metropolitan areas in the United States (2010).

Although public authorities exist to govern transport, environment and other urban services in the AMB, each has a different boundary. In July 2010, statutory approval was obtained for a new metropolitan governance body, the AMB, to integrate the formerly fragmented metropolitan agencies, with added responsibility for promoting a metropolitan strategic plan. Additionally, since February 2010, the Catalan government has defined the Barcelona Metropolitan Region (BMR), which includes the AMB but extends beyond it to include the growth nodes around Barcelona, situated along major highways, such as the cities of Mataró, Terrassa and Sabadell. The BMR is an area of 3,240 square kilometres (2,010 square miles) which is home to a population of 4.99 million people (Idescat, 2009). The demarcation of the BMR is part of a new division of Catalonia into seven 'vegueries', rather than four larger 'províncies', one of which is the Province of Barcelona. The Province of Barcelona includes the Barcelona Metropolitan Region, but extends northwards to include most of four central counties: Anoia, Bages, Osona and Berguedà.

Given the relatively recent changes towards metropolitan governance, comparatively few trend data are available at the level of either the metropolitan area or metropolitan region. In this report, data are therefore presented at the regional, provincial or city (municipal) level, depending on the data available. Unless otherwise stated, data refer to the city level.

2.2. Economic history

Catalonia is the most important economic region in Spain, accounting for 18.7% of Spanish GVA in 2007, slightly greater than Madrid's contribution of 18.0%. Productivity and especially employment rates in Catalonia are higher than national averages, and the unemployment rate is significantly lower. In turn, Barcelona Province is the

Table 1
Barcelona's economic performance: key indicators for 2007

	Barcelona Province	Catalonia	Spain
GVA (2000 prices, in € millions)	88,162 (74.1% of Catalonia's)	133,775 (18.7% of Spain's)	716,630
GVA per worker (€)	36,244	36,201	34,742
Employment rate (%)	74.2	75.8	67.4
Unemployment rate (%)	6.6	6.5	8.3
Population (millions)	5.332 (75.3% of Catalonia's)	7.085 (15.9% of Spain's)	44.475

Sources: Cambridge Econometrics and Idescat.

economic engine of Catalonia, accounting for 74.1% of Catalanian GVA, but with a slightly higher unemployment rate and a slightly lower employment rate. Table 1 provides a summary of recent performance.

Barcelona's success today can be traced back to its geographical advantages and historic strength in industry, as well as the policies it pursued in its more recent history. As early as the ninth century, Barcelona emerged as a major Mediterranean port and centre of commerce, due to its coastal location and natural harbour. Barcelona was also one of the first cities to industrialise during the Industrial Revolution; it developed the world's first steam-powered textile industry in 1832, and earned the title of the 'Manchester of the South'. The strength of Barcelona's industry drove its economic development and population expansion throughout the 19th century. In the early 20th century, Barcelona hosted a series of major trade fairs, including most significantly the World Exhibition in 1929. These activities attracted manufacturers and wholesalers to Barcelona, and promoted a further burst of growth.

Barcelona's growth was, however, stunted by the Spanish civil war of 1936-39, which deeply damaged its economic, political and social stability, and by the repressive rule of military dictator Francisco Franco and his economic policies of self-sufficiency. The Spanish economy only returned to growth in the 1950s, as a result of the moderations the regime was forced to make following the end of the Second World War. After Spain opened up in 1959, Barcelona enjoyed 15 years of strong growth, termed 'the economic miracle years'. The city attracted inward migration from rural areas and industry expanded beyond the inner city. This growth was supported by little public investment and planning, as a result of Franco's anti-urban (especially anti-Barcelona) policies, and thus put pressure on the infrastructure and housing of Barcelona and its surroundings.

2.3 The problem and the opportunity

Although Franco's death in 1975 brought an end to his dictatorship and the beginning of democracy in Spain, it also signalled the beginning of an economic crisis in Barcelona

which compounded Franco's legacy of economic isolation and under-investment. The city deindustrialised rapidly, suffering under the effects of two oil crises and uncertainty caused by the political transition. 25% of jobs, mainly in industry and construction, were lost between 1970 and 1985 (Pareja Eastway et al, 2008). By 1986, unemployment had reached 21.4% and many parts of the city fell derelict, affecting civic pride and international visibility (OECD, 2009).

During the mid 1980s, as the Spanish economy opened up to Europe and the rest of the world, opportunities also became available for Barcelona to capitalise on its strategic geographical position in Europe and to secure its economic renaissance. Spain's entry to the EU in 1986 and the creation of the European Single Market in 1993 represented critical moments for Barcelona, bringing increased opportunities for inward investment and internationalisation. The awarding of the 1992 Olympic Games to Barcelona in 1986 shone a spotlight on the city, which provided an opportunity to kick-start its international re-emergence, building on initiatives to renew Barcelona's public spaces in the early 1980s.

In the aftermath of the Franco dictatorship, Barcelona benefitted from unique political conditions which provided an important base for its future transformations. Firstly, it benefited from a clear political mandate for change which had been galvanised by Franco's repressive and damaging rule, constituting 'a quite unique "social capital"' (Garcia-Ramon and Albet, 2000, p.1333). Secondly, Catalonia benefitted from the return of its political autonomy, which brought with it freedom to develop its own economic plans and policies for the first time in decades, and the opportunity to correct the economic neglect of Spain's second city and most important industrial region.

The next sections tell the story of how the City of Barcelona municipal authority, the Government of Catalonia and many other actors in the public and private sectors organised themselves to rise to the challenges they faced and to realise the opportunities they recognised, in order to secure Barcelona's place in Europe and the world.

3

Intentionality to advance the next economy

3.1 Approach

Barcelona's leaders recognised early on the problems and opportunities they faced, and responded to them with ambition and capability, backed by a strong political mandate. Their response was pursued on many fronts, including:

- A series of strategic plans were developed during the 1990s and 2000s to establish economic development goals for Barcelona, involving a wide range of actors. This provided a common vision around which individual initiatives could be pursued by different actors and institutions in the public and private sectors, including an effective public-private consortium model.
- Barcelona's infrastructure deficit has been addressed through sustained investment in the port, airport, rail and road networks. Together these investments have strategically strengthened Barcelona's international competitiveness and connectivity, repositioning it in Europe and the rest of the world.
- Barcelona's international reputation has been rebuilt, initially through the successful hosting of the Olympics and the emblematic urban transformations which accompanied them. This reputation has been effectively leveraged by new agencies to attract international investment, entrepreneurs and tourists, and more recently to promote priority growth sectors such as logistics, biomedicine and design.
- In addition, the urban and metropolitan fabric of Barcelona has been re-developed to attract new high-tech and knowledge-intensive industries. The new land developments have been promoted through the Barcelona brand in an increasingly strategic and metropolitan way via the Barcelona Economic Triangle.
- New agencies, such as the city development agency Barcelona Activa and the Catalan internationalisation agency COPCA (now the Catalan innovation and internationalisation agency ACCIÓ), as well as the independent representative body for Barcelona business, the Cambra de Comerç de Barcelona (Barcelona Chamber of Commerce), have developed programmes to support firms and entrepreneurs in setting up and growing their businesses and in increasing their operations internationally.

3.2 Governance

'We have had political leadership of high quality for many years. The generation which is between 60 and 70 [years old] today has been extraordinary.'

Albert Carreras, Professor in Economic and Business History, Universitat Pompeu Fabra

'There is a culture of cooperation ...there are many synergies linked to informal cooperation, in the strategic plan and other platforms of that sort.'

Joan Trullén, Director, Barcelona Institute of Regional and Metropolitan Studies

The story of Barcelona's transformation is one which has been very much written by its mayors and the actions of the municipal authority. It was the first democratically elected Mayor of Barcelona, Narcís Serra, who took the decision to run for the 1992 Olympic Games, kick-starting Barcelona's transformation and re-configuring ideas about the city. In 1982, Serra became a Minister of the Spanish government,

from where he played an important role in securing support for the Barcelona Olympic Games. His successor, Pasqual Maragall, continued in the direction provided by Serra's leadership, developing a vision of Barcelona as the capital of the Mediterranean. Maragall recognised the need for long-term planning as well as individual projects, and initiated the first strategic planning process in Barcelona in 1988 in order to ensure the Olympic projects were linked to longer-term initiatives and goals. These processes were continued by the next Mayor, Joan Clos, another important figure, who continued to implement Serra and Maragall's vision, as well as developing it further through the idea of Barcelona as a 'City of Knowledge'.

Although Barcelona extends beyond the municipal boundaries of the City of Barcelona, governance of the immediate urbanised area and the broader metropolitan region has been fragmented since 1987, when the Corporación Metropolitana de Barcelona (Barcelona Metropolitan Corporation; CMB) was abolished by the Government of Catalonia. This decision resulted from tensions between an increasingly powerful (socialist) Barcelona and (Catalan nationalist) Catalonia, which escalated in 1986 when the 1992 Olympic Games were awarded to Barcelona. Although new metropolitan bodies were created for transport, the environment and urban services, each had different boundaries and did not extend beyond the urbanised area of Barcelona into the wider metropolitan region, while responsibility for metropolitan planning was retained by the Government of Catalonia.

It was not until 2010 that agreement was finally reached to bring these various responsibilities and powers back together into one metropolitan governance body, the Àrea Metropolitana de Barcelona (Metropolitan Area of Barcelona; AMB). This new body will integrate the formerly fragmented metropolitan bodies for the environment, transport and other urban services and will also be responsible for promoting a metropolitan strategic plan. Its area of jurisdiction will be the Barcelona Metropolitan Area, the immediate urban area surrounding the City of Barcelona within the broader metropolitan region (see Section 2.1). It is hoped that these new arrangements will provide a more effective platform from which to realise metropolitan planning and initiatives.

In the absence of coherent metropolitan governance, the Government of Catalonia has played an important role in the transformation of Barcelona metro. As well as developing territorial plans for the metropolitan region, the Government of Catalonia's land development institute, Incasòl, has been a key actor in the transformation of land for new high-tech and knowledge intensive clusters. The economic policies of the regional government have also been influential in Barcelona, especially in relation to internationalisation and innovation.

How can Barcelona's successful transformation be explained in the context of such fragmented metropolitan governance arrangements? The ambition and capability of its mayors and the city municipality, discussed above, has certainly been one important factor. A second has been the willingness and capacity of different state actors to work collaboratively on strategic projects, both vertically (i.e. combining different levels of government – municipal, regional, national) and horizontally (i.e. combining different

departments or organisations within the same tier of government). This has been effective in bringing the relevant parts of municipal, regional and national government together in one body, resolving disagreements and avoiding problems of poor coordination.

‘We sit down at a table, we create an agreement, we create an organisation and then, when it has matured, it becomes a consortium.’

Mateu Hernández, CEO, Economic Promotion, City of Barcelona, and Vice President, Barcelona Activa

The consortium model referred to in the above quote has been used frequently in Barcelona, not only to bring the relevant public actors together, but also to involve key private sector actors. The involvement of the private sector in Barcelona’s transformation was a critical achievement of the Olympic Games and the strategic planning process first initiated in the late 1980s (Santacana, 2000). This has been important in mobilising Barcelona’s entrepreneurial business community to drive the development of the city and broader region together with state actors.

