2021 REPORT

OBSERVATORI BARCELONA

Presentation

We present to you the 2021 Report of the Barcelona Observatory, a joint project of Barcelona City Council and the Chamber of Commerce that aims to compare Barcelona with the main European cities and around the world. A high-quality report that gives us insight into the international position of the city and its metropolitan area, in relation to areas such as economy, innovation, quality of life and sustainability.

Now, with a global context where elements that combine uncertainty and complexity converge, Barcelona continues to show that it is a territory capable of transmitting certainties, security and opportunities. Throughout the year 2021, we have achieved a historic year-on-year fall of 32.5% in registered unemployment figures, becoming the largest city in Spain with the highest volume of job creation and achieving the best employment figures of the last 15 years, comparable to those we had before the financial crisis of 2008.

In most of the indicators analysed in the report, Barcelona maintains a good international position, which is a sign of the strength of our brand and our social and economic fabric in the context of an unprecedented global crisis, because of the Covid-19 pandemic. The indicators of economic recovery in 2021 and the city's attractiveness in a wide range of areas mean that Barcelona can take advantage of the future opportunities that will arise as the recovery of the world economy is consolidated and with the implementation of transforming public policies such as the Next Generation EU funds.

For example, in the economic field, it should be noted that Barcelona ranks -for the first time since 2016- among the 20 cities with the most global competitiveness according to the report *Global Power City Index 2021* (one of the most prestigious rankings); or that sources such as FDi, EY and KPMG continue to consider us a very attractive environment for investment.

The city's progress in recent years as a technological and digital entrepreneurship hub has not been affected by the pandemic, but, in the contrary, is consolidating: in the last year, Barcelona has positioned itself as the 7th European city in attracting technological investments, gaining 9 positions compared to the previous edition of the *State of European Tech* report and quadrupling the volume of investments in 2020. In addition, we managed to climb one position in the ranking of tech cities of the future by setting ourselves up as the 7th technology city of Europe (FDi).

Regarding the labour market, we continue to show up that Barcelona is an attractive city for talent: the 10th most attractive city for working abroad for digital experts and the 9th for global talent (*Boston Consulting Group*). The new projects we are deploying favour this scenario, such as the international talent welcome office, the Barcelona International Welcome Desk, located in the MediaTIC building in the 22@ technology district. Barcelona is also the only city in Europe with two teaching institutions (IESE and ESADE) among the top ten business schools on the European continent.

The development policies that we promote from Barcelona City Council -within the framework of the *Barcelona Green Deal* economic agenda- incorporate sustainability as one of its strategic pillars, and this is also recognized at the international level: Barcelona is positioned as the 14th most sustainable city in Europe in 2021, according to the *Schroders European Sustainable Cities Index* -a ranking that monitors 13 environmental policies in order to evaluate the implementation of the 11th Sustainable Development Goal-, and we are the 17th city of the world with the most sustainable mobility system *(Urban Mobility Readiness Index 2021)*.

In another relevant aspect, such as security, in which the City Council has launched very important improvement actions such as the incorporation of 1,000 new police officers during the current municipal term, the city manages to gain positions and ranks among the 15 safest cities in the world, according to *The Economist*.

These are just some of the examples that show us that Barcelona has all the potential to continue to become a benchmark city on the horizon of the post-pandemic. We have a robust business ecosystem that we will strengthen in the coming years with the development of 1 million square meters in the 22@ technology district; and we exercise our leadership from one of the major metropolitan and urban areas of Europe, with a strategic location as a bridge between the two shores of the Mediterranean and a strong link with Latin America.

But we are also aware that we continue to face great challenges such as overcoming the pandemic once and for all, strengthening the health care system, generating more quality employment, reducing inequalities, and promoting sustainable and inclusive growth, and digital transformation. All in all, challenges that can be summed up in the firm will to continue building a city model based on a threefold premise: more competitiveness, more sustainability, and more equity.

Finally, I would like to extend my congratulations to the technical teams who made this report possible. This is a good example of collaboration between institutions and, above all, it is a useful tool for all economic and social agents, which helps us to know and rigorously evaluate the socio-economic evolution of Barcelona, in order to better understand who we are and especially where we are heading.

In particular, this report reinforces the idea that Barcelona is one of the best cities in the world, full of challenges and concerns, but above all, full of future.

Jaume Collboni i Cuadrado

First Deputy Mayor Area for Economy, Work, Competitiveness and Tax Office, Barcelona City Council

Presentation

The Barcelona Observatory, jointly developed by Barcelona City Council and the Barcelona Chamber of Commerce, is now in its 19th edition, being a leading publication in the field of international comparison among cities. The aim of the publication is to capture the global position of Barcelona with respect to other top cities in the world, as well as to identify the strengths and weaknesses of a city that aspires to be economically dynamic, socially cohesive and a leader in innovation and sustainability. In total, 34 international indicators are analysed, which are grouped into six blocks: economic activity pole; sustainability, quality of life and cohesion; labour market and training; knowledge society; tourism; and prices and costs. In addition, the publication includes a monographic study analysing the results for the year 2021 of the Barcelona Metropolitan Area (AMB) Business Climate Survey, which we carry out jointly the Chamber and the Statistical Institute of Catalonia (Idescat). The study shows the gradual process of economic recovery in line with the lifting of the restrictions that took place from May 2021, and which has been reflected in a rapid recovery of the labour market. In short, the year 2021 has ended up much better than it started, and this is mainly due to the success of the vaccination process against Covid-19

This year's edition is still severely affected by the Covid-19 pandemic and the negative effects it has had on the economy, especially on tourism and the sectors that depend on it (trade, hostelry, transport, etc.). But despite this difficult economic context, Barcelona has proven to be a resilient city and able to maintain its good position in the world and in Europe in most of the indicators included in this *2021 Report* of the Barcelona Observatory, especially in the technological field.

It should be noted, for example, that Barcelona has remained the 5th hub for start-ups in Europe in

2020 and is the 7th hub in technology investment received, gaining nine positions over the previous edition thanks to the fact that the city's entrepreneurial ecosystem has quadrupled its investment. Barcelona thus demonstrates the confidence and good image it projects to international investors, who see the city as an opportunity to start projects that will strengthen its position in southern Europe in the upcoming years. Barcelona is also, for the fourth year in a row, the 3rd preferred city among more than 100 European cities to establish a start-up. The result of all this is that Barcelona has one of the most dynamic start-up ecosystems in Europe with more than 1,197 start-ups (according to MWC Barcelona), 7 international unicorns, 3 homegrown unicorns (Glovo, Letgo and eDreams), and a very high proportion of born abroad people founding start-ups, 65%. With this evolution, the Catalan capital gains a position and enters the top 5 emerging ecosystems in the world, ranking 2nd in Europe.

However, the pandemic has also had a strong impact on a backbone of this city, such as tourism. After a year 2020 that left us with unprecedented figures, in 2021 a timid recovery of national and European tourism has begun, which is expected to gain momentum in 2022 thanks to business tourism, with the recovery of congresses and fairs, on which other activities such as hostelry or transport depend. However, the main benchmarks show that the reputation and preference as a destination for international visitors is maintained, which should serve to continue devoting efforts to revitalize the sector and work resolutely in its environmental and digital transformation. It is important to remember that the city is still attractive for its cultural, gastronomic, sports and educational offer (with two of the best business schools in the world).

The pandemic has shown us that well-used technology can help us get out of major economic or health crises. Therefore, we must continue to promote our own economic fabric in emerging sectors such as biotechnology, ICT, artificial intelligence, space, blockchain, cybersecurity, Big Data, and industry 4.0, in the hands of start-ups that are attracted by the opportunities that Barcelona offers: skilled labour, quality of life and competitive prices and costs. Next Generation European funds can be an opportunity to drive transformative projects that we cannot afford.

Despite of all, from the Chamber of Commerce we hope that this report will be a useful tool for all economic and social agents, both from the city itself and foreigners who have settled in our city to start new business projects. We will surely continue to work together to keep Barcelona as a competitive benchmark in innovation, sustainability and social cohesion.

Mònica Roca i Aparici

President of the Chamber of Commerce of Barcelona

Credits

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Jaume Collboni i Cuadrado
First Deputy Mayor Economy, Work, Competitiveness
and Tax Office

Albert Dalmau i Miranda
General Manager of Economy, Resources and Economic Promotion

Àngels Santigosa i Copete
Head of the Economy
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Contents

INTRODUCTION

Introduction

We present the Barcelona Observatory's *2021 Report*.

The Barcelona Observatory is an initiative promoted by Barcelona City Council and the Barcelona Chamber of Commerce, with the collaboration of other city organisations which, year after year, take part by providing information and making key contributions concerning their own sectors of activity.

This nineteenth edition of the Barcelona Observatory's annual report aims to offer various references for decision-making by economic stakeholders wishing to do business or become established in Barcelona, in order to attract talent and provide support for candidacies for holding events or the opening of offices in the city of Barcelona. To that end, as always, the report presents Barcelona's ranking compared to the world's major cities based on a number of economic and social indicators.

The *2021 Report* presents a number of characteristics summarised below:

- A selection of 34 significant indicators that provide readers with an efficient summarised presentation of the most relevant figures from the point of view of the city's positioning, its characteristics and the goals it aims to achieve, all this presented in six thematic areas: centre for economic activity; quality of life, sustainability and social cohesion; labour market and training; the knowledge society; tourism; and costs and prices.

For the first time, this year's report also includes two new indicators: Sustainability in European cities, as part of the section on quality of life, sustainability and social cohesion; and investment in the technology ecosystem, in the section on the knowledge society.

- A summary table setting out the indicators to showcase the results, and a graph showing Barcelona's international positioning according to various rankings.
- A monograph produced by the Chamber of Commerce presenting an analysis of the business climate in the Barcelona Metropolitan Area in 2021, which includes a specific analysis of the main economic sectors. The circumstances surrounding Catalonia and Barcelona city are thus put into context based on business people's opinions.

The Barcelona Observatory is characterised by the following traits:

- It is based on a series of indicators, defined at city level if possible but subject to being extended to other territories.
- The sources of information are all renowned international entities and institutions.
- Most of the sources are international rankings; and, in the case of seven indicators, the data were obtained from a sample collected from the main urban areas.
- Where possible, the indicators include a graphic representation of their evolution so that their progression in each specific area can be assessed.
- The data and information collected are as up to date as possible based on current availability.

FACTS AND FIGURES
BARCELONA 2020

Facts and Figures Barcelona 2020

GEOGRAPHICAL ENVIRONMENT

Surface area (km²)	101.4
Population (january 2021)	1,660,314
Foreign population (% of total) (january 2021)	22.4%
Density (inhabitants/km²) (january 2021)	16,325.0
Climate (observatori Can Bruixa)	
Average monthly temperature	18.7 ºC
Annual rainfall (mm)	779.1
Hours of sun	2,800.3

ECONOMIC ENVIRONMENT

MACROECONOMIC DATA

GDP (var/ yr %) - Catalonia	-11.5
GDP (var/ yr %) - Barcelona	-10.1
Social Security membership (november 2021)	1,150,992
Unemployment rate 16-64 years old (%) (4Q)	12.6
Employment rate 16-64 years old (%) (4Q)	69.1
Activity rate 16-64 years old (%) (4Q)	79.1
CPI (average var. %) - Barcelona province	-0.3
Exports (million €) - Barcelona province	50,692.7
Imports (million €) - Barcelona province	61,076.8
Outbound foreign investment (million €) - Catalonia	3,827.0
Inbound foreign investment (millions €) - Catalonia	3,112.0
Companies - Barcelona province	477,734
Foreign companies in Catalonia	8,908

COMMERCE AND TOURISM

Retail premises - Barcelona province	41,994
Open-air shopping areas	24
Municipal markets (number and surface area [m²])	43/288,218
Hotels	
Numbers	443
Beds	73,700
Tourists	2,104,373

INFRAESTRUCTURE

Airport	
Runways (number and length [m])	3/3,352;2,660;2,528
Passengers	12,739,259
International passengers (%)	62.2
Port	
Land surface area (ha)	1,112.2
Docks and moorings (km)	23.2
Total traffic (thousands of tonnes)	59,518.8

TRAINING AND CITY OF KNOWLEDGE

Catalan Universities	12
University students in Catalonia (course 2019/2020)	282,778
Foreign students (province of Barcelona) (course 2019/2020)	27,907
Innovative companies in Catalonia*	6,723

QUALITY OF LIFE

Beaches (number and metres)	10; 4,780
Bike lanes (km and bicing members + electric bicing)	236; 126,545
Public libraries (number and users)	40; 2,497,768
Museums, collections, exhibition centers and architectural spaces* (millions of users)	5.8
Public sports facilities* (number and users)	1,924; 129.5
Theater, music and cinema spectators	2,912,678

*2019 data.

Source: AENA, Barcelona City Council, Fira de Barcelona, Generalitat of Catalonia, Idescat, INE, State Ports, Secretary of State for Trade, Turisme de Barcelona, Institute of Culture of Barcelona.

RESULTS

Hub of economic activity

OBSERVATORI BARCELONA

Introduction

The macroeconomic indicators for the first half of 2021 reveal a recovery of world economic activity after the impact of the economic crisis arising from the Covid-19 pandemic. In this context, the year-on-year change in GDP in Catalonia was an increase of 4.1% in the third quarter – with good results in terms of consumption by households and business investment. According to the indicators for the Barcelona area, it is one of the drivers of the Spanish economy's recovery. Catalonia's GDP is forecast to grow by more than 6% of its annual figure in 2021-22. However, some factors are threatening its recovery, such as the inflation rise and global supply chain problems, all of which are prolonging the high degree of uncertainty.

In this complex economic context, Barcelona is – for the first time since 2016 – among the 20 most globally competitive cities according to the Mori Memorial Foundation's report *Global Power City Index 2021*, which ranked it 18th in the world and 7th in Europe. It is still ahead of Boston, Geneva and Milan, for example, and stands out in the liveability and cultural interaction categories, where it was ranked 3rd and 14th respectively. Moreover, the Resonance Consultancy ranking *World's Best Cities 2021*, which assesses the quality and attractiveness of cities from various perspectives, puts Barcelona at 9th in the world, ahead of Madrid, Rome, San Francisco and Amsterdam, among others.

Furthermore, Barcelona has cemented itself as a leading technology hub in Europe, ranking 7th as the most promising city for technology start-ups, up one place since the previous edition, and 5th in foreign direct investment for technology projects in the second edition of fDi Intelligence's *Top Tech Cities of the Future 2021*.

Barcelona generates confidence in the field of international investment, as shown by its 9th position among the main urban areas of the world for attracting foreign investment projects in 2020. It was also ranked 2nd for research centre projects by KPMG. In addition, it was ranked as the 2nd city in southern Europe with the best future prospects for 2020-2021, the 10th in Europe in terms of economic potential and the 3rd for connectivity between major European cities, according to the report fDi *Cities and Regions of the Future 2020/21* (Financial Times Group). It is worth noting that, between 2016 and 2020, Catalonia was Spain's top destination for FDI for projects (with a total of 775, an invested capital of €22.835 billion and 85,966 new jobs), and it is the 2nd Western European region with the highest number of new jobs resulting from FDI.

As for international trade fairs and congresses, Barcelona was the world leader for the third consecutive year for number of participants, and 4th for the second consecutive year for the number of meetings held, in the 2019 ranking compiled by the International Congress and Convention Association (ICCA). Face-to-face and hybrid events started to recover in the second half of 2021. Thinking about the future, the Barcelona Tourism Observatory's reports good prospects for recovery. As of November, 113 congresses had been confirmed for the next few years, with potential for 90 further such events by 2027.

In the field of entrepreneurship, the entrepreneurial activity rate (TEA) in the Barcelona area in 2020 (6.9%) remained almost unchanged since the previous year in spite of the pandemic. The rate for Catalonia (6.6%) stayed above the Spanish average (5.2%) and above Germany (4.8%), Poland (3.1%) and Italy (1.9 %). The female entrepreneurship rates for Barcelona (6.1%) and Catalonia (6.0%) are similarly above the European Union figure (5.6%).

Since 2020, Barcelona City Council has been carrying out a specific action plan that sets out the necessary actions and measures for Barcelona's economic recovery. These measures, which are promoted by the Economic Response Coordination Centre (CECORE), are in line with the Barcelona Green Deal, the city's Economic Agenda offering a comprehensive long-term executive roadmap open to public debate based on the three strategic goals of competitiveness, sustainability and equity.

In 2021 Barcelona was among the 20 most competitive cities in the world

Global competitiveness of world cities in 2021

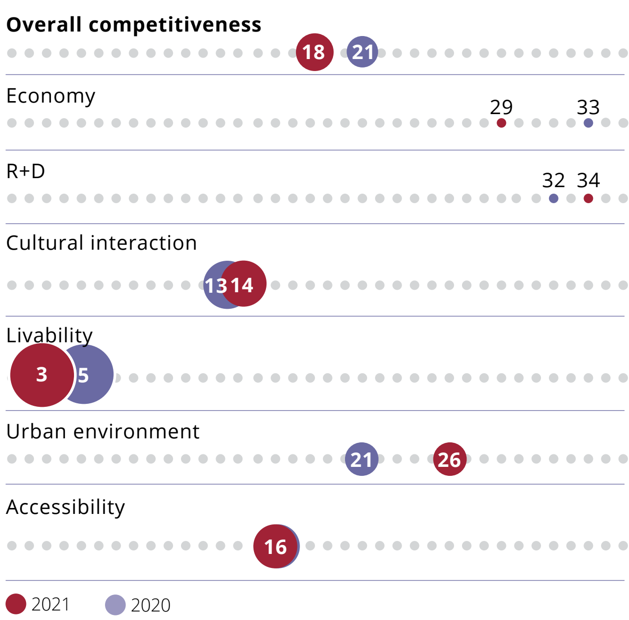
Barcelona, among the top 20 cities for global competitiveness

In 2021, the report *Global Power City Index*, which compares 48 major cities in the world, ranked Barcelona 18th in the world and 7th in Europe for global competitiveness. In a ranking headed by the big metropolises of London, New York, Tokyo, Paris and Singapore, Barcelona improved its position in the world by three places and by two in Europe, displacing Vienna, Toronto and Zurich, while staying ahead of Boston, Geneva and Milan. The city has thus climbed positions in both the world and the European rankings, gaining a place as one of the top 20 cities in the world for the first time since 2016, with a slightly higher total score than last year.

The Japanese Mori Memorial Foundation, with the collaboration of renowned universities and think tanks, has been compiling the *Global Power City Index*, a report based on the results of 70 indicators divided into six categories of urban competitiveness, since 2008. In the 2021 edition, Barcelona has been ranked 3rd in the world for liveability, 14th for cultural interaction, 16th for accessibility and 26th in the environmental category. It has also been ranked 29th and 34th respectively in economy and research and development. Compared to last year, the city has climbed positions in liveability and economy, stayed in the same place for accessibility and dropped positions in environment and research and development. On the other hand, in terms of qualified global professionals, Barcelona is the 7th most valued city, with residents ranking it 9th, tourists 16th and executives 29th in the world.

Categories of urban competitiveness

(Positioning of Barcelona)



Source: *Global Power City Index 2021*. Institute for Urban Strategies. The Mori Memorial Foundation.

Global competitiveness of cities around the world. 2021

Position	City	European ranking
1	London	1
2	New York	
3	Tokyo	
4	Paris	2
5	Singapore	
6	Amsterdam	3
7	Berlin	4
8	Seoul	
9	Madrid	5
10	Shanghai	
11	Melbourne	
12	Sydney	
13	Hong Kong	
14	Dubai	
15	Copenhagen	6
16	Los Angeles	
17	Beijing	
18	**Barcelona**	**7**
19	Vienna	8
20	Toronto	
21	Zurich	9
22	Stockholm	10
23	San Francisco	
24	Brussels	11
25	Frankfurt	12
26	Chicago	
27	Boston	
28	Dublin	13
29	Vancouver	
30	Helsinki	14
31	Geneva	15
32	Moscow	16
33	Milan	17
34	Istanbul	18
35	Bangkok	

Source: *Global Power City Index 2021*. Institute of Urban Strategies. The Mori Memorial Foundation.

Tech cities of the future in Europe in 2021

Barcelona, 7th tech city of the future in Europe

Barcelona has positioned itself as the 7th most promising city in Europe for technology start-ups in the second edition of fDi Intelligence's ranking *Tech Cities of the Future, 2021-22*, which looks at 76 cities in 31 countries in Europe. In spite of the pandemic, Barcelona has gained a position since last year, overtaking Bucharest, which is now 10th. This global ranking is still led by London, which tops all the categories except for global profitability: innovation and attractiveness, economic potential, foreign direct investment (FDI) performance and start-up scene. Barcelona stands out in the FDI category, where it is ranked 5th – behind only London, Paris, Dublin and Amsterdam – for the second consecutive year. In addition, the report places Barcelona as the 7th city in Europe with the best strategy for attracting foreign tech investment. The city has thus kept its top 10 position in Europe in spite of dropping 5 places since last year.

At the same time, the report alludes to the importance of collaboration between the technology community, universities and government agencies to deal with the Covid-19 crisis. In Barcelona, the project promoted by the Zona Franca Consortium, the Leitat technology centre and the companies HP, Navantia and Airbus under which the first 3D-printed ventilator for intensive care units was created is particularly worth highlighting.

Top tech cities of the future in Europe. 2021

2020 Ranking	Country	City	2021 Ranking
1	United Kingdom	London	1
2	France	Paris	2
3	Ireland	Dublin	3
5	Germany	Berlin	4
4	Netherlands	Amsterdam	5
11	Spain	Madrid	6
8	**Spain**	**Barcelona**	**7**
6	Germany	Munich	8
12	Sweden	Stockholm	9
7	Romania	Bucharest	10
9	United Kingdom	Belfast	11
19	Finland	Helsinki	12
14	Switzerland	Zurich	13
18	Russia	Moscow	14
13	Germany	Frankfurt	15

Source: fDi intelligence, *Tech Cities of the Future 2021*.

The 10 main cities in Europe for Direct Foreign Investment in technological projects. 2021

Source: *Tech Cities of the Future 2021*. fDi intelligence.

Main World urban areas for receipt of international investment projects in 2020

Barcelona, 9th global urban area for foreign investment projects

KPMG's *Global Cities Investment Monitor 2021* places Barcelona in 9th position among the main urban areas in the world for attracting greenfield foreign investment projects in 2020. The city retained its top 10 position in the world in spite of dropping a place since last year, ranking ahead of Madrid, Shanghai and Munich, among others. The report highlights Barcelona's specialisation in research centres, a category in which it is the second main receiving urban area in the world, ranking only behind Paris, as well as its good ranking for availability and cost of real estate for business.

Barcelona is also the 2nd city in southern Europe with the best future prospects for 2020-2021, the 10th for economic potential and the 3rd for connectivity between major European cities, according to the report *fDi Cities and Regions of the Future 2020/21* (Financial Times Group).

Productive foreign investment in Catalonia in 2020 was 3,100 million euros, and 8,908 foreign companies, mainly from France, Germany and the United States, are based in this region. Finally, according to an ACCIO report based on data from fDi Markets (Financial Times Group), during the period 2016-2020 Catalonia attracted a total of 775 foreign investment projects worth 22,835 million euros – 26.2% more than in the period 2011-15 – creating 85,966 direct jobs, and it is ranked 2nd in the Western European region for jobs resulting from FDI.

Main urban areas in the world for receipt of international investment projects. 2020

2020 Ranking	Urban area	Number of projects
1	London	379
2	Paris	310
3	Singapore	304
4	Düsseldorf	271
5	Dubai	269
6	Berlin	184
7	Amsterdam	183
8	New York	182
9	**Barcelona**	**165**
10	Toronto	151
11	Tokyo	139
12	Madrid	131
13	Shanghai	128
14	Dublin	125
15	Munich	118

Source: *Global Cities Investment Monitor 2021*. KPMG.

Major urban areas of the world in FDI projects in research centers. 2020

Source: *Global Cities Investment Monitor 2021*. KPMG.

Entrepreneurial activity in countries around the world in 2020

The female entrepreneurship rate in Barcelona and Catalonia is above the European average

According to data from the *Global Entrepreneurship Monitor* (GEM), the entrepreneurial activity rate (EAR) among people living in Barcelona province in 2020 was 6.9%, very similar to the previous year (7.1%) in the context of the economic crisis resulting from the pandemic. Despite a year-on-year reduction of 1.7 points, Catalonia's rate of 6.6% was still above the Spanish average of 5.2%.

This evolution in 2020 means that the entrepreneurial activity rates for Barcelona and Catalonia are better than those for countries such as Germany (4.8%) and Italy (1.9%). Furthermore, Catalonia was once again the Spanish autonomous region with the highest entrepreneurial activity rate, above Madrid and the Spanish average, although below the European Union rate, where the drop in the rates of high-income countries has led to a rate of 7.4%.

As for the female entrepreneurship activity rate, the rates for Barcelona (6.1%) and Catalonia (6.0%) were higher than those of the EU (5.6%), Sweden (4.8%) and Spain as a whole (4.8%), and the difference between male and female rates in Catalonia dropped to 1.2 points.

Catalonia heads the list of consolidated entrepreneurial rates in Spain (business initiatives that have existed for more than 3.5 years), which has risen to 8.2% (above the European average). As for the quality of entrepreneurial activity, in 2020 the reactive reasons for starting a business (to earn a living due to a shortage of work) predominated over the proactive reasons both in Barcelona and in Catalonia, while the influence of new entrepreneurs with higher education qualifications and the proportion of projects in the field of technology stand out as positive aspects. All in all, Catalonia is the best-rated autonomous region for entrepreneurship and, in spite of the crisis resulting from Covid-19, its average rating for entrepreneurship conditions (5.2) is ahead of both Spain (4.7) and the European average (4.6).

Entrepreneurial activity rate in countries round the world. 2020

(% of 18-64 year-olds)

TEA for women	Country	Total TEA
21.3	Brazil	23.4
13.9	Canada	15.6
13.6	United States	15.4
8.9	Slovakia	13.9
9.6	Netherlands	11.5
8.7	Switzerland	9.2
6.7	Greece	8.6
6.7	Israel	8.5
7.3	Taiwan	8.4
6.2	United Kingdom	7.8
5.6	**EU average (high income)**	**7.4**
4.8	Sweden	7.3
4.5	Morocco	7.1
6.1	**Barcelona**	**6.9**
6.0	**Catalonia**	**6.6**
4.8	Slovenia	6.0
4.8	**Spain**	**5.2**
4.4	Germany	4.8
2.4	Poland	3.1
0.9	Italy	1.9

NB: Entrepreneurial activity includes nascent companies (less than 3 months of activity) and new companies (between 3 and 42 months of activity).
The original database contains 63 countries, although the table only includes a selected sample of countries for reference.

Source: *Global Report* and *Informe Executiu Catalunya 2020-2021*, Global Entrepreneurship Monitor (GEM).

Entrepreneurial activity in Europe. 2020

(% of population 18-64 years of age)

Source: *Global Report* and *Executive Report for Catalonia 2020-21*. Global Entrepreneurship Monitor (GEM).

Attractive global cities for visitors and entrepreneurs in 2021

Barcelona is 9th among the world's cities and 4th in Europe

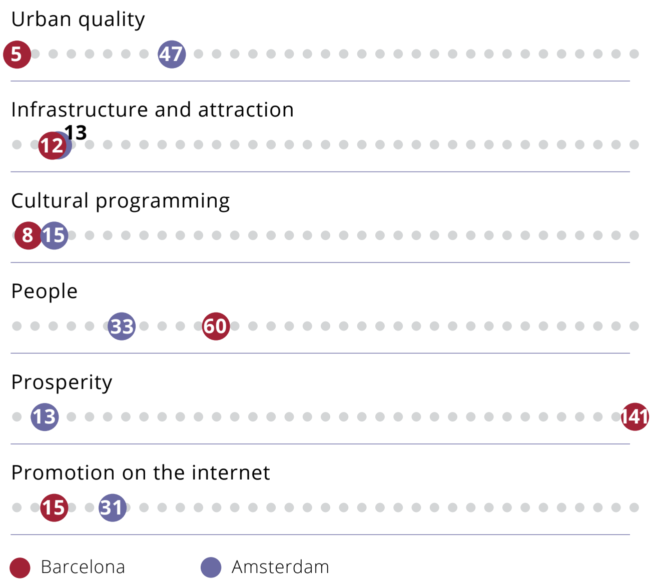
According to the *2021 Ranking of World's Best Cities* drawn up by Resonance Consultancy Ltd at the end of 2021, in 2021 Barcelona ranked 9th in the world and 4th in Europe among the most attractive global cities for visitors, entrepreneurs and residents.

The ranking is based on the idea that, in addition to attracting tourists, urban infrastructure and experiences boost economic growth and international investment, and it ranks the world's cities with populations of over 1 million using a combination of statistics and qualitative assessments by residents and visitors in relation to 24 different areas grouped into 6 main categories.

In 2021, Barcelona dropped one place compared to the previous three years, but it remained in the top 10, above Madrid, Rome, San Francisco and Amsterdam, among others, in a ranking led by London, Paris and New York.

As for the partial results of the ranking, Barcelona's best positions were 5th place for urban and natural space quality, with a particularly outstanding result in the fields of climate and parks and outdoor spaces, and 11th place for monuments and places of interest. Furthermore, the city ranked 8th for cultural programming, up 3 places since the previous edition, and secured a 3rd place in the nightlife category. It also ranked 12th for institutions, attractiveness and infrastructure, and 15th for online promotion. However, it ranked 60th in relation to people, taking into account the diversity and education level of its population, while in the prosperity category it ranked low due to its relatively low number of multinational companies and its unemployment rate. The report mentions Barcelona's transformation process – which was accelerated by the pandemic – in fields such as tourism model and sustainability.

Position of Barcelona and Amsterdam in assessment categories



Source: *World's best cities report*. Resonance Consultancy Ltd. 2021.

Attractive global cities for visitors and entrepreneurs. 2021

2020 Ranking	City	2021 Ranking
1	London	1
3	Paris	2
2	New York	3
4	Moscow	4
6	Dubai	5
5	Tokyo	6
7	Singapore	7
9	Los Angeles	8
8	**Barcelona**	**9**
10	Madrid	10
11	Rome	11
23	Doha	12
12	Chicago	13
15	Abu Dhabi	14
14	San Francisco	15
17	Amsterdam	16
16	St. Petersburg	17
13	Toronto	18
25	Sydney	19
18	Berlin	20

Source: *World's best cities report*. Resonance Consultancy Ltd. 2021.

