REPORT 2022

2002-2022

observatori barcelona

Presentation

We present the *2022 Report* of the Barcelona Observatory, a joint project of the Barcelona City Council and the Barcelona Chamber of Commerce, now in its 20th year, which aims to compare Barcelona with the main cities around the world. A reference document that gives us a perspective on our city and its metropolitan area, in areas such as economy, innovation, quality of life and sustainability.

In the last year, Barcelona's economy continued to demonstrate its great capacity for resilience at a time not free of difficulties, framed by the slowing down of the world's economy recovery started in 2021, as a result of the repercussions of the armed conflict in Ukraine, the energy crisis, increased inflation and a hardening of monetary policy.

Barcelona thus continues to offer certainty in the face of uncertainty, with a positive performance in several key indicators that have recovered or even improved upon pre-pandemic levels. For example, in terms of registered unemployment, we have reached the lowest number of unemployed people in the last 15 years, while in terms of GDP, we have recovered the activity of 2019 and we have reached a higher growth rate than the European Union. In addition, the province of Barcelona has remained the leading export territory in Spain as a whole, and the last twelve months have also confirmed the recovery of tourism with higher quality parameters, as we are the city in Spain with the most overnight stays of international tourists and domestic tourism now clearly exceeds the figures we had before the pandemic.

In short, our economic and social fabric has shown its strength in a complex context and we maintain a good international position in most of the 34 indicators analysed in the report. In fact, Barcelona has been ranked 6th among the most attractive global cities for visitors, entrepreneurs and residents in *Resonance Consultancy's World's Best Cities 2023* ranking, gaining three positions compared to 2021. In fact, the city's appeal in many different areas means that we are in a good position to take advantage of future opportunities that will arise as the recovery of the global economy once again gains strength and with the

implementation of transformative public policies such as Next Generation EU funds.

On the other hand, in the economic field it should be noted that Barcelona is positioned – for the second time since 2016 – among the 20 cities with the most global competitiveness according to the report *Global Power City Index 2022*, (one of the most prestigious and solid rankings), or that sources such as FDi and KPMG continue to consider us a very attractive environment for foreign investment.

In addition, we have managed to maintain leadership in an essential sector for our city, such as congresses and fairs, where Barcelona is in 4th place in the number of international congresses and meetings and in 2nd place in the total number of delegates in the world ranking of the ICCA. In fact, we are the only city that remains in the top 5 throughout the last 20 years; a leadership that will be strengthened thanks to the status of the permanent seat of the Mobile World Congress (MWC) and the consolidation of the Integrated Systems of Europe (ISE), as well as other major events planned during 2023.

The progression of the city as a digital reference *hub* has also continued to be consolidated: in the last year, Barcelona was positioned as the 13th digital city in the world and the 6th in Europe in the first edition of the ranking *Digital Cities Index* prepared by Economist Impact (of The Economist group), which highlights Barcelona's leadership in areas such as the promotion of digital rights and the democratic use of data, the use of the Internet of Things to optimise the irrigation of public spaces and urban lighting or the development of pioneering 5G initiatives.

Regarding the job market, it continues to be demonstrated that Barcelona is a very attractive city for talent: It is the 10th most attractive city for digital experts to work abroad and 9th for global talent (*Boston Consulting Group*). Likewise, Barcelona is one of the only two cities in Europe with two teaching institutions (IESE and ESADE) among the ten best business schools on the European continent in 2022.

The development policies that we promote from Barcelona City Council – within the framework of the economic agenda *Barcelona Green Deal* – have incorporated sustainability as one of their strategic pillars, and this is also recognised internationally: in 2022, Barcelona will be the 10th city in Europe most prepared for mobility with zero emissions according to the first ranking edition of *Clean Cities Campaign*, where we stand out in ease of travel on foot (2nd), access to public transport (5th) and safety for cyclists (6th); and we are the 17th city in the world with the most sustainable mobility system (*Urban Mobility Readiness Index 2022*). In other relevant aspects of the city model, Barcelona is among the 15 safest cities in the world – according to The Economist – and we are also the 9th city with the most creative intensity in Europe, according to the European Commission.

These are just some of the examples that show us that Barcelona has all the potential to continue becoming a reference city on the world stage. We have a robust business ecosystem that we will strengthen in the coming years with the development of 1 million square metres in the 22@ technology district, and we exercise our leadership from one of the main metropolitan and urban areas in Europe, strategically located as a bridge between the two shores of the Mediterranean and with a strong link with Latin America.

But we are also aware that we continue to have great challenges ahead, such as the creation of more quality employment, the reduction of inequalities, the digital transformation and continuing to promote inclusive growth and development linked to the achievement of the Sustainable Development Goals (SDG) of the 2030 Agenda of the United Nations. All in all, these challenges can be summarised as a strong desire to build a city based on a threefold premise: greater competitiveness, greater sustainability and greater equity.

Finally, I want to convey my congratulations to the technical teams who make the publication of this report possible year after year. Over the course of 20 years, this has been and is a good example of collaboration between institutions. Above all, it has become a reference tool for economic and social agents to help us understand and rigorously evaluate the socio-economic evolution of Barcelona, to better understand who we are and, above all, where we are heading.

In particular, this report confirms, once again, the idea that Barcelona is one of the best cities in the world in which to live and work, full of challenges and anxieties, but above all, full of opportunities and ready to meet the future.

Laia Bonet Rull

Deputy Mayor

Head of the Area for Economy, Work, Competitiveness and Tax

Presentation

The Barcelona Observatory Report reaches its 20th edition this year. It is a reference study in the field of international comparison of cities. This publication is the result of a collaboration between the Barcelona Chamber of Commerce and Barcelona City Council, and it aims to analyse the image and global positioning of the city of Barcelona in relation to other first-line cities on a European scale and/or worldwide, as well as identifying the city's strengths and weaknesses, and highlighting a dynamic and socially cohesive economy and a leader in innovation, talent and sustainability, which is able to compete with the most developed economies

A total of 34 indicators are analysed in the areas of economic activity, quality of life and social cohesion, the labour market and training, the