The Strategic Plan Association, formed in 1988, was made up of both public and private actors, such as the Barcelona Chamber of Commerce, the Port of Barcelona Authorities and the University of Barcelona, in addition to the municipal authorities making up the Barcelona metropolitan area (Santacana, 2000). The Association also engaged with Barcelona’s technical specialists and university professors, further broadening its reach.

‘Many relevant people participated [in the first Strategic Plan], from many different political parties, organisations, universities ... it was important that there was a strong base.’

Francesc Santacana, General Coordinator, Barcelona Strategic Metropolitan Plan

‘The importance of the Strategic Plan was not the plan itself but the process of putting all the relevant actors and interests together.’

Joan Trullén, Director, Barcelona Institute of Regional and Metropolitan Studies

Although the Strategic Plan Association remained non-statutory, its participatory and collaborative approach meant that it was still able to achieve results: four years after the first strategic plan had been approved in 1990, 70% of the measures it had identified were in an advanced or intermediate stage of implementation (Santacana, 2000). The shared vision and the links developed through the strategic planning processes and the plans that arose from them in 1990, 1994, 1999, 2003, 2007, and most recently in November 2010 (with the new metropolitan strategic plan, Barcelona Visió 2020), enabled Barcelona’s transformation to be pursued through many different initiatives and by many different actors in an ambitious and experimental manner. The 2010 strategic plan, Barcelona Visió 2020, is likely to be the first strategic plan to be received by a statutory body, the new AMB, bringing more formal governance arrangements to this important planning process.

The way in which the networked coordination underpinning Barcelona’s strategic planning processes has worked can be seen in the experiences of one representative of the Port of Barcelona Authority:

‘I form part of the Strategic Metropolitan Plan for Barcelona ... I go to all the meetings, we are very active in the design of the strategy for the city and metropolitan area ... We try to align as much as possible the strategies of the port with those of the city, and vice versa ... Our activities in this area are very collaborative and participative.’

Representative, Port of Barcelona Authority

The consortium model (in Catalan, *Societats Anònimes*, or SAs) was re-introduced to Barcelona by Mayor Pasqual Maragall in order to deliver the ambitious infrastructure projects that accompanied the Olympic preparations. The SA model allowed the short-term creation of specialist and talented teams (rather than a permanent and inflexible bureaucracy) and combined state control with private sector flexibility and financial freedom (Rowe, 2006). While SAs tend to start out as publically-owned municipal societies, as they attract private capital over time, they are able to become private-public partnerships (PPPs). This model therefore permits the public sector to retain control over planning and regulation in the early phases of the project, while still attracting private capital and benefitting from a more flexible model (Casellas, 2005).

Collaboration between public and private sectors continued beyond the Olympic Games and strategic planning processes. The consortium model has been used effectively to deliver key programmes and projects at both the city and regional level. Key agencies have included Barcelona Activa (the local development agency set up in 1986 by the City of Barcelona municipal authority), COPCA (the internationalization agency set up in 1987 by the Government of Catalonia), as well as the many consortia set up to re-develop Barcelona’s metropolitan fabric for high-tech and knowledge-intensive industries, such as 22@bcn (see Section 3.3).

By initiating these processes and governance arrangements, Maragall was able to transfer a sense of leadership and participation in the city’s transformation to a broad range of actors in ‘a major psychological transformation ... an ambitious project in which everyone took part’ (Raventos, 2000, p.10). Thus, while Barcelona’s strategic plans have been helpful in bringing actors together around a common vision for the future, in practice, interventions have been pursued in an experimental, flexible and ambitious fashion by a wide range of bodies in both private and public sectors.

3.3 Interventions

An overarching vision for the future of Barcelona was developed through the strategic planning processes of the 1990s. Although the overarching objectives changed slightly over the years, they continued to emphasise the need for Barcelona to occupy a strong strategic role in the Mediterranean region of Europe (Figure 2) and in the globalising economy. From the late 1990s, the idea of Barcelona as a ‘City of Knowledge’ emerged, and efforts were increasingly targeted towards developing Barcelona’s strength in knowledge-intensive industries such as media, design, logistics, biotechnology, aerospace and energy. These ideas remain prominent to this day, appearing as strong themes within the November 2010 strategic plan,

Figure 2
The European macroregion in which the 1990 first Strategic Plan sought to establish Barcelona as a key centre



Source: Adapted from Ajuntament de Barcelona (1990, p.38).

Barcelona Visió 2020, alongside an increasing emphasis on orientation towards the emerging economies that are likely to provide sources of growth in the future, especially those with which Barcelona has a geographic or cultural connection, including within North Africa and Latin America.

The most significant interventions pursued to achieve these objectives were:

1. Sustained and strategic investment in connectivity infrastructure;
2. International promotion and branding to attract foreign investors, entrepreneurs and tourists;
3. Re-development of metropolitan and urban fabric for the knowledge economy; and
4. Developing entrepreneurialism and exports through targeted programmes.

1. Sustained and strategic investment in connectivity infrastructure

‘There has been a very important appreciation of the value of the port, airport, road infrastructure and rail infrastructure, which certainly gives a powerful base for the whole economy.’

Joan Ramon Rovira, Head of Economic Studies, Barcelona Chamber of Commerce

The development of connectivity infrastructure has been a fundamental part of Barcelona’s transformation since the late 1980s. Successive strategic plans have continually emphasised the importance of investing in the metro’s port, airport, roads and rail network in order to increase the capacity of its firms to compete in international markets, and to secure Barcelona’s international position. This investment has been increasingly linked to the development of advanced economic services and industries in the metropolitan region, such as logistics and biomedicine.

Many of the most significant investments date back to the Convention for Cooperation in Infrastructures and Environment in the Llobregat Delta (the ‘Plan Delta’), which was approved by national, regional and local public authorities in 1994. The aim of the Plan Delta was to develop Llobregat as the principal port and logistics hub of southern Europe, by expanding capacity, creating a logistical platform, and strengthening intermodal connections. The Plan Delta

was based on a 5km diversion of the river in order to provide the space to

- Extend the port and create separate areas for recreational traffic, commercial cargo and logistics. When completed, the Plan Delta re-developments will enable the Port of Barcelona to double in size to 1,300 hectares, with an estimated economic impact on the Catalan economy equivalent to 1.7% of Catalan GDP.
- Expand the airport, including a new terminal, loading bay, maintenance area, services and facilities. When completed, these improvements will increase the annual capacity of Barcelona airport to 70 million passengers.
- Improve road and railway connections, including a new motorway and internal rail terminals. Improved connectivity has been a key factor in the success of Barcelona’s logistic cluster, now the largest in southern Europe.

Today, the transformations that followed the 1994 Plan Delta are part of a broader set of urban re-developments in the Llobregat area (west of the city of Barcelona), including aerospace, biotech, mobility, food sciences and optics business parks, in one of the three areas making up the Barcelona Economic Triangle (to be discussed in more detail shortly). Further investments in infrastructure have also since been pursued, notably in high-speed rail connections to Madrid and France, and in a new metro line, which will be the largest subterranean line in Europe when complete. Together, these investments have contributed to significant increases in the capacity and competitiveness of Barcelona’s connectivity infrastructure.

The investment in Barcelona’s port, airport and high-speed rail connections are considered in more detail in the next sections.

The development of the Port of Barcelona

The Plan Delta allows for the Port to double in size up to 1,300 hectares. The diversion of the river was completed in 2004, and the Port enlargement works began in 2001. The first new wharf is under construction, and the contract to operate its container port has been awarded. Phase One of the logistics area (ZAL; 66.5 hectares) is now fully occupied by logistics and distribution firms, and will grow to an area of 260 hectares through the expansion process.

The upgrading of the Port of Barcelona is financed through a combination of private sector investment, EU funding, and the Port of Barcelona Authority’s own resources. In relation to the 1997–2011 Port master-plan, 60% of the total investment of €3.5 billion is funded through private investment with the remaining 30% financed through public capital (Port de Barcelona, 2008). Non-income-generating infrastructure is financed through the European Cohesion Fund, which is financing 53% of the sea defence works (up to a maximum of €277 million), and through the Port’s own annual cash flow and bank loans, including €250 million from the European Investment Bank. Commercial wharfs are being financed through a mixture of private and public capital – the private sector are able to manage new wharfs under concessionary regimes in return for investing in new infrastructure. Due to the important links of the Port of Barcelona with Chinese markets, a major Hong Kong terminal operator decided to submit a proposal to run one of the Port’s new container terminals in response to a public

tender. This company, as a new concessioner, has the commitment of a heavy investment in the port (interview with a representative of the Port of Barcelona).

During the 2000s, the Port of Barcelona Authority has sought to strengthen the Port's strategic position by building a network of 'inland maritime terminals' in Spain, France and other parts of Europe and the Mediterranean (shown in Figure 3). These terminals will provide multimodal and integrated services to importers and exporters using the Port of Barcelona, in addition to the logistical services offered in Barcelona. Services are already operational in Zaragoza, Madrid, Toulouse (France), Perpignan (France) and Tanger-Med (a cargo port near Tangier, Morocco), with further terminals planned in Lyon, Bordeaux and Southern Germany (Port de Barcelona, n/d).

The development of these advanced logistics and distribution services directly benefits Barcelona's firms. Businesses in Barcelona and Catalonia can import and export goods more efficiently by using the services provided by the Port of Barcelona through their inland networks, thus improving their ability to compete internationally.

Overall, it is estimated that the Port enlargement works will have an impact on the wider Catalan economy equivalent to 1.7% of Catalan GDP (Port de Barcelona, 2008). The total income generated by the enlargement is estimated to be €1.724 billion (ibid).

By increasing its capacity and efficiency through investing in port infrastructure and connecting inland networks, the Port of Barcelona Authority is seeking to increase the market share of the port within Europe, in order to challenge some of the better-established ports of Northern Europe such as Rotterdam and Hamburg. Currently, only 24% of goods coming from Asia through the Suez Canal to Europe arrive in Southern Europe, even though it takes three days longer to sail to Northern European ports. As the Port of Barcelona has already captured 35% of traffic between Spain and Asia (38% in the case of traffic between Spain and China), it is in a strong position to capture more of this market and become 'the gateway into Southern Europe for Asian traffic' (Port de Barcelona, 2008, p.3). Barcelona will, however, face competition from other Mediterranean ports as it seeks to expand its market share, and will need to continue to invest in infrastructure and remain competitive on cost if it is to stay ahead.

Figure 3
Strategic vision of the Port of Barcelona in delivering specialised and integrated services through Europe



Source: Adapted from Port de Barcelona (1998, p.32).