Main cities in the world for the number of international delegates at international congresses in 2019, events in 2021 and 2022

Barcelona's international congress industry started to recover in the second half of 2021

According to the International Congress and Convention Association (ICCA), in 2019 Barcelona topped the ranking of world cities for number of delegates for the third consecutive year and ranked 4th for the number of international congresses held. In 2020 the start of the Covid-19 pandemic caused an unprecedented drop in business tourism due to the restrictions on both personal and professional meetings and international travel. As a result, cancellations and postponements of scheduled events became commonplace from February and continued throughout the year and well into 2021, leading to a drop in activity of over 90% in 2020. Most of the congresses, conventions, meetings and trade fairs that went ahead were either held fully or partly online or relocated. In this context, according to data from the Barcelona Tourism Observatory, 100 meetings were held in 2020, 87% of them in the first quarter, with almost 40,000 delegates.

In view of the atypical situation of 2020 and the lack of statistics on international meetings, the format of the ICCA's report on annual statistics has been redesigned so that, instead of providing a ranking of cities, it now analyses the exceptional nature of 2020 and the transformation that took place during that year with an analysis of international meetings by major region and based on new formats. On this basis, the report asserts that 47% of international meetings were postponed in Europe in 2020, 30% were held online, 13% were cancelled, 7% were unaffected, 3% were held partly online, and 1% were relocated.

In view of all this, the Fira de Barcelona's activities in 2020 cannot be compared to any other years. The events that were able to go ahead would have to be split into face-to-face, online and hybrid events, but bearing in mind there were also many webinars, forums and even virtual catwalks, such as Barcelona Bridal Fashion Week, which were followed by many people around the world. The aim of the Fira de Barcelona, in its essential function of economic reactivation engine, was continue to stand by the economic sectors and put in contact the different actors in this exceptional situation.

The second half of 2021 saw a slight increase in the number of face-to-face events, although most were held partly online. The Fira de Barcelona held 34 major events between June and the end of the year. A large amount of activity, including, MWC, 4FYN and Seafood Expo Global / Seafood Processing Global, has already been planned for the Fira in the first four months of 2022. In addition, events that had to be postponed will also be held in 2022. These include, among others, Alimentaria and Hostelco, Hispack, Barcelona Bridal Fashion Week and the Smart City Expo World

Principal cities in the world for number of international congresses and delegates. 2019

Cities	Variation 2019/2018 (%)	2019 Congresses
Paris	11.8	237
Lisbon	25.0	190
Berlin	8.6	176
Barcelona	**-4.3**	**156**
Madrid	-6.7	154
Vienna	-13.4	149
Singapore	2.1	148
London	-4.7	143
Prague	1.5	138
Tokyo	6.5	131

Cities	Variation 2019/2018 (%)	2019 Delegates
Barcelona	**16.3**	**156,754**
Paris	-1.7	124,063
Madrid	27.8	91,900
Lisbon	50.2	91,406
Vienna	-15.0	89,009
Berlin	-2.9	85,089
London	38.9	76,114
Milan	153.9	71,554
Copenhagen	-14.3	69,110
Amsterdam	-20.6	67,962

Source: International Congress and Convention Association (ICCA).

Congress. These will be important events in their respective sectors, held and organised with the firm commitment of revitalising those sectors and generating business.

Looking ahead, the Barcelona Tourism Observatory's report on tourism activity prospects for Barcelona as a Destination reports good prospects for recovery. As of November, 113 congresses had been confirmed for the next few years, with potential for 90 further such events by 2027. It is therefore forecast that, provided the pandemic is under control, trade fair activities could return to pre-pandemic levels from 2022.

Events at the Fira de Barcelona. Year 2021 and forecast 2022

Month	Number	Name
2021		
June	5	ISE Live & Online • Only Tatoo Barcelona • B-Travel • 4 YFN • MWC Barcelona
July	2	BforPlanet • eShow/Technology for Marketing
September	6	Expoquimia • Eurosurfas • Equiplast • SBC Summit Barcelona • IAAPA Expo Europe • Automobile Barcelona
October	8	BAUM Festival/Barcelona Tatoo Expo • Swab Barcelona • Barcelona Boat Show • Caravaning • Gastronomic Forum Barcelona • Cosmetorium • EFINTEC • Manga Barcelona
November	12	Expo Sports • IHF Barcelona World Hospital Congress • Bizbarcelona • Employment Fair • Handmade Festival Barcelona • Smart City Expo World Congress • Paint & Coatings • Puzzle X • Tomorrow Mobility World Congress • Sport Woman Barcelona • Swimming pool & Wellness Barcelona • Ibtm World
December	2	Radikal Market • City of Fun
2022		
February	3	Barcelona Wine Week • MWC Barcelona* • 4 YFN*
March	3	Education Fair • Only Tatto • Futura
April	8	B-Travel • Expo Sports • Hostelco • Alimentaria • e-Show Barcelona • Barcelona Bridal Fashion Week • BforPlanet • Seafood
May	9	Cosmobeauty • Barcelona Specs • IOT Solutions World Congress • ISE • Eu-Startups Summit • Graphispag • Hispack • SPRING I/O • SIL Barcelona
June	3	Free From Food • Future Cheer • European LPG Congress
August	1	ESC Congress
September	5	EuropeanLife Tradeshow; Business & Luxury • Employment Fair • Cosmetorium • BizBarcelona • EAIE
October	4	Life • APAExpo by R+T • Euro Trophex • Boat Show
November	4	Gastronomic Forum Barcelona • Tomorrow Mobility World Congress • Smart City Expo World Congress • Occasion
December	2	IBTM • City of dreams

Other events scheduled for 2022 without confirmation date: Saló del Còmic, Saló del Manga.

Note: Month of the event according to the start date. * end of February and beginning of March

Source: Fira de Barcelona. Provisional data for December.

Quality of life, sustainability and social cohesion

OBSERVATORI BARCELONA

Introduction

Barcelona has been involved in the launch of the UN's 2030 Agenda, which sets out 17 Sustainable Development Goals (SDGs). During its 2019-2023 term of office, Barcelona City Council has made clear its institutional commitment to the sustainable development goals not just in the municipal government's structure but also in its alignment of municipal policies with the 2030 Agenda and the promotion of alliances with civil society and the economic sectors that will help improve the quality of people's lives and social cohesion and also create a city that is more environmentally friendly.

As to the indicators associated with good quality of life, Barcelona is considered the world's 11th safest city and the 4th in Europe by The Economist's *Safe Cities Index 2021* report. It has climbed 15 positions since the previous edition, beating cities such as Frankfurt, London or Paris, among others. It should be noted that Barcelona is ranked 9th in terms of health security, an area in which it has climbed 15 positions in relation to the 2019 ranking. Barcelona also stands out as a world leader for sport, attaining the 4th position in the *Ranking of Sports Cities 2021*, a report drawn up by the consultancy Burson Cohn & Wolfe, for the first time reaching the top 5 from the 50 cities included in the study. It has also been ranked 25th of the 50 world cities included in the comparison, and 15th among the European cities, by Kisi's *Cities for the Best Work-Life Balance 2021* ranking, which assesses work-life balance. It has climbed 10 positions since 2020, ranking ahead of Paris, Boston, New York and Milan, among others, and standing out for tolerance and inclusion (in 5th position).

The city is a benchmark for cultural and creative vibrancy, according to European Commission's *The Cultural and Creative Cities Monitor 2019*, where it came 9th in the global index and stood out in the areas of human capital and training, employment in creative and knowledge-intensive fields, and openness, tolerance and trust (where it came 2nd, 5th and 6th, respectively, among cities with over a million residents).

The Covid-19 pandemic has had a widespread negative impact on quality of life, the labour market and social cohesion in cities and regions. In this context, 2020 saw an increase to 22.8% in the rate of risk of poverty or social exclusion in Catalonia. This is slightly above the EU rate, which also saw an increase over the previous year. According to the Municipal Data Office, the disposable income of households in Barcelona dropped by 3.6% over 2020 as a whole, in the framework of an increased risk of poverty at metropolitan level.

As for sustainability, Barcelona is committed to addressing the climate emergency and has been following the Barcelona Climate Plan since 2018, this city's roadmap is taking the necessary steps to reduce the city's per capita emissions by 50% by 2030 (compared to 1992) and to be carbon neutral by 2050. In 2021, the city was chosen by the *Making Cities Resilient 2030* initiative as a centre of global resilience for its policies on the growing climate and disaster risks, and it will work together with Manchester, Helsingborg and Milan. Barcelona has been ranked Europe's 14th most sustainable city in 2021 by the *Schroders European Sustainable Cities Index*.

Barcelona has also been recognised in the area of food sustainability, where it was named World Capital of Sustainable Food for 2021 within the framework of the meeting of signatory cities of the "Milan Urban Food Policy Pact". This nomination is a catalyst for pushing a transition towards food sustainability that strengthens local sustainable economies and improves people's health, as well as planetary health.

Finally, Barcelona has been ranked 17th in the world for sustainable urban mobility by the *Urban Mobility Readiness Index 2021* report of the University of Berkeley and the Oliver Wyman Forum. The city was ranked 25th in the general urban mobility ranking, and the growth of its cycling infrastructure during the pandemic, an indicator in which it was ranked 7th in the world, is particularly worth highlighting.

Barcelona is one of the 15 safest cities in the world

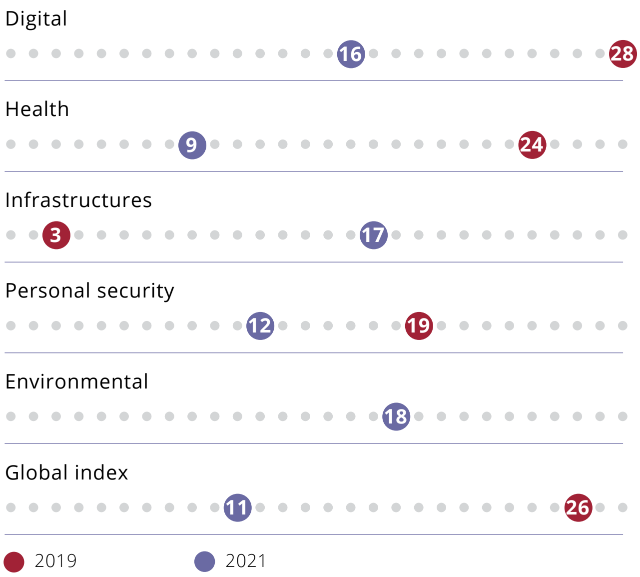
Safety in cities round the world in 2021

Barcelona is one of the 15 safest cities in the world

According to the *Safe Cities Index 2021*, a report produced by the British magazine *The Economist*, Barcelona was ranked 11th out of 60 cities across all continents in a list topped by Copenhagen, Toronto and Singapore, climbing 15 positions since the previous edition (2019) and tied with New York. It also came 4th among European cities, behind Copenhagen, Amsterdam and Stockholm, and ahead of Frankfurt, London and Paris, among others. Barcelona is thus making significant progress compared to the previous edition – where it was ranked 26th in the world – and its score in 2021 (77.8) was 11.7 points above the average, placing it among the highest-ranking cities analysed.

The report's results are based on 76 indicators covering security in the digital field and in the fields of health, infrastructure, personal security and environment. It should be noted that Barcelona is ranked 9th in terms of health security, an area in which it has climbed 15 positions in relation to the 2019 ranking and that takes into account aspects such as the level and quality of the city's health services and access to a healthy diet in the city. As regards the other areas analysed, the city climbed seven positions to rank 12th in personal security (ahead of cities such as Zurich, London and Milan), 17th in infrastructure, 18th in environmental security, and 16th in digital security, in this last case climbing 12 places compared to the previous ranking.

Position of Barcelona in urban security categories



Source: *The Safe Cities Index 2021*, The Economist Intelligence Unit.

Safety in cities round the world in 2021

Position	City	Index / 100
1	Copenhagen	82.4
2	Toronto	82.2
3	Singapore	80.7
4	Sydney	80.1
5	Tokyo	80.0
6	Amsterdam	79.3
7	Wellington	79.0
8	Hong Kong	78.6
8	Melbourne	78.6
10	Stockholm	78.0
11	**Barcelona**	**77.8**
11	New York	77.8
13	Frankfurt	77.7
14	Washington D.C.	77.4
15	London	77.2
15	San Francisco	77.2
17	Osaka	76.7
18	Los Angeles	76.5
19	Zurich	76.3
20	Chicago	75.0
21	Madrid	74.7
22	Dallas	74.5
23	Paris	74.3
24	Taipei	74.0

Source: *The Safe Cities Index 2021*. The Economist Intelligence Unit.

Sport in cities around the world 2021

Barcelona, one of the top 5 sports cities in the world

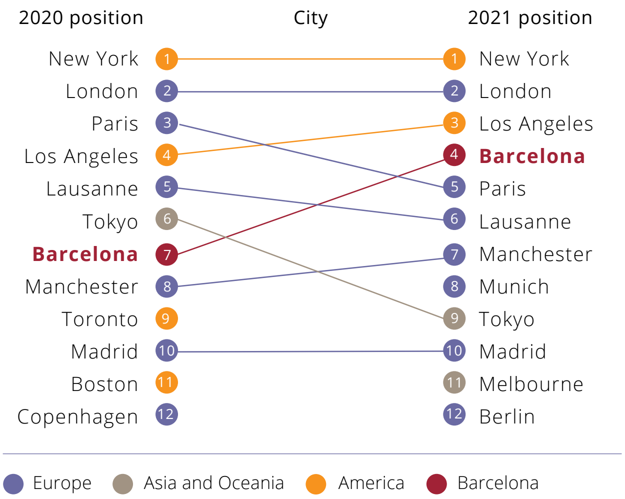
Barcelona came 4th, ranking for the first time in the top 5 of the 50 cities assessed in the *Ranking of Sports Cities 2021* drawn up by the consultancy Burson Cohn and Wolfe based on a vote in which sports federations, specialist opinion leaders and the general public on social media decided which cities are most strongly associated with sport.

The city has maintained its top 10 position since the first edition in 2012, a record shared only by other Olympic cities such as London, Tokyo and Los Angeles. Barcelona's international importance in the field of sport comes from the fact that it regularly plays host to big sports events and top-level international competitions, the legacy of the 1992 Olympic and Paralympic Games, sports-related activities on digital platforms and the attraction created by big metropolitan-scale clubs, positioning Barcelona as a destination for sports tourism.

Sport has a great economic and social impact on the city and contributes to a direct improvement in the quality of city residents' lives. According to the latest Survey on Barcelona's Sports Habits, 71.6% of the people interviewed did sport. By sex, 74.4% of men and 69.2% of women did sport, and by age, doing sport was widespread among young people, with over 80% of people between the ages of 17 and 35 actively doing sport.

In addition, during the 2018/2019 season, the city's main club, FC Barcelona, generated economic activity amounting to €1.190 billion, accounting for 1.5% of the city's GDP and with a direct, indirect and induced impact of 19,500 jobs, according to a report from the consultancy firm PwC.

Sport in cities round the world. 2021



Source: *Ranking of Sports Cities 2021*. Burson Cohn & Wolfe.

Work-life balance in world cities in 2021

Barcelona climbs up the ranking and excels in tolerance and inclusion

The Covid-19 pandemic and the transformations it has led to – teleworking, physical distance in personal relationships and so on – have revealed that achieving a work-life balance and having free time are key to productivity and quality of life. According to the *Cities for the Best Work-Life Balance 2021* ranking, drawn up by the secure technological-access company Kisi, Barcelona came 25th out of the 50 world cities compared, and 15th among European cities, based on 18 indicators relating to intensity of work, social services and official support for equality and quality of life and the effects of the Covid-19 pandemic. The city has gained 10 positions since 2020 – following a significant drop – and now holds an middle position in the index in a ranking topped by three European capitals (Helsinki, Oslo and Zurich), ahead of Paris, Boston, New York or Milan, among others.

By area, Barcelona achieved particularly good results for tolerance and inclusion (where it was ranked 5th), days of holiday (6th), wellness and fitness (13th) and healthcare (16th), with an intermediate position (25th) in paid maternity and paternity leave. However, it achieved a low position in the ranking for Covid-19 impact – which is measured by taking into account the characteristics of the pandemic and its economic and employment impacts – and unemployment rate, two indicators in which the city is now below its pre-pandemic position.

Position of Barcelona in assessment categories. 2021

Holiday days	6
Paid Parental leave	25
Inclusivity and tolerance	5
Work-life balance index	25
Social expenditure	16
Well-being and fitness	13
Air quality	33
COVID impact	43

Source: Kisi. *Cities for the Best Work-Life Balance 2021*.

Work-life balance index 2021

Global ranking	City	Total score
1	Helsinki	100.0
2	Oslo	98.6
3	Zurich	91.5
4	Stockholm	91.4
5	Copenhagen	90.4
6	Ottawa	89.1
7	Munich	89.1
8	Vancouver	87.8
9	Amsterdam	87.6
10	Sydney	86.8
11	Hamburg	85.7
12	Vienna	85.6
13	Calgary	85.2
14	Toronto	84.9
15	Melbourne	84.9
16	Auckland	84.4
17	Berlin	84.0
18	Singapore	83.8
19	Dublin	83.4
20	London	81.4
21	Brussels	80.6
22	Madrid	80.1
23	Tokyo	79.3
24	Salt Lake City	79.2
25	**Barcelona**	**78.7**
26	Portland	77.2
27	Paris	77.0
28	Denver	75.3
29	Seattle	74.6
30	Seoul	72.9

Source: Kisi. *Cities for the Best Work-Life Balance 2021*.

Creative and cultural cities of Europe, 2019

Barcelona, among the top 10 creative and cultural cities in Europe

Barcelona is ranked 9^{th} in the European index of creative vibrancy, according to the *Cultural and Creative Cities Monitor 2019*, an instrument created by the European Commission. It includes a wide range of indicators for 190 cities in 30 European countries that are actively committed to promoting culture and creativity. With this tool, the Commission seeks to emphasise the importance of culture and creativity for life in cities, for their resilience as well as their development, since a clear correlation has been detected between cultural activity in its broadest sense and economic growth.

The report presents the results by groups of cities, based on population size. It analyses aspects relating to cultural vibrancy, the creative economy and an enabling environment, and it groups them in a global index of creative vibrancy, which is headed by Paris, Munich and London, among cities with over a million residents.

Barcelona stands out in particular in the enabling environment section among cities with over a million residents, reaching 2^{nd} place in human capital and training – only behind Paris – and 6^{th} in the openness, tolerance and trust indicator, whereas it came 11^{th} in local and international connections and 14^{th} in quality of governance.

As regards the creative economy, Barcelona scored well for jobs in creative sectors – reaching 5^{th} place, ahead of London and Rome, but behind Munich and Madrid – and was among the top 15 in intellectual property and new jobs, Barcelona stood out with its 6^{th} place in cultural facilities and 9^{th} in participation in culture among the cities with more than a million residents.

The results from 2019 reveal remarkable stability compared to the previous year, with the exception of the section on quality of governance, where a widespread drop can be observed. As for large geographic areas, it was the cities from the north of Europe that achieved the best overall results, followed by cities from the west and south of Europe, where the latter stood out in the area of cultural intensity.

Creative and cultural cities. 2019

Position	City	Creative intensity index
1	Paris	66
2	Munich	41
3	London	36
4	Milan	35
5	Berlin	34
6	Vienna	33
7	Budapest	33
8	Prague	33
9	**Barcelona**	**31**
10	Hamburg	29
11	Madrid	28
12	Warsaw	27

NB: Cities with more than a million residents.

Source: *Cultural and Creatives Cities Monitor 2019.* European Commission's Joint Research Centre.

Culture and Creativity Categories. Position of Barcelona. 2019

Cultural Facilities	6
Participation in Culture	9
Creative jobs	5
Intellectual property	10
New jobs	14
Human capital and training	2
Openness, Tolerance and Trust	6
Local and international connections	11
Quality of Governance	14

Note: Cities with more than 1 million inhabitants.

Source: *Cultural and Creatives Cities Monitor 2019.* Joint Research Center de la Comissió Europea.

Population at risk of poverty or social exclusion in European regions in 2020

Increase in the rate of risk of poverty or social exclusion in Catalonia

According to Eurostat figures, the percentage of the population at risk of poverty or social exclusion (AROPE) in Catalonia was 22.8% in 2020. This was lower than the rate for Spain (26.4%) but slightly higher than the EU-28 figure (22.0%). Regions with higher rates than Catalonia include Rome, Vienna and Brussels, among others, while the Bratislava and Prague regions, with values of under 10%, boast the lowest rates in the sample. The rate in Catalonia rose considerably (up 4.0 percentage points) since the previous year as a result of the social impact of the Covid-19 crisis and with a worse figure than in Europe.

If you calculate the percentage of the population at risk of poverty based on the specific threshold for Catalonia (60% of the average equivalent annual disposable income of the Catalan population, after social transfers, rather than the Spanish average), the AROPE rate was 26.3%,[1] 2.7 percentage points higher than the figure for the previous year and also above average for the European Union. In an environment characterised by the pandemic, all the components of the AROPE rate – poverty rate, work intensity, and severe material deprivation rate – got worse compared to the previous year. The poverty rate thus went from 19.5% to 21.7%, low work intensity went from 8.3% to 9.8%, and severe material deprivation went from 5.7% to 6.2%.

One of the components of the AROPE rate is severe material deprivation.[2] According to the Municipal Data Office, this type of deprivation affected 5.9% of households in Barcelona in 2019 – a similar rate to the EU average – with particular intensity in single-parent households (12.1%) and those supported by women (7.5%).

Population at risk of poverty or social exclusion. 2020

Country	Region (principal city)	AROPE Rate (%)
Slovakia	Bratislava Region (Bratislava)	5.9
Czech Republic	Prague (Prague)	8.3
Finland	Helsinki-Uusimaa (Helsinki)	11.5
Romania	Bucharest - Ilfov (Bucharest)	12.6
Sweden	Stockholm (Stockholm)	13.0
Portugal	Lisbon metropolitan area	14.6
Germany	Bavaria (Munich)*	14.8
Norway	Oslo og Akershus (Oslo)	15.7
Italy	Lombardy (Milan)*	16.2
Denmark	Hovedstaden (Copenhagen)	17.3
Netherlands	Netherlands - West (Amsterdam)	17.8
Poland	Wojewodztwo Mazowieckie (Warsaw)	17.9
Ireland	Ireland - east and centre (Dublin)	18.2
Switzerland	Espace Mittelland (Bern)	18.9
Germany	Berlin (Berlin)*	19.3
Spain	Community of Madrid (Madrid)	20.9
Bulgaria	Bulgaria - south-west (Sofia)	20.9
EU-27 average (e)		**22.0**
Spain	**Catalonia (Barcelona)**	**22.8**
Greece	Attica (Athens)	24.1
Italy	Lazio (Rome)*	24.8
Spain		**26.4**
Austria	Vienna (Vienna)**	27.5
Belgium	Brussels	34.3

* Data from 2019 ** Data from 2018 (e) Estimation

NB: The 'AT Risk of Poverty or Social Exclusion' rate (AROPE) indicates the percentage of the population that is, at a minimum, in one of the following circumstances: at risk of poverty, severe material deprivation or living in households with very low labour intensity.

Source: Eurostat

[1] Data from Idescat.

[2] The population suffering from severe material deprivation includes those people whose living conditions are restricted by a lack of resources and who cannot afford at least four out of the following nine items: rent, mortgage or public service bills, adequate heating, meeting unexpected expenses, eating meat or protein on a regular basis, going on holiday, a car, a washing machine, a colour TV or a telephone.

Sustainability in European cities in 2021

Barcelona, among the 15 most sustainable cities in Europe

Barcelona was ranked Europe's 14th most sustainable city in 2021 in the Schroders *European Sustainable Cities* ranking. This index ranks 59 European cities based on an analysis of 13 environmental policies – in fields such as renewable energy consumption targets, public transport with clean energies, air quality and waste policy – to monitor the implementation of Sustainable Development Goal 11 (Sustainable Cities and Communities) in Europe's cities. With a score of 0.65, Barcelona ranked above cities such as Frankfurt, Brussels and Rotterdam in a ranking led by Amsterdam, London and Paris with values of more than 0.75.

Regarding Barcelona, the most significant aspects are the new plan to increase the number of green areas in the city (endowed with €38 million) and the Climate Plan 2018-2030, which aims to minimise carbon emissions by 2050 by improving building energy efficiency, generating more solar power, a zero waste strategy and the acquisition of a low-carbon municipal bus fleet by 2025.

Sustainability in European cities. 2021

Position	City	Index
1	Amsterdam	0.81
2	London	0.77
3	Paris	0.76
4	Copenhagen	0.74
5	Oslo	0.72
6	Stockholm	0.72
7	Berlin	0.71
8	Glasgow	0.69
9	Hamburg	0.68
10	Birmingham	0.68
11	Vienna	0.67
12	Helsinki	0.67
13	Liverpool	0.67
14	**Barcelona**	**0.65**
15	Madrid	0.65
16	Leeds	0.65
17	Frankfurt	0.64
18	Brussels	0.63
19	Rotterdam	0.63
20	Manchester	0.62

Source: Schroders, *Schroders European Sustaninable Cities Index, 2021*.

Urban mobility ecosystem in world cities in 2021

Barcelona, among the top 20 cities for the most sustainable urban mobility system

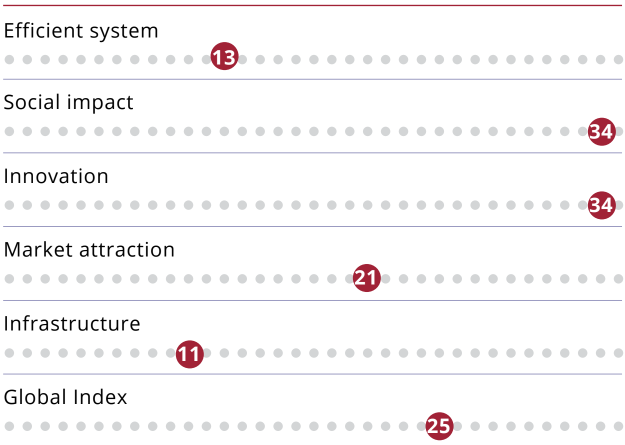
Barcelona was ranked 17th in the world for sustainable mobility by the *Urban City Readiness Index 2021* produced by the University of Berkeley and the Oliver Wyman Forum. In this ranking, led by Oslo, Amsterdam and Helsinki, Barcelona got a similar score to the Canadian cities of Vancouver and Toronto exceeded Paris, New York and Sydney.

This is the first time that the sustainable mobility index, which is based on 15 indicators in this field, has been included in the study, which compares 60 cities in various geographical regions of the world that stand out for their mobility challenges and their chosen solutions. Barcelona particularly stands out for the growth of its cycling infrastructure during the pandemic, ranking 7th in the world.

As for the general urban mobility index, Barcelona was ranked 25th, dropping seven places since the previous edition, in a ranking led by Stockholm, San Francisco and Singapore and ahead of cities such as Montreal, Shanghai and Milan.

The study highlighted five key factors for new mobility systems in cities: integration, accessibility, sustainability, innovation and public-private collaboration. It also established the criteria for drawing up the rankings based on the efficiency of the system, social impact, innovation, market attraction, infrastructure and sustainability. In these categories, Barcelona ranked 11th in infrastructure and 13th for the efficiency of the system, 21st for market attractiveness and 34th for innovation and social impact.

Position of Barcelona in assessment categories



Source: *Urban Mobility Readiness Index 2021*. Berkeley University of California i Oliver Wyman Forum.

Cities with the world's best urban mobility system. 2021

Position global ranking	City	Position sustainable mobility
18	Oslo	1
5	Amsterdam	2
4	Helsinki	3
8	Hong Kong	4
1	Stockholm	5
3	Singapore	6
9	Munich	7
16	Tokyo	8
6	Berlin	9
27	Beijing	10
7	London	11
10	Zurich	12
29	Shanghai	13
30	Dublin	14
24	Madrid	15
23	Vancouver	16
25	**Barcelona**	**17**
21	Toronto	18
15	Washington, D.C.	19
12	Paris	20

Source: *Urban Mobility Readiness Index 2021*. Berkeley University of California i Oliver Wyman Forum.

Labour market and training

OBSERVATORI BARCELONA

Introduction

The labour market indicators indicators for 2021 reveal a strong recovery of world economic activity and employment in the EU thus saw a 2% year-on-year rise in the third quarter of the year. The economies of Barcelona, Catalonia and Spain share this trend, with year-on-year rises in employment of between 2.5% and 4% in the same period. In Catalonia, the good performance of the labour market resulted in a year-on-year increase in employment of more than 155,500 people (including those under temporary lay-offs ERTOs) and a year-on-year decrease in unemployment of nearly 80,000 people, according to the *Labour Force Survey* published by the National Institute of Statistics (INE).

The employment indicators available on a regional level and presented in this chapter refer to the year 2020, a period of economic crisis in the EU that was also observed in the labour market and saw most member states see a drop in employment rates. In this context, the employment rate in Catalonia stands at 65.8% – below average for Europe – and the unemployment rate (12.6%) is clearly above the EU rate (7.1%), following their first year-on-year drop and rise respectively since 2013. It is worth noting that, at 62.2%, the employment rate among women in Catalonia is close to the European average. On the other hand, the loss of jobs in 2020 in all the regions analysed was significant but clearly below the drop in GDP, largely thanks to the application of temporary lay-offs (ERTOs) and other public-policy measures.

The part-time employment rate in Catalonia in 2020 was 13.6%, placing it 4.5 percentage points below the EU average (18.2%) and at the same level as the Spanish average (13.9%). However, by gender, the part-time employment rate is much higher for women than for men in every area. The increase in the part-time employment rate since the start of the crisis that began in 2008 has been a widespread trend in Europe, in an international context where the impact the crisis has had on job quality has become particularly marked.

One of Barcelona's key assets is a significant critical mass of skilled human capital. It is worth noting in this area that in 2020 the working population with a tertiary education as a percentage of the working population in Catalonia rose to 47.5% and, in the case of women, this figure was above 50% for the sixth time. These values are well above the European Union averages of 35.8% and 40.6% respectively. On the other hand, according to the Boston Consulting Group's report *Decoding Global Talent 2021*, Barcelona is the 9th most attractive city in the world for international talent wishing to work abroad, ahead of Sydney, Paris and Los Angeles, and it ranks 10th in the digital expert ranking.

Barcelona City Council has launched the city's Economic Recovery Plan with seven strategic goals, including protecting jobs and promoting quality employment through specific measures aimed at leaving no one behind and maintaining the city's business network by preventing its mass destruction and boosting the activities with the greatest added value. Some of the most notable measures taken include a technical and professional re-skilling plan in strategic sectors (such as the digital economy, the roll-out of sectoral employment plans and shock employment plans aimed at particularly vulnerable groups, the creation of a supplementary allowance for self-employed individuals, and subsidies for the digitalisation of the city's businesses).