The expansion of Barcelona El Prat Airport

Just 3km from the port, Barcelona El Prat airport plays an important role in connecting with the area's distribution and logistics operations as well as boosting Barcelona's attractiveness to tourists and businesses. In addition to the two new passenger terminals that had been delivered alongside the 1992 Olympics, a new air freight facility began operations in 1996. Shortly afterwards, in 1999 the new El Prat master plan was approved by the Spanish government, which proposed a new runway and further terminal expansions; these plans were subsequently realised throughout the 2000s. Most recently, a new terminal opened in 2009 with a capacity of 30 million passengers annually – broadly equivalent to the total number of passengers travelling through the other three airport terminals in the previous year (onVuelos.com, 2009). Together, these improvements have already increased the area of the airport from 8.45km² to 15.33km² and, when complete, will increase Barcelona's annual capacity to 70 million passengers (airport-technology.com). In 2009, Barcelona El Prat airport was the tenth busiest airport in Europe, with 27.3 million passengers (Airports Council International).

Barcelona's ambition and confidence in its future can be seen by the decision of a group of public and private investors from Barcelona to purchase the Spanish airline, Spanair. In 2008, the Scandinavian owned Spanair was in a precarious financial position. When a planned merger with Iberia collapsed, it struggled to find alternative investors, until a group of Barcelona investors came forward and acquired a majority share in the company. This group included private investors (such as the venture capital company, Catalana d'Iniciatives, and entrepreneurs from the Catalan hotel and tourism sector) as well as public-private investors (such as Barcelona Tourism Consortium and Fira de Barcelona), which together formed a new company, IEASA (Aeronautic Business Initiatives) (Ajuntament de Barcelona, 2009).

For the Mayor of Barcelona, Jordi Hereu, the purchase of Spanair represented 'a strategy for the airport's future and the interests of Barcelona, the surrounding metropolitan area, and the whole of Catalonia and Spain' (ibid). The public sector was crucial in enabling this strategic investment to take place, demonstrating the flexibility and willingness of Barcelona's public and private sectors to work together in innovative ways.

The introduction of high-speed rail

'Connecting in two and a half hours to Lyon, to Geneva, is a tremendous attraction which, added to the pleasant climate, environment and tourism of the city, makes Barcelona into a tremendously attractive city for talent, entrepreneurs and innovators. This is a strategy that we are promoting now, to be an attractive city for international talent – come here to create your company, to do your business, to do research, or to work for others.'

Mateu Hernández, CEO, Economic Promotion, City of Barcelona, and Vice President, Barcelona Activa

High speed rail is seen as a critical element in establishing Barcelona's position as the capital of the Mediterranean and an internationally competitive economic centre. The high-speed rail link to Madrid has been in operation since 2008, cutting travel time between the two cities to just 2

hours and 38 minutes. The forthcoming link to the French high-speed rail network will bring several south-western European cities within four hours of Barcelona, such as Lyon, Marseille and Bordeaux in France, Genova in Italy and Geneva in Switzerland.

The high-speed line between Madrid and Barcelona is one of the world's fastest long-distance trains in commercial operation, covering 621km (386 miles) non-stop in 2 hours 38 minutes at speeds of up to 300km per hour (190 miles per hour) (European Union Cohesion Policy, n/d). At least 10,000 people take this line every day (ibid). A total of 2.3 million passengers used the high-speed train in its first year of operation (Ajuntament de Barcelona, 2009b).

The total cost of delivering the line between Madrid, Barcelona and the French border is €10.5 billion, of which €3.5 billion was supplied by the European Union, mainly via the EU Cohesion Fund (European Union Cohesion Policy, n/d). The cost of developing two new stations within Barcelona at Sant Andreu and La Sagrera is an estimated €2 billion (Barcelona Sagrera Alta Velocidad, 2009). A public trading company, 'Barcelona Sagrera Alta Velocidad' (Barcelona Sagrera High Speed), was formed in 2003, by the Government of Catalonia (25% share), the City of Barcelona municipal authority (25%) and the Spanish train and network operators, ADIF (37.5%) and RENFE (12.5%) (ibid), once again making effective use of the consortia model to integrate different levels of government and other critical actors.

The new multi-modal station, La Sagrera, being built in the east of Barcelona to support a forecast annual traffic of over 100 million passengers. Here, the high-speed rail will connect with upgraded local train networks, metro and bus services, and with new road infrastructure. The accessibility and connectivity provided by La Sagrera and the high-speed rail links to the eastern part of the city will provide significant competitive advantages to Barcelona. These new connections are one of the major attractions of the new 22@ Barcelona innovation district under development close to La Sagrera, which will be discussed shortly.

By linking investment in high-speed rail to investment in metropolitan transport infrastructure, it is expected that the benefits of high-speed rail will be realised throughout the metro region, as well as in the immediate area of the high-speed rail stations themselves. The Government of Catalonia is investing €6.5 billion in a new metro line (Line 9/10) for Barcelona, for example, which will be the largest subterranean line in Europe when completed, at 47.8km (43.7km underground) (Generalitat de Catalunya, n/d.b). It will connect key strategic economic sites in Barcelona, such as the airport, port and La Sagrera station, providing extra capacity and frequency of service in densely populated central areas of Barcelona, as well as greater connectivity for less densely populated areas in the metropolitan region. Although the project will not be completed until 2014, stations are opening already, providing phased improvements in metropolitan transport to Barcelona.

2. International promotion and branding to attract foreign investors, entrepreneurs and tourists

For Barcelona, international promotion over the past 25 years has been about much more than tourism. Barcelona was one

of the first cities to recognise the importance of its international image to its economic future. In the aftermath of the Franco dictatorship, there was an urgent need to convince international investors that Barcelona was functioning effectively and represented an attractive and sound investment option. Hosting the 1992 Olympic Games provided the ideal opportunity to do so, and became the means through which much-needed private investment could be attracted into Barcelona.

The transformation of Barcelona's public spaces and the reclamation of its waterfront were particularly important in rebuilding its international reputation by visibly transforming the city. The urban development programme, 'Barcelona posa't guapa!', ('Barcelona, look beautiful!') in the early 1980s was small-scale but very effective in visibly demonstrating change and building confidence.

'When someone makes themselves look beautiful, it's because they have self-esteem. It was a collective exercise in self-esteem.'

Maria Buhigas, Chief of the Urban Strategy Department, Barcelona Regional

Larger urban reconfigurations pursued alongside the Olympic Games then enabled Barcelona's architectural, historical and cultural assets to be reconnected with its natural assets, creating a more attractive city for residents and visitors. The regeneration of the waterfront and reclamation of 4.5km of beach transformed Barcelona's international profile, and became a symbol of its new openness and dynamism.

'A sense of empathy from citizens towards the administration was recovered, even though these interventions were really very small. This created tremendous leadership, a leadership that was consolidated with the Olympic project and [Mayor Pasqual] Maragall, opening up a tremendously ambitious vision of the city.'

Mateu Hernández, CEO, Economic Promotion, City of Barcelona, and Vice President, Barcelona Activa

Public resources were targeted towards legacy projects that would benefit the city in the long-term, minimizing the short-term costs associated with hosting the Olympic Games themselves. 68% of Olympic funding went to long-term construction projects, compared to the 9.1% that went to the construction of sports facilities (Brunet, 2005). As only 38.5% of the total investment went to the City of Barcelona, the benefit of the Games was felt throughout the wider metropolitan area and region (Brunet, 2005). Public investment was used to attract further private investment, and was particularly successful in delivering housing, hotels and business centres. Overall, 36.8% of the Olympic construction was funded by the private sector, one third of which was funded by foreign capital.

This investment was not only enabled by the international promotional effect of the Olympic Games, but also magnified the longer-term promotional impact of the Games. Private investment provided new resources for Barcelona, which contributed to the reputational boost experienced by the city during the Games and enabled it to support further growth and transformation, through for example:

- A 15% increase in road infrastructure on 1986 levels;
- A 78% increase in green areas and beaches on 1986 levels; and

- A 35% increase in hotel beds between 1990 and 1992 (Brunet, 2005; Duran, 2005).

A joint-venture was set up between the Spanish Government and the City of Barcelona municipal authority called Barcelona Holding Olímpic S.A, which delivered the Olympic facilities, the Olympic village and the majority of the new road infrastructure (Brunet, 2005). This consortia model was effectively used throughout the 1990s and 2000s to bring different levels of government together with private sector actors, building on the effective way in which it was used for the Olympic preparations.

Various new consortia were created to promote Barcelona in different economic spheres. Each of these bodies developed their own strategies and delivered specific programmes of initiatives, linked to the overarching objectives of internationalisation and the development of a knowledge economy. These organisations have successfully married international promotion and branding with concrete actions to support the development of their target sectors. Some notable examples include the following:

- The consortium Barcelona Tourism was created in 1993, bringing together the City of Barcelona municipal authority and the Chamber of Commerce, to develop a promotional programme for the city. Over time, its role evolved from general tourism promotion to targeting different market segments and specific interest groups (Duran, 2005).
- Fira de Barcelona, a publicly-owned trade fair body with autonomous management, boosted Barcelona's profile as a business destination by expanding its activities and developing the city's conference facilities and infrastructure.
- Strategic platforms have been created to attract foreign entrepreneurs, researchers and investors, notably 'Invest in Catalonia', the international promotion body of the Government of Catalonia and 'Do it in Barcelona', the promotional platform of Barcelona Activa (discussed in more detail below).
- Public-private consortia have been set up to use the Barcelona brand to promote strategic sectors within the knowledge economy internationally, as well as undertaking a range of other activities to support the development of the various sectors. For example:
 - The *Barcelona Aeronautics and Space consortium* coordinates the presence of Catalan aerospace companies at the International Paris Air Show Le Bourget, represents Catalan aerospace companies in European and other forums, and collaborates with other European aerospace clusters;
 - The *Barcelona Logistics Centre* attends and presents at major international trade fairs such as Transport Logistics-Munich, TEC Milan and SITLChina, defends the interests of the Barcelona and Catalonia logistics centre in relation to transport infrastructure including working to secure train gauge connections to Continental Europe, and undertakes commercial missions together with other important actors such as COPCA and the City of Barcelona municipal authority;
 - The *Barcelona Medical Centre* promotes and develops agreements with key emerging foreign markets for medical tourism, such as Russia, Egypt, the Persian Gulf and the Maghreb region, and facilitates access of international medical tourists to Barcelona medical services, for example

through an online portal; and

- The *Barcelona Design Centre* hosts 'Barcelona Design Week', an annual professional event, promotes Barcelona as the capital of design, and participates in international events (Ajuntament de Barcelona, n/d.a).

According to the OECD, the Barcelona brand is 'universally accepted and promoted by all the key organisations and is clearly a unifying message' (2009, p.40). Thus, as well as attracting tourists, businesses and investors, the Barcelona brand can be considered to have a mobilising effect within Barcelona itself.

'The Barcelona brand is what unifies all the municipalities, and they know it ... The Government of Catalonia [thinks], 'what sells more abroad, Catalonia or Barcelona?'. A more nationalistic Government would have put the emphasis on Catalonia ... but now they are more rational and say, 'Barcelona, the brand of Catalonia'. And now we have a new agency ... 'Barcelona World', which is the brand for the whole metropolitan area.'