Finally, Barcelona continues to be a benchmark as a city of excellence for business training, as it is the only city in Europe with two teaching institutions (IESE and ESADE) among the five best business schools on the continent, according to the *Financial Times*.

Barcelona, among the ten most attractive cities for talent in the world

Attractiveness of cities in the world for global talent and digital experts in 2020

Barcelona, among the top ten cities for attractiveness for work

According to the Boston Consulting Group's report *Decoding Global Talent 2020*, Barcelona is the 9th most attractive city in the world for working abroad, just ahead of Sydney, Paris and Los Angeles, in a ranking led by London, a global business and cultural centre that is also among the most cosmopolitan and open cities in the world. In addition, according to BCG's report *Decoding the Digital Talent Challenge*, Barcelona is the world's 10th most attractive city for digital experts wishing to work abroad, just ahead of Los Angeles, Vancouver and Paris, in a ranking led by London and Singapore.

Barcelona thus remains one of the top 10 favourite cities – four of them European – for global talent and digital experts after dropping five positions since the 2018 survey in a context that has changed people's preferences regarding working abroad. In particular, the handling of the pandemic and specific talent attraction policies have boosted the ranking of Asian cities, of which there are now four – Dubai, Abu Dhabi, Tokyo and Singapore – in the top 10 of the two rankings under analysis.

This research on the workforce and its preferences in a globalised world is based on an extensive online survey (the *Global Talent Survey*) with responses from 200,000 people in 190 countries, including 9,900 digital experts. According to the report, 50% of respondents would be willing to work in other countries. Although a high percentage, this is 7 points lower than in 2018 and 13 points lower than in 2014 due to pandemic-related restrictions and restrictive immigration policies. The proportion for digital experts was 55%. On the other hand, 57% of respondents stated that they would be willing to work remotely for a company without a physical base in their country. In view of the current talent shortages in some sectors and countries, the emerging international teleworking trend provides an opportunity for companies to gain qualified staff and cultural diversity, although it also entails challenges such as adapting tax matters, schedules and wages to this new reality.

Comparison of positioning of cities in labour attractiveness

Source: *Decoding Global Talent 2021 and Decoding the Digital Talent Challenge*, BCG

The world's most attractive cities for working abroad

2020 position Digital experts ranking	City	2020 position Global talent ranking
1	London	1
3	Amsterdam	2
6	Dubai	3
4	Berlin	4
9	Abu Dhabi	5
5	Tokyo	6
2	Singapore	7
7	New York	8
10	**Barcelona**	**9**
8	Sydney	10
17	Paris	11
12	Los Angeles	12
11	Melbourne	13
13	Toronto	14
24	Seoul	15
26	Brussels	16
15	Zurich	17
16	Kuala Lumpur	18
27	Geneva	19
14	Vancouver	20
21	Hong Kong	21
22	Vienna	22
19	Beijing	23
30	Montreal	24
–	Rome	25
25	Munich	26
23	Copenhagen	27
–	Lisbon	28
28	Stockholm	29
–	Istanbul	30

Source: *Decoding Global Talent 2021 and Decoding the Digital Talent Challenge*, BCG.

Employment rate in European regions in 2020

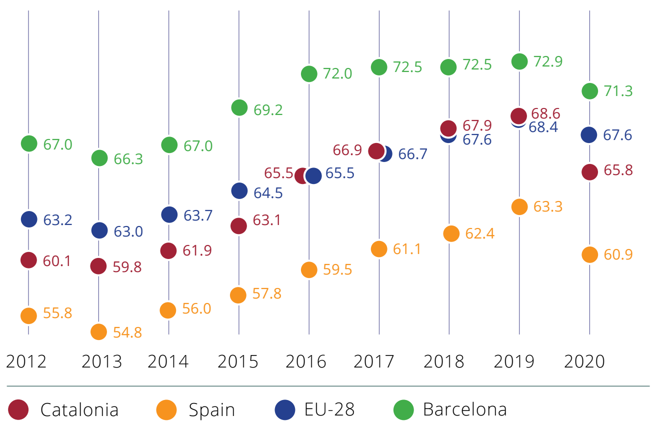
Catalonia's female employment rate similar to that of the European Union

In 2020, the EU's employment rate fell by 0.8 percentage points compared to 2019, down to 67.6%, as a result of the drop in most of the regions analysed due to the economic crisis resulting from Covid-19.

Along the same lines, the employment rate in Catalonia and Spain fell for the first time after six consecutive years of rises – by 2.8 and 2.4 percentage points respectively – with a higher decrease than the EU average, and employment rates are still among the lowest in Europe, as has been the case since the financial crisis that started in 2008. In fact, the employment rate in Catalonia was 65.8% in 2020, placing it below the European average for the twelfth consecutive year, although still much higher than the overall rate for Spain (by 4.9 percentage points) and above that of regions such as Vienna, Rome and Brussels. The female employment rate in Catalonia, on the other hand, fell 2.8 points to 62.2% in 2020, reaching a similar value to the European average (62.4%) and remaining above the average for Spain (55.7%) and for regions such as Languedoc-Roussillon and Brussels. However, it is still far from the continent's leading regions (whose rates are above 70%) and lower than the overall employment rate in Catalonia.

In the fourth quarter of 2020, the employment rate stood at 69.1% in Barcelona, a fall of 4.0 percentage points compared to the same period in 2019. In the third quarter of 2021, the employment rate saw year-on-year rises in both Barcelona and Catalonia, reaching figures of 70.4% and 69.8% respectively. In addition, the female employment rate in the city was above the 70% threshold and at the same level as for men.

Employment rate (%)



Source: Eurostat and Barcelona City Council Department of Statistics and Data Dissemination.

Employment rate in European regions. 2020

Employment rate for women (%)	Region (CITY)	Employment rate (%)
76.4	Upper Bavaria (MUNICH)	80.1
75.1	Stuttgart (STUTTGART)	78.6
76.6	Stockholm (STOCKHOLM)	78.3
75.0	North Holland (AMSTERDAM)	78.3
70.9	Prague (PRAGUE)	77.6
72.3	South Holland (ROTTERDAM)	76.3
75.0	Oslo (OSLO)	76.2
74.4	Denmark (COPENHAGEN)	76.2
72.3	Darmstadt (FRANKFURT)	75.5
68.3	Central Hungary (BUDAPEST)	74.6
72.5	Southern Finland (HELSINKI)	74.4
71.8	Berlin (BERLIN)	73.9
70.7	Sofia (SOFIA)	73.8
66.8	Mazowsze (WARSAW)	72.5
67.3	Bucharesti-Ilfov (BUCHAREST)	72.1
71.0	Lithuania (VILNIUS)	71.6
70.2	Latvia (RIGA)	71.6
68.6	Lisbon (LISBON)	69.9
63.3	Middle and East (DUBLIN)	68.8
65.2	Rhône-Alpes (LYON)	67.8
65.1	Île-de-France (PARIS)	67.7
62.4	**EUROPEAN UNION**	**67.6**
59.3	Lombardy (MILAN)	66.9
63.6	Community of Madrid (MADRID)	66.8
62.2	**Catalonia (BARCELONA)**	**65.8**
62.8	Basque Country (BILBAO)	65.8
62.3	Vienna (VIENNA)	65.5
59.9	Languedoc-Roussillon (MONTPELLIER)	61.9
55.7	**Spain**	**60.9**
52.1	Lazio (ROME)	60.2
51.1	Brussels (BRUSSELS)	56.5

NB: active population aged 15 to 64.
The original database contains around 450 regions but the table only shows a selection of benchmark regions.

Source: Eurostat

Part-time employment rate in European regions in 2020

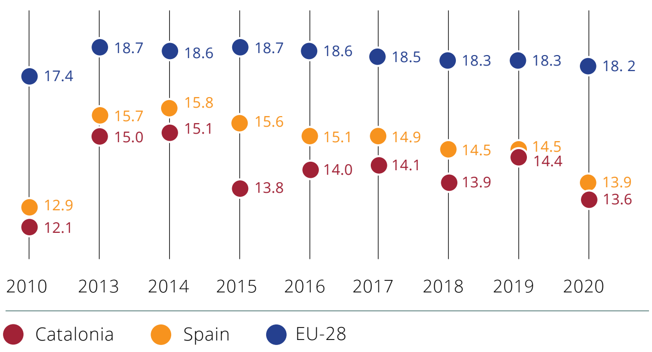
Part-time employment rates in Catalonia are below the European average

The part-time employment rate in Catalonia, which measures the proportion of part-time workers out of all workers, stood at 13.6% in 2020. That means 4.5 points below the EU average (18.2%), at the same level as Spain (13.9%) and well below the leading regions (such as the Netherlands, Austria, Germany and Denmark), although higher than the regions of Paris, Madrid, Lisbon and various Eastern cities. The part-time employment rate for women (which is higher than the figure for men and the overall total in all the regions analysed) stood at 20.7% in Catalonia, 8.9% below the EU average (29.6%), 1.9 points below the rate for Spain (22.6%), and once again far below the regions of the above-mentioned top-ranking countries, where the rate of voluntary part-time work among women was very high.

Part-time employment rates increased significantly in the EU, Spain and Catalonia between 2007 and 2013, remaining quite stable from 2013 onwards, albeit with a slight downward trend that became more marked in 2020. It is worth noting that part-time work is one of the consequences of the flexibilisation of the labour market, while the Covid-19 crisis has also led to an increase in involuntary part-time work in most European countries.

The total rate of part-time work in Barcelona city was 14% in 2020, similar to the figures for Catalonia and Spain, but lower than for the EU. The city's female rate of 19.4% was lower than the Catalan and Spanish rates and, more importantly, that of the EU.

Part-time employment rate in European regions. (%)



Source: Eurostat

Part-time employment rate in European regions. 2020

Part-time employment rate for women (%)	Region (CITY)	Part-time employment rate (%)
70.9	North Holland (AMSTERDAM)	50.8
71.1	South Holland (ROTTERDAM)	47.6
40.8	Vienna (VIENNA)	28.0
46.5	Darmstadt (FRANKFURT)	27.6
38.1	Berlin (BERLIN)	26.8
45.8	Upper Bavaria (MUNICH)	26.4
47.6	Stuttgart (STUTTGART)	26.1
31.0	Denmark (COPENHAGEN)	23.3
32.6	Languedoc-Roussillon (MONTPELLIER)	21.4
29.0	Oslo (OSLO)	21.0
30.9	Brussels (BRUSSELS)	20.4
31.1	Rhône-Alpes (LYON)	19.4
25.1	Stockholm (STOCKHOLM)	19.3
31.2	Lazio (ROME)	19.3
29.6	**EUROPEAN UNION**	**18.2**
31.5	Lombardy (MILAN)	17.5
25.9	Middle and East (DUBLIN)	16.7
24.5	Provence-Alps-Cote d'Azur (MARSEILLE)	16.4
26.4	Basque Country (BILBAO)	16.0
25.9	Community of Valencia (VALENCIA)	16.0
17.5	Southern Finland (HELSINKI)	14.5
22.6	**Spain**	**13.9**
20.7	**Catalonia (BARCELONA)**	**13.6**
19.7	Île-de-France (PARIS)	13.5
19.1	Community of Madrid (MADRID)	12.7
11.3	Latvia (RIGA)	8.9
15.3	Prague (PRAGUE)	8.8
10.3	Lisbon (LISBON)	7.7
7.5	Lithuania (VILNIUS))	6.1
8.5	Central Hungary (BUDAPEST)	5.7
8.3	Warszawski (WARSAW)	5.3
2.5	Sofia (SOFIA)	2.1

Source: Eurostat

Unemployment rate in European regions in 2020

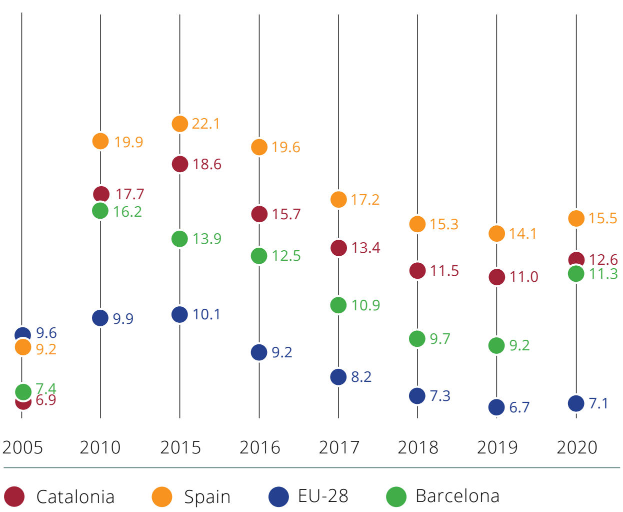
Catalonia's unemployment rate has increased and is still a long way from the European average

The crisis resulting from the Covid-19 pandemic caused the European Union to close 2020 with an unemployment rate of 7.1%, 0.4 percentage points more than in 2019. Unemployment rates were particularly high in the territories of southern Europe, such as Spain and Catalonia, and the difference between the Spanish figure and the European average rose compared to 2019 following the first year-on-year increase (of 1.4 percentage points) since 2013.

In this context, the average annual unemployment rate in Catalonia in 2020 was 12.6%, putting it 5.5% above the European average and still far from the main benchmark regions, despite remaining below the Spanish average (15.5%). The unemployment rate for women, for its part, was 13.4%, 1.9 points more than in 2019, and above the overall employment rate.

According to the Labour Force Survey, in the fourth quarter of 2020 the unemployment rate in Barcelona stood at 12.6%, following a 4.1% year-on-year increase. However, as a result of the economic recovery, the city's unemployment rate fell in the first two quarters of 2021, reaching 10.2% in the third. Although this figure is still above the EU average, it is also the lowest since the start of the crisis.

Unemployment rate (%)



Source: Eurostat

Unemployment rate in European regions. 2020

Unemployment rate for women (%)	Region (CITY)	Unemployment rate (%)
2.6	Prague (PRAGUE)	2.3
2.9	Upper Bavaria (MUNICH)	2.7
3.9	Central Hungary (BUDAPEST)*	3.3
3.0	Stuttgart (STUTTGART)	3.4
3.9	North Holland (AMSTERDAM)	3.9
3.2	Darmstadt (FRANKFURT)	4.0
4.8	South Holland (ROTTERDAM)	4.4
3.0	Bucharesti-Ilfov (BUCHAREST)	4.7
-	Hamburg (HAMBURG)	4.7
4.4	Düsseldorf (DÜSSELDORF)	5.2
6.1	East and Centre (DUBLIN)	5.8
6.1	Denmark (COPENHAGEN)	6.1
6.2	Berlin (BERLIN)	6.2
6.6	Estonia (TALLINN)	6.8
7.4	**EUROPEAN UNION**	**7.1**
7.1	Southern Finland (HELSINKI)	7.2
7.2	Rhône-Alpes (LYON)*	7.5
7.7	Stockholm (STOCKHOLM)	7.6
7.7	Lisbon (LISBON)	7.7
8.5	Provence-Alps-Cote d'Azur (MARSEILLE)	8.0
7.1	Latvia (RIGA)	8.1
7.8	Île-de-France (PARIS)	8.2
7.7	Lithuania (VILNIUS)	8.5
9.6	Lazio (ROME)	9.1
8.8	Languedoc-Roussillon (MONTPELLIER)*	9.2
10.5	Basque Country (BILBAO)	9.5
10.0	Vienna (VIENNA)	10.7
12.8	Brussels (BRUSSELS)	12.3
13.5	Community of Madrid (MADRID)	12.5
13.4	**Catalonia (BARCELONA)**	**12.6**
15.8	Attica (ATHENS)	14.1
16.8	Istanbul (ISTANBUL)	14.7
19.9	Ankara (ANKARA)	14.8
17.4	**Spain**	**15.5**

NB: Population over 15 years.
The original database contains about 450 regions, although the table collects only a selected sample.

Source: Eurostat

Working population with a tertiary education in European regions in 2020

More than half of women workers in Catalonia have a tertiary education

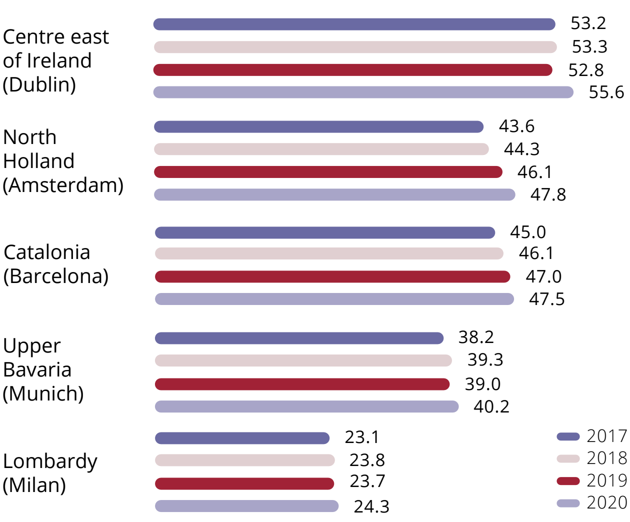
According to figures from Eurostat, 47.5% of the working population in Catalonia had a tertiary degree in 2020, a rise of 0.5 percentage points since the previous year. This was more than 10 points above the EU average (35.8%) and also above benchmark regions such as Vienna, Berlin or Upper Bavaria, as well as above average for Spain (45.5%).

The percentage of Catalan women workers with a tertiary education degree was above 50% for the sixth consecutive year, standing at 53.1%, following a rise of 0.8 percentage points from 2019. This indicator – yet again above the global one – also remains well above the EU value (40.6%) and higher than the benchmark European regions mentioned above as well as the Spanish average (51.8%).

These results highlight the gradual increase in the number of people with higher education qualifications in Catalonia in recent years, particularly among women, which we need to continue working on in order to reach the workforce education level of the northern European regions.

Working population with a tertiary education

(% out of total employed population)



Source: Eurostat

Working population with a tertiary education in European regions. 2020

Female workers with a tertiary education degree (%)	Region (CITY)	Working population with a tertiary education degree (%)
63.1	Basque Country (BILBAO)	59.8
65.2	Brussels Region - capital (BRUSSELS)	59.2
60.7	Île-de-France (PARIS)	57.6
61.6	Oslo og Akershus (OSLO)	55.9
60.0	East and Centre (DUBLIN)*	55.6
57.2	Madrid (Regional Community of) (MADRID)	54.3
61.6	Southern Finland (HELSINKI)	54.3
58.0	Stockholm (STOCKHOLM)	52.7
54.2	Central Hungary (BUDAPEST)*	51.2
54.6	Capital (COPENHAGEN)	50.7
56.6	Lithuania (VILNIUS)*	48.4
50.5	North Holland (AMSTERDAM)	47.8
53.1	**Catalonia**	**47.5**
50.7	Vienna (AT) (VIENNA)	47.0
50.0	Bucharest - Ilfov (BUCHAREST)	46.3
51.5	Attica (ATHENS)	46.3
47.7	Prague (PRAGUE)	46.1
52.5	South-west Bulgaria (BG) (SOFIA)	45.5
51.8	**Spain**	**45.5**
46.7	Berlin (BERLIN)	44.2
44.5	South Holland (THE HAGUE)	42.9
48.4	Community of Valencia (VALENCIA)	42.3
47.1	Lisbon (LISBON)	41.1
34.3	Upper Bavaria (MUNIC)	40.2
49.8	Lisbon (LISBON)	40.0
40.6	**EUROPEAN UNION**	**35.8**
29.6	Stuttgart (STUTTGART)	34.3
32.6	Darmstadt (FRANKFURT AM MAIN)	33.2
30.1	Lombardy (MILAN)	24.3

NB: % of the population aged between 25 and 64 with a university degree. The original database contains around 450 regions but the table only shows a selection of benchmark regions.

Source: Eurostat

Best European business schools in 2021

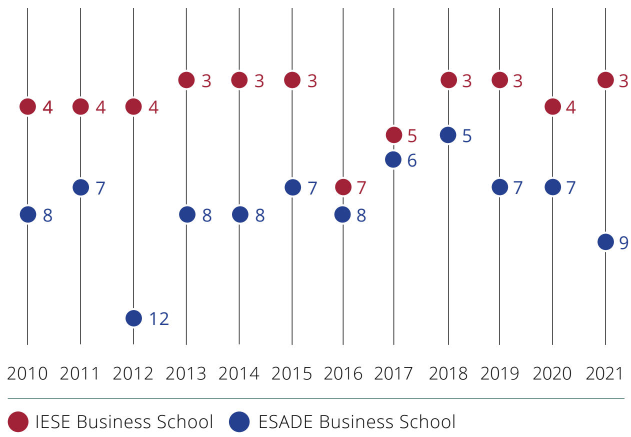
Barcelona is the only city with two educational institutions in Europe's top 10 MBA business schools

According to the *Financial Times* ranking of the top 100 full-time MBA programmes, which it has been compiling for the last 21 years, Barcelona's IESE and ESADE business schools are 3rd and 9th in the European ranking, above such well known schools as Imperial College Business School and Warwick Business School. This means that, for the ninth year running, Barcelona was the only city with two educational institutions among the top 10 MBA business schools in Europe in 2021. Furthermore, these two European Top 10 institutions are among the 25 top schools worldwide, with IESE in 4th and ESADE in 20th place. Compared to the previous year's results, IESE climbed nine places and ESADE gained four in the world ranking, while in the European ranking, the former gained one place and the latter dropped two. It is also worth noting that, in 2021, Barcelona's EADA Business School was ranked 21st in Europe, meaning that three of the Top 25 business schools were in Barcelona.

Likewise, according to the full-time MBA ranking *Which MBA?* – published annually by The Economist Intelligence Unit for the last eighteen years – IESE topped the world ranking in 2021.

Year after year these indicators consolidate Barcelona's position as a city of excellence and as a pole of attraction for business training on the international stage.

Positioning in the European ranking

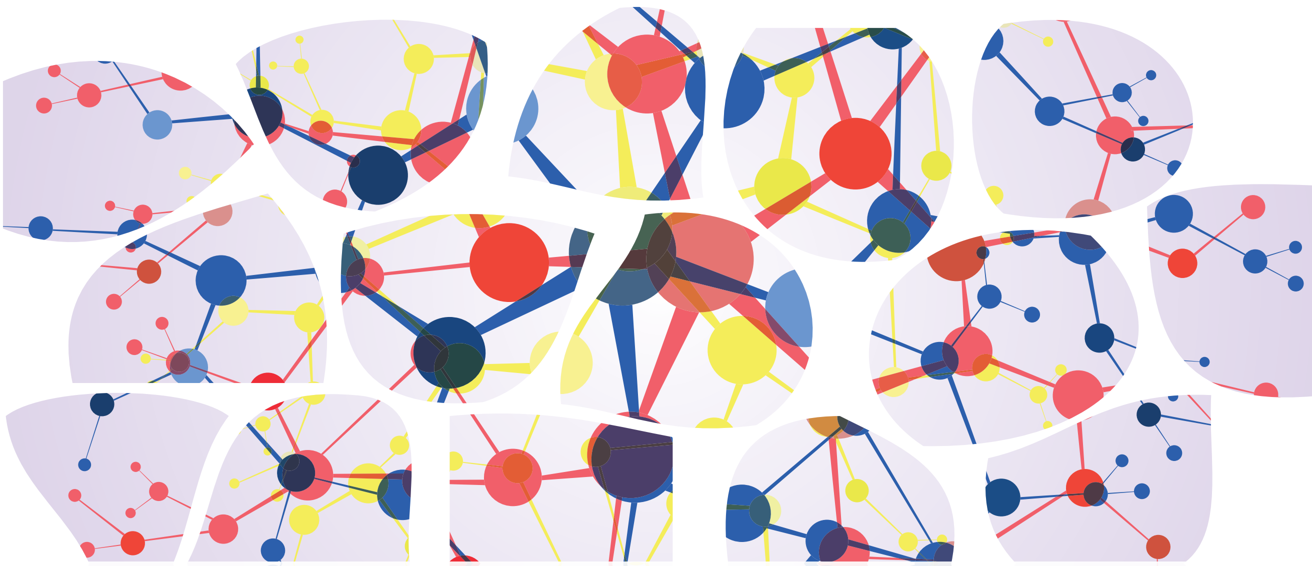


Source: *Global MBA Ranking,* Financial Times.

Best European business schools. 2021

European ranking	Business school	City	World ranking
1	Insead	Fontainebleau	1
2	London Business School	London	2
3	**Iese Business School**	**Barcelona**	**4**
4	HEC Paris	Paris	7
5	SDA Bocconi	Milan	12
6	University of Cambridge: Judge	Cambridge	16
7	University of Oxford: Saïd	Oxford	17
8	IMD	Lausanne	19
9	**Esade Business School**	**Barcelona**	**20**
10	Alliance Manchester Business School	Manchester	30
11	Warwick Business School	Coventry	32
12	IE Business School	Madrid	39
13	Imperial College Business School	London	44
14	WHU Beisheim	Düsseldorf	54
15	Mannheim Business School	Mannheim	58
16	City, University of London: Cass	London	61
17	Rotterdam School of Management, Erasmus University	Rotterdam	63
18	University of St Gallen	St Gallenn	64
19	Durham University Business School	Durham	74
20	Edhec Business School	Lille	76
21	**Eada Business School**	**Barcelona**	**78**
22	ESMT - European School of Management and Technology	Berlin	80
23	Essec Business School	Paris	81
24	The Lisbon MBA	Lisbon	82
25	EMLyon Business School	Lyon	90

Source: *Global MBA Ranking 2021*. Financial Times.



Knowledge society

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Introduction

Barcelona's entrepreneurial ecosystem has handled the pandemic crisis with great resilience thanks to the boost of digitalisation in key parts of the economy. And the city continues to cement its position as a technological entrepreneurship hub among the major European metropolises. Indeed, a number of recent rankings have placed it among the top positions, and in many of them it has retained or improved its place in spite of the health crisis.

Recent trends have caused the digital sector to become one of the drivers of Barcelona's economy, which in 2020 continued to create employment and played a key role in the transformation of the productive model accelerated by the pandemic. According to the report *Barcelona Digital Talent 2021*, Catalonia closed 2020 with over 88,000 digital profiles. Of these, 95% were in Barcelona province, which in turn had 97% of digital job offers. The digital sector thus accounts for two out of every ten job offers in the city (double the 2018 figure), and 29% of these are held by women (3 percentage points more than the previous year).

At the same time, other indicators reaffirm Barcelona's position as a technology and digital entrepreneurship hub. Barcelona retained its position as the 5th largest start-up hub in Europe in 2020, according to the EU-Startups classification, and the 7th hub in Europe for investment received, according to the consultancy firm Atomico's report *The State of European Tech 2021*. The city also climbed up a position and gained a place among the top 5 emerging ecosystems in the world, making it 2nd in Europe, according to Startup Genome's *The Global Startup Ecosystem Report 2021*. However, according to the *StartupBlink Ecosystem Ranking*, Barcelona dropped ten positions in the field of technology, ranking as the 37th with the best ecosystem for technology start-ups in the world in 2021, but leading the ranking for Spain and coming 6th in Western Europe (which is led by London, Paris and Berlin).

As for attracting talent, thanks to the advent of teleworking, professionals can increasingly choose where to live, and cities such as Barcelona are very appealing not just for their climate and quality of life but also for their universities, leading technology centres and world-renowned business schools. In addition, the city has a resilient industrial fabric, good transport links and a growing universe of start-ups in need of international talent. Thus, according to the *Startup Heatmap Europe Report 2021*, Barcelona remains the 3rd most popular city for establishing start-ups out of more than 100 European cities for the fourth consecutive year. At the same time, it has become a popular location for R&D centres of multinational companies in all kinds of sectors. The city's emerging talent and the consolidation of its entrepreneurship hub attracts large corporations, which come to the city to set up the headquarters of their global-impact innovation centres. Other factors that affect this decision are the city's competitive prices compared to other European capitals, the fact that many technology congresses – such as the Mobile World Congress – are held here, and the collaboration of public administrations. Its climate and the leisure and culture on offer must also be taken into account.

Furthermore, the Catalan labour market is characterised by a rich and resilient fabric in high added-value sectors. In 2020, Catalonia was the 8th region in Europe with the most employment in cutting-edge technology and knowledge-intensive services following a significant year-on-year increase of 20.1%. It was also the 5th region with the highest number of university graduates – 931,000 – working in science and technology. Furthermore, Catalonia is the 6th European region with the highest number of people employed in high and medium-high technology-intensive manufacturing, and it is worth noting that women now account for almost a third of all workers in this area.

For the fourth consecutive year, Barcelona is the 3rd most popular city for establishing a start-up in Europe

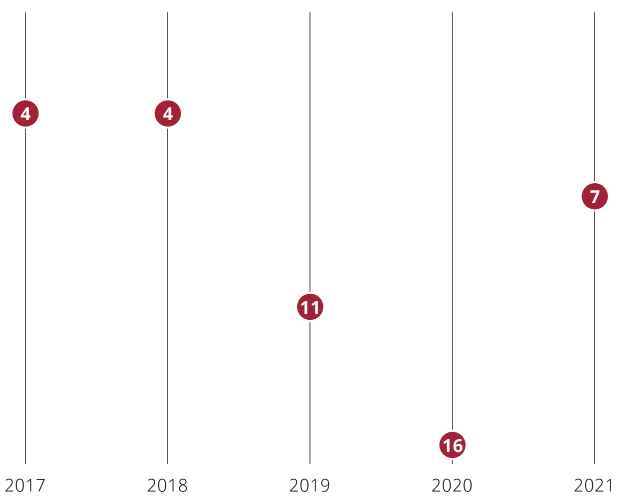
Investment in the technology ecosystem in European cities in 2021

Barcelona is the 7th city in Europe for attracting technology investment

According to the fifth edition of the consulting firm Atomico's report *State of European Tech 2021*, in 2021 Barcelona was the 7th city in Europe for attracting world-class technology investment. The city's entrepreneurial ecosystem received a total of $1,503 million from international investors: four times as much as in 2020. This more than threefold increase has enabled the city to climb nine positions in the ranking, which is led by London, Berlin and Paris. According to the report, two of the four unicorn start-ups in Spain (Glovo and Wallbox) are based in Barcelona, and the other two (Jobandtalent and Cabify) in Madrid.

According to the report, the number of deals in the major European locations remains unchanged. In relation to this, Barcelona is also 7th in Europe, going from 115 agreements in 2020 to 123 in 2021, and London is still the main location in Europe, with a total of 977 deals, 2.5 times as much as the city in 2nd place (Paris, with 351). The report also reveals that proximity to investors has become less important in most cities. In Barcelona, 50% of founders stated that physical proximity to investors was less important, in contrast to 17% who said the opposite. The pandemic has forced us to adapt and make serious changes to investment processes. One of the benefits of this change has been easier access to funding for founders in locations previously seen as secondary.

Barcelona's position in attracting international technological investments



Source: *State of European Tech*. Atomico.

The top 20 European tech hubs in capital investment. 2021

City	Variation 2021/2020 (%)	Capital invested 2021 (milions of dollars)
London	84	18,365
Berlin	147	7,106
Paris	111	6,533
Stockholm	152	6,522
Amsterdam	302	3,591
Munich	240	2,952
Barcelona	**312**	**1,503**
Farnham	---	1,276
Oxford	172	1,184
Madrid	373	1,159
Vienna	473	1,117
Copenhagen	236	998
Helsinki	61	918
Spencers Wood	159	905
Dublin	92	883
Tallinn	114	852
Cambridge	316	777
Oslo	149	671
Milan	46	565
Utrecht	1.613	548

Source: *State of European Tech21*. Atomico.

Most popular European cities for establishing a start-up in 2020

For the fourth consecutive year, Barcelona is the 3rd most popular city in Europe for establishing a start-up

According to the sixth edition of the *Startup Heatmap Europe Report 2021*, 17% of start-up founders and members of the technology community would choose Barcelona if they had to embark on a new business project right now. This means that, for the fourth year running, the city has retained its 3rd place out of 100 European cities, tied with Amsterdam. The ranking is led by Berlin – where 39% of the people surveyed said they would start a business activity tomorrow – followed by London, which lost its first place this year with 36%. Although these two cities remained within the top places, they have lost 12 and 14 percentage points respectively in terms of support in the last five years. With regard to Barcelona, the percentage of votes has changed in each edition: 7% of founders stated that they would choose this city in 2016, a figure that went up to 20% in 2018 but fell to 17% in 2020. In this latest 2021 edition, the report includes a section analysing why Barcelona has retained its 3rd position between 2017 and 2020. It highlights the fact that Barcelona boasts one of the most dynamic start-up ecosystems in Europe, with over 1,197 start-ups (according to MWC Barcelona), 7 international unicorns, 3 local unicorns (Glovo, Letgo and eDreams), a capital investment that has almost doubled since 2016, and an extremely high rate of start-up founders born abroad: 65%.

Preferred cities to locate a new start-up in Europe

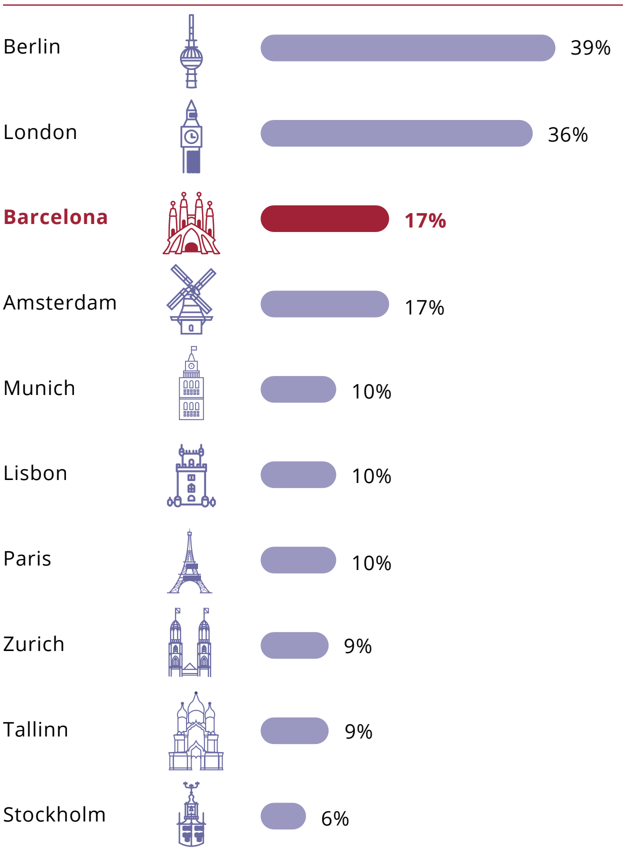
Ranking 2019	City	Ranking 2020
2	Berlin	1
1	London	2
3	**Barcelona**	**3**
5	Amsterdam	4
7	Munich	5
6	Lisbon	6
4	Paris	7
...	Zurich	8
9	Tallinn	9
10	Stockholm	10

Source: *Startup Heatmap Europe,* 2021 Startup Heatmap Europe Report.

Barcelona's technology community is also the seventh fastest-growing in Europe (with an increase in meetings of 426% between 2014 and 2020, as measured by followers on meetups.com). In spite of Covid-19 and lockdowns, participation in Barcelona rose by 21% in 2020 compared to the previous year. Most of these events were held online, which encouraged and facilitated participation by people from all over the world

Percentage of entrepreneurial people who cite the city to locate a new start-up in 2020

(with a maximum of 3 votes per entrepreneur)



Source: *Startup Heatmap Europe,* 2021 Startup Heatmap Europe Report.

Main start-up hubs in Europe in 2020

Barcelona maintains its position as the 5^{th} start-up hub in Europe

According to the classification of EU-Startups, a digital magazine that has created a ranking with the European cities that have created the most start-ups and obtained the most funding since 2011, Barcelona retained its position as Europe’s 5^{th} start-up hub in 2020. The first four positions in the ranking – London, Berlin, Paris and Amsterdam – were also unchanged. Barcelona is the first Spanish city in the ranking and is only accompanied by Madrid, which has slipped back from 6^{th} to 7^{th} place since the previous edition. Valencia is just outside the top 30 European hubs. The *EU-Startups* ranking is based on three variables: the 150 cities most visited on its website, the number of start-ups created in the previous three years and the funding recorded in those cities in the previous 12 months. Each of these variables is given a specific weighting to obtain the final ranking.

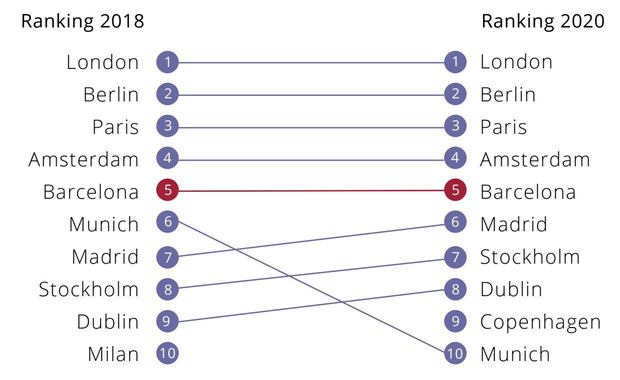
At the same time, and according to various reports, Barcelona’s start-up ecosystem has consolidated itself and shown ongoing growth as a result of a high number of investment opportunities, talented professionals, innovation centres, digital hubs, start-ups and incentive programmes. Thus, according to Startup Genome's *The Global Startup Ecosystem Report 2021*, Barcelona ranks 5^{th} in the world's top 100 emerging ecosystems, only behind Bombay, Copenhagen, Jakarta and Guangzhou. The ranking gives it the following scores (from 1 to 10) in the four factors assessed: 9 for profitability, 10 for funding, 7 for market size, and 10 for talent. However, according to the *StartupBlink Ecosystem Ranking 2021*, Barcelona lost ten places, ranking as the 37^{th} city with the best technology start-up ecosystem in the world, but still topping the ranking for Spain.

The top 15 start-up hubs in Europe 2020

Ranking	City	Country
1	London	United Kingdom
2	Berlin	Germany
3	Paris	France
4	Amsterdam	Netherlands
5	**Barcelona**	**Spain**
6	Munich	Germany
7	Madrid	Spain
8	Stockholm	Sweden
9	Dublin	Ireland
10	Milan	Italy
11	Copenhagen	Denmark
12	Tallinn	Estonia
13	Zurich	Swiss
14	Helsinki	Finland
15	Hamburg	Germany

Source: *Europe’s biggest startup hubs in 2020. EU-startups.*

The top 10 start-up hubs in Europe



Source: *Europe’s biggest startup hubs in 2020. EU-startups.*

Top cities in the world for scientific academic production in 2020

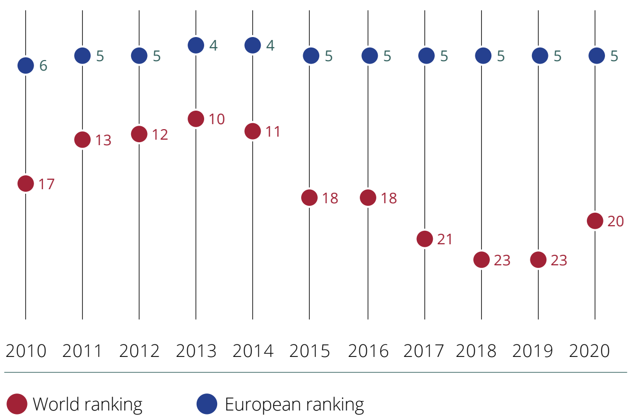
Barcelona ranks 20th among the world's cities, and 5th in Europe

Barcelona, with 23,173 scientific publications, is the 5th city in Europe and 20th in the world in scientific academic production, according to the K*nowledge Cities Ranking 2020* report compiled by the UPC's Land Policy and Valuations Centre based on the *Science Citation Index*. The city increased its number of publications by 4.9% compared with the previous year, retaining its 5th place in the European ranking and climbing three positions to no. 20 in the world ranking. Barcelona produces more scientific publications than cities such as Berlin, Hong Kong, Milan and Oxford, although it is still a long way behind the top cities in the ranking (such as Beijing, Shanghai and London, which have retained their leading positions since 2014).

Meanwhile, Barcelona was ranked 40th among the 200 main science cities in the world in the 2020 index compiled by *Nature* magazine. Furthermore, of the 209 Advanced Grants awarded to researchers by the European Research Council in 2020, 5 were for Catalan institutions, accounting for almost half of all grants awarded to Spain (11). Since 2008, Catalonia's university and research system has received 89 grants, 2.7% of the total and 53.3% of those awarded in Spain.

Positioning of Barcelona in scientific production

(Barcelona's position in the world and European rankings)



Source: UPC - Land Policy and Valuations Centre (CPSV). Data december 2021.

Major cities in the world in terms of scientific academic production. 2020

World ranking 2019	City	World ranking 2020	Euroepan ranking 2020	Publications 2020
1	Beijing	1		125,245
2	Shanghai	2		62,916
3	London	3	1	54,917
5	Nanjing	4		49,863
4	New York	5		48,103
6	Boston	6		45,984
8	Guangzhou	7		42,925
7	Seoul	8		41,106
11	Wuhan	9		38,562
9	Tokyo	10		38,209
10	Paris	11	2	38,042
12	Xi'an	12		34,758
13	Chengdu	13		29,762
15	Hangzhou	14		29,182
14	Madrid	15	3	27,976
16	Moscow	16	4	25,566
18	Philadelphia	17		23,986
17	Chicago	18		23,715
19	Toronto	19		23,355
23	**Barcelona**	**20**	**5**	**23,173**
27	Rome	21	6	23,148
22	Melbourne	22		22,726
26	São Paulo	23		22,660
21	Baltimore	24		22,614
28	Milan	25	7	22,591
20	Houston	26		22,582
25	Los Angeles	27		22,549
24	Cambridge (USA)	28		22,055
29	Hong Kong	29		21,915
30	Singapore	30		19,872
31	Berlin	31	8	18,871

Source: Universitat Politècnica de Catalunya-Center for Soil Policy and Valuations. Data extracted in December 2021.

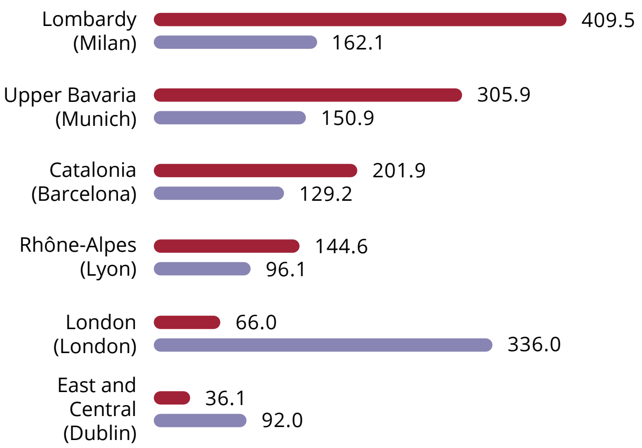
Population employed in technological manufacturing and services in European regions in 2020

Catalonia, 6th European region in terms of the population employed in manufacturing, and 8th in technological services

In 2020, Catalonia achieved 6th place among the European regions with the most people employed in high and medium-high technology-intensive manufacturing[1], ranking only behind the Stuttgart, Lombardy, Upper Bavaria, Istanbul and Emilia-Romagna regions, according to Eurostat. Catalonia has a total of 201,900 people working in these sectors, 19,800 fewer than the previous year (a drop of 8.9%), placing it just behind the Bologna region. Almost one third of this employed population are women (43,000), down 12.5% on the previous year. The number of people employed in high and medium-high technology-intensive manufacturing sectors in Catalonia accounts for 6.1% of its employed population, placing it in the medium-high range of the more than 300 European regions.

As for services, the Catalan economy is in 8th place among the European regions for employment in high tech- and knowledge-intensive services[2], with a total of 129,200 employees in 2020. In spite of the impact of the pandemic on the labour market, employment in these areas rose by 21,700 people (+20.2%) in 2020 compared to the previous year, enabling Catalonia to climb up one place among the European regions. Furthermore, these activities account for 3.9% of the overall employed population (compared to 3.1% the previous year), placing it in the medium-high range of European regions. The number of women employed in these activities increased by 9,400 (+28.4%), to 42,500 (one third of the total), compared to 2019.

People employed in knowledge-intensive and high-technology services and people employed in high and medium-high technology intensity manufacturing. 2020



People employed in high and medium-high technological manufacturing (in thousands).

People employed in knowledge-intensive and high-technology services (in thousands).

Source: Eurostat

[1]Employed population where the main business of the employing company includes the following CCAE-2009 groups: 21 and 26, and 20 and 27-30 respectively.

[2]Employed population where the main business of the employing company includes the following CCAE-2009 groups: 59-63 and 72.

Population employed in technology manufacturing and technology services in the European regions. 2020

Knowledge-intensive and high technology services				High and medium-high technology manufacturing		
% People employed / total employed population	Employed women (thousands)	Total people employed (thousands)	Region (CITY)	% People employed / total employed population	Employed women (thousands)	Total people employed (thousands)
4.1	18	89.9	Stuttgart (STUTTGART)**	20.4	107	452.4
3.7	48	162.1	Lombardy (MILAN)	9.3	111	409.5
6.0	49	150.9	Upper Bavaria (MUNICH)	12.3	72	305.9
2.0	29	109.3	Istanbul (ISTANBUL)	4.9	65	260.9
2.5	15	49.4	Emilia-Romagna (BOLOGNA)	10.5	54	207.9
3.9	**43**	**129.2**	**Catalonia (BARCELONA)**	**6.1**	**62**	**201.9**
2.6	14	45.8	Piemont (TURIN)	11.1	50	197.7
5.9	25	87.4	Karlsruhe (KARLSRUHE)	13.1	39	195.5
2.4	6	25.3	Tübingen (TÜBINGEN)**	18.6	39	192.4
1.7	9	34.9	Vèeneto (VENECIA)	8.7	47	183.8
5.1	36	105.1	Darmstadt (FRANKFURT)	8.8	47	180.6
7.5	139	407.2	Île-de-France (PARIS)	3.2	59	176.0
0.6	1	9.0	Bursa, Eskişehir, Bilecik	12.0	33	174.5
3.9	29	93.0	Dusseldorf (DUSSELDORF)	6.8	40	164.3
2.7	14	50.6	Upper Silesia (KATOWICE)	8.7	57	160.3
5.9	41	127.5	Cologne (COLOGNE)	7.0	34	152.7
3.4	30	96.1	Rhône-Alpes (LYON)	5.1	53	144.6
7.0	73	211.8	Community of Madrid (MADRID)	3.2	34	98.8
4.7	44	118.1	Masovia (WARSAW)	3.7	42	93.1
7.7	27	113.1	Central Hungary (BUDAPEST)	6.0	33	88.9
3.1	11	48.8	Pays de la Loire (NANTES)	5.2	20	80.5
6.3	45	146.4	Lazio (ROME)	3.2	19	75.3
9.4	35	120.9	Berkshire, Buckinghamshire and Oxfordshire (OXFORD)	5.5	23	71.0
9.7	53	178.0	Berlin (BERLIN)***	3.8	21	68.6
7.2	98	336.0	London (LONDON)*	1.4	29	66.0
3.9	9	50.8	Gloucestershire, Wiltshire and North Somerset*	4.5	10	58.6
5.4	25	68.8	Midi-Pyrénées (TOULOUSE)	4.6	11	58.5
5.9	13	57.0	Hamburg (HAMBURG)**,***	5.4	16	51.6
4.6	17	57.9	East Anglia (EAST ANGLIA)*	4.1	11	51.4
6.5	17	62.2	Capital Region (COPENHAGEN)	5.1	22	48.2
5.0	17	72.5	Surrey, East Sussex and West Sussex (BRIGHTON)*	3.3	15	47.8

Source: Eurostat
* Data 2019.
** Women employed in knowledge-intensive and high-tech data services 2019.
*** Women employed in high-tech and medium-high-tech data manufacturing 2019.

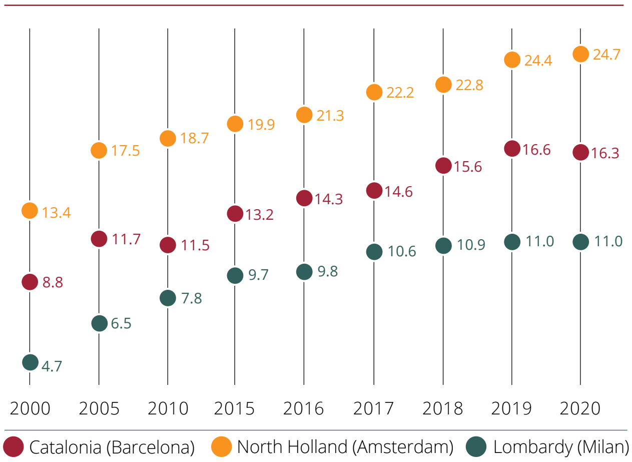
Population employed in science and technology in 2020, and research and development expenditure in European regions in 2019

Catalonia, 5th European region in science and technology employment

Catalonia had 931,000 workers with higher education qualifications employed in science and technology[1] in 2020, making it the 5th European region with the highest level of employment in this field, ranking only behind Paris, London, Madrid and Istanbul, and above Lyon, Milan, Warsaw, Munich and Berlin, among others, according to Eurostat. In spite of this, Catalonia did not do well compared to the previous year, as it dropped one place with 12,200 fewer people employed in this sector (down 1.3%). The number of people employed in science and technology accounts for 16.3% of Catalonia's overall population (0.3 percentage points less than in 2019), a percentage that places it in the medium-high range among the more than 300 European regions. According to data in Idescat's Labour Force Survey (EPA), 114,000 people were employed in ICT[2] in Catalonia in the third quarter of 2021 and, in spite of the impact of the health crisis on the labour market, the number of people working in this sector rose by 5.5% compared to the same period before the crisis (September 2019), significantly more than the general employment growth percentage in Catalonia (+ 0.5%).

In 2019, businesses in Catalonia spent 1.52% of GDP on research and development (R&D), more than regions such as London and Lombardy, and above the average for Spain (1.25%). However, Catalonia is still a long way behind leading European areas such as Upper Bavaria, Stuttgart and Stockholm, and below both the European average (2.15%) and the target of 3% set by the European 2020 strategy. According to early data provided by INE and Idescat, total R&D expenditure in 2020 was 1.61% of GDP in Catalonia and 1.41% in Spain.

Population employed in science and technology
(As a percentage of the total population*)



NB: Workers who have higher-level scientific training and are employed as professionals or technicians.
*Population between 15 and 74 years.

Source: Eurostar

[1]Technical or professional workers between 15 and 74 years of age with a higher education qualification working in science and technology regardless of the employing company's sector (as defined in, and in accordance with the concepts of, the Canberra Manual).

[2]Employed population aged 16 or over and working on an employed or self-employed basis, where the main business of the establishment where they work is in the ICT sector, which includes the following CCAE-2009 groups: 261, 262, 263, 264, 268, 465, 582, 611, 612, 613, 619, 620, 631 and 951.

Population employed in science and technology in 2019, and research and developement expenditure in the European regions for 2019

Total R&D domestic expenditure (% GDP) 2019	Domestic expedinture in the business sector on R&D (% GDP) 2019	Region (CITY)	Employees in science and technology (% population) 2020	Employees in science and technology (thousands) 2020
2.9	2.0	Île-de-France (PARIS)***	22.9	2,056
1.2	0.6	East London (LONDON)	27.3	1,831
1.7	1.0	Community of Madrid (MADRID)	21.4	1,096
---	---	Istanbul (ISTANBUL)	8.3	967
1.5	**0.9**	**Catalonia (BARCELONA)**	**16.3**	**931**
2.8	1.8	Rhône-Alpes (LYON)***	18.0	863
1.3	1.0	Lombardy (MILAN)	11.0	827
0.9	0.3	Andalusia (SEVILLE)	10.8	694
4.5	3.4	Upper Bavaria (MUNICH)	19.9	687
2.6	1.8	Masovia (VARSOVIA)	29.8	667
1.9	0.9	South Holland (ROTTERDAM)***	21.7	606
3.4	1.4	Berlin (BERLIN)	21.5	588
1.9	0.8	Lazio (ROME)	12.4	545
1.8	1.0	North Holland (AMSTERDAM)***	24.7	541
2.5	1.5	Provence-Alps-Cote d'Azur (MARSEILLE)***	14.9	537
3.3	2.4	Stockholm (STOCKHOLM)	29.6	523
7.3	6.9	Stuttgart (STUTTGART)	16.4	514
2.0	1.5	Dusseldorf (DUSSELDORF)	13.3	508
3.0	1.3	Cologne (COLOGNE)	15.2	504
0.9	0.6	Upper Silesia (KATOWICE)	14.5	477
3.5	2.7	Darmstadt (FRANKFURT)	15.5	471
1.6	0.9	Attica (ATHENS)	16.0	456
1.1	0.5	Community of Valencia (VALENCIA)	11.8	455
1.6	1.3	Surrey, East Sussex and West Sussex (BRIGHTON)*	22.0	454
---	---	Ankara (ANKARA)	10.5	444
1.7	0.9	Lisbon Metropolitan Area (LISBON)	19.4	407
1.1	0.8	East and Central Ireland (DUBLIN)**	22.3	407
0.9	0.4	Nord-Pas-de-Calais (LILLE)***	13.8	402
4.6	3.1	Hovedstaden (COPENHAGEN)	28.0	391
1.1	0.6	Bucuresti - Ilfov (BUCHAREST)	21.5	389

Note: Workers who have higher-level scientific training and are employed as professionals or technicians. Internal expenditure includes capital, current and employment expenditure (for both researchers and administrative personnel), linked to research activities in proportion to the GDP.
* Data 2019 for people working in science and technology and 2018 for internal expenditure on R+D.
** Data from 2015 for internal R+D expenditure (total and business).
*** Data from 2013 for internal R+D expenditure (total and business).

Source: Eurostat

Tourism

OBSERVATORI BARCELONA

Introduction

In 2020, the appearance of Covid-19 had a significant impact on economic activity, particularly the tourism sector, due to the travel restrictions introduced under the state of alert decreed on 14 March and the closing of borders, under which foreign tourism dwindled to a trickle. However, the end of the state of alert on 9 May 2021 and the progress made with vaccination means tourism has started to recover thanks to domestic tourism, although it is still far from the record figures of 2019. Furthermore, the sector is recovering differently depending on tourists' country of origin: while tourism from within Catalonia reached figures of 17.5% above pre-crisis levels, tourism from the rest of Spain remained close to 2019 levels (down 4.8%), and tourism by foreign travellers still lagged well behind (45.9% less than in 2019). The sector's performance in 2022 will depend both on the extent to which the pandemic is under control and the travel requirements that may be established by each country, as well as on how it uses any new opportunities that may arise to attract pent-up demand from international travellers. Examples might include offering flexible travel, establishments with high cleanliness guarantees, and Covid-safe destinations.

In relation to this, Barcelona City Council has established the Barcelona Green Deal, a roadmap setting out the challenges and opportunities for a new economic agenda for Barcelona in 2030 which stresses that competitiveness, sustainability and equity are key to the development of that agenda. The visitor economy as a strategic sector of the city is one of its main focuses. Some of the steps taken in 2020 and 2021 were incentives to consume culture and promote cultural tourism, measures to boost confidence and regain Barcelona's reputation as a safe city and destination (Barcelona, Safe City / Safe Visit); the deployment of an app providing large amounts of information to visitors to enable them to pursue leisure activities with guaranteed safety and hygiene at their destination; tourism promotion actions carried out jointly with Turisme de Barcelona (the campaigns "Barcelona like never before", "Barcelona, the place to meet", "Workation" and "Barcelona for you. You for Barcelona"); aids and subsidies for the tourism and leisure industry; and actions to ensure the sustainability of the sector.

In this context of great uncertainty and a sharp drop in tourism, Barcelona city dropped a few places as an international tourism destination in the leading rankings of this sector for 2020. It is worth noting that this year has been atypical for inter-country comparisons, as the various restrictions imposed by each country have affected the ranking of their cities. Thus, according to the *European Cities Marketing Benchmarking Report 2020*, Barcelona fell seven places to 14th European city with the most overnight tourist stays in 2020; and three places, to 8th position, if this is restricted to international tourists. Euromonitor International's report *Top Cities Destination Ranking 2019-2020* ranked Barcelona as the 4th European city for international visitors in 2020, in a context of widespread reduction in urban tourism. In a more globalised and digitalised post-pandemic world of the future, the city brand will take on a more significant role, and it is precisely in this regard that the Saffron City Brand Barometer 2020 ranked Barcelona as the 7th city in the world with the best brand in a ranking that looks at monuments, climate and safety as some of the factors that convince tourists to choose one city over another.

As for the main infrastructures for accessing the city, Josep Tarradellas Barcelona – El Prat airport retained its top 10 position in Europe for number of passengers in 2020. In 2021, El Prat was still far from pre-crisis record numbers, but the number of passengers did gradually recover as the year wore on. On the other hand, in relation to the traffic of cruise ships starting or finishing in Barcelona, in a year that was atypical for the almost complete lack of activity in this sector, the Port of Barcelona lost its leading position in Europe after 19 consecutive years. Following the lifting of the ban on cruise ships in Spain (which had applied for over 14 months) on 7 June 2021, these are expected to gradually return to Barcelona.

The tourism sector in Barcelona started to recover in 2021 but is still far from the record figures of 2019

Main European airports by passenger volume in 2020

Barcelona Airport remained in the European top 10 in 2020 in spite of the atypical year resulting from Covid-19

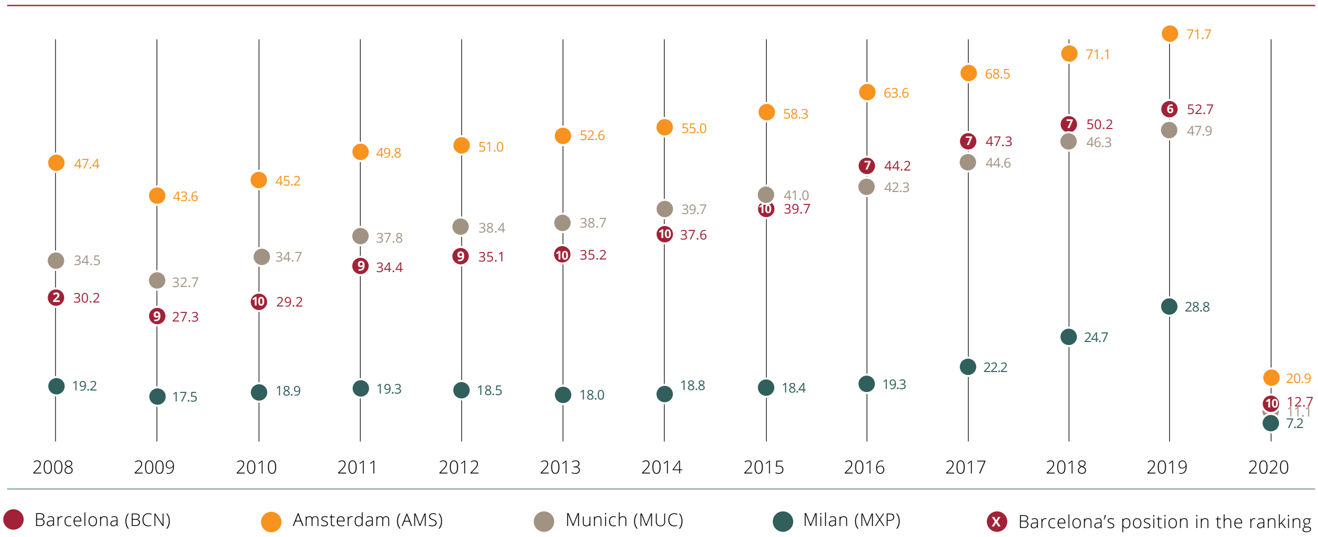
According to Airports Council International (ACI), in 2020 traffic at Josep Tarradellas Barcelona-El Prat Airport fell by almost 40 million passengers, down to 12.7 million, as a result of the Covid-19 pandemic. This figure, at 1995 levels, represents an unprecedented year-on-year fall of 75.8%. The year-on-year fall in domestic traffic (down 66%) was less significant than the drop in European or intercontinental flights (down 74% and 71% respectively). The summer saw a slight recovery in airport activity, but this was quickly curtailed by new waves of the pandemic in the autumn.

The world's entire airport industry was seriously affected by the health crisis due to the restrictions and limits on travel that were put in place in 2020. This caused a significant drop in the number of passengers at all major European airports. However, the sharpest drop in the top 10 airports, and the 5th out of the top 25, was that of Barcelona Airport (down 75.8%). As a result, El Prat Airport was ranked last by ACI in Europe's top 10 airports, dropping four places from the previous year after being overtaken by Istanbul's two main airports and Moscow's two airports, which had suffered less significant drops (of between 42% and 60%).

Numbers gradually recovered during 2021. According to data by Aena, November saw a 36% fall in the number of passengers compared to pre-crisis figures. By passenger place of origin, the number of visits from Spain in October fell to 20% below 2019 values, and visits from abroad fell to 50% of 2019 values. Similarly, 76 airlines operated in Barcelona Airport in July (86% of the 88 that were operating in 2019); and 39 intercontinental routes resumed after the summer to 27 destinations out of the 50 that were available before the start of the crisis. According to Eurocontrol forecasts, we will not see a return to 2019 European traffic levels until 2024.