Francesc Santacana, General Coordinator, Barcelona Strategic Metropolitan Plan

The unifying and mobilizing effect of the Barcelona brand is beginning to be leveraged over a much larger geographical area, as competition between Barcelona and Catalonia is set aside in favour of the mutual benefits that stem from collaboration. The next section explores how the Barcelona brand is being used to develop and sell land throughout the metropolitan region under one banner, whether the developments stem from the Government of Catalonia or the City of Barcelona municipal authority. These governance developments provide a taste of the potential benefits to be realised by the new metropolitan governance body for Barcelona, the Àrea Metropolitana de Barcelona (Barcelona Metropolitan Area; AMB), which brings together the City of Barcelona municipal authority and the surrounding municipalities in a statutory body, as well as integrating transport, environment, strategic planning and other services within the metropolitan area (Section 5).

3. The re-development of metropolitan and urban fabric for the knowledge economy

The re-development of Barcelona's metropolitan and urban fabric has played a fundamental role in developing a knowledge-intensive economy in and around Barcelona. Building on small-scale projects that aimed to improve public space in the 1980s, the City of Barcelona municipal authority and the Government of Catalonia progressively increased the scale and ambition of transformation projects throughout the 1990s and 2000s.

Today, some of the metro's most significant projects are explicitly linked together and promoted through the platform, 'Barcelona Economic Triangle: the Mediterranean innovation hub' (Figure 4). Together, these projects represent Barcelona's ambitions to become an international centre for innovation, the leading Mediterranean logistics hub, and a European centre of excellence for science and technology. Bringing municipal and regional authorities together under the common umbrella of the Barcelona Economic Triangle is representative of the increasing realisation of the need for effective metropolitan governance in Barcelona, and is a

precursor of the benefits to come when Barcelona's forthcoming metropolitan agency kicks into action.

In total, the Barcelona Economic Triangle encompasses 7 million square meters of land for knowledge-intensive activities, with the potential to generate more than 200,000 new jobs (Barcelona Economic Triangle, n/d.a). It is formed of three sets of clusters, each specialising in different aspects of the knowledge-economy:

- **Besòs:** Including the innovation cluster 22@Barcelona Innovation District, the new station connecting to the European high speed rail network (La Sagrera), and the energy, water and mobility cluster (Diagonal-Besòs Campus).
- **Llobregat:** Including the development of the port, airport, rail and logistics hub, as well as four business parks focussing on aerospace, biotech, mobility, food sciences, and optics.
- **Vallès:** Including a series of science and technology clusters, including the energy cluster Parc de l'Alba, centered around the ALBA Synchrotron Light Source, a new-generation synchrotron (electron accelerator), inaugurated in 2010, and the largest scientific installation in Spain.

The Barcelona Economic Triangle is used by the Government of Catalonia and the involved municipalities to attract international investment and foreign entrepreneurs to these new cluster developments through a common brand and promotional platform:

'One marketing image is created, which unifies the activity of the regional government and local governments, as well as the relevant agencies, and which presents one product, the Barcelona Economic Triangle ... in order to promote Catalonia through Barcelona.'

Pere Picorelli, Regional Planner, Remodelaciones Urbanas S.A., subsidiary of Incasòl

Although these strategic cluster projects are now branded

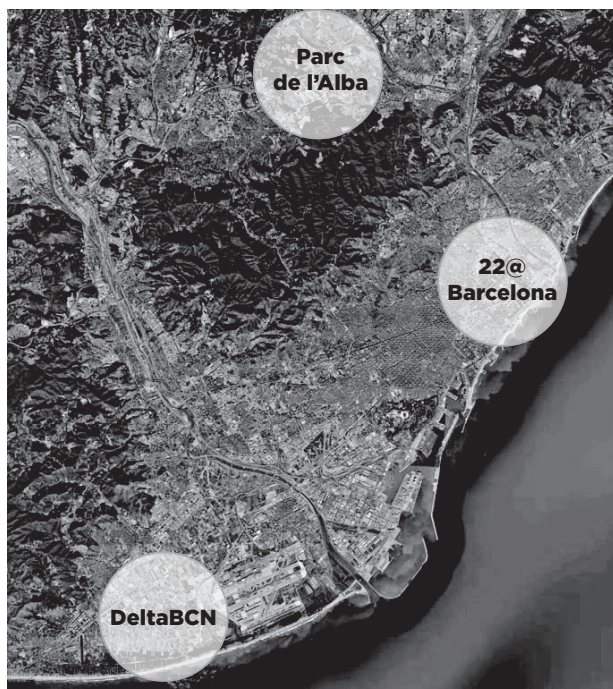
together, each has their own delivery mechanism – a consortium which brings together the relevant private and public actors. For example, the consortium set up to design, organise and manage the energy, water and mobility cluster Diagonal-Besòs Campus, b_Tec, includes the University of Barcelona, the Technical University of Catalonia, the Barcelona Chamber of Commerce, and the municipalities of Barcelona and the neighbouring Sant Adrià de Besòs, amongst others, reflecting the cluster's focus on innovation and knowledge transfer between universities, research centres and private enterprise.

In addition, the Government of Catalonia's powerful land development institute, Incasòl, has been a key actor in industrial land development since its creation in 1980, increasingly focussing over the last 10-15 years on the initiation and delivery of high-tech and knowledge-intensive clusters. Its effectiveness stems from its close proximity to the regional government: its strategic objectives reflect the policies of the Government of Catalonia, to which it is accountable, including a commitment to innovation, knowledge and technological development and to territorially balanced growth. Incasòl is also able to promote quicker land re-classifications, whose profits it is then able to reinvest in public goods, such as public housing. This is a particularly powerful mechanism because Spanish law does not recognise the speculative value of land, just the current market value, in relation to land development projects linked to public interest requiring compulsory purchases of land. Incasòl, therefore, as any other public administration with land development powers, only has to reimburse the landholder for the actual value, not its expected change in value (interview with Pere Picorelli, Remodelaciones Urbanas S.A.). This is important because it means that Incasòl can then use the full change in land value to fund public goods such as infrastructure improvements and public housing.

Although all of the cluster projects within the Barcelona Economic Triangle warrant further attention, one of the most ambitious projects – the redevelopment of the former industrial district of Poble Nou in the east of Barcelona into the 22@Barcelona Innovation District – is now considered in greater detail. This project is being pursued by the municipal society, 22@BCN, created in 2000 by the City of Barcelona municipal authorities, and whose President is the Deputy Mayor of Barcelona, Jordi Willian Carnes.

Poble Nou, an area to the east of the City of Barcelona very close to the waterfront, had been a thriving textile area since the 18th century, developing into a cargo break centre in the 1970s as factories began to move out of the area. In the 1980s, deindustrialisation and abandonment accelerated, and the isolated area, cut off from the rest of the city by major railways, became increasingly decayed. The possibility of reversing this trend towards decline in Poble Nou emerged following the regeneration of the waterfront and beaches and the opening up of the city to the sea in the 1990s. These investments and improvements gave Poble Nou a new centrality, and made it viable for re-development. Furthermore, its compact, mixed (productive and residential) and connected urban form were considered productive assets from which a knowledge-based economy might successfully grow. The planned development of the

Figure 4
The Barcelona Economic Triangle



Source: <http://www.barcelonaeconomictriangle.cat/b/?p=133>

new multimodal station, La Sagrera, which will link to the new high-speed rail network is expected to add still more to the attractiveness of the area to international investors, entrepreneurs and researchers, and is being promoted as a major locational advantage of the area.

22@Barcelona is conceived of by many as the vanguard of Barcelona's transformation towards a knowledge-intensive economy. With 3.2 million square meters of land available for productive uses, 0.8 million square meters for housing, infrastructure and other uses and an estimated 150,000 new jobs to be created, 22@Barcelona is a significant urban transformation project for the new knowledge economy. 22@ is itself focussed on five strategic sectors: ITC, media, biotechnology, energy and design. But in addition to acting as an innovation cluster and business incubator for these sectors, it is expected that 22@ will provide productive spill-overs to a range of other sectors.

22@Barcelona is itself innovative, reflecting Barcelona's experimental and ambitious approach to urban transformation. 22@ has pioneered two new land use classifications, which it has then effectively leveraged to permit infrastructure improvements to be almost entirely privately financed. The new land classifications are '22@' (from which the district takes its name) and '7@', the former including all those activities whose primary productive resource is knowledge (including research, biological sciences, design, engineering, building, culture and media) and the latter including all activities which support knowledge transmission and innovation within the 22@ activities (e.g. universities and research centres). 10% of land has been reserved for 7@ activities and developers are required to include 20% 22@ activities in their plans (Ajuntament de Barcelona, 2010). By allowing higher densities to be built within the new classifications, land values have risen significantly, incentivising development of new complexes geared towards knowledge-intensive uses. The value created through these changes has been so effective at stimulating private investment that the €180 million infrastructure investment plan (including subterranean services, fibre optic networks and a centralised heating system) has been financed almost entirely through private investment, and much of the urban transformation has been pursued by the private sector:

'The plan has made the land so attractive that private developers have bought the land, transformed it, and sold it as offices ... For most of the district redevelopment, there hasn't been a need for [public] expenditure in order to transform it block by block - in a few cases, yes, because some of the universities and public facilities have arrived, but many companies located themselves in 22@ district through the private sector, such as Mediapro, one of the major audiovisual companies in Spain, that developed its own HQ building in 22@.'

Pere Picorelli, Regional Planner, Remodelaciones Urbanas S.A., subsidiary of Incasòl

As well as ensuring a mix of productive uses, housing and infrastructure networks, 22@Barcelona includes the following clusters and networks to support the development of its priority knowledge-based sectors:

- **Clúster Media.** Includes a 60,000m² media park, a university campus specialising in communications

(Universitat Pompeu Fabra), Centro de Innovación Barcelona Media, and the new buildings Media-TIC (bringing together media and ICT firms) and Imagina (specialising in audiovisual production).

- **Clúster TIC.** Includes the new ICT technology centre Centro Tecnológico TIC Barcelona Digital, the exhibition and experimentation space, la Casa de las TIC (the Home of ICT), specific spaces for SMEs in the ICT sector, and 22@ Living Lab (a network of ICT labs including London, Amsterdam, Helsinki etc).

- **Clúster TecMed.** Includes office and laboratory space for new businesses, alongside new research and technology transfer, in collaboration with key organisations in the bio-medicine field in Barcelona and Catalonia.

- **Clúster Energia.** Includes the European Fusion Agency, the Catalan Institute for Energy Research, and the 60,000m² Barcelona Business and Technology Campus, including engineering campuses, business incubators and accommodation for students and researchers.

- **Business services.** Including an association for businesses in the 22@ district, (22@Network), a services for businesses seeking private finance (22@Capital), as well as conferences, visits and networking opportunities (Ajuntament de Barcelona, 2010).

Although the 22@Barcelona project will not be completed until between 2015 and 2020, as at September 2007, 60% of industrial land had already been refurbished (Castellas and Pallares-Barbera, 2009). As at December 2009, some 1,502 businesses were located in 22@Barcelona, employing 44,600 workers. Despite the global financial crisis, the volume of business conducted in the innovation district increased by 5.4% between 2008 and 2009, to around €6 billion during 2009 (Ajuntament de Barcelona, 2010). Although more time is needed before the extent of the economic transformation is clear, the proportion of economic activity within the area that can be classed as '22@ activities' has been steadily growing year on year, as has the proportion of firms in the area that employ high-skilled individuals and undertake R&D (Parallada Sabata and Villadecans Marsal, 2008).