Number of passengers at airports in European cities

(milions)



NB: In 2010, the Airport of Barcelona dropped one position with the entry of Istanbul Airport in the data statistics of the ACI. If it had not been included, Barcelona would have maintained the ninth position.

Source: *Airport Traffic Report*. Airports Council International, ACI Europe, and the Barcelona Air Route Development Committee (CDRA).

Main airports by passenger volume. 2020

	City (airport)	Variation 2020/2019 (%)	Passengers 2020
1	Istanbul (IST)	-59.6	23,308,071
2	Paris Roissy (CDG)	-70.8	22,260,920
3	London Heathrow (LHR)	-72.7	22,111,265
4	Amsterdam (AMS)	-70.9	20,887,144
5	Moscow-Xeremétievo (SVO)	-60.4	19,783,957
6	Frankfurt (FRA)	-73.4	18,768,601
7	Madrid (MAD)	-72.3	17,092,693
8	Istanbul-Sabiha Gökçen (SAW)	-52.1	16,982,457
9	Moscow-Domodedovo (DME)	-42.0	16,389,427
10	**Barcelona (BCN)**	**-75.8**	**12,724,607**
11	Moscow-Vnukovo (VKO)	-47.6	12,565,241
12	Munich (MUC)	-76.8	11,112,773
13	Saint Petersburg	-44.0	10,972,886
14	Paris-Orly (ORY)	-66.1	10,787,019
15	London Gatwick (LGW)	-78.2	10,173,431
16	Rome-Fiumicino (FCO)	-77.4	9,827,610
17	Antalya (AYT)	-72.8	9,774,574
18	Lisbon (LIS)	-70.3	9,260,739
19	Oslo (OSL)	-68.5	8,952,605
20	Zurich (ZHR)	-73.6	8,302,000
21	Athens (ATH)	-68.5	8,062,106
22	Vienna (VIE)	-75.3	7,812,938
23	Dublin (DUB)	-78.4	7,600,579
24	Copenhagen (CPH)	-75.1	7,511,727
25	Milan Malpensa (MXP)	-74.9	7,236,897

Source: *Airport Traffic Report*. Airports Council International (ACI) and Barcelona Air Routes Development Committee (CORA).

International tourists in cities in the world in 2020

Barcelona remains one of the top 10 international tourist destinations in Europe

The Euromonitor International report *Top 100 Cities Destination 2019-2020*, which only shows the top 10 cities by continent, ranked Barcelona 8th in Europe for the third consecutive year in 2019. Euromonitor estimated that in 2020 Barcelona would be in 4th place, behind only London, Paris and Istanbul. At the same time, according to the *European Cities Marketing Benchmarking Report 2020*, Barcelona fell seven places to 14th European city with the most overnight tourist stays in 2020; and three places, to 8th position, when restricting this to international tourists.

The good performance of tourism from abroad in 2019 was curtailed in 2020 by the travel restrictions and closing of borders put in place during the year in response to the health crisis. In 2021, when the state of alert came to an end, vulnerable people were vaccinated, the EU's Covid-19 Digital Certificate was launched and hotel restrictions were eased, all these factors came together to support a very significant and much-needed recovery for the sector, but this is still far from reaching pre-crisis figures. According to the INE, the number of international tourists in Barcelona in October 2021 was 45% lower than in 2019. The performance of international tourism in the future will depend on the extent to which the pandemic is under control and the degree of confidence in the destination country as a result of its safety measures and controls.

International tourists to cities around the world

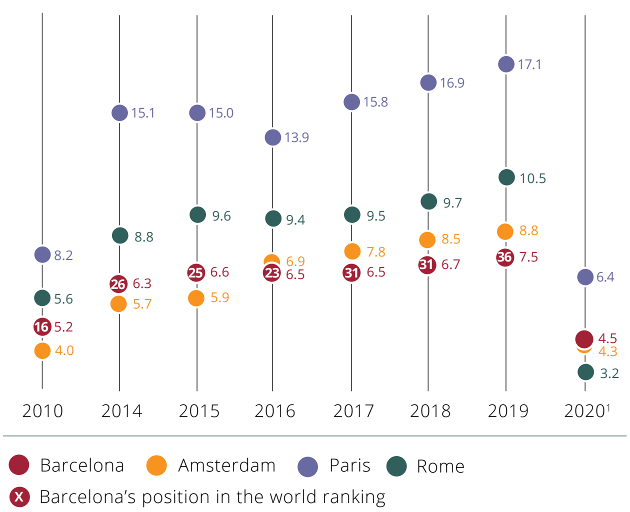
	City	International tourists 2020 (thousands)
1	London	8.246
2	Paris	6.404
3	Istanbul	4.681
4	**Barcelona**	**4.476**
5	Amsterdam	4.332
6	Prague	3.616
7	Vienna	3.151
8	Rome	3.148
9	Antalya	3.003
10	Milan	1.706

[1] Euromonitor estimate, based on the ranking of the top ten in Europe in 2019.
NB: International arrivals include both foreign visitors arriving in the city as the first point of entry and people arriving in the city through another point of entry. "Visitor" means a person who has been in the city for at least 24 hours and less than 12 months, and who is staying in a private or group establishment. One-day travelers (hikers) and domestic tourists are excluded.

Source: *Top 100 City Destinations. From Adversity to Recovery COVID Special - 2020 Edition.* Euromonitor International.

International tourists

(millions)



[1] Euromonitor estimate.

Source: *Top 100 City Destinations.* Euromonitor International.

Cruise ships in Europe's main ports in 2020

The Port of Barcelona lost its leading position in Europe in a year of almost no activity

According to statistics drawn up by MedCruise, in a year without precedent for the cruise ship industry due to the health crisis, the Port of Barcelona lost its 19-year leadership as the main base port for cruise tourism both in the Mediterranean and in Europe. It fell to 4th position, behind Tenerife, Civitavecchia and Genoa, with a figure of almost 199,000 passengers in 2020 (down 93.7% from 2019). However, this cruise tourism ranking must be looked at in the context of the atypical nature of 2020, a year that was severely affected by international travel restrictions in response to the pandemic. Thus, between April 2020 and the end of the year there were no cruise ships at all in Barcelona, resulting in an aggregate annual loss of cruise ship passengers of 93.7% compared to 2019.

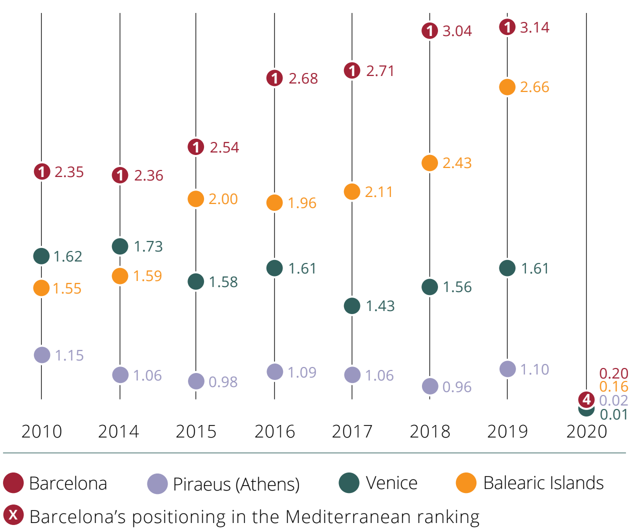
As for 2021 and 2022, cruise ships are expected to gradually return to the port following the lifting of the 14-month suspension of cruise ships in Spain (from mid-March 2020 to 7 June 2021). According to statistics drawn up by Puertos del Estado, the Spanish ports authority, as of October 2021 Barcelona had welcomed 396,618 cruise passengers to its port, almost twice as many as in the same period of the previous year.

Cruise ship passengers in main Mediterranean ports. 2020

	City	Variation 2020/2019 (%)	Passengers 2020 (thousands)
1	Tenerife	-67.7	345,093
2	Civitavecchia	-92.2	206,967
3	Genoa	-89.8	206,689
4	**Barcelona**	**-93.7**	**198,842**
5	Balearic Islands	-94.1	156,757
6	Madeira ports	-74.5	152,452
7	Marseilles	-93.4	123,604
8	Palermo	-85.9	75,235
9	Valletta	-93.4	59,180
10	La Spezia, Marina di Carrara	-91.7	53,996
11	Lisbon	-91.2	50,064
12	Cadiz	-91.5	40,679
13	Naples	-98.1	28,176
14	Valencia	-94.0	26,286
15	Azores	-85.9	21,011

Source: MedCruise Ports.

Cruise-ship passengers (millions)



Source: Cruise Insight. MedCruise and Puertos del Estado

Prices and costs

observatori barcelona

Introduction

This section addresses the trend of prices in Barcelona in 2021 (three months before the end of the year) in the cost of living, the property market, taxes and wages, a trend that ended with a sharp increase in prices worldwide. Thus, the average inflation recorded for Catalonia in October was 5.2%, an upward trend that started in March 2021 as a result of a variety of factors: a base effect caused by falling prices in 2020 due to Covid-19; the rise in the price of natural gas and, therefore, of electricity; higher prices of certain raw materials – particularly base metals – and rising shipping costs. Core inflation, excluding energy and unprocessed foods, is currently moderately contained (1.4% in October), but everything will depend on how long these factors continue to apply. According to the report by Cushman & Wakefield Research, with inflation still affecting only certain products, prices in the various sub-sectors of the property market – housing, office rental and logistics land – remained stable or decreased in 2021 compared to 2020. These trends were also seen in other Spanish cities, such as Madrid, and in a few European ones, such as Copenhagen, for example in the case of logistics land, although most saw increases. According to Mercer Human Resource Consulting, the cost of living started rising again in 2021, having fallen in 2019 and 2020. In this case, the rebound was caused by the resumption of activities after the lockdown in 2020 and also partly due to the price increases in the electricity market. In spite of this, Barcelona remained in the middle bands of the various rankings, making it a competitive city compared to similar European metropolises.

As regards salary levels, the latest figures available for Barcelona come from Barcelona City Council and relate to 2019. According to this source, the average salary for men was €34,261 per year, 0.8% less than the previous year. For women, it was €27,869 per year, 2.4% more than in 2018. This divergence resulted in a gender salary gap of 18.7%, 2.6 percentage points less than in 2018 and below the average for Catalonia (20%) and Spain (19%). Although figures for 2020 and 2021 are not available yet, the sharp fall in prices in 2020 presumably led to higher purchasing power for workers (particularly those covered by a collective bargaining agreement). However, until we know the figure for the whole of 2021 (the Chamber of Commerce forecasts point to an average inflation rate of 2.7% for Catalonia), consumers may have lost purchasing power this year.

In relation to taxation, as in previous years, Spain is more or less in line with the EU average for tax rates. The corporation tax rate was 25%, the same as in the last five years. With regard to social security contributions, there is a significant difference between the rate paid by employees (one of the lowest in the region) and that paid by employers (among the highest). However, looking at the average of the two, Spain is in an intermediate position compared to other EU countries. And with regard to indirect taxation, the general VAT rate in 2021 remained at 21%.

Barcelona's cost of living rises and real estate prices are contained in 2021

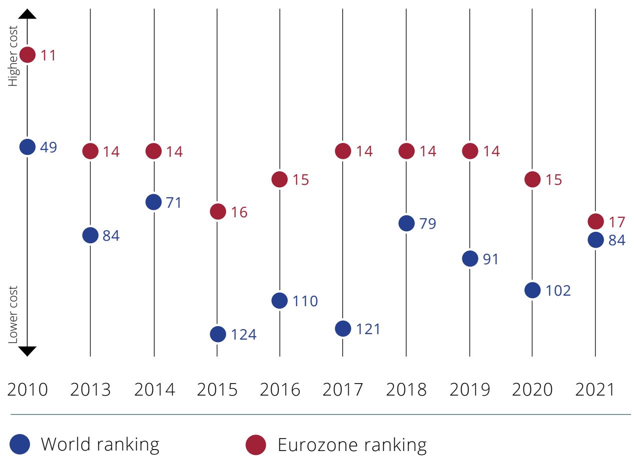
Cost of living in world cities in 2021

Barcelona moves up in the world ranking of cities with the highest cost of living

Barcelona came in 84th position in the 2021 ranking of the 209 cities around the world with the highest cost of living in Mercer's *Worldwide Cost of Living Survey*, which is based on a study of over 200 basic products and services measured in March. In 2021 the cost of living in Barcelona showed a clear upward trend compared to 2020 in the world ranking. This was the result of two separate factors: firstly, the fall in prices seen in 2020 with the start of the pandemic and the resulting economic downtime most sectors; and secondly, the rise in energy prices and other raw materials seen since the end of the first quarter of 2021. It is worth bearing in mind in this regard that the above-mentioned ranking (which was published in June) does not include the sharp rise in the prices of certain items in the basket of goods and services that were particularly significant in the second half of the year. A third factor, which is a consequence of the way the ranking is drawn up, is the moderate appreciation of the euro against the US dollar (the comparison is made against New York) following the depreciation seen in 2020 with the start of the pandemic.

Focusing on cities in the eurozone (28 in total), Barcelona dropped two places, from 15th to 17th. Since 2012, the city has remained very stable in this European classification, ranking between 14th in 2012 and 17th in 2021. This can be explained by the fact that the factors that have determined the cost of living in recent years have also applied to all other cities.

Positioning of Barcelona in the cost of living



Source: *Worldwide Cost of Living Survey, City Ranking*. Mercer Human Resource Consulting.

Cost of living in cities around the world

Ranking 2020	City	Ranking 2021
2	AAshgabat	1
1	Hong Kong	2
45	Beirut	3
3	Tokyo	4
4	Zurich	5
7	Shanghai	6
5	Singapore	7
9	Geneva	8
10	Beijing	9
8	Bern	10
11	Seoul	11
13	Shenzhen	12
15	N'Djamena	13
6	New York	14
12	Tel Aviv	15
25	Copenhagen	16
20	Guangzhou	17
19	London	18
18	Lagos	19
33	Libreville	20
17	Los Angeles	21
28	Taipei	22
22	Osaka	23
36	Abidjan	24
16	San Francisco	25
38	Tianjin	26
34	Nanjing	27
40	Chengdu	28
31	Riyadh	29
49	Bangui	30
66	Sydney	31
42	Noumea	32
50	Paris	33
43	Tsingtao	34
26	Nagoya	35
47	Milan	36
54	Vienna	37
44	Brazzaville	38
46	Dublin	39
27	Dhaka	40
24	Kinshasa	41
23	Dubai	42
29	Honolulu	43
64	Amsterdam	44
30	Chicago	45
35	Bangkok	46
65	Rome	47
37	Miami	48
56	Yaundé	49
41	Boston	50
32	Washington	51
102	**Barcelona**	**84**

Source: *Cost of Living Survey, City Ranking*, Mercer Human Resource Consulting.

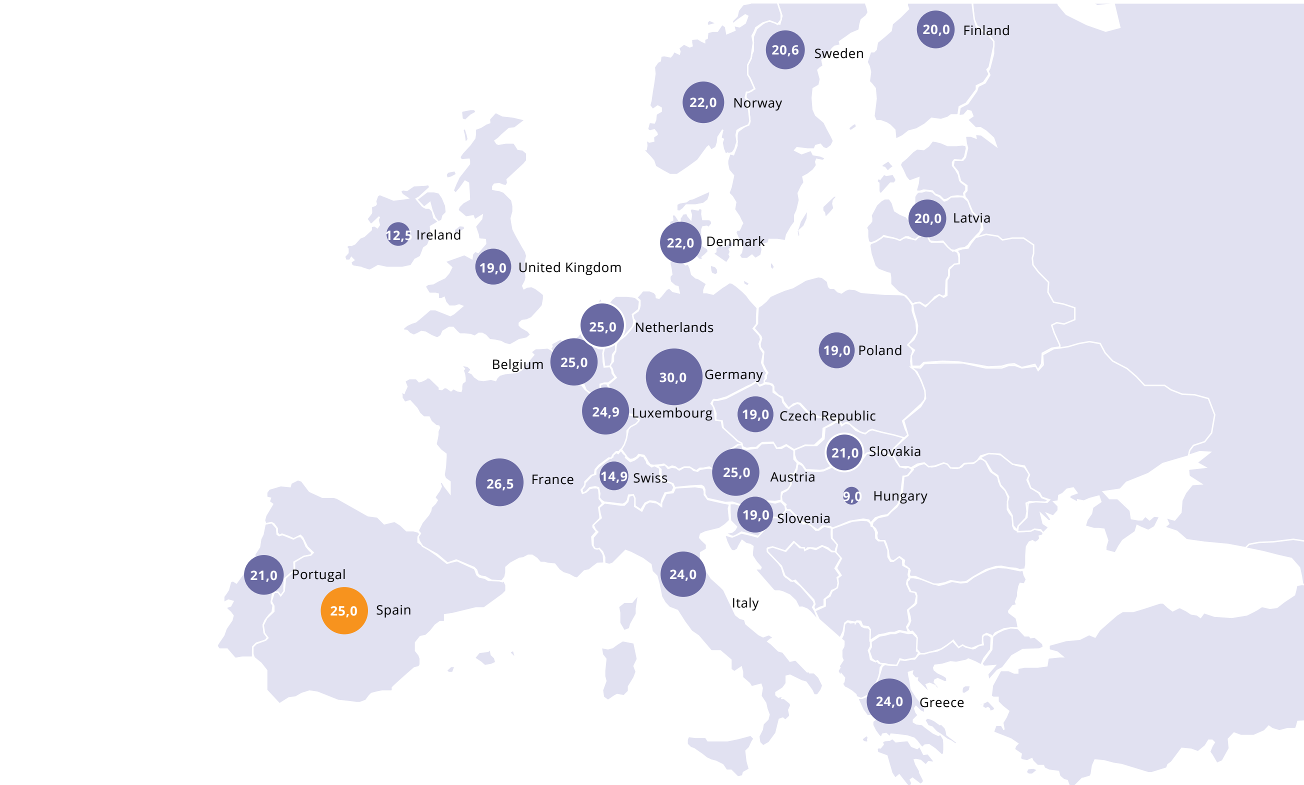
Corporation Tax, VAT and Social Security contributions in countries around the world in 2021

The main taxation rates remain in the middle range for the main European Union economies

Spain remains in the middle range for Europe as regards rates in the main tax categories, according to the comparison drawn up by KPMG. As for indirect taxation, the general VAT rate has not changed with respect to 2018, remaining at 21%. This is in line with the European Union average (21.5%) and around the rates of neighbouring countries such as Portugal (23%), Italy (22%) and France (20%). In addition, none of the world's major countries included in the study changed their VAT rate in 2019 (except for Tunisia, which increased it by 1 percentage point up to 19%). As for direct taxes, the general corporate tax rate was 25% in 2021, above the EU average (20.7%). The last modification of the rate took place in 2016 with a reduction of 3 p.p. However, in this case, it would be more appropriate to compare the effective rate (after deductions and discounts), given that the latter can be a lot lower than the nominal figure.

As for Social Security contributions, employees paid a much lower percentage (6.4%) than employers (29.9%). This is in line with other European countries such as Sweden and Italy. In the first case, Spain is at the lower end of the countries in the study and below the EU average (14.9%), while in the second it ranks 6th, well above the EU average (21.3%). All in all, the average rate of total contributions in Spain is in line with the European average.

Corporation Tax. 2021(%)



Source: *Tax Rate Online 2021*. KPMG.

Corporation tax, VAT and Social Security contributions in countries around the world. 2021

Country	Tax VAT base (%)	Country	Base fee Tax companies (%)	Country	Security Social- employee (%)	Country	Security Social- company (%)
Hungary	27.0	Germany	30.0	Netherlands	27.7	France	45.0
Denmark	25.0	India	30.0	France	23.0	Slovakia	35.2
Norway	25.0	South Africa	28.0	Slovenia	22.1	Czech Republic	33.8
Sweden	25.0	France	26.5	Germany	20.2	Sweden	31.4
Finland	24.0	Argentina	25.0	Hungary	18.5	Italy	30.0
Greece	24.0	Austria	25.0	Austria	18.1	**Spain**	**29.9**
Poland	23.0	Belgium	25.0	Argentina	17.0	China	28.5
Portugal	23.0	**Spain**	**25.0**	Greece	14.1	Belgium	25.0
Ireland	23.0	Netherlands	25.0	United Kingdom	14.0	Portugal	23.8
Slovenia	22.0	China	25.0	Poland	13.7	Latvia	23.6
Italy	22.0	Luxembourg	24.9	Slovakia	13.4	Netherlands	23.6
Argentina	21.0	Greece	24.0	Belgium	13.1	Greece	22.5
Belgium	21.0	Italy	24.0	Luxembourg	12.5	Poland	22.1
Spain	**21.0**	Israel	23.0	India	12.0	Austria	21.4
Latvia	21.0	Denmark	22.0	Israel	12.0	Finland	20.7
Netherlands	21.0	Norway	22.0	Portugal	11.0	Argentina	20.4
Czech Republic	21.0	Slovakia	21.0	Czech Republic	11.0	Germany	20.0
Austria	20.0	Portugal	21.0	Finland	10.9	Hungary	17.0
Slovakia	20.0	Sweden	20.6	Latvia	10.5	Tunisia	16.6
France	20.0	Finland	20.0	China	10.5	Slovenia	16.1
United Kingdom	20.0	Latvia	20.0	Italy	9.5	Luxembourg	15.2
Germany	19.0	Slovenia	19.0	Tunisia	9.2	Norway	14.1
Tunisia	19.0	Poland	19.0	Cyprus	8.3	United Kingdom	13.8
Cyprus	19.0	United Kingdom	19.0	Norway	8.2	India	12.0
India	18.0	Czech Republic	19.0	Sweden	7.0	Ireland	11.1
Israel	17.0	Tunisia	15.0	**Spain**	**6.4**	Cyprus	8.3
Luxembourg	17.0	Ireland	12.5	Ireland	4.0	Israel	7.6
South Africa	15.0	Cyprus	12.5	Denmark	0.0	Denmark	0.0
China	13.0	Hungary	9.0	South Africa	0.0	South Africa	0.0

Note: The original database contains 187 countries, although the table contains a selected sample of reference countries.

Source: *Tax Rate Online 2021*. KPMG.

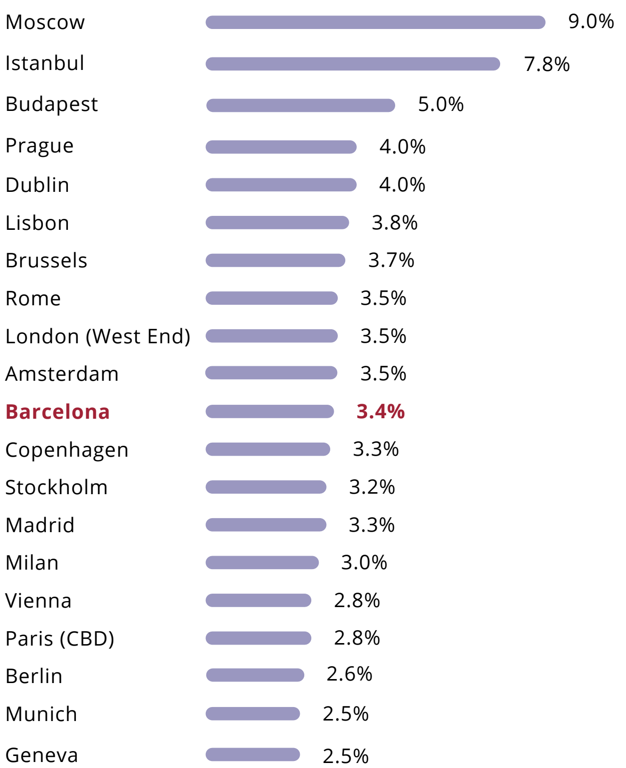
Office rental prices in European cities in 2021

Rental office prices fell in Barcelona and are in the middle range of the major European cities

According to *The DNA of Real Estate*, a report produced by Cushman & Wakefield Research, office rental prices in Barcelona in the third quarter of 2021 stood at €327 per m^2 per year, 3.5% less than in the same period of 2020. Following the fall in prices that took place in 2020 with the arrival of Covid-19 and the start of a return to pre-crisis levels, prices remain stable in most European cities (such as Rome, Zurich, Vienna and Brussels), while others (such as Stockholm, Copenhagen, Helsinki or Frankfurt) are already starting to see increases. Of the 11 cities that have recorded a fall in prices, Barcelona's was the fourth highest, after Paris – La Défense (-9.1%), Istanbul (-7.4%) and Madrid (-3.6%). In this latter case, the annual rent price was €405 per m^2, 24% more than in Barcelona, whose prices are more similar to those of cities such as Newcastle, Brussels and Vienna. These changes caused the city to move from 28th place in the third quarter of 2020 to 31st this year among the 48 European cities included in the analysis. This is still a long way off the three most expensive locations in Europe: London (West End) at €1,321, Paris (CBD) at €930, and London (City) at €862. At the other end of the ranking are Bratislava, Sofia and Antwerp, at under €200 per m^2 per year.

As for the profitability of renting office spaces; i.e. the return on investment, in 2021 this remained at 3.4%, almost completely unchanged from the 3.2% of the last four years. This return on investment was also seen in cities such as Rome, London and Amsterdam (3.5% each) and Copenhagen (3.3%). Furthermore, it was higher than in other cities, such as Madrid (3.2%) or Milan (3%). The cities with the most profitable office rentals were Moscow, Istanbul and Budapest (5% or above). At the other end of the spectrum, cities such as Paris (CBD), Berlin, Munich and Geneva provided the lowest returns (under 3%).

Office market performance in European cities. 2021



Note: Yield refers to the return on investment in the office sector in each city.

Source: Cushman & Wakefield Research, *The DNA of Real State, 3T 2021 (Europe)*.

Price of office rental in European cities. 2021

City	Var. interannual 2021/2020 (%)	Rent offices (€ / m^2 / year)
London (WE)	0.0	1.321
Paris (CBD)	8.1	930
London (City)	1.5	862
Geneva	0.0	831
Stockholm	1.3	785
Zurich	0.0	739
Dublin	-2.5	656
Luxembourg	2.0	624
Milan	0.0	600
Frankfurt	3.3	558
Moscow	5.4	501
Paris (La Défense)	-9.1	500
Munich	3.8	492
Rome	0.0	490
Manchester	2.7	484
Bristol	0.0	478
Oslo	4.3	474
Berlin	2.6	468
Birmingham	0.0	466
Helsinki	1.3	462
Amsterdam (South Axis)	-3.2	460
Edinburgh	1.4	453
Glasgow	1.4	440
Leeds	0.0	428
Madrid	-3.6	405
Hamburg	1.7	366
Gothenburg	6.1	343
Düsseldorf	0.0	342
Lyon	9.7	340
Newcastle	0.0	327
Barcelona	**-3.5**	**327**
Brussels	0.0	320
Vienna	0.0	318
Malmo	0.0	304
Budapest	-2.0	294
Warsaw	-1.1	282
Lisbon	2.2	282
Copenhagen	5.3	269
Prague	-2.2	264
Marseille	0.0	260
Istanbul	-7.4	254
Rotterdam	0.0	235
The Hague	2.2	230
Bucharest	-2.6	222
Bratislava	-2.9	198
Sofia	0.0	180

Source: Cushman & Wakefield Research, *The DNA of Real State, 3T. 2021 (Europe).*

Rental prices of commercial premises in cities around the world in 2021

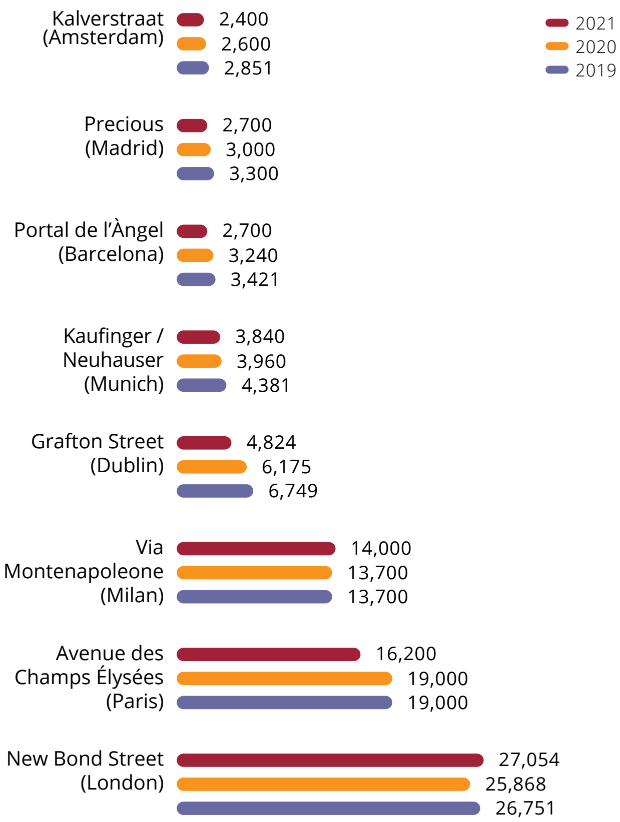
Portal de l'Àngel remains one of the 20 most expensive shopping streets in Europe

After more than a decade as Spain's most expensive street, in 2021 Portal de l'Àngel shared position for the first time with Madrid's Calle Preciados, both of them with an annual rent of €2,700 per m² in the third quarter of 2021 according to the *European High Street Locations* analysis contained in the Cushman & Wakefield Research report *The DNA of Real Estate*. This means that, out of the 42 European locations analysed, Portal de l'Àngel shared 17th place with Carrer Preciados. Compared to the same quarter of last year, its price fell by 16.7%, dropping two positions from 15th in 2020. Apart from Calle Preciados, with the same price that dropped by 10% in the same period, other commercial locations with similar prices include Rue de la République in Lyon, at €2,500 per m² per year, and Market Street in Manchester, at €2,768 per m² per year. The first four positions are taken by New Bond Street in London at over €27,000 in the third quarter of 2021, Avenue des Champs Élysées at €16,200, Via Montenapoleone in Milan at €14,000 and, finally, Via Condotti, in Rome, at €12,800. Prices in all these cases were higher than in 2020 (a 4.6% year-on-year rise in London, and a rise of over 2% in both Italian cities), while the price of commercial rent in Paris fell by 14.7% from the €19,000 of the previous three years.

As regards the performance of commercial premises, in 2021 Portal de l'Àngel retained the 3.5% return of 2020. This is exactly the same figure as for Calle Preciados, slightly below others such as Kalverstraat in Amsterdam, Grand Rue in Luxembourg or Biblioteksgatan in Stockholm, and slightly above Strøget-Vimmelskaftet in Copenhagen. The most expensive streets, for their part, produced an average return of 3% in the third quarter of this year. Some of the locations with the highest returns (above 7%) were Istiklal Street (Istanbul), Calea Vitoriei (Bucharest) and Stoleshnikov (Moscow).