Even during the economic crisis in 2009 and 2010, in 22@ employment is growing ... Why? Because it has the capacity to attract, because they are knowledge-intensive activities, more resilient to the economic cycle, because of the environment, and because there is confidence in the future. Go to La Sagrera ... that isn't stopping for the crisis, it will take us to Paris, to Milan, by high-speed train to Lyon in three hours and Alicante in two hours, to Madrid in two and a half hours. And you have all that eight minutes from your place [in the 22@Barcelona Innovation District].

Joan Trullén, Director, Barcelona Institute of Regional and Metropolitan Studies

There are already a group of highly exporting firms located there [in 22@] which I believe are representative of a structural change in the Catalan economy.

Joan Ramon Rovira, Head of Economic Studies, Barcelona Chamber of Commerce

4. Developing entrepreneurialism and exports through city and regional programmes

One of the things we feel most proud of as a city is that we have placed a lot of importance on the theme of employment for many years ... This is a city which has staked twenty something years on entrepreneurialism *Mateu Hernández, CEO, Economic Promotion, City of Barcelona, and Vice President, Barcelona Activa*

Thus far, this section has focused on interventions that aimed to transform Barcelona into an attractive environment for internationalization and the development of a knowledge-based economy, through international promotion, infrastructure investment and re-making the metropolitan fabric. A central aspect of Barcelona's strategy has been, however, the way in which these investments in its environment have been combined with interventions that directly target entrepreneurs and businesses.

These interventions have generally been targeted at small firms and entrepreneurs, which play a particularly important role in the Catalan economy: in 2007 93.1% of firms had fewer than 10 employees, and 98.6% had fewer than 50 (Idescat). This dominance of SMEs and Catalonia's high rate of entrepreneurship (8.4% of the working age population engaged in some form of business creation activity in 2007, compared to an average of 5.4% across the European Union) are important sources of its flexibility and dynamism. By providing SMEs with services to help them innovate and internationalise, they are likely to be able to compete better with larger firms in internal and external markets.

In this section, several examples of these interventions are explored: the role of the city-level local development agency, Barcelona Activa; the role of the regional level internationalization agency, COPCA (now ACCIÓ); and the role of the independent membership organisation for Barcelona-based businesses, the Barcelona Chamber of Commerce.

Barcelona Activa – promoting entrepreneurship

The story of Barcelona's transformation over the past thirty years would not be complete without Barcelona Activa, located in the heart of the 22@Barcelona innovation district. Established in 1986 by the City of Barcelona municipal authority in the midst of rising unemployment and economic restructuring, Barcelona Activa spear-headed a new approach to employment and economic development in Barcelona, positioning entrepreneurship and micro, small and medium enterprises at its heart. Barcelona Activa was pioneering from the start, initiating one of Spain's first business incubators and seed capital funds, and has remained ahead of the curve, later developing Europe's first virtual business incubator. It is now an international example of best practice for organisations such UN Habitat, the OECD and the World Bank (Ajuntament de Barcelona, n/d.c), and has provided assistance to other cities seeking to establish entrepreneurship centres, including Cape Town (South Africa) and Bogotá (Colombia). According to the OECD, Barcelona Activa has been at 'the cutting edge' of local

economic development since its creation, and 'exemplifies a sense of what is possible under challenging circumstances' (2009, p.91).

Although Barcelona Activa started out small, hosting just 16 companies, it has grown in scale and ambition, particularly since the Spanish government devolved greater responsibility for employment policies to the autonomous regions (including Catalonia) in the late 1990s (Gentile, 2006). Barcelona Activa is a public limited company, whose president is the Deputy Mayor of the City of Barcelona. According to the OECD, one of its key strengths is 'its capacity to be close to the City Council ... whilst also able to operate at arm's length' (2009, p.26). For while Barcelona Activa falls under the jurisdiction of the city council's Economic Promotion department, it also works collaboratively with a range of social and business organizations. It has signed more than 370 collaboration agreements thus far and itself has a strong commitment to forming public-private partnerships (OECD, 2009). Its partners include:

- Banking corporations such as Microbank - La Caixa, Caixa Catalunya, Banc de Sabadell, and BBVA;
- The IESE & ESADE Business Schools;
- Microsoft;
- Ernst & Young;
- Barcelona Chamber of Commerce & Industry;
- The Catalan innovation and internationalization agency, ACCIÓ; and
- The Spanish Ministry of Industry, Trade & Tourism.

Barcelona Activa's responsibilities today range from the stimulation of innovation and entrepreneurship and the consolidation of new businesses, to the promotion and dissemination of new technologies, the creation of new employment and the adaption and development of skills for the new economy.¹ A common approach runs through Barcelona Activa's activities: a commitment to personalised, client-oriented and auto-access services, placing the entrepreneur in the driving seat and widening participation in its programmes, combined with the provision of both virtual and physical spaces for networking and collaboration. Its programmes include:

- *Glòries Business Incubator*. Provides 60 open-space modules, accessible to companies of up to one year old, who also benefit from opportunities such as weekly meetings with investors. Businesses must be innovative, have the potential to grow and create jobs and have a committed team in order to enter the incubator. In 2007, 42.3% of the businesses in Glòries were in the ICT sector, 18.3% in business services and 15.5% in creative industries;
- *Barcelona Nord Technology Park*. A business park created in 1998 to enable young companies to expand, particularly internationally. Businesses can move from the Glòries incubator to the technology park after three years. It is currently home to 36 high-tech companies: in 2007, 28% were in software design, 7% in hardware design and development, 28% in other ICT services, 14% were provided technical advisory services and 9% were in engineering. 55%

¹ It is relevant to note that the Government of Catalonia also plays a role in these areas, being responsible for overall regional policy on innovation and R&D. Plans were produced throughout the 1990s and 2000s, and delivered through the innovation agency, CIDEM, created in 1985 by the Catalan government. A detailed consideration of regional innovation and R&D policies over this period is beyond the scope of this report; interested readers are referred to the recent OECD review of the same (2010).

of businesses in the technology park are active in international markets;

- *BarcelonaNETActiva*. Europe's first virtual business incubator, launched in 1999, providing information and online tools;
- *Barcelona Empren SCR*. A venture capital fund launched by Barcelona Activa and The City of Barcelona municipal authority in 1999, which also includes 19 private investors;
- *Access to micro-credit*. Small loans, worth a total of €4 million a year on average, are available to entrepreneurs with feasible business projects, through co-operation agreements with Catalan banks;
- *Tailor-made programmes for strategic sectors*. Coaching programmes for entrepreneurs in sectors such as biotechnology, clean tech and the creative industries, in collaboration with other public and private organisations;
- *Ready for Growth*. A programme launched in 2002 to facilitate access to investment capital for entrepreneurs;
- *Day of the Entrepreneur*. A major conference, initiated in 2004, which aims to celebrate entrepreneurialism as well as to provide a platform for networking and learning;
- *Business cooperation programmes*. Provide networking and partnership opportunities e.g. Xarxactiva (Network Activa), a network which links up experienced business people with young entrepreneurs;
- *Cibernarium*. A centre for the dissemination and improvement of digital literacy, including ICT training; and
- *Barcelona Research and Innovation map*. A web application that allows easy identification of all research and innovation centres, companies and institution in the metropolitan area (Barcelona Activa, 2007; OECD, 2009).

The scale of Barcelona Activa's programmes are significant. In 2007, for example:

- 140,000 people participated in Barcelona Activa's programmes;
- 700 companies were created (generating 1,500 new jobs per year);
- The businesses in its incubators attracted €24 million private investment and €9 million public investment; and
- 75% of businesses in the incubator and technology parks had commercial relationships amongst themselves, and 50% were active in international markets (OECD, 2009).

COPCA (now ACCIÓ) — developing exports

As Barcelona worked to position itself as the capital of the Mediterranean, it sought to incentivise and support its firms to develop their international operations, capitalise on Barcelona's emergence and respond to rapidly changing international markets. These initiatives have been pursued by a variety of actors in the public and private sectors, and at different levels of government, including the Barcelona Chamber of Commerce, the City of Barcelona municipal authority and the Government of Catalonia, through its internationalization consortium, COPCA (now ACCIÓ). In general, these interventions have tended to target SMEs, provide personalized services, and prioritise activities towards emerging economies and international growth sectors, working through a substantial network of international offices. Some of the most relevant interventions are considered in detail in this section.

COPCA, the Consortium for the Commercial Promotion

of Catalonia, was created in 1987 by the Government of Catalonia. It is made up of around 100 organisations, including chambers of commerce and sector-specific bodies, amongst others, and has been an important actor in the delivery of Catalonia's internationalization policies (Guri et al, 2007). It has recently merged with the Catalonian innovation consortium, CIDEM, in recognition of the linkages between the two agendas, to form the Catalan innovation, internationalisation and foreign investment agency, ACCIÓ.

COPCA (now ACCIÓ) provides services tailored to firms at different stages of internationalisation, from the Microenterprise Programme, to the New Exporters (NEX), NEX Phase II, Newly Internationalised Firm (NEI) and Landing Fields (targeting potential multinationals) programmes. These services are complemented by ACCIÓ's international networks, sector-specific plans and foresight analysis, including:

- An international network of 35 business promotion centres and 19 business platforms have a dual role: to attract foreign investment for production in Catalonia, and to provide services and opportunities to Catalan companies seeking to expand internationally. Services offered include market analysis, identifying contacts, logistical and practical support, and quick and inexpensive overseas office space. Since 2009, this has been working with ACCIÓ to promote the Barcelona brand through 16 'Consolats de Mar' based in ACCIÓ's business promotion centres under the banner, 'Barcelona/Mon' (Barcelona/World).
- An international foresight centre, the Observatori de Mercats Exteriors (Foreign Market Observatory; OME), provides information and knowledge about emerging international sectors and markets, providing Catalan firms with the opportunity to take advantage of new developments. ACCIÓ is active in disseminating the results of its studies, providing a valuable service to SMEs.
- The development of detailed studies and plans for the internationalisation of priority growth sectors, such as automotives, health, ITC, and wine (ACCIÓ, 2008).

Barcelona Chamber of Commerce — developing exports
Barcelona Chamber of Commerce, more formally known as La Cámara Oficial de Comercio, Industria y Navegación de Barcelona (the Official Chamber of Commerce, Industry and Shipping), is the official independent membership organisation for businesses based in the Province of Barcelona, dating back to its foundation in 1886. Its membership totals 350,000, from which its representatives are elected. It works to promote economic activity and the sustainable development of the area by:

- Defending the interests of firms to public bodies;
- Promoting the development of infrastructure related to economic and business progress;
- Providing information and an independent voice;
- Participating in the management and financing of organisations that promote economic activity;
- Remaining in direct contact with economic and business organisations and associations;
- Contributing to the development of human capital, the internationalisation of enterprises, and the promotion of an information society; and

- Providing support services to business.

This section focuses on the role of the Barcelona Chamber of Commerce in supporting Barcelona businesses to internationalise. The organisation has been active in building international relations through which local firms can benefit, and in providing personalized services for SMEs. Their activities have included planning for further sectoral diversification in exports, strategic support to sectors likely to be able to access international growth sectors, and provision of support services to all businesses wishing to internationalize. Specific programmes include:

- *Barcelona Business Bridge* - High-level contacts with the destination company are achieved through an embassy of institutions and companies convened by the Chamber of Commerce and the City of Barcelona municipal authority;
- *Sectorial Business Bridges* - Plans to improve the international presence of Catalan firms in sectors such as technology, innovation, audiovisual and the environment, bringing Catalan firms into contact with some of the world's leading companies;
- *China Correspondent* - Barcelona Chamber of Commerce technicians are placed in headquarters of key institutions in China and other emerging economies to help Catalan firms break into new economies that might otherwise be difficult for them to access;
- *Plug and Play Tech Centre* - Barcelona Chamber of Commerce has signed a collaboration agreement with Silicon Valley's Plug and Play Tech Centre, which has nurtured and launched some of Silicon Valley's important technology companies. Catalan companies are able to set themselves up for at least six months, free of charge, at the Plug and Play Tech Centre;
- *MIT-Spain Programme* - A project promoting the exchange of expertise between MIT and Catalan researchers, through symposiums, seminars, workshops and networking events;
- *International Trade Fairs and Direct Missions* - Through which Catalan businesses travel to other countries to make contacts and win contracts, under the umbrella of the Chamber of Commerce;
- *Public Recruitment Programme* - Support and training to enable Catalan firms to participate in international tender programmes; and
- *International Technology Entrepreneur Awards* - To incentivise and support those who are best responding to the new demands and challenges of the technology sector (Cambra de Comerç de Barcelona, n/d).

4 The success story

Barcelona's efforts to transform itself have been rewarded. Barcelona and the wider Catalanian region have achieved strong growth and measurable improvements in employment, unemployment and productivity over the past twenty five years. The competitiveness and capacity of Barcelona's infrastructure has increased, it enjoys a powerful international reputation for investment, tourism, and human capital, its exports have grown strongly and it has a high rate of business creation activities. This turnaround has been due both to the wider economic context in Spain, in particular the country's increasing openness to the European Union and the rest of the world, and to the specific interventions pursued by city and regional governments: investing to improve Barcelona's strategic infrastructure, promote and brand Barcelona internationally, transform its urban fabric for new uses, and support entrepreneurs and businesses to internationalise and innovate. In this section Barcelona's performance is reviewed, with a particular focus on internationalisation and entrepreneurialism, and efforts are made to connect these improvements with specific interventions where possible.

4.1 Economic success — core indicators

Barcelona and its region have experienced extraordinary growth over the last 25 years, emerging from Franco's dictatorship with great dynamism. Catalonia has grown faster than the European averages (104% real growth between 1986 and 2007, from €65.6bn to €133.8bn, in Catalonia, compared to 83.4% and 89.5% in the European Union 27 and the Eurozone respectively (Eurostat)). Catalonia has been a key driver of Spanish growth, especially during the late 1980s and mid 1990s (Figure 5). Barcelona, in turn, has been a major driver of Catalan growth: Barcelona Province (which includes the metropolitan region) accounted for three quarters of the total growth in Catalan GVA over this period (Eurostat). Spain is now the ninth largest economy in the world and the fifth largest economy in Europe, according to the International Monetary Fund.

The strong growth of Catalonia reflects a major increase in employment in the region during this time: between 1986 and 2007 employment in Catalonia increased by 82.3%, compared to an increase of 67.8% for Spain as a whole (Cambridge Econometrics). This has resulted from improvements in the employment rate and rapid population increases especially during the last decade (Figure 6). Catalonia's population expansion demonstrates its ability to attract migrants from within Spain and internationally: the percentage of foreigners in the Barcelona metropolitan region rose from 2.6% in 2000 to 14.9% in 2009 (Idescat).

That such a large population increase has been absorbed into the economy at the same time as employment and unemployment rates have improved, is also a marker of the strong growth of Catalonia over the past three decades. Although employment rates have been historically higher in Catalonia than in Spain as a whole, the gap widened further between 1991 and 2007: Catalonia's employment rate increased by 15.5 percentage points compared to 12.0 percentage points in the case of Spain (Figure 7). Catalonia's unemployment rate has also been historically lower than Spain's, although the gap has narrowed significantly since 2000 (Figure 8). By 2007, unemployment in Catalonia had

Figure 5
GVA Growth rate 1987-2007

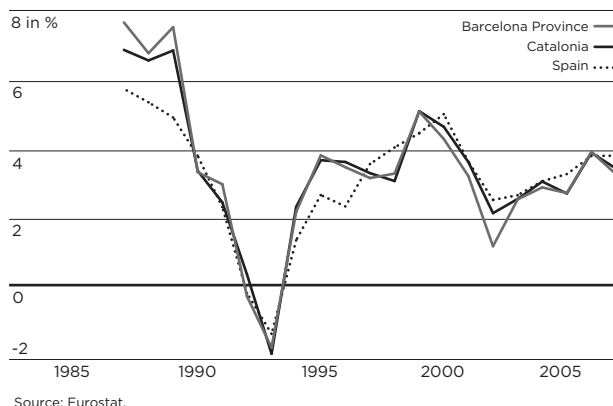


Figure 6
Population growth 1986-2007

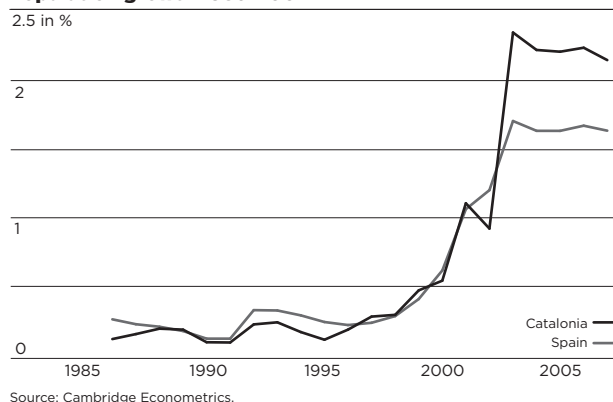
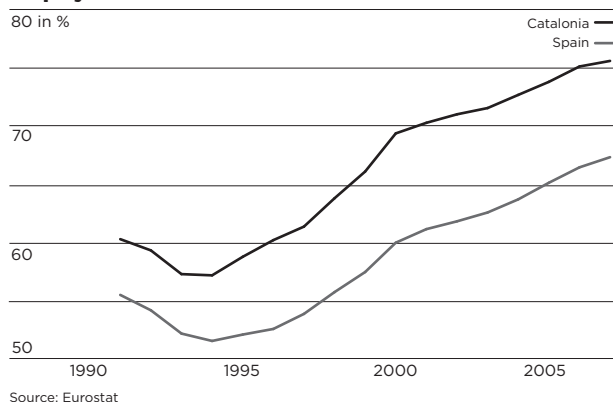


Figure 7
Employment rate 1991-2007



fallen to 6.5% (8.3% in Spain), comparing favorably with EU averages (7.1% for the EU27 and 7.5% for the Euro area) – a significant achievement given Catalonia's starting point in the 1980s.

The productivity of the Catalan economy grew very rapidly during the 1980s and 1990s (Figure 9). In the 2000s, this growth leveled off and productivity in Catalonia grew less strongly than in Spain as a whole, consistent with the analysis above that the main driver of growth in the region was an expansion in employment rather than productivity.

4.2 Economic success — internationalisation and entrepreneurialism

4.2.1 Capacity and competitiveness in strategic connectivity infrastructure

The investment made in Barcelona's strategic infrastructure has already resulted in significant improvements in capacity and competitiveness. This has enabled Barcelona to secure an increasing share of European markets as they integrated through the 1990s, and of new economies as they have emerged. As additional investments come on stream, such as the further expansions of the Port and the new high-speed rail link to France, further improvements can be expected.

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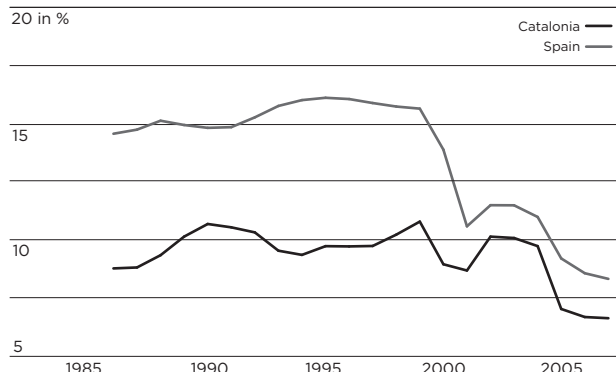
The Port of Barcelona has experienced high growth in traffic over the past twenty years (Figures 10 and 11). It is now the largest port in Catalonia and Spain, both in terms of value and volume of traffic, and is one of the fastest growing ports in Europe (Port de Barcelona, 2007). A key strength is its proximity to the Llobregat logistics cluster, now the largest in

the South of Europe and the Mediterranean, where some 826 logistics and transport companies are based, employing an estimated 86,500 workers (ibid). These strengths make the Port of Barcelona well positioned to increase its market share of traffic from emerging economies, and become the gateway into Southern Europe for Asian traffic (Port de Barcelona, 2008, p.3). It has already captured 38% of traffic between China and Spain (ibid).

The Port of Barcelona has also developed a highly attractive and competitive service for cruise ships. It is now Europe's top cruise destination, with passenger traffic increasing from 1 million in 1998 to 3.2 million in 2009 (Port de Barcelona).

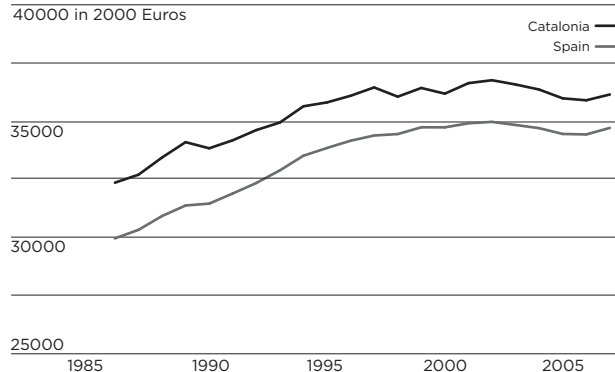
In a similar manner, it is clear that the strategic investments in Barcelona's El Prat airport, such as the addition of a second and third runway and a major new terminal, have played an important part in securing El Prat's position amongst Europe's top ten airports. More than 30 million passengers passed through the Barcelona airport in 2008, an increase of 230% on 1990 levels (9.2 million passengers) (AENA). While Iberia's decision to move to a single hub system in 2005, dismantling its hub operations in Barcelona in favour of Madrid, negatively impacted Barcelona airport's role as a European hub, it still offers strong connectivity to Catalonia. This connectivity results from El Prat's strong links to major European hub airports, as well as from the modest increase in hubbing at Barcelona by

Figure 8
Unemployment rate 1986-2007



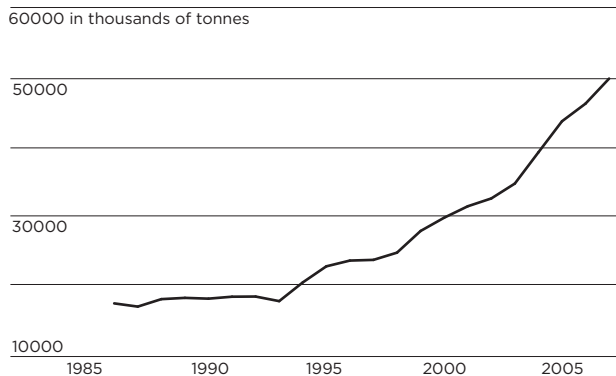
Source: Cambridge Econometrics.