Rental price of commercial premises

(€/m²/year)



Source: *Main Streets Across the World*. Cushman & Wakefield. Dades 3T 2019/2020/2021.

Rental price of commercial premises in European cities. 2021

City	Street	Rent commercial premises (€ / m² / year)	Performance of commercial premises (%)
London	New Bond Street	27,054	3.00
Paris	Avenue des Champs Élysées	16,200	3.10
Milan	Via Montenapoleone	14,000	3.00
Rome	Via Condotti	12,800	3.00
Zurich	Bahnhofstrasse	8,222	2.00
Vienna	Kohlmarkt	5,040	2.90
Dublin	Grafton Street	4,824	4.50
Munich	Kaufinger / Neuhauser	3,840	3.15
Geneva	Rue de Rhone	3,695	4.00
Berlin	Tautentzienstrasse	3,240	3.45
Frankfurt	Zeil	3,180	3.65
Hamburg	SpitalerstraBe	3,120	3.75
Düsseldorf	Konigsallee	3,000	3.80
Copenhagen	Stroget-Vimmelskaftet	2,958	3.25
Manchester	Market Street	2,768	–
Madrid	Precious	2,700	3.50
Barcelona	**Portal de L'Àngel**	**2,700**	**3.50**
Lyon	Rue de la Republique	2,500	4.10
Amsterdam	Kalverstraat	2,400	3.75
Moscow	Stoleshnikov	2,310	8.00
Birmingham	High Street	2,202	–
Prague	Na Příkopě street	2,160	4.75
Stockholm	Library	1,913	3.40
Oslo	Karl Johan	1,840	4.25
Luxembourg	Grande Rue	1,680	3.75
Leeds	Brggate / Commercial Road	1,636	–
Brussels	Rue Nueve	1,550	4.35
Antwerp	Meir	1,550	4.35
Helsinki	City Center	1,476	4.40
Lisbon	Chiado	1,470	4.25
Budapest	Vaci utca	1,440	5.25
Marseille	Rue St Ferreol	1,200	5.50
Rotterdam	Lijnbaan	1,200	5.00

Note: Yield refers to the return on investment in the office sector in each city.

Source: Cushman & Wakefield Research, The DNA of Real Estate, 3T. 2021 *(Europe)*.

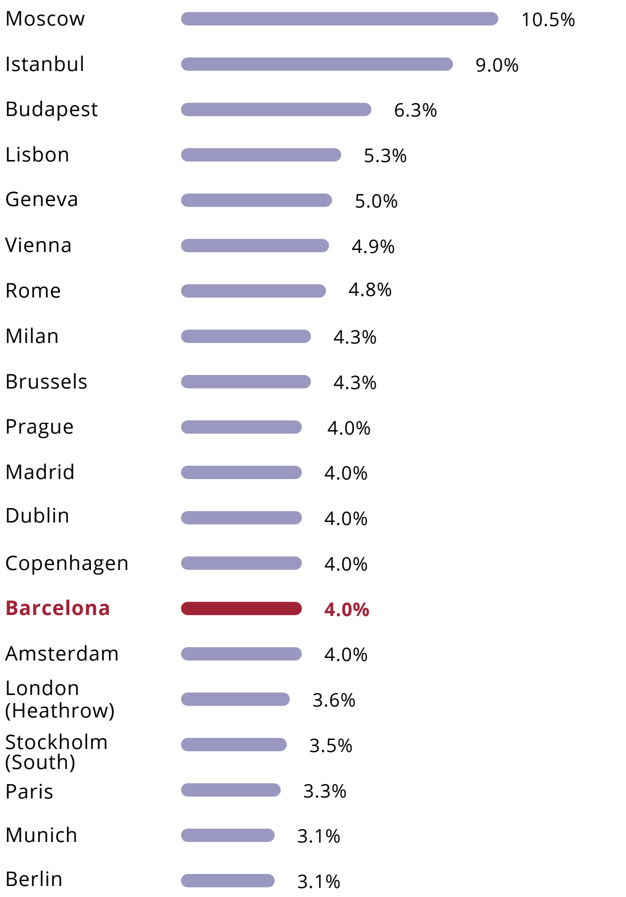
Rental prices for logistics land in Europe's main urban areas in 2021

Barcelona is in the mid-upper range of Europe's main urban areas in terms of logistics land rental prices

In 2021, according to the latest report published by Cushman & Wakefield Research based on data for the third quarter, rental prices for logistics land in Barcelona has remained unchanged since the same quarter of 2020, at €87 per m^2 per year, ranking 15th out of the 44 cities included in the study. Most of those cities experienced annual increases to varying extents, while only eight retained last year's prices, and four (three Swedish cities and Budapest) saw a fall in prices. Prices in Madrid followed the same stability trend as in Barcelona, at around €63 per m^2 per year, leaving it partly in the same position (28th). The average rent in Barcelona was similar to that of cities such as Stockholm, Leeds and Copenhagen or Scotland (between €80 and €90). The most expensive annual rent prices in Europe's logistics areas were seen in London (Heathrow area at €223 per m^2, Zurich at €222 per m^2, and Geneva at €176 per m^2).

Most return rates on the logistics land market stood at 3-5% in 2021, one point below the average compared to 2020. Of the 20 areas selected, Barcelona was in the middle range and slightly below last year's position, following a drop of 5% to 4% in returns. The same trend was seen in Amsterdam. However, this was not the case in Vienna, for example, where profitability remained at around 5%. Madrid also saw a fall in this figure, from 4.8% in 2020 to 4% in 2021. Of the 44 urban areas studied, the only one with double-digit returns was Moscow (10.5%).

Logistics land market performance in cities of Europe. 2021



Note: Yield refers to the return on investment in the logistics land of each city.

Source: Cushman & Wakefield Research, *The DNA of Real State, 3T. 2021 (Europe).*

Rental price of logistics land in European cities. 2021

Urban areas	Var. Interannual 2021/2020 (%)	Rent Ground Logistics (€ / m^2 / year)
London (Heathrow)	14.5	223
Zurich	71.4	222
Geneva	5.6	176
Oslo	3.8	131
Helsinki	2.7	114
Dublin	1.8	112
Luxembourg	12.5	108
Bristol	13.3	107
Manchester	3.4	94
Munich	4.0	94
Amsterdam (Schipol)	2.2	92
Birmingham	3.6	91
Stockholm (South)	-28.0	88
Leeds	7.7	88
Barcelona	**0.0**	**87**
Copenhagen	0.0	84
Scotland (Central)	8.3	82
Frankfurt	4.6	82
Hamburg	4.8	79
Newcastle	9.1	75
Rotterdam	0.0	75
Gothenburg (Arendal)	-16.7	74

Urban areas	Var. Interannual 2021/2020 (%)	Rent Ground Logistics (€ / m^2 / year)
Vienna	9.1	72
Malmo (Fosie, Bulltofta)	-12.5	69
Berlin	1.8	68
Düsseldorf	0.0	67
Prague	25.6	65
Madrid	0.0	63
The Hague	0.0	60
Brussels	0.0	58
Paris	1.8	58
Milan	3.6	57
Rome	1.8	56
Istanbul	22.2	56
Budapest	-5.1	56
Lyon	6.0	53
Bucharest	2.5	49
Moscow	6.3	49
Antwerp	0.0	48
Lisbon	0.0	48
Bratislava	0.0	48
Sofia	0.0	46
Warsaw (Zone II)	0.0	46
Marseille	0.0	45

Source: Cushman & Wakefield Research, *The DNA of Real State, 3T. 2021 (Europe)*.

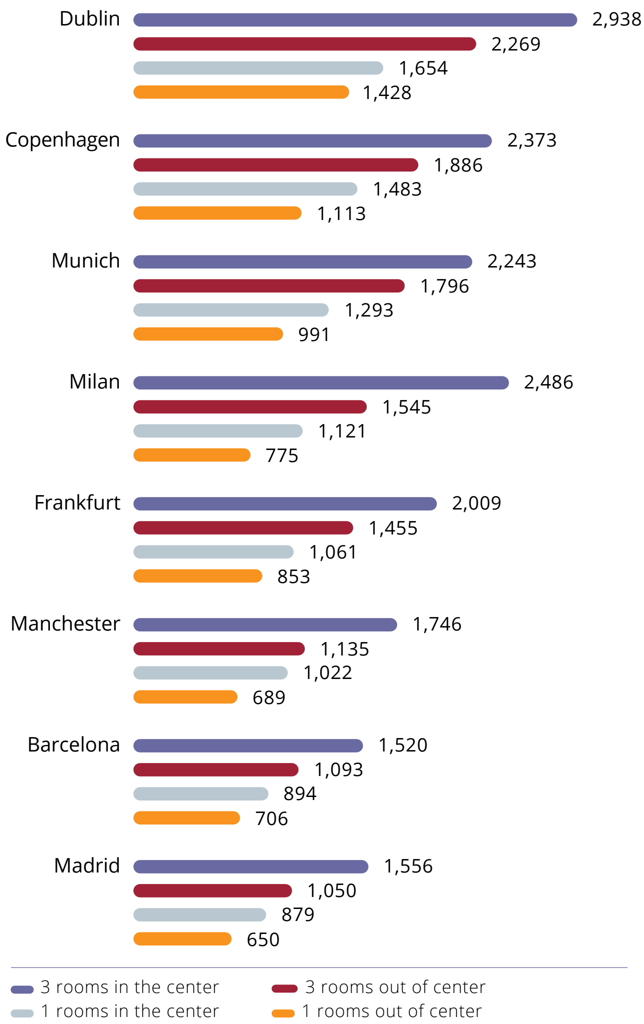
Housing rental prices in the main European cities in 2021

The price of housing in Barcelona remains in the middle range for Europe

According to the Numbeo database as consulted in November 2021, the average monthly price of a one-bedroom flat in Barcelona city centre is €894, 4.3% below the 2020 price (which was €935 according to the consultation also made in November). This reduction in prices, together with the increase in other European cities, caused the city to drop from 41st in 2020 to 58th in 2021 out of a total of 238 European cities. The price of housing in Madrid city centre was lower (€879 per month) than in other Spanish cities, and the Spanish capital ranks 60th (having dropped 21 positions since the previous year). Palma de Mallorca was 66th with an average price of €861 per month. If the same property was located outside Barcelona city centre, the monthly rent would drop to €706, 21.1% less than in the centre. As for the other cities, London and the Swiss cities of Geneva, Zug and Zurich had the highest monthly rents (over €1,850 per month for a one-bedroom flat in the city centre, slightly up from the previous year, and with Zug ranking among the top positions for the first time).

For three-bedroom family homes or shared three-bedroom properties (also in the city centre), the monthly rent in Barcelona was €1,520, a very similar figure to that of the previous year (€1,509). According to this criterion, the city's position would be even lower – 73rd – 5 places behind Madrid, whose €1,556 per month makes it 68th. This difference in positions when comparing the price of small- and medium-sized flats in Barcelona was larger before the pandemic due to a combination of a generally readier supply of the latter than of the former (many of which were used as tourist accommodation) and more demand for small flats. However, with the advent of remote working due to Covid-19 and the consolidation of these patterns, demand in the medium term may shift towards larger dwellings outside cities, without the need to be near residents' places of work, which are normally located in city centres.

Rental price of housing in European cities. 2021
(€/mes)

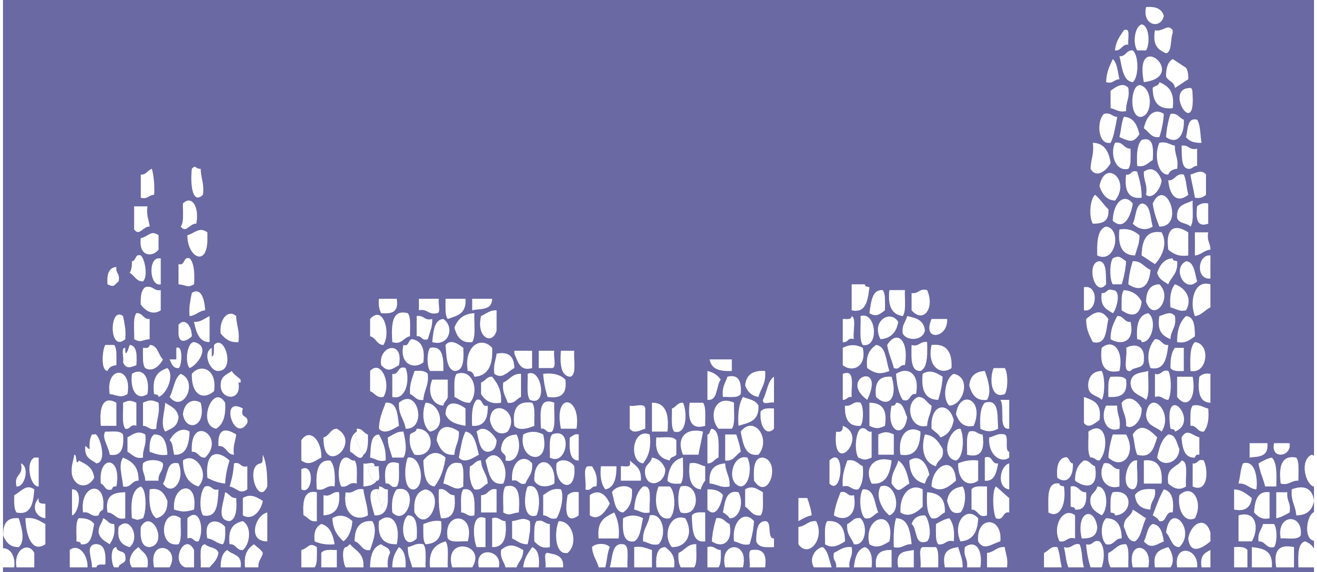


Source: Numbeo. Consultation made in November 2021.

Rental price in the center of European cities (€ / month). 2021

Ranking	City (Country)	3 rooms	1 rooms	Ranking	City (Country)	3 rooms	1 rooms
1	London (United Kingdom)	3,838	1,983	31	Leiden (Netherlands)	1,679	1,149
2	Geneva (Switzerland)	3,800	1,958	32	Milan (Italy)	2,486	1,121
3	Zug (Switzerland)	3,615	1,936	33	Espoo (Finland)	1,705	1,108
4	Zurich (Switzerland)	3,567	1,869	34	Tromso (Norway)	1,793	1,102
5	Haarlem (Netherlands)	2,550	1,673	35	Limerick (Ireland)	1,850	1,094
6	Dublin (Ireland)	2,938	1,654	36	Bristol (United Kingdom)	1,890	1,090
7	Luxembourg (Luxembourg)	3,033	1,572	37	Reading (United Kingdom)	1,950	1,088
8	Amsterdam (Netherlands)	2,638	1,534	38	Frankfurt (Germany)	2,009	1,061
9	Saint Helier (Jersey)	2,880	1,507	39	Cascais (Portugal)	2,250	1,057
10	Stockholm, Sweden	2,195	1,489	40	Milton Keynes (United Kingdom)	1,636	1,055
11	Copenhagen (Denmark)	2,373	1,483	41	Aarhus (Denmark)	1,848	1,055
12	Oslo, Norway	2,179	1,404	42	Berlin (Germany)	1,942	1,041
13	Guildford (United Kingdom)	2,208	1,375	43	Breda (Netherlands)	1,449	1,026
14	Lausanne (Switzerland)	2,794	1,366	44	Manchester (United Kingdom)	1,746	1,022
15	Bern (Switzerland)	2,337	1,359	45	Helsinki (Finland)	2,020	1,020
16	Cambridge (United Kingdom)	2,314	1,339	46	Bergen (Norway)	1,542	1,004
17	Reykjavik (Iceland)	2,050	1,332	47	Stuttgart (Germany)	1,763	990
18	Basel (Switzerland)	2,321	1,294	48	Maastricht (Netherlands)	1,829	990
19	Munich (Germany)	2,243	1,293	49	York (United Kingdom)	1,568	983
20	Oxford (United Kingdom)	2,308	1,291	50	Edinburgh (United Kingdom)	1,817	981
21	Utrecht (Netherlands)	2,145	1,275	51	Rome (Italy)	2,045	967
22	Paris (France)	2,738	1,272	52	Hamburg (Germany)	1,833	954
23	Brighton (United Kingdom)	2,545	1,208	53	Gothenburg (Sweden)	1,609	953
24	Cork (Ireland)	2,007	1,203	54	Nijmegen (Netherlands)	1,400	944
25	Rotterdam (Netherlands)	1,918	1,193	55	Stavanger (Norway)	1,918	929
26	Eindhoven (Netherlands)	1,632	1,184	56	Nice (France)	1,835	917
27	Trondheim, Norway	1,827	1,172	57	Delft (Netherlands)	1,300	897
28	The Hague (Netherlands)	2,039	1,168	**58**	**Barcelona (Spain)**	**1,520**	**894**
29	Lugano (Switzerland)	2,296	1,154	59	Leeds (United Kingdom)	1,530	880
30	Galway (Ireland)	1,774	1,152	60	Madrid (Spain)	1,556	879

Source: Numbeo. Consultation made in November 2021.



SUMMARY OF RESULTS

Summary of results

The macroeconomic indicators for 2021 reveal a recovery of world economic activity after the unprecedented impact of the economic crisis arising from the Covid-19 pandemic. The Catalan economy went into the second half of the year with sound growth in both the labour market and business creation. Looking ahead to 2022, in contrast to the good prospects seen in the economic indicators, we are now seeing increasingly high risks linked, on the economic side, to the growth of inflation (as a result of higher prices for raw materials and energy) and a shortage of supplies and professionals in the industrial, construction and transport sectors, which may curb the expected rate of recovery; and, on the health side, the evolution of the pandemic. In this challenging economic context, Barcelona has proven to be resilient and able to remain attractive to investors and maintain its good economic and business positioning in Europe and worldwide, as demonstrated by the 34 indicators in the Barcelona *Observatory 2021 Report*.

For the first time since 2016, Barcelona was ranked among the 20 most competitive cities in the world in 2021 by the *Global Power City Index 2021* report, which ranked it 18th in the world and 7th in Europe. Similarly good results can be seen in most of the other indicators analysed in the **economic activity hub** section. In that regard, Barcelona also reaffirmed its status as a leading tech hub in Europe, gaining a position since the previous edition to rank as the 7th city with the most promising prospects for tech start-ups, and 5th for attracting foreign investment projects, in fDi Intelligence's *Tech Cities of the Future 2020-21* ranking. Moreover, the Resonance Consultancy ranking *World's Best Cities 2021*, which assesses the quality and attractiveness of cities from various perspectives, puts Barcelona at 9th in the world. Other indicators reaffirm Barcelona's appeal for doing business and the city's positive image abroad. On the one hand, Barcelona generates confidence in the field of international investment, as shown by its ranking as the 9th main urban area of the world for attracting foreign investment projects in 2020, and 2nd for research centre projects, according to KPMG's *Global Cities Investment Monitor 2021*. And, on the other, Barcelona is the 2nd city in southern Europe with the best future prospects for 2020-2021, the 10th city in Europe in terms of economic potential, and the 3rd in connectivity between the major European cities, according to the report *fDi Cities and Regions of the Future 2020/21*.

The year 2021 was still particularly marked by the impetus of the United Nations 2030 Agenda and its 17 Sustainable Development Goals (SDGs). Barcelona City Council's municipal policies for the 2019–2023 mandate are in alignment with these. In the section on **quality of life, social cohesion and sustainability**, in the good quality of life dimension, Barcelona was ranked the 11th safest city in the world by The Economist's *Safe Cities Index 2021*, climbing 15 positions since the previous edition. Barcelona also stands out as a world leader for sport, attaining the 4th position *in the Ranking of Sports Cities 2021*, a report drawn up by the consultancy Burson Cohn & Wolfe, for the first time reaching the top 5 of the 50 cities included in the study. Furthermore, the city is a benchmark of cultural and creative vibrancy, standing in 9th position in Europe according to *The Cultural and Creative Cities Monitor 2020*. Barcelona climbed 10 positions in Kisi's Cities for the *Best Work-Life Balance 2021* ranking, under which cities are compared from a work-life balance point of view. The city was ranked 25th among the 50 cities in the world under comparison (15th in Europe). In the field of social cohesion, the Covid-19 pandemic had a widespread detrimental effect in 2020. The rate of risk of poverty or social exclusion in Catalonia stood at 22.8%. This is slightly above the EU rate, which has also increased since last year. As far as sustainability is concerned, Barcelona was ranked Europe's 14th most sustainable city in 2021 by the *Schroders European Sustainable Cities Index*, a ranking of 59 cities that monitors 13 environmental policies to assess how they apply Sustainable Development Goal 11 (Sustainable Cities and Communities) in Europe's cities. As for its sustainable urban mobility ranking, the report *Urban Mobility Readiness Index 2021* placed Barcelona at number 17 in the world.

Regarding the **labour market**, the macroeconomic indicators for 2021 reveal a strong recovery following the effects of the economic crisis arising from the pandemic. However, the regional employment indicators available and included in this section are for 2020. In this context, the employment rate in Catalonia stood at 65.8% – below average for Europe – and the unemployment rate (12.6%) is clearly above the EU rate (7.1%), following their first year-on-year drop and rise respectively since 2013. In addition, the part-time employment rate in Catalonia in 2020 was 13.6%, placing it 4.5 percentage points below the EU average (18.2%). The increase in part-time employment since the start of the crisis that began in 2008 has been a widespread trend in Europe, in an international context in which the impact of the crisis on job quality has become particularly marked, something that has been exacerbated by the Covid-19 crisis. As for higher education, Barcelona continues to be one of the benchmark European cities for business studies since, according to the Financial Times, it was the only city in Europe with two educational institutions (IESE and ESADE) ranking among the top 10 European business schools in 2021. The city also stands out for having a significant critical mass of qualified human capital: according to Eurostat: 47.5% of workers in Catalonia had university qualifications in 2020, up 0.5 percentage points from 2019. Furthermore, according to the Boston Consulting Group's report D*ecoding Global Talent 2020*, Barcelona is the 9th most attractive city in the world for working abroad.

In the field of **knowledge and technology**, with regard to the tech entrepreneurship and start-up ecosystem, various recent rankings put the capital of Catalonia in leading positions, and in some cases it has managed to maintain or improve its position despite the pandemic, demonstrating its resilience in this field thanks to the boost provided by digitalisation in key economic sectors. According to the EU-Startups ranking, Barcelona retained its position as the 5th main start-up hub in Europe in 2020, and the city is the 7th hub for technology investment received according to the consultancy firm Atomico's report *The State of European Tech*, after climbing nine positions since the previous edition thanks to its entrepreneurial ecosystem, which has increased th investment received fourfold. Furthermore, according to the *Start-up Heatmap Europe Report 2021*, Barcelona remains the 3rd most popular city for establishing a start-up, out of more than 100 European cities, for the fourth consecutive year. Barcelona boasts one of the most dynamic start-up ecosystems in Europe, featuring over 1,197 start-ups (according to MWC Barcelona), 7 international unicorns, 3 local unicorns (Glovo, Letgo and eDreams) and a very high rate of start-up founders born abroad: 65%. This evolution has caused the city to climb up one position and gain a place among the top 5 emerging ecosystems in the world, making it 2nd in Europe, according to Startup Genome's *The Global Startup Ecosystem Report 2021*. Although, according to the *StartupBlink Ecosystem Ranking*, Barcelona dropped 10 places to 37th in the world for technology, It is 1st in Spain and 6th in Western Europe. These results are reinforced by an excellent workforce in the high added value sectors and the quality of scientific research. According to Eurostat, in 2020 Catalonia was the 8th region in Europe with the most employment in cutting-edge technology and knowledge-intensive services. It was also the 5th region with the highest number of university graduates working in science and technology: 931,000 people employed in this area. Furthermore, Catalonia is the 6th European region with the highest number of people employed in high and medium-high technology manufacturing, and it is worth noting that women now account for almost a third of all workers in this area. In the field of science, according to the *Knowledge Cities Ranking 2020* drawn up by the Polytechnic University of Catalonia's Centre of Land Policy and Valuations, Barcelona increased its number of publications by 4.9% compared to 2019, which enabled it to retain its 5th place in the European ranking and climb up three positions to no. 20 in the world ranking.

In 2020 the outbreak of Covid-19 had a strong impact on the **tourism sector.** In this context of great uncertainty and a sharp drop in tourism, Barcelona city has dropped a few places as an international destination for tourism. It is worth noting that this year has been atypical for inter-country comparisons, as the various restrictions imposed by each country have affected the ranking of their cities. Thus, according to the *European Cities Marketing Benchmarking Report 2020,* Barcelona fell seven places to 14th European city with the most overnight tourist stays in 2020; and three places, to 8th position, if this indicator is restricted to international tourists. Euromonitor International's report *Top Cities Destination Ranking 2019-2020* ranked Barcelona as the 4th European city for international visitors in 2020. In a more globalised and digitalised post-pandemic world of the future, the city brand will take on a more significant role, and it is precisely in this context that the *Saffron City Brand Barometer 2020* ranked Barcelona as the 7th city in the world with the best brand in a ranking that looks at monuments, climate and safety as some of the factors that convince tourists to choose one city over another. As for the main infrastructures for entering the city, the Josep Tarradellas Barcelona – El Prat airport retained its top 10 position in Europe for number of passengers in 2020. On the other, in a year that was atypical in its almost complete lack of cruise ship traffic, the port of Barcelona lost its number one spot in Europe after 19 consecutive years at the top, dropping to 4th place.

During this last year characterised by Covid-19, and in the context of sharp price increases worldwide, the main **prices and costs** indicators helped the city retain its competitive position. According to the report by Cushman & Wakefield Research, with inflation still affecting only certain products, prices in the various sub-sectors of the property market – housing, office rental and logistics land – remained stable or decreased in 2021 compared to 2020. As for the cost of living, according to Mercer Human Resource Consulting, this started rising again in 2021, having fallen in 2019 and 2020. In this case, the rebound was caused by the resumption of activities after the lockdown in 2020 and also partly due to the price increases in the electricity market. In spite of this, Barcelona remained in the various rankings' middle ranges, making it a competitive city compared to similar European metropolises. In relation to taxation, as in previous years, Spain is more or less in line with the EU average for tax rates. The corporation tax rate was 25%, the same as in the last five years. As regards social security contributions, there is a significant difference between the rate paid by employees (one of the lowest in the region) and that paid by employers (among the highest). However, looking at the average of the two, Spain is in an intermediate position compared to other EU countries.

This is the eleventh consecutive year in which the Barcelona Observatory has issued its monograph ***Business climate in the Barcelona Metropolitan Area (AMB)***. It analyses the evolution of activities in the first three quarters of 2021 and provides a forecast for the fourth quarter of the same year based on the results of the Business Climate Survey for the Barcelona Metropolitan Area (AMB), which is jointly drawn up by Idescat and the Barcelona Chamber of Commerce. The survey reveals a gradual recovery of the economy over 2021 as anti-Covid-19 restrictions were gradually eased. Business performance improved significantly every quarter, resulting in the fast recovery of the labour market, which almost became stable towards the end of the year. However, sale prices were at their highest since 2009 as a result of rising inflation in raw materials and energy.

Summary of results

	Global Competitiveness 2021	Tech cities of the future 2021	Foreign investment projects 2020	Entrepreneurial activity rate [1,3] 2020	Attractive cities for visitors and entrepre-neurs 2021	Organisation of international congresses 2019	Safe Cities 2021	Sports cities 2021	Work-life balance 2021
1	London	London	London	Brazil	London	Paris	Copenhagen	New York	Helsinki
2	New York	Paris	Paris	Canada	Paris	Lisbon	Toronto	London	Oslo
3	Tokyo	Dublin	Singapore	United States	New York	Berlin	Singapore	Los Angeles	Zurich
4	Paris	Berlin	Düsseldorf	Slovakia	Moscow	**Barcelona**	Sydney	**Barcelona**	Stockholm
5	Singapore	Amsterdam	Dubai	Netherlands	Dubai	Madrid	Tokyo	Paris	Copenhagen
6	Amsterdam	Madrid	Berlin	Switzerland	Tokyo	Vienna	Amsterdam	Lausanne	Ottawa
7	Berlin	**Barcelona**	Amsterdam	Greece	Singapore	Singapore	Wellington	Manchester	Munich
8	Seoul	Munich	New York	Israel	Los Angeles	London	Hong Kong	Munich	Vancouver
9	Madrid	Stockholm	**Barcelona**	Taiwan	**Barcelona**	Prague	Melbourne	Tokyo	Amsterdam
10	Shanghai	Bucharest	Toronto	United Kingdom	Madrid	Tokyo	Stockholm	Madrid	Sydney
11	Melbourne	Belfast	Tokyo	Sweden	Rome		**Barcelona**	Melbourne	Hamburg
12	Sydney	Helsinki	Madrid	Morocco	Doha		New York	Berlin	Vienna
13	Hong Kong	Zurich	Shanghai	**Barcelona**	Chicago		Frankfurt		Calgary
14		Moscow	Dublin	Slovenia	Abu Dhabi		Washington, DC		...
15	**18 Barcelona**	Frankfurt	Munich	Spain	San Francisco		London		**25 Barcelona**

[1] Ranking refers to a selected sample.. [2] Ranking refers to regions or provinces. [3] Ranking refers to countries. [4] Ranking from lowest to highest value.

Risk rate of poverty or social exclusion[1,2,4] 2020	Creative and cultural cities 2019	Sustainable cities 2021	Sustainable urban mobility 2021	Attractive cities for talent 2020	Employment rate [1,2] 2020	Part-time employment rate [1,2] 2020	Unemployment rate [1,2,4] 2020	Workers with tertiary education [1,2] 2020
Bratislava	Paris	Amsterdam	Oslo	London	Munich	Amsterdam	Prague	Bilbao
Prague	Munich	London	Amsterdam	Amsterdam	Stuttgart	Rotterdam	Munich	Brussels
Helsinki	London	Paris	Helsinki	Dubai	Stockholm	Vienna	Budapest	Paris
Bucharest	Milan	Copenhagen	Hong Kong	Berlin	Amsterdam	Frankfurt	Stuttgart	Oslo
Stockholm	Berlin	Oslo	Stockholm	Abu Dhabi	Prague	Berlin	Amsterdam	Dublin
Lisbon	Vienna	Stockholm	Singapore	Tokyo	Rotterdam	Munich	Frankfurt	Madrid
Munich	Budapest	Berlin	Munich	Singapore	Oslo	Stuttgart	Rotterdam	Helsinki
Oslo	Prague	Glasgow	Tokyo	New York	Copenhagen	Copenhagen	Bucharest	Stockholm
Milan	**Barcelona**	Hamburg	Berlin	**Barcelona**	Frankfurt	Montpeller	Hamburg	Budapest
Copenhagen	Hamburg	Birmingham	Beijing	Sydney	Budapest	Oslo	Düsseldorf	Copenhagen
Amsterdam	Madrid	Vienna	London	Paris	Helsinki	Brussels	Dublin	Vilnius
Warsaw	Warsaw	Helsinki	Zurich	Los Angeles	Berlin	Lyon	Copenhagen	Amsterdam
Dublin	Cologne	Liverpool	Shanghai	Melbourne	Sofia	Stockholm	Berlin	**Barcelona**
---	Rome	**Barcelona**	---	Toronto	---	---	---	Vienna
Barcelona	Lyon	Madrid	**17 Barcelona**	Seoul	**Barcelona**	**Barcelona**	**Barcelona**	Bucharest

[1] Ranking refers to a selected sample.. [2] Ranking refers to regions or provinces. [3] Ranking refers to countries. [4] Ranking from lowest to highest value.

	Business Schools 2021	Tech hubs by capital invested 2021	Preferred cities to locate a new start-up 2020	*Start-up hubs* 2020	Scientific production 2020	Employed population in high and medium-high technology manufacturing[2] 2020	Science and technology workers[2] 2020	Airport passengers 2020
1	Fontainebleau Insead	London	Berlin	London	Beijing	Stuttgart	Paris	Istanbul (IST)
2	London London Business School	Berlin	London	Berlin	Shanghai	Milan	London	Paris-Roissy (CDG)
3	**Barcelona IESE Business School**	Paris	**Barcelona**	Paris	London	Munich	Madrid	London Heathrow (LHR)
4	Paris HEC Paris	Stockholm	Amsterdam	Amsterdam	Nanjing	Istanbul	Istanbul	Amsterdam (AMS)
5	Milan SDA Bocconi	Amsterdam	Munich	**Barcelona**	New York	Bologna	**Barcelona**	Moscow Sheremetyevo (SVO)
6	Cambridge University of Cambridge: Judge	Munich	Lisbon	Munich	Boston	**Barcelona**	Lyon	Frankfurt (FRA)
7	Oxford University of Oxford: Saïd	**Barcelona**	Paris	Madrid	Guangzhou	Turin	Milan	Madrid (MAD)
8	Lausanne IMD	Farnham	Zurich	Stockholm	Seoul	Karlsruhe	Seville	Istanbul-Sabiha Gökçen (SAW)
9	**Barcelona ESADE Business School**	Oxford	Tallinn	Dublin	Wuhan	Tubingen	Munich	Moscow Domodédovo (DME)
10	Manchester Alliance Manchester Business School	Madrid	Stockholm	Milan	Tokyo	Venice	Warsaw	**Barcelona (BCN)**
11	Coventry Warwick Business School	Vienna		Copenhagen	Paris	Frankfurt	Rotterdam	Moscow Vnúkovo (VKO)
12	Madrid IE Business School	Copenhagen		Tallinn	Xi'an	Paris	Berlin	Munich (MUC)
13	London Imperial College Business School	Helsinki		Zurich	Chengdu	Bursa, Eskişehir Bilecik	Rome	Sant Petersburg
14	Düsseldorf WHU Beisheim	Spencers Wood		Helsinki	---	Düsseldorf	Amsterdam	Paris-Orly (ORY)
15	Mannheim Mannheim Business School	Dublin		Hamburg	**20 Barcelona**	Katowice	Marseilles	London-Gatwick (LGW)

[1] Ranking refers to a selected sample. [2] Ranking refers to regions or provinces. [3] Ranking refers to countries. [4] Ranking of menys to more value.

International Tourists 2020	Cruise passengers in Europe 2020	Cost of living 2021	Coporate tax [1,3] 2021	Office rental prices 2021	Retail premises rental prices 2021	Logistics land rental prices 2021	Housing rental prices 2021
London	Tenerife	Ashgabat	Germany	London (WE)	London New Bond Street	London (Heathrow)	London
Paris	Civitavecchia	Hong Kong	India	Paris (CBD)	Paris Avenue des Champs-Élysées	Zürich	Geneva
Istanbul	Genoa	Beirut	South Africa	London (City)	Milan Via Montenapoleone	Geneva	Zug
Barcelona	**Barcelona**	Tokyo	France	Geneva	Rome Via Condotti	Oslo	Zurich
Amsterdam	Balearic Islands	Zurich	Argentina	Stockholm	Zurich Bahnhofstrasse	Helsinki	Haarlem
Prague	Ports Madeira	Shanghai	Austria	Zurich	Vienna Kohlmarkt	Dublin	Dublin
Vienna	Marseille	Singapore	Belgium	Dublin	Dublin Grafton Street	Luxembourg	Luxembourg
Rome	Palermo	Geneva	**Spain**	Luxembourg	Munich Kaufinger/Neuhauser	Bristol	Amsterdam
Antalya	Valletta	Beijing	Netherlands	Milan	Geneva Rue de Rhone	Manchester	Saint Helier
Milan	La Spezia, Marina di Carrara	Bern	China	Frankfurt	Berlin Tautentzienstrasse	Munich	Stockholm
---	Lisbon	Seoul	Luxembourg	Moscow	Frankfurt Zeil	Amsterdam (Schipol)	Copenhagen
---	Cadiz	Shenzhen	Greece	Paris (La Défense)	Hamburg Spitalerstraβe	Birmingham	Oslo
---	Naples	N'Djamena	Italy	Munich	Düsseldorf Konigsallee	Stockholm (Sud)	Guildford
---	Valencia	---	Israel	---	---	Leeds	---
---	Azores	**84 Barcelona**	Denmark	**Barcelona**	**Barcelona Portal de l'Àngel**	**Barcelona**	**58 Barcelona**

[1] Ranking refers to a selected sample. [2] Ranking refers to regions or provinces.. [3] Ranking refers to countries. [4] Ranking from lowest to highest value.

Positioning of Barcelona in international city rankings

Global competitiveness. 2021

1	2	3	4	5	6	7	8	9	10	11	12	13	14	18
London	New York	Tokyo	Paris	Singapore	Amsterdam	Berlin	Seoul	Madrid	Shanghai	Melbourne	Sydney	Hong Kong	...	**Barcelona**

Technological cities of the future. 2021

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
London	Paris	Dublin	Berlin	Amsterdam	Madrid	**Barcelona**	Munich	Stockholm	Bucharest	Belfast	Helsinki	Zurich	Moscow	Frankfurt

Attractive cities for visitors and entrepreneurs. 2021

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
London	Paris	New York	Moscow	Dubai	Tokio	Singapore	Los Angeles	**Barcelona**	Madrid	Rome	Doha	Chicago	Abu Dhabi	San Francisco

Foreign investment projects. 2020

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
London	Paris	Singapore	Düsseldorf	Dubai	Berlin	Amsterdam	New York	**Barcelona**	Toronto	Tokio	Madrid	Shanghai	Dublin	Munich

Safe cities. 2021

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Copenhagen	Toronto	Singapore	Sydney	Tokio	Amsterdam	Wellington	Hong Kong	Melbourne	Stockholm	**Barcelona**	New York	Frankfurt	Washington, DC	London

Work-life balance. 2021

1	2	3	4	5	6	7	8	9	10	11	12	13	14	25
Helsinki	Oslo	Zurich	Stockholm	Copenhagen	Ottawa	Munich	Vancouver	Amsterdam	Sydney	Hamburg	Vienna	Calgary	...	**Barcelona**

Sustainability in cities. 2021

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Amsterdam	London	Paris	Copenhagen	Oslo	Stockholm	Berlin	Glasgow	Hamburg	Birmingham	Vienna	Helsinki	Liverpool	**Barcelona**	Madrid

Attractive cities for digital talent. 2020

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
London	Amsterdam	Dubai	Berlin	Abu Dhabi	Tokyo	Singapore	New York	**Barcelona**	Sydney	Paris	Los Angeles	Melbourne	Toronto	Seoul

European business schools. 2021

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Fontainebleau Insead	London London Business School	**Barcelona** IESE Business School	Paris HEC Paris	Milan SDA Bocconi	Cambridge University of Cambridge: Judge	Oxford University of Oxford: Saïd	Lausanne IMD	**Barcelona** ESADE Business School	Manchester Alliance Manchester Business School	Coventry Warwick Business School	Madrid IE Business School	London Imperial College Business School	Düsseldorf WHU Beisheim	Mannheim Mannheim Business School

Scientific production. 2020

1	2	3	4	5	6	7	8	9	10	11	12	13	14	20
Beijing	Shanghai	London	Nanjing	New York	Boston	Guangzhou	Seoul	Wuhan	Tokyo	Paris	Xi'an	Chengdu	...	**Barcelona**

Investment in technological ecosystems. 2021

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
London	Berlin	Paris	Stockholm	Amsterdam	Munich	**Barcelona**	Farnham	Oxford	Madrid	Vienna	Copenhagen	Helsinki	Spencers Wood	Dublin

Airports according to passengers. 2020

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Istanbul (IST)	Paris Roissy (CDG)	London Heathrow (LHR)	Amsterdam (AMS)	Moscow Xeremétievo (SVO)	Frankfurt (FRA)	Madrid (MAD)	Istanbul- Sabiha Gökçen (SAW)	Moscow-Domodédovo (DME)	**Barcelona** (BCN)	Moscow-Vnúkovo (VKO)	Munich (MUC)	Sant Petersburg	Paris-Orly (ORY)	London Gatwick (LGW)

Cost of living. 2021

1	2	3	4	5	6	7	8	9	10	11	12	13	14	84
Ashgabat	Hong Kong	Beirut	Tokyo	Zurich	Shanghai	Singapore	Geneva	Beijing	Bern	Seoul	Shenzhen	N'Djamena	...	**Barcelona**

SPECIAL REPORT

Business Climate in the Metropolitan Area of Barcelona

Evolution 2021

OBSERVATORI BARCELONA

Executive Summary

Improvement in the fall in business performance in 2021

The Business Climate Survey for the AMB reveals a gradual recovery of the economy over the course of 2021, as restrictions introduced to control the Covid-19 pandemic were eased:

- There was a marked improvement in business performance quarter-on-quarter, and almost stable balances in Q2 and Q3 of 2021.
- The labour market is improving significantly, and is nearing stabilisation as the end of the year approaches.
- Sales prices record the most positive balance since 2009, due to the rising price of raw materials and energy.

Hospitality continues to be the sector most affected by Covid-19 according to businesses

In a context of moderate falls, the restrictions have had a greater impact on the hospitality sector:

- Despite the improvement, hospitality continues to record the worst sectoral performance. Two out of three companies said that business performance had been unfavourable (on average up to Q3).
- Despite the fact that commerce was the second worst affected sector, there was a sharp deceleration in the drop in business performance.
- Industry and construction sit somewhere in the middle with regard to the impact on business performance, but more positive results have been recorded in terms of prices.
- All other services recorded positive balances across all variables in Q3

Positive forecast for the fourth quarter

The easing of restrictions thanks to the improvement in the pandemic situation due to the vaccination of a substantial part of the population has resulted in a marginally positive outlook. Thus a recovery in business performance for Q4 2021 is expected, but risks linked to the escalation of raw material and energy prices and the lack of upward supply may cloud the outlook, especially in industry, construction and commerce, where price expectations are at their highest since 2009.

Construction is the sector with the most positive outlook in terms of business performance and employment. Industry and other services also have positive outlooks for both variables, but to a lesser degree. Hospitality is the only sector with negative expectations across all the variables analysed.

Difficulties with regard to funding and cash flow are the second factor that most hinders business performance

Factors that limited good business performance in 2020:

- Weak demand continues to be the factor most frequently mentioned by businesses in the AMB.
- Funding difficulties have gained considerable weight in the last year due to the economic crisis, and have become the second most important constraint on business performance.
- Competition has lost much of its relevance, and is now in third place.

Business performance. Evolution and prospects

The AMB as a whole

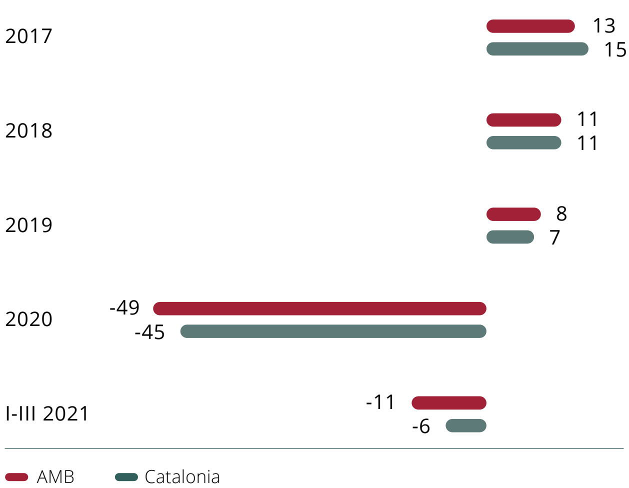
In 2020, the Catalan economy suffered the worst economic contraction in its history (in peacetime) as a result of the declaration of a state of emergency (with lockdown measures and mobility restrictions) in order to contain the spread of the SARS-CoV-2 virus. Catalonia's GDP fell by 11.5% in 2020, the biggest fall among the major European countries and almost double the fall in the Euro zone as a whole (6.6%) and also a few tenths more than the average for the Spanish economy (10.8%). This greater impact in Catalonia, and especially in the AMB, can be explained above all by the importance of the tourism sector – one of the sectors hardest hit by the crisis – in the Catalan economy.

However, 2021 has seen a process of economic recovery, as the pandemic situation has improved, and restrictions have been eased. Thus, the Catalan economy began the second half of the year with robust growth, both in terms of labour market indicators and business startups, which are increasingly approaching pre-crisis levels. According to estimates by the Barcelona Chamber of Commerce, by the end of 2021 GDP could be 3.9% below pre-crisis level thanks to growth of around 6% compared to 2020. However, in contrast to the favourable economic indicators, there are increasingly high risks linked to inflation (due to the increasing cost of raw materials and energy), and the lack of supplies and skilled workers in the industry and construction sectors, which could slow down the expected pace of recovery in the coming months.

Against this economic backdrop, **business performance** in 2020 showed an asymmetrical V-shaped evolution, with a negative balance of -49% for the year as a whole in the AMB (-45% in Catalonia), according to data from the Business Climate Survey produced by the Barcelona Chamber of Commerce and Idescat. Strict lockdown measures had an impact on business activity, leading to a historically sharp fall in business performance in Q2 and Q3, a fall that was more pronounced in the AMB than in Catalonia as a whole, due to the greater weight of the tourism industry in Barcelona, and strong dependence on foreign trade. However, in 2021 gradual economic recovery brought a substantial improvement in business performance in the AMB, and almost stable balances in Q2 and Q3 in the AMB. Likewise, the outlook for Q4 is marginally positive in both the AMB and in Catalonia as a whole

Annual business performance across the whole of the economy[1]

(balances[2] in %)

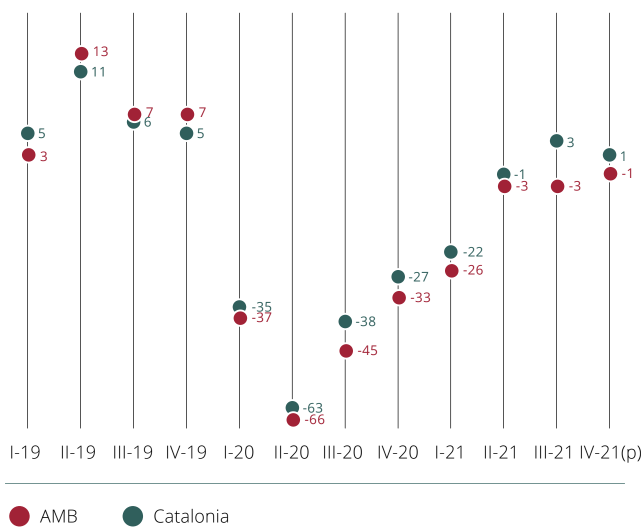


Source: Barcelona Chamber of Commerce and Idescat

1. The results for the economy as a whole are the aggregate of the results for industry, construction, commerce, hospitality and other services. Results for Spain have not been presented in the survey since 2013, because they are not available. The INE (Spanish National Statistics Institute) only publishes the results of the Business Climate Indicator, compiled for Spain as a whole and by sector.
2. The balance is the difference between the percentage of businesses which state that the analysed variable has been positive, and the percentage of establishments that state that it has been negative. It should be noted that, in the case of the hospitality sector, the balances present seasonal differences, but the series are too short to divide by season.

Quarterly evolution of business performance

(balances, in %)



Source: Barcelona Chamber of Commerce and Idescat

Economic sectors

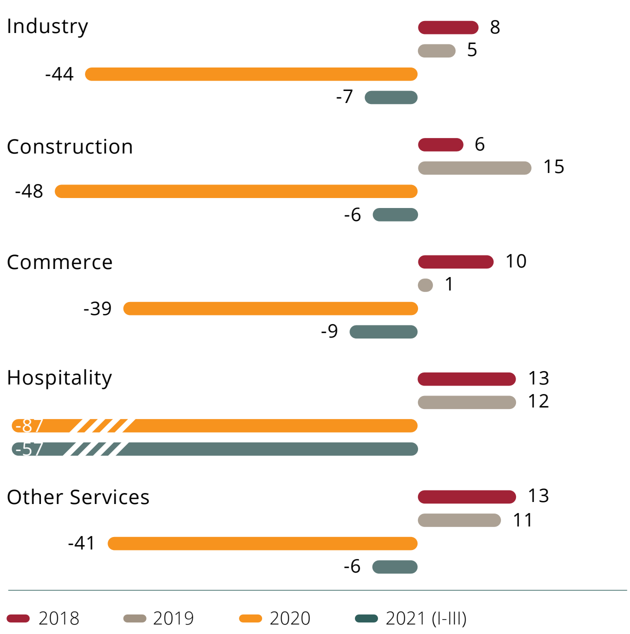
In 2020, the health and economic crisis had a differential impact on the major economic sectors. The severity of the downturn has been linked to restrictive measures imposed on different sectors over the course of the year. Thus, the most pronounced drop in business performance was in the hotel and catering industry, a sector that has been badly affected by border closures and mobility restrictions. Thus, 87% of businesses in the sector rated their performance as unfavourable for the year as a whole, with none reporting the opposite. In Q2, this percentage rose to 100%. The balance of business performance (percentage of positive responses minus negative ones) in other sectors ranged from 48% in construction to 39% in commerce.

With regard to 2021 (based on data up to Q3), the decline in business performance was substantially lower across all sectors, especially in construction, which recorded the least negative sectoral balance, together with other services (-6% in each case). They were followed by industry (-7%) and commerce (-9%). Hospitality remains the worst affected sector (-57%), with two out of three businesses reporting unfavourable business performance.

For Q4 2021, the outlook is positive for construction, other services and industry. For commerce it is marginally negative, and worse in comparison with the previous quarter. Finally, for hospitality, the outlook is still gloomy: more than half of businesses are of the opinion that business performance will be unfavourable in Q4. However, it should be borne in mind that this assessment is also influenced by seasonal considerations.

Annual evolution of business performance in the AMB by sector

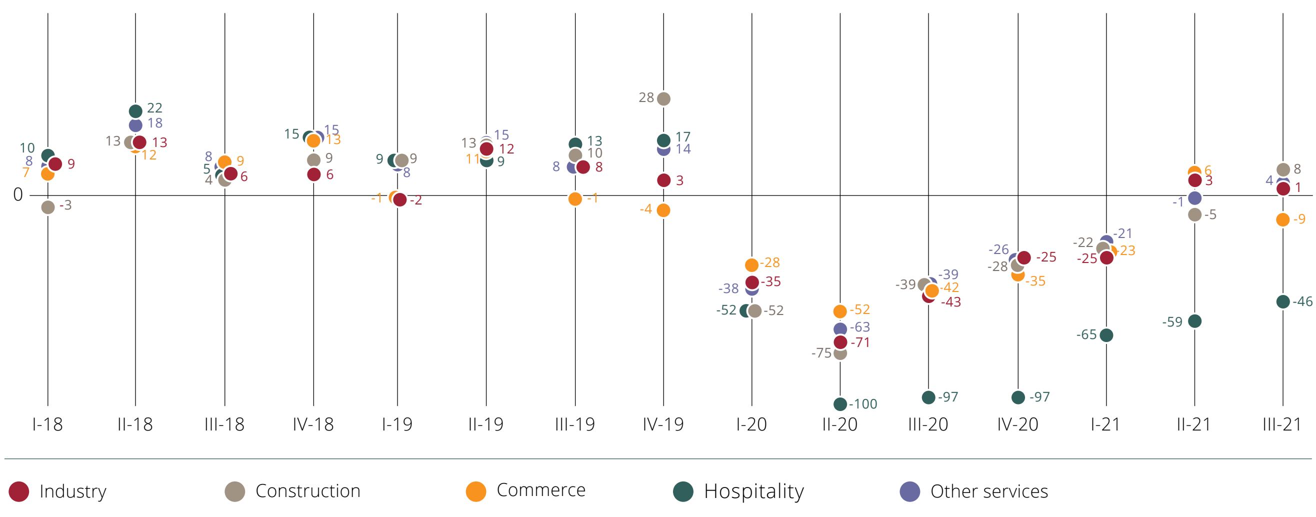
(balances in %)



Source: Barcelona Chamber of Commerce and Idescat

Quarterly evolution of business performance in the AMB by sector

(balances in %)



Source: Barcelona Chamber of Commerce and Idescat

Factors that limited good business performance in 2020

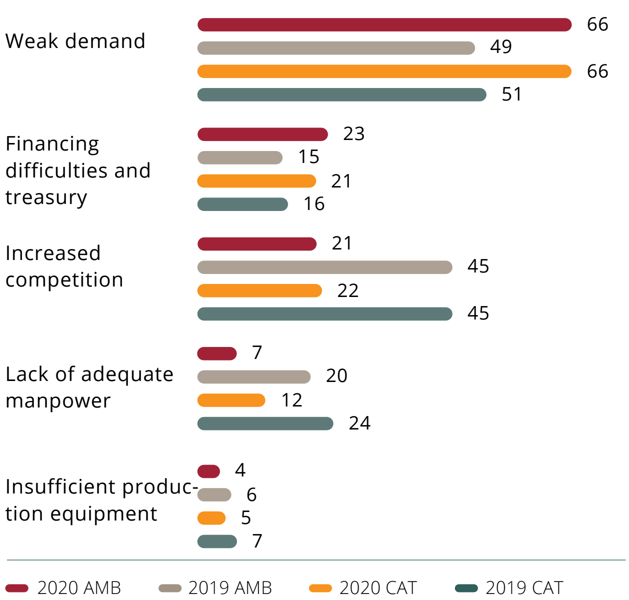
For the whole of the metropolitan economy, **weak demand** was the factor that most limited good business performance in 2020 (last available data, as the factors that limit good business performance only figure in survey questions in the last quarter of the year, referring to the year as a whole). It is a factor that decreased in importance between 2012 and 2019 thanks to the economic recovery, but with the health crisis it has gained prominence once again, reaching 2015 levels (66%). Likewise, difficulties in funding and cash flow have gained weight as a limiting factor as a result of the economic crisis and the liquidity problems experienced by many companies (15% in 2019 compared with 23% in 2020) and has become the second most frequently cited factor by businesses. In third place is increased competition, with the percentage of businesses citing this factor dropping from 45% in 2019 to 21% in 2020. Lastly, the lack of an adequate workforce, which had progressively gained weight since 2013, has fallen, being mentioned by just 7% of businesses.

By sector, weak demand was clearly the main limiting factor in 2020 across all sectors. The percentage of establishments citing this factor ranged from 75% in hospitality to 64% in construction and other services. Well behind the first, the second most frequently cited factor varied depending on the type of business activity. For hospitality, it was financial difficulties (31% of businesses), for construction it was a lack of skilled labour (30%), for industry, increased competition (21%), and for other services, both financial difficulties and increased competition (both 21%).

When the results for the Barcelona Metropolitan Area are contextualised with those for **Catalonia as a whole**, businesses put weak demand in first place, followed by increased competition, the same as in the metropolitan area. In the first case, the percentage was up 15 points to 66%, while in the second, it was down 23 points to 22% of responses. Close behind in third place were funding difficulties (21%, an increase of 5 percentage points over the previous year). As in the AMB, the lack of suitable workers was the fourth factor; at 12% this represented a decrease of 12 percentage points compared to 2019. This last factor is the one where there is the most marked difference between the two areas: 12% in Catalonia, and 7% in the AMB.

Factors that limit good business performance in the economy as a whole

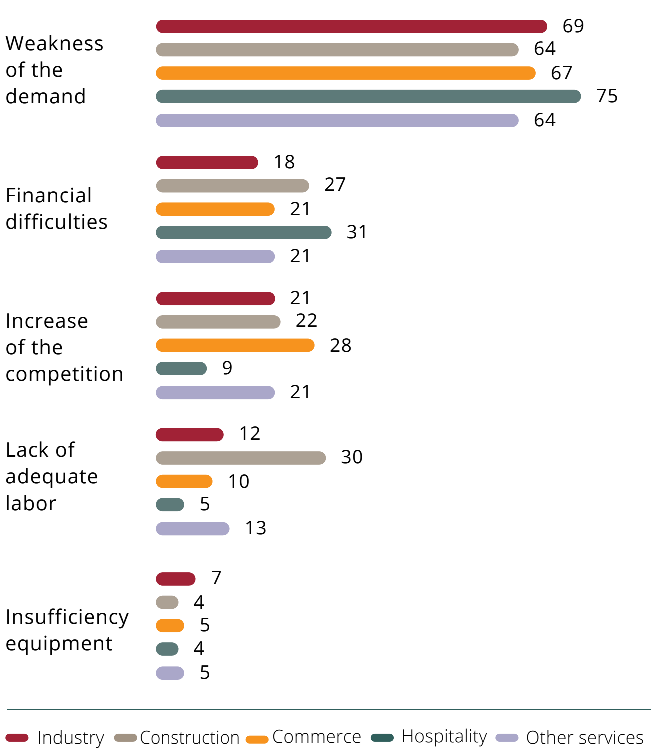
(in %)



Source: Barcelona Chamber of Commerce and Idescat

Factors that limit good business performance in the AMB by sector. 2020

(on %)



Source: Barcelona Chamber of Commerce and Idescat

Evolution and prospects of the main business variables

The AMB as a whole

Sales prices increased slightly in the first three quarters of 2021, with a balance of around +3% according to business owners. This aggregate result conceals the notable rise in prices from Q2 onwards, to a balance of 9% in Q3, the highest since 2009 (the beginning of the available series). These price increases have come about as a result of the rise in the price of energy and raw materials from the second half of the year onwards, which has primarily affected the industrial, construction and commercial sectors.

The return to near full activity has allowed for a gradual recovery in terms of **employment** over 2021, from a balance of -6% in Q1 to +6% in Q3. On average, the percentage of responses saying it was up was 12%, compared to 14% that said it was down, a difference that gives an average balance of -2% – which reached -35% during the months of lockdown in Q2 2020. For Q4, a slight increase in employment is expected with a balance of +3%.

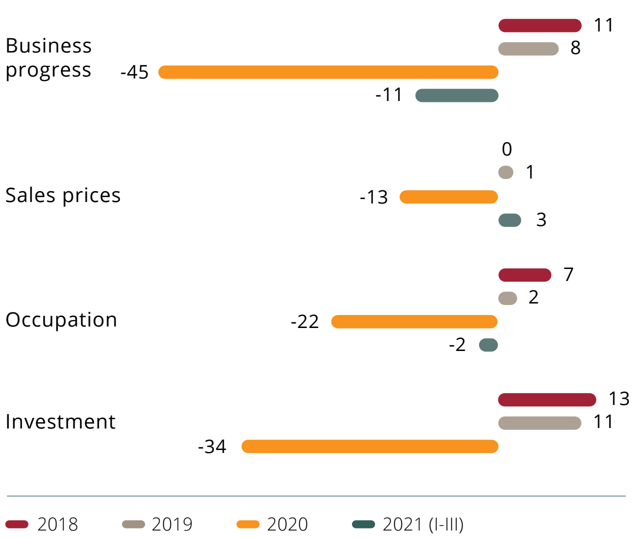
Investment over the course of 2020 (the latest available data, given that this is a variable that only appears in the Survey in the last quarter of the year for the whole of that year) has the most negative balance since 2009 (-34%) with just 10% of businesses considering that it had increased, compared to 44% that said it was down. The economic and health crisis has caused this historic reduction in gross fixed capital formation in Catalonia (-12.8% in 2020).

Sector results

If we analyse business performance by major economic sectors (up to Q3 2021), all to a greater or lesser extent recorded average negative balances due to the effects of Covid-19, but there are already marginally positive balances in employment in some sectors, and very positive ones in relation to sales prices. As has been mentioned, hospitality is the sector hardest hit with balances significantly more

Annual evolution of the main business variables in the AMB

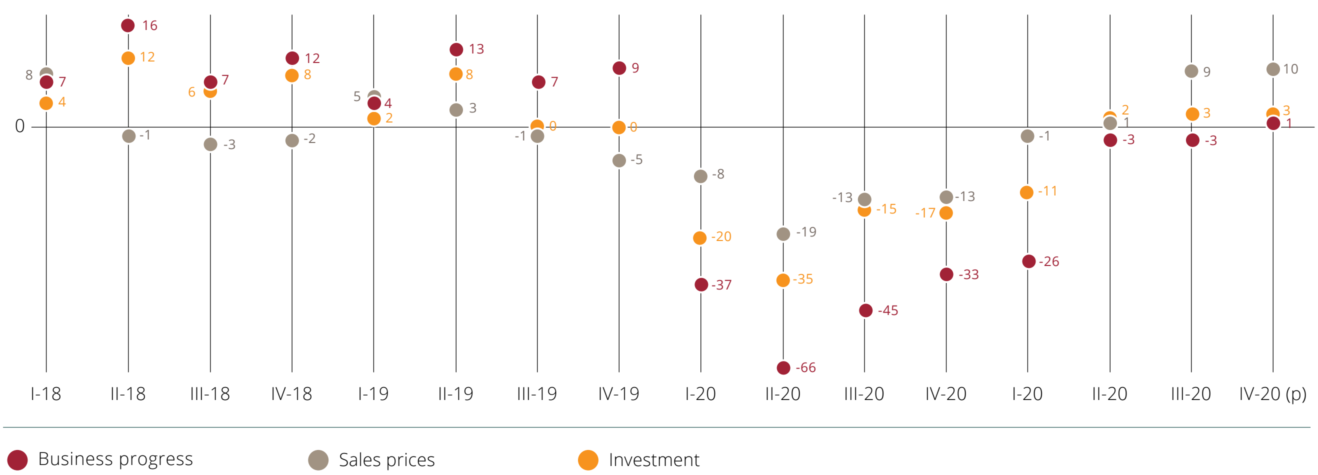
(balances in %)



Source: Barcelona Chamber of Commerce and Idescat

Quarterly evolution of the main business variables in the AMB

((balances in %)



Source: Barcelona Chamber of Commerce and Idescat

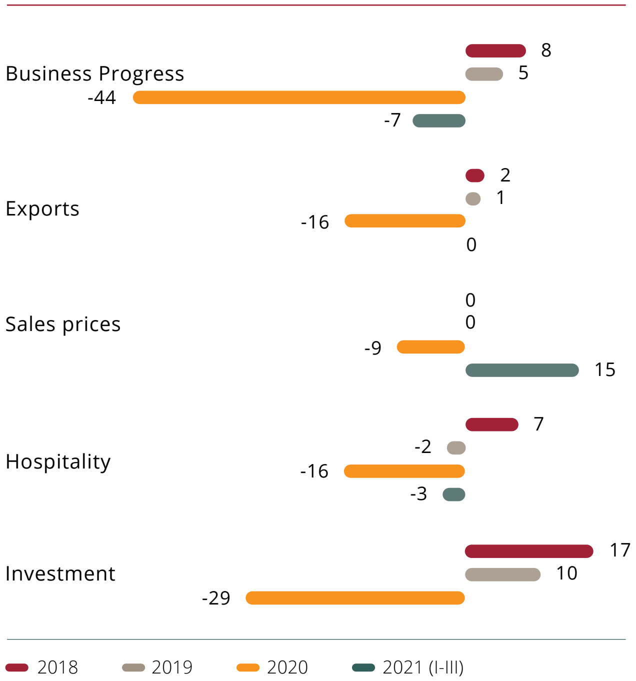
negative for all the variables analysed, but much less so than during the previous year. Industry and commerce were the next hardest hit, and saw moderate falls in employment, while construction and other services showed a marginally positive balance.

Industy

In 2021, Covid-19 has had a negative impact on business performance in industry, and has left it in an intermediate position in relation to the other sectors in the metropolitan area, but there has been substantial improvement compared to the previous year. During these nine months, the percentage of businesses in the sector stating that the situation has been favourable increased considerably with respect to the previous year (9% in 2020 and 22% on average up to Q3 2021), and those stating that it has been unfavourable has significantly decreased (from 53% to 29%, respectively). Likewise, by September, the Industrial Production Index was already only 2.2% below the figure for the same period in 2019, following the decline in 2020 (-10.1%).

With regard to **sales prices**, these increased significantly, and have registered the most positive sectoral balance and the highest in the sector since 2009 (the beginning of the available series), due to the increase in the price of energy and raw materials from the middle of the year onwards. In Q3, 24% of industrial firms said that prices had increased, compared to only 2% who said that prices had decreased. With regard to Q4 2021, businesses expect prices to increase at around the same rate as in the previous quarter. Consistent with the above, in Catalonia the Industrial Price Index increased by 12.8% year-on-year up to September 2021.

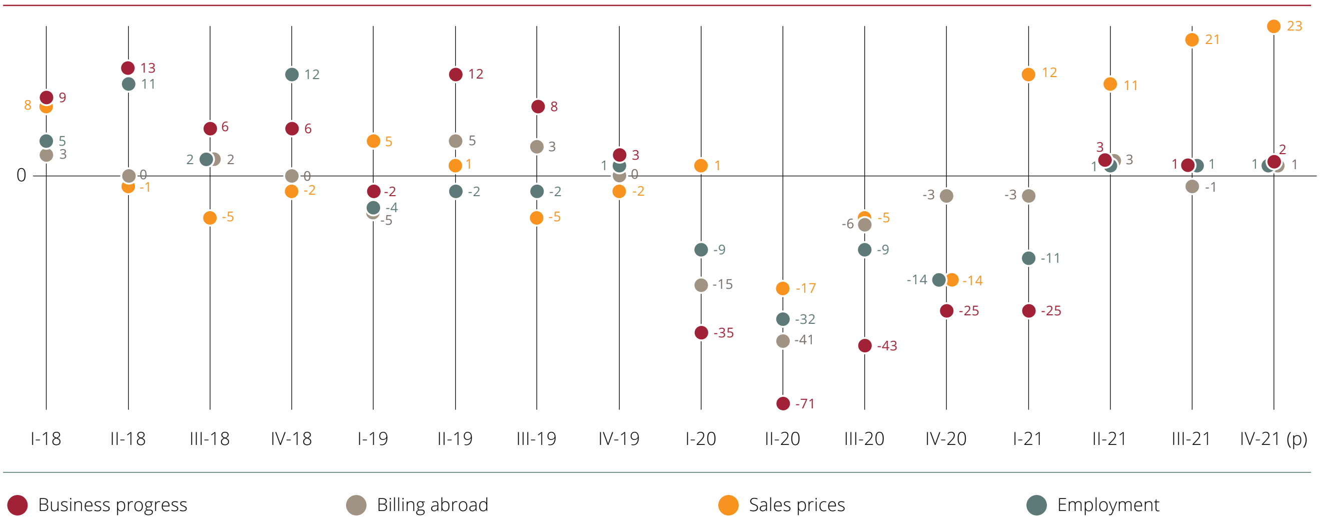
Annual evolution of the main variables in the AMB
(balances, in %)



Source: Barcelona Chamber of Commerce and Idescat

Employment, which already showed a marginally negative balance in 2019 for the first time since 2015, also fell

Quarterly evolution of the main business variables in the industry in the AMB (balances, in %)



Source: Barcelona Chamber of Commerce and Idescat

to a similar extent in the first quarters of 2021 (-3%), an improvement of 13 percentage points compared to the previous year (-16%). Overseas sales also experienced a sharp fall in Q2 2020, with the lockdown and closure of borders – the number of businesses that said their turnover was down doubled. However, a notable recovery was observed from this quarter onwards, and 2021 (up to Q3) has seen a stabilisation of the balance of responses with regard to exports.

Investment, based on 2020 data, decelerated sharply, with a reduction of -39 percentage points compared to 2019, showing a balance of -29%. However, this balance would rank as the second least negative relative to other sectors.

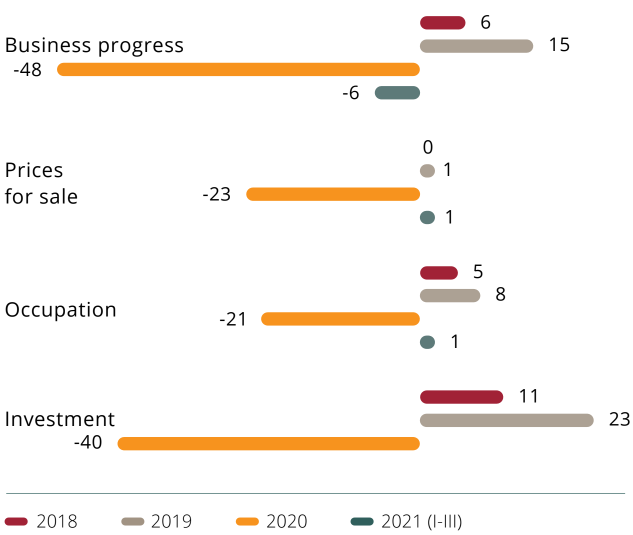
Construction

According to the survey, construction has made a strong recovery in 2021, after the downturn in 2020 as a result of the restrictions imposed to tackle the health crisis. Up to Q3 2021, it was the sector with the best performance in terms of employment, and the least negative in terms of business performance, alongside other services. However, this good performance could be undermined by price increases, which have had a significant impact on the sector over the last few quarters.

With regard to **business performance**, the first three quarters of the year closed with a balance of -6%, the strongest sectoral recovery with respect to the previous year (-42 percentage points), and the best result, together with other services. This result is due to the fact that 26.6% of businesses in the sector said their performance had been positive while 20.5% considered it had been negative. If we analyse the quarterly evolution, we can see that this aggregate result comes from a rather mixed trajectory: a very negative Q1 (-22%), a Q2 where the fall was significantly reduced (-5%), and a Q3 in which the business performance was positive (+8%). This evolution is in line with what has been observed in other indicators such as cement consumption or housing starts, which are getting

Annual evolution of the main business variables for INDUSTRY in the AMB

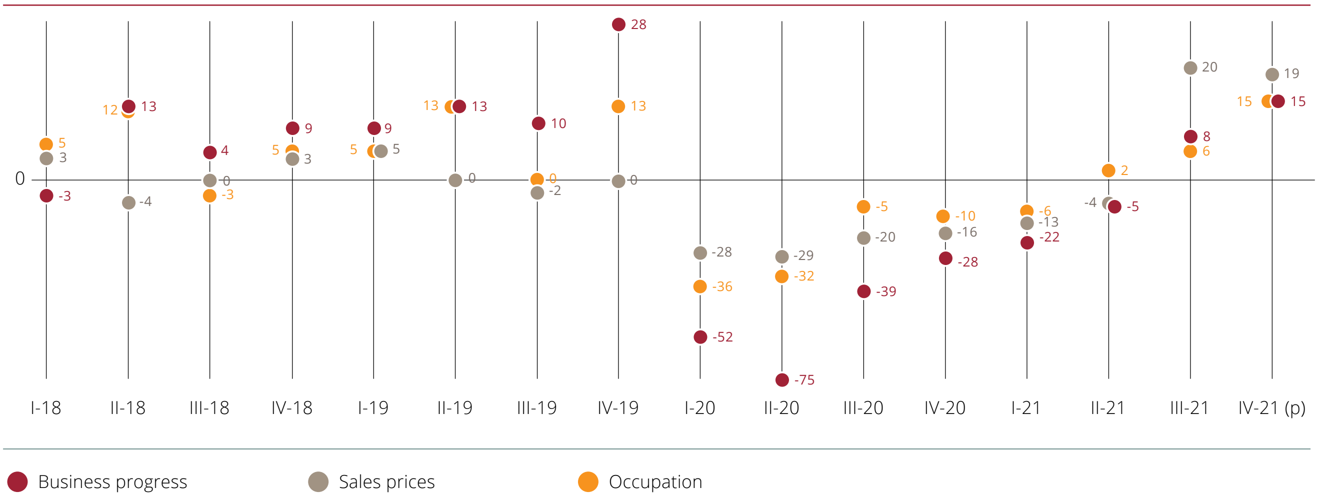
(balances, in %))



Source: arcelona Chamber of Commerce and Idescat

Quarterly evolution of the main business variables for INDUSTRY in the AMB

(balances, in %))



Source: Barcelona Chamber of Commerce and Idescat

ever closer to the level expected as the year progresses. For Q4 2020, an acceleration in recovery is expected in comparison with the previous quarter.

With regard to **sales prices**, the balances have been positive since Q2, something that has not been the case since the end of 2019. In Q3, construction recorded the highest sectoral balance (20%), with 28% of businesses reporting an increase, and 8% a decrease.

An increase in energy and raw material prices will continue to have a strong impact on this sector. Thus, for Q4, 25% of businesses forecast an increase in prices (compared to 19% who thought there would be a decrease).

Employment in the sector recovered from Q2 onwards (with a balance of 2% in Q1 and 6% in Q3) and recorded the best sectoral performance in the last quarter together with other services. The outlook for Q4 indicates that the recovery is stable.

Finally, in 2020, **investment** in construction recorded the second most negative result, behind only hospitality. The year closed with a balance of -40% (6 points below the global average). This figure was the lowest since 2013.

Commerce

Retail trade has been one of the sectors hardest hit during the Covid-19 crisis, with the retail trade index falling by 8.2% in 2020. However, other sales channels such as e-commerce (with a growth of 36% in 2020 in Spain) have gained. The results of the 2021 Business Climate Survey show recovery in the sector in terms of the number of workers, but business performance remains negative. We will have to wait and see whether precautionary or forced household savings accumulated during lockdown – which are at record highs – translate into consumption over the course of 2022.

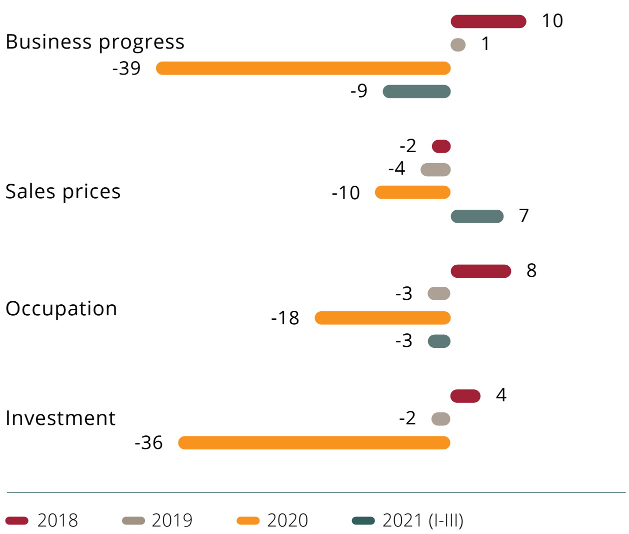
Business performance in the commercial sector in the Barcelona Metropolitan Area fell significantly in the first quarters of the year: with an average balance of -9% (30 points less than the previous year), resulting from 22.6% of responses saying it was up, and 31.3% saying it was down. However, it is the only sector, together with hospitality, that is still in negative territory. For Q4 (which includes the Christmas campaign), the AMB's commercial businesses foresee a less negative situation than in the previous quarter.

Sales price increases have steadily accelerated as the year has progressed, but less so than in industry and construction. Thus in Q3, retail sales prices recorded the highest increase in the available series (14%), with 19% of establishments considering that prices have increased and 5% saying that they have decreased.

With regard to employment, the pandemic has exerted a downward pressure on the negative balance already recorded in 2019, falling to -19%. Despite the introduction of the temporary lay-off scheme (ERTO/ERTE), the decline continued until Q2 2021. However, a slightly positive balance was recorded in Q3, with 13% of traders saying that employment had increased, while 10% said the opposite. Looking ahead to Q4, the positive balance remains stable compared to the previous quarter.

In 2020, on the other hand, **investment** fell for the second consecutive year, but more sharply as a result of the health crisis (-2% in 2019 and -36% in 2020). In fact, in 2019 it had already contracted, while in the economy overall it was growing strongly. In 2020, the decline in investment was in line with the average for the AMB economy (-34%).

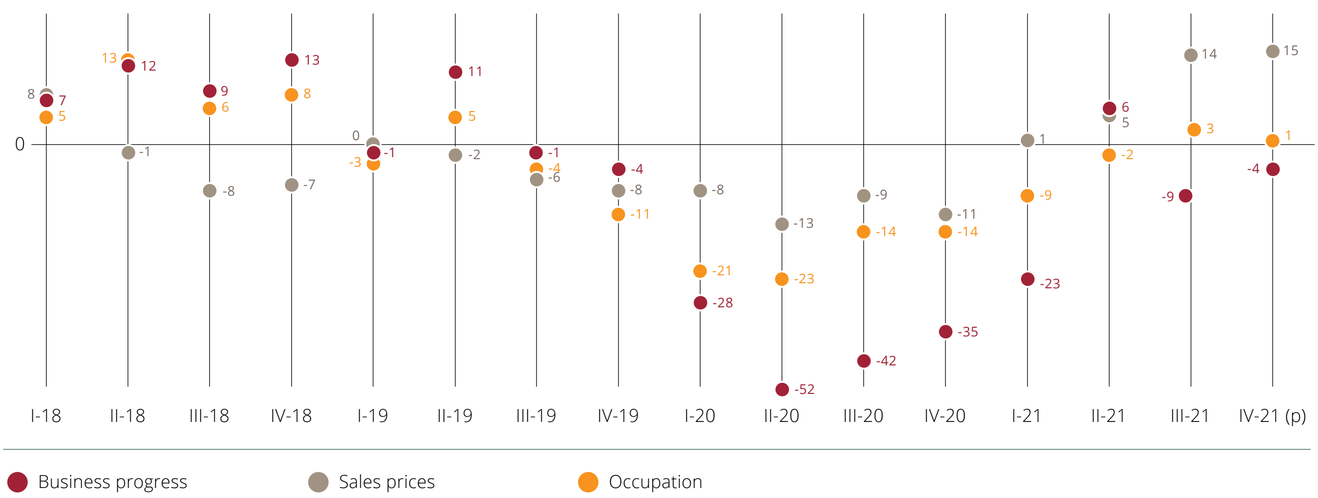
Annual evolution of the main business variables for COMMERCE in the AMB
(balances, in %)



Source: Barcelona Chamber of Commerce and Idescat

Quarterly evolution of the main business variables for COMMERCE in the AMB

(balances, in %)



Source: Barcelona Chamber of Commerce and Idescat

Hospitality

Hospitality was among the sectors worst affected by Covid-19 due to lockdown measures, and the worst results were recorded in the Barcelona Metropolitan Area in 2021 (first three quarters) for all the variables analysed. However, the fall has slowed down notably across all variables, thanks to the positive performance of domestic tourism and the relaxation of international restrictions on travel to Spain.

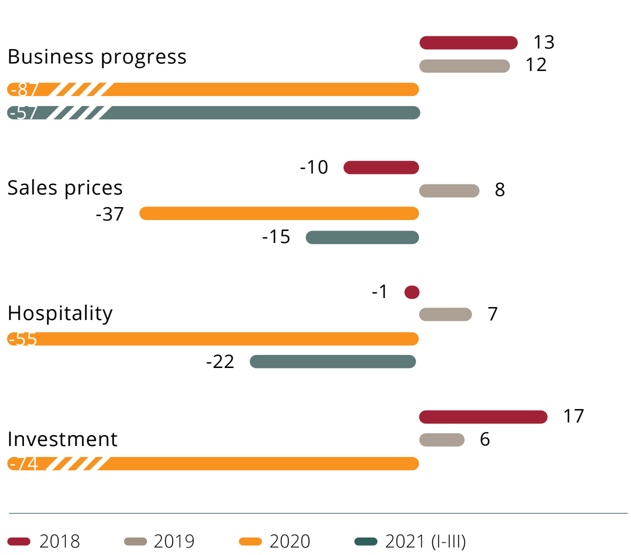
Thus, **business performance** in the hospitality sector was unfavourable for two out of three companies during the first nine months of the year (87% over 2020 as a whole) and only favourable for 9% (0% in 2020). Despite this aggregate result for the year, Q3 saw the least negative balance since 2020, thanks to the strong performance of domestic tourism in the summer holiday period. With regard to Q4 of 2020, the outlook for hospitality businesses remained negative, and worsened compared to the previous two quarters, with 11% believing that the situation would improve, and 59% expecting business to decline.

In terms of sales prices, it was the only sector to register a reduction (-15%), the eighth consecutive quarterly decline which was preceded by an increase in 2019 in a context of economic growth. However, it should be noted that this fall was less intense than the one experienced in 2009 with a balance of -41% (from Q1 to Q3 on average). At that time there was a crisis in demand, while currently supply and demand have both been affected, which may explain this difference in the way prices have evolved. With regard to Q4, businesses expect prices to continue to fall.

As for **employment,** the balance was -22% in 2021 (up to Q3 on average), 33 percentage points lower than the previous year, and very similar to the one observed for the same period in 2009 (-25%). In Q3 it was the only sector still showing a negative result, -12% (+3% on average for the economy as a whole). For the last quarter of the year, the labour

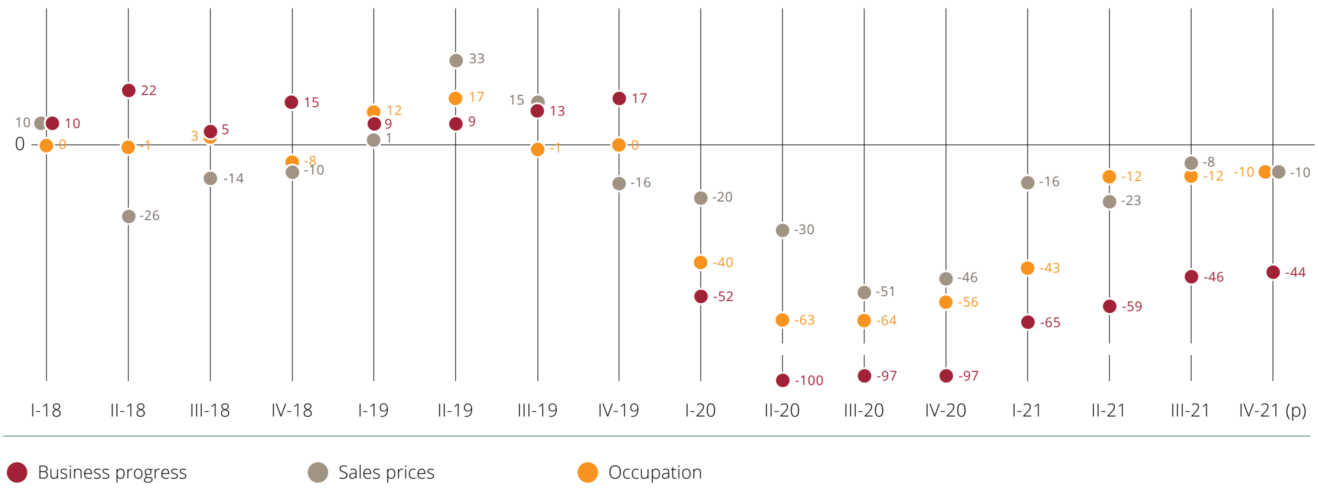
Annual evolution of the main business variables for HOSPITALITY in the AMB

(balances, in %)



Source: Barcelona Chamber of Commerce and Idescat

Quarterly evolution of the main business variables for HOSPITALITY in the AMB
(balances, in %))



Source: Chamber of Commerce and Idescat

market continues to contract and the balance is slightly worse than the prediction for the previous quarter.

In 2020, investment activity in the sector was strongly negative (-74%), even lower than was reported in the 2009 crisis (-18%). Moreover, the reduction was greater here than in all other sectors, and greater than that recorded by the metropolitan economy as a whole in 2020 (-34%).

Other services

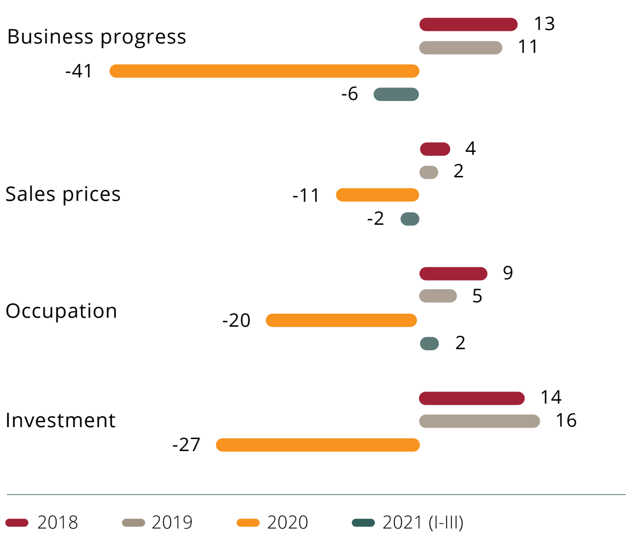
The other services sector (services excluding commerce and hospitality) has been hit to a lesser extent than the economy as a whole, both in terms of business performance and in prices and employment. Thus, in comparison with the other sectors, other services recorded the smallest fall in business performance (together with construction) and the best positive result with regard to employment. As for sales prices, these remained almost stable in comparison with the significant increases in other economic sectors (with the exception of hospitality).

With regard to **business performance,** the balance stands at -6% up to Q3, with 20% of businesses in the sector considering performance to have been favourable, and 26% considering it to have been negative. In Q3, the balance was already marginally positive, (4%), and with regard to Q4, businesses expected business to continue to improve, and more so than in the previous quarter (10%).

As for **sales prices**, after the downturn in 2020, they registered a slight decrease over the first nine months of the year (with a balance of -2%). However, as the year has progressed, the fall in sales prices slowed before stabilising: from -4% in Q1 to -1% in Q2 and 0% in Q3. Sales prices were expected to remain stable in the last quarter of 2021.

With regard to the **labour market,** other services showed a marginally positive result, the best across all sectors (closely followed by construction), due to the difference between the 15% of businesses who reported an increase in the number of employees in 2021, and the 12% that reported a decrease. For Q4 2021, business owners expect

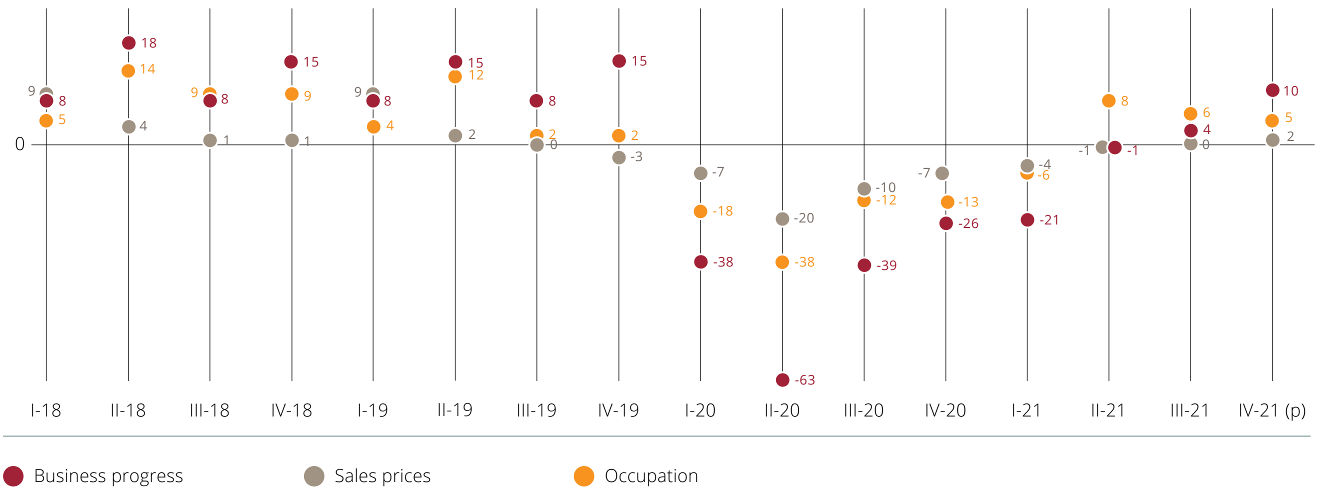
Annual evolution of the main business variables for OTHER SERVICES in the AMB
(balances in %)



Source: Barcelona Chamber of Commerce and Idescat

Quarterly evolution of the main business variables for OTHER SERVICES in the AMB

(balances in %)



Source: Chamber of Commerce and Idescat

to see a notable rise in the number of employees but one that is not as pronounced as in the previous quarter.

Finally, in 2020 investment, despite the decline, recorded the best balance of all sectors (-27%), 7 points lower than the average (-34%). This evolution was the result of both a fall in the number of businesses saying that it had increased, and a rise in the number of those saying that it had decreased. In fact, this value was the lowest for the sector since 2009.

Comparison with Catalonia

In terms of the evolution of business activity by region, Catalonia performed slightly better than the AMB in the first quarters of 2021. The decline in business activity has been greater in the metropolitan area; the increase in sales prices has been more pronounced in the AMB, and employment has been marginally negative in the AMB, while in Catalonia as a whole it has been positive. It is important to bear in mind the significant weight of Barcelona within the AMB, as well as the greater dependence on exports and international tourism, the sector that has been hardest hit by the consequences of the Covid-19 crisis.

Across all sectors, there has been a more negative evolution of **business performance** in the AMB than in Catalonia as a whole, although the most negative impact has been seen in the hospitality sector. In terms of **sales prices**, in industry and construction the increase was very similar between regions, and was lower in the AMB in the sphere of commerce. The fall in prices has been quite modest, and has been similar in both regions, while in the hospitality sector the drop in prices has been more pronounced in the AMB. Finally, **employment** in Catalonia grew in all sectors except hospitality, while in the AMB it grew only in construction and other services.

Main business variables with Catalonia. 2021 (Q1-Q3)

(balance, in %)

Source: Barcelona Chamber of Commerce and Idescat

Methodological annex

Sectors included in the *Business Climate* Survey:

Industry

01 Food, beverages and tobacco (CCAE-2009: 10 to 12)

02 Textiles, clothing manufacture, leather and footwear (CCAE-2009: 13 to 15)

03 Wood and cork industries, paper and graphic arts (CCAE-2009: 16 to 18)

04 Chemical industries, rubber and other non-metal mine ral products (CCAE-2009: 20 to 23)

05 Metalworking and manufacture of metal products (CCAE-2009: 24 and 25)

06 Production of machinery and mechanical and electrical equipment, and IT, electronic and optical products (CCAE-2009: 26 to 28)

07 Other industries (CCAE-2009: 05 to 09, 19, 29 to 33, 35 to 39)

Construction

The whole of Section F of the CCAE-2009 is taken into account:

41 Property construction

42 Civil engineering construction

43 Specialist construction activities

Commerce

01 Retail trade in food, beverages and tobacco products in specialist establishments (CCAE-2009: 472)

02 Retail trade in domestic, cultural and recreational products in specialist establishments (CCAE: 475 and 476)

03 Other types of retail trade (CCAE-2009: 473, 474, 477, 478, 479)

04 Retail trade in non-specialist establishments (CCAE-2009: 471)

05 Sale and repair of motor vehicles and motorcycles (CCAE-2009: 45)

06 Wholesale and intermediaries (CCAE-2009: 46)

06 Comerç a l'engròs i intermediaris de comerç (CCAE-2009: 46)

Hospitality

CCAE-2009: 55 and 56

55 Accommodation services

56 Food and drink services

Other services

01 Information and communications (CCAE-2009: 58 to 63)

02 Legal and accountancy activities (CCAE-2009: 69)

03 R&D, advertising and market studies and scientific and technical activities (CCAE-2009: 71 to 75)

04 Administrative activities and auxiliary services (CCAE-2009: 77 to 82)

05 Other services (CCAE-2009: 49 to 53, 64 to 66, 68, 92, 93 and 96)

Sampling errors. AMB. 2021*

Sectors	Exhibition	Error[3]
Industry	168	7.5%
Construction	86	10.6%
Commerce	209	6.8%
Hospitality	71	11.6%
Other services	497	4.5%
Total	**1,031**	**3.1%**

* Quarterly average from Q1 to Q3

Source: Barcelona Chamber of Commerce and Idescat

3. Maximum possible error calculated on the basis of a single random sample.