Figure 9
GVA per worker 1986-2007



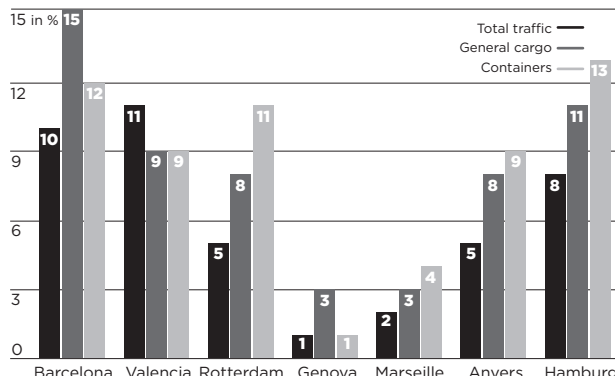
Source: Cambridge Econometrics.

Figure 10
Total traffic through the Port of Barcelona 1986-2007



Source: Portdebarcelona.es.

Figure 11
Growth in traffic for Europe's main ports 2003-2006



Source: Ajuntament de Barcelona.

the airline Spanair (Burghourwt, 2009). Spanair was purchased by a group of private and public investors in Barcelona in 2008, acting purposefully to take advantage of an opportunity to strengthen the position of El Prat airport.

4.2.2 International reputation and attractiveness

Barcelona now enjoys a strong international brand, being the third best-known city in Europe (European Cities Monitor, 2009) and the 19th best-known city in the world (Global Cities Attractiveness Survey, 2008). It ranks especially highly in relation to quality of life, being the highest ranking European city since 1998 (European Cities Monitor), but is also high ranking in business (fourth in Europe (European Cities Monitor, 2009)), international investment (fourth in Europe (Ernst and Young Investment Monitor, 2008)) and international meetings (in the top five internationally (ICCA World Country and City Rankings, 2008; International Meeting Statistics, 2009)). Barcelona's attractiveness stems from its natural and cultural assets, but also from the investments that were made in these assets throughout the 1980s and 1990s, and the way in which they were leveraged in different economic sectors through effective marketing and branding.

The city and wider region's attractiveness to foreign investors, businesses and visitors has been a key source of growth in the economy over the past 25 years. By 1997, Catalonia was receiving some 25.6% of the €5.8 billion of foreign direct investment (FDI) entering Spain, well above its population share of 15.5% (Idescat). Catalonia's share of Spanish FDI declined during the late 1990s, as Spain experienced a much larger boom, but then recovered through the mid 2000s (ibid). In 2008, more than 3,100 foreign companies were operating in Catalonia, representing some 34% of all foreign companies in Spain (Ajuntament de Barcelona and Generalitat de Catalunya, 2009a and b). In relation to key foreign investors, Catalonia's share is even higher (Table 2). While most foreign companies invest in Catalonia in order to access the Spanish market, 49% of foreign firms based in the metropolitan area of Barcelona are service-centres and 21% are decision-making centres for other group-owned centres outside of Spain.

Surveys of foreign firms located in Barcelona suggest that most are satisfied with their decision to do so. One survey of foreign firms in the metropolitan area found that 97% were very satisfied, satisfied or considered their decision to set up in Barcelona to be adequate (Ajuntament de Barcelona and Generalitat de Catalunya, 2009b). Barcelona's quality of life, geographical location and access to markets, competitive labour and production costs, high human capital and a good

labour environment were the factors that were found to most influence firms' decisions to locate in the area. There are, however, further improvements still to be made, particularly in relation to the ease of starting a business and employing workers, and levels of regulation and taxation, on which Catalonia performs comparatively poorly (see, for example, Ghemawat and Vives, 2009).

Barcelona's open and tolerant environment, as well as its quality of life and natural and cultural assets, make it an attractive place for foreign students and workers. The proportion of foreign residents in Barcelona has grown rapidly over the past decade, from 3.5% in 2000 to 17.3% in 2008 (Ajuntament de Barcelona, 2008b), most of which have come from the Americas (45.5% in 2007), followed by Europe (30.3%) and Asia (16.8%) (ibid).

'There are a number of young professionals who come to Barcelona attracted, perhaps, by this environment, which is in some way connected with creativity and a certain quality of life ... One of the most important sectors is the attraction of talent.'

Joan Ramon Rovira, Head of Economic Studies, Barcelona Chamber of Commerce

Many of the factors that make Barcelona an attractive city to foreign investors and workers also underpin its attractiveness as a tourist destination, both for business visitors and holiday-makers. Attracting fewer than 700,000 tourists in 1981 and 1.8 million in 1992, in 2008 Barcelona attracted over 6.7 million visitors. Between 1990 and 2001, the number of tourists in Barcelona grew by more than 100%, making Barcelona the European city with the highest tourism growth rate (Turisme de Barcelona). Catalonia is currently Spain's primary tourist destination, receiving more than one quarter of all international tourists visiting Spain in 2006. Tourism makes a significant contribution to the economies of Barcelona and Catalonia – 13% and 11% of GDP respectively in 2006.

In addition to being a major tourism destination, Barcelona has also become a significant destination for business visitors. The number of visitors participating in conferences, conventions and courses in Barcelona has grown rapidly, from 95,300 in 1989, to 218,000 in 1997, and 630,000 in 2007 (Idescat). Much of this growth has been driven by increasing numbers of international visitors and by increasing numbers of trade shows hosted by the city, supported by the new conference facilities that have been created including the Centre Conversions International Barcelona (the Barcelona International Convention Centre; CCIB), a 100,000 square metre conference centre developed initially for the Universal Forum of Cultures 2004. Fira de Barcelona, the trade fair body and a joint venture between the City of Barcelona municipal authority and private investors, has been a key player in securing Barcelona's role as a destination for business visitors, hosting 80 trade shows and 658 events in 2008, attended by 40,000 companies (Fira de Barcelona, 2008). Overall, the estimated economic impact of Fira's activities during 2008 was €2.5 billion. Barcelona now has a reputation as a major city for international congresses, ranking in the top five in two international comparisons (ICCA World Country and City Rankings 2008; International Meeting Statistics 2009).

Table 2
Percentage of foreign companies operating in Spain that were operating in Catalonia in 2008

Country	%
Japan	71
France	62
Germany	61
United States	60
Italy	55

Source: Ajuntament de Barcelona and Generalitat de Catalunya (2009b).

Figure 12
Value of Catalan industrial exports by technological content 1994-2007

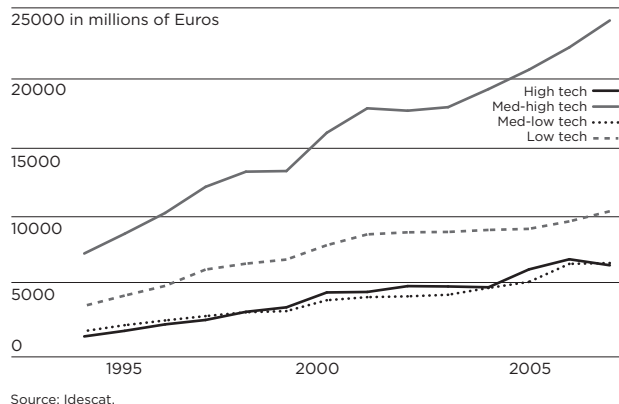


Figure 13
Size of firms in Catalonia in 2007

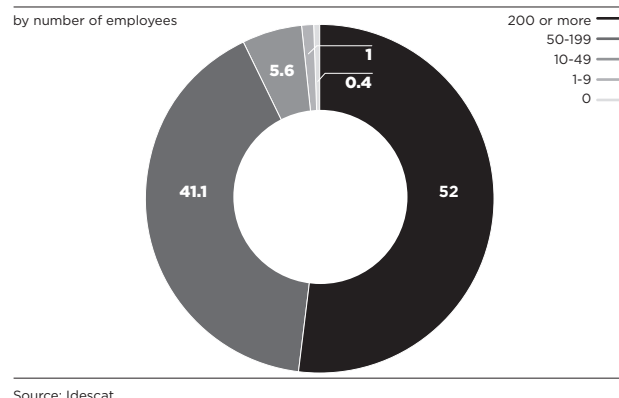
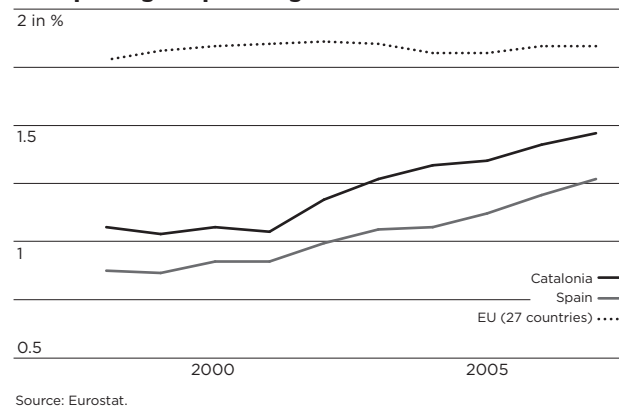


Figure 14
R&D Spending as a percentage of GDP 1998-2007



4.2.3 Strength in exports

Over the past two decades, Catalonia's exports have grown strongly, making it Spain's leading export region, accounting for 26.9% of total Spanish exports in 2007 (€49.7 billion).² In total, between 1994 and 2007 total exports in Catalonia increased by 241%, growing at an average rate of 7.7% per annum, compared to 216% in total and 7.2% per

annum for Spain as a whole.

Much of this growth has been driven by an increase in the technology content of Catalan exports. Medium-high technology exports have grown particularly strongly, joined more recently by high-tech exports, albeit from a low base (Figure 12). In 2007, high technology and medium-high technology exports represented a larger proportion of industrial exports in Catalonia by value than in Spain as a whole: 13.6% and 50.7% in Catalonia respectively, compared to 10.3% and 45.2% in Spain (Idescat).

Catalonia's strength in exports stems largely from the Province of Barcelona, one of Catalonia's four provinces, which includes the Barcelona Metropolitan Region, but extends northwards to include most of Catalonia's central counties. In 2007, Barcelona Province was responsible for 79.5% of total Catalan exports, more than the other three provinces put together (Ajuntament de Barcelona, 2008b). The automotive sector is Barcelona's leading export sector, being responsible for the top three export products (cars, vehicle components and goods transport vehicles), which together make up 20.7% of total exports (ibid). TV and radio receptors and drugs are the next most significant export products, together making up a further 8.9% of the province's exports (ibid).

The EU has long been the main destination of Catalan exports, although its share of total exports decreased slightly from a peak of 74.8% in 2001 to 72.4% in 2007 as exports have increased to other parts of Europe and the rest of the world (Idescat). Particularly strong growth has been seen in exports to Switzerland (22.0% growth rate per annum on average between 1995 and 2007), other European countries outside the EU (15.8%) and China (18.2%), compared to 10.2% for exports to the EU27 (Idescat).

4.2.4. Entrepreneurial Barcelona

18.6% of Spanish businesses are located in Catalonia, a total of 621,000 in 2007 (Idescat). The vast majority of these firms are SMEs – in 2007, 93.1% had less than ten employees and 98.6% had less than 50 employees (Figure 13). Catalonia has a high rate of business creation, with 26,007 companies created in 2007 (17.9% of the Spanish total), down from a peak of 28,019 in 2006 (18.8%) (Idescat). This translates into a high rate of entrepreneurship: 8.4% of the working age population in Catalonia engaged in some form of business creation activity in 2007, compared to an average of 5.4% across the European Union (Global Entrepreneurship Monitor, 2007, cited in Ajuntament de Barcelona, 2009b).

Levels of innovation and R&D in Catalonia have also improved significantly over the past two decades (Figure 14). Investment in R&D as a percentage of GDP remains higher in Catalonia than Spain, and reached 1.47% and 1.27% respectively in 2007 (Eurostat). Even so, Catalonia and Spain more generally remain significantly below EU averages, reflecting the low base from which improvements are being made.

Having evaluated the performance of Barcelona and Catalonia up to 2007, the next section will explore how the recent financial crisis has affected these trends thus far.

² The exports figures referred to in this section include consumption goods, capital goods and intermediate goods (agricultural, industrial and energy) products. They do not include services. The figures are not adjusted for inflation.

5 The crisis and the future

Spain, Catalonia and Barcelona have each been hit hard by the recent financial crisis. Between 2007 and 2009, the GVA growth rate declined from 3.3% to -5.4% in Barcelona Province, and from 3.5% to -4.3% in Catalonia (Cambridge Econometrics). Unemployment also increased dramatically over the same period, from 6.6% to 16.2% in Barcelona Province (Idescat). Exports and FDI have also declined sharply, from €49.7 billion to €41.2 billion, and from €2.61 billion to €1.35 billion in Catalonia between 2007 and 2009 respectively (Idescat). Further details are provided in Table 2.

Spain as a whole faces a large fiscal deficit and its credit ratings have been downgraded. Spain's general dependence on internal demand, and the construction industry in particular, as the source of recent growth, has been identified as a key issue behind these trends. Despite Catalonia having been less reliant on construction as a source of growth than Spain more generally, its recent performance suggests it is being particularly badly affected by the crisis (Table 3). In turn, Barcelona Province appears also to be experiencing a more negative impact than Catalonia as a whole. It is difficult at this point to determine the specific reasons for these variations. However, it is possible that Catalonia and Barcelona's greater openness to international markets, including their comparatively high rates of inward FDI, exports and tourism, have made the city and its region more vulnerable to the crisis.

The future for Barcelona — towards metropolitan governance

'Barcelona has reinvented itself once. The difficult thing is to keep reinventing, reinventing, reinventing ... Improvisation and creativity, all this is put to the test in crisis situations.'

Maria Buhigas, Chief of the Urban Strategy Department, Barcelona Regional

It is too early to assess when and how Barcelona might emerge from the financial crisis. It will be important, as ever, to address weaknesses in the economy and to capitalise on its strengths in order to secure sustainable and long-term growth. Amongst Barcelona's strengths are its adaptable and entrepreneurial SME sector, its advantageous geographical location and attractive quality of life, its openness and strength in logistics and trade, and its diverse industrial base. Its weaknesses, some of which have been highlighted in Section 4, include levels of innovation, R&D and education, which remain below EU averages despite considerable improvements over the past decades (see, for example, Ghemawat and Vives, 2009). Developing and implementing coherent and effective policies to address these issues will be

important if Barcelona is to secure a sustainable future growth path.

Now, as in its past, Barcelona's leaders are thinking ahead, looking to make the most of present opportunities as well as to address the challenges they face. The return of metropolitan governance to Barcelona after two decades of fragmentation is an advantageous development at this time. The law creating a statutory body responsible for the economic and social development of the Barcelona Metropolitan Area (the urban area surrounding the City of Barcelona within the broader metropolitan region) was approved in July 2010, reflecting the increasing acceptance at the Catalan level of the importance of Barcelona to the wider Catalan region. This new body will integrate the formerly fragmented bodies for the environment, transport and other services within the Barcelona metropolitan area and will also be responsible for promoting a metropolitan strategic plan. Thus, although the governance reforms do not go as far as to provide statutory status to the strategic plans developed by the Metropolitan Strategic Plan Association (PEMB) (Section 3.2), they do provide a firmer and more integrated metropolitan platform than has existed since the abolition of the Barcelona Metropolitan Corporation in 1987.

A new strategic metropolitan plan, Barcelona Visió 2020 (Barcelona Vision 2020), was developed by the existing Metropolitan Strategic Plan Association and was approved in November 2010. The plan gives new prominence to the need to build relationships and presence in the emerging economies that are likely to be future drivers of growth. The strategic plan not only targets Brasil, India and China, as would be expected, but also growing North African economies such as Egypt and Morocco that Barcelona is well positioned toward geographically, and Latin America, where Barcelona retains strong cultural and economic ties. Barcelona Visió 2020 is likely to be the first metropolitan strategic plan to be received by a statutory metropolitan body, the Barcelona Metropolitan Area, rather than an informal partnership, as has been the case in the past. It is hoped that these new governance arrangements will enable key actors in the public and private sector better to realise the competitive potential of the metropolitan region within the Mediterranean and in emerging markets.

At the same time as Barcelona looks to reposition itself in a changing world, it has continued to invest in major connectivity infrastructure – such as high-speed rail, a new airport terminal and new metro line – throughout the financial crisis. These projects have provided an important boost to employment and confidence during the financial crisis, as well as improving the metro region's competitive assets for its future development.

Table 3
Recent economic performance for Barcelona Province, Catalonia and Spain, comparing 2007 to 2009.

		2007	2009			2007	2009			2007	2009
GVA growth rate (%)	Barcelona	3.3	-5.4	Employment rate (%)	Barcelona	74.2	66.7	Exports (in billions of euros)	Barcelona	-	-
	Catalonia	3.5	-4.3		Catalonia	75.8	67.8		Catalonia	49.7	41.2
	Spain	3.9	-3.7		Spain	67.4	60.6		Spain	185	158
GVA per capita growth rate (%)	Barcelona	2.9	-6.6	Unemployment rate (%)	Barcelona	6.6	16.2	FDI (in billions of euros)	Barcelona	-	-
	Catalonia	1.3	-6.2		Catalonia	6.5	16.2		Catalonia	2.61	1.35
	Spain	2.2	-5.3		Spain	8.3	18.0		Spain	29.1	12.1

Sources: Cambridge Econometrics, Eurostat and Idescat.

6 Conclusions

Barcelona has achieved substantial transformations in its urban landscape and its economy over the past twenty to thirty years. Together with the wider Catalonia region, it has grown in size and strength, and is a key contributor to the Spanish economy. Barcelona successfully reinvented itself as the capital of the Mediterranean, attracting foreign investment, international entrepreneurs and holidaymakers. Barcelona now faces the challenge of the current financial crisis, which, although significant, may yet be overcome by the energy and ambition for transformation that the city and Catalonia have demonstrated in recent decades.

The political stability provided to Mayors Narcís Serra and Pasqual Maragall in the early democratic period, and the clarity and ambition with which they pursued change, was highly significant in initiating Barcelona's turnaround. Mayor Joan Clos provided further stability by continuing in the direction set out by Serra and Maragall for the internationalisation of Barcelona, as well as placing increasing emphasis on knowledge-intensive industries. Jordi Hereu, Mayor of Barcelona since 2007, has maintained a focus on further internationalisation and growth of the knowledge economy, as well as presiding over efforts to counteract the economic crisis. Investment in infrastructure has also been sustained and coherent, continuing even through the financial crisis, and cluster initiatives have been gradually developed over many years. For other cities and metropolitan regions, Barcelona's experiences offer an insight into the importance of political stability and sustained efforts in achieving long-term change.

Barcelona's transformation was achieved through a mixture of careful and strategic planning, and multiple individual projects and initiatives. This mixture was successful in large part because of the way in which Barcelona and Catalonia's various public actors were able to develop a joint vision of the future, and work together in a flexible way with the private sector to deliver different elements of that vision. Barcelona and Catalonia have fine-tuned a delivery model which combines the strengths of both public and private sectors in municipal companies and consortia, making for agile and effective institutions. The energy and entrepreneurialism of Catalonia's private sector has been a key mobilising force, working together with political leaders and public institutions. Barcelona's partnership modes of governance have become best-practice examples internationally, and offer useful insights to other cities and metros seeking to build shared future visions and to deliver innovative public-private projects.

Barcelona was effective not only in its governance configurations and approach, but also in the specific interventions it pursued. By investing in its urban core and natural and cultural assets, Barcelona has been able to turn its advantageous location, climate and quality of life into a real source of economic dynamism. The Barcelona brand has been effectively leveraged to attract not only tourists, but also international investors and entrepreneurs, and to develop priority growth sectors, such as design, logistics and biotechnology. Barcelona has been able to expand its international influence and secure its position as the capital of the Mediterranean by strategically developing its port, airport and rail infrastructure. Old industrial land has been transformed into spaces capable of attracting and supporting

a productive knowledge economy. The Barcelona Economic Triangle, which includes ambitious projects such as the 22@ Barcelona Innovation District, represents a fundamental change in the urban and metropolitan landscape. The local development agency, Barcelona Activa, the regional internationalisation agency COPCA (now ACCIÓ), and the Barcelona Chamber of Commerce have played an important role by supporting entrepreneurship and internationalisation amongst local people and local firms. Taken together, these interventions represent an integrated and sustained transformation effort over three decades, from which other cities and metropolitan regions seeking to achieve change can draw.

These impressive results are, however, currently being undermined by the impact of the recent financial crisis. Barcelona and Catalonia have both been hit hard by the crisis, more so even than Spain as a whole. City and region are entering a period of new uncertainty and complexity, as the challenges of the financial crisis call into question previously tried-and-tested approaches. As economic and political concerns intensify, the risk is that Barcelona becomes increasingly inward-looking, focussing on local issues at the expense of the international outlook that has been so important to its development thus far. The emphasis in the new metropolitan strategic plan, Barcelona Visió 2020, on the importance of building relationships with emerging economies is thus a positive step, as is the move towards more coherent statutory metropolitan governance. However, as they were in Barcelona's past, strong political leadership and the ability to build innovative institutions and coalitions for change are likely to be critical in ensuring that Barcelona remains focussed on its future, while also addressing the problems it presently faces.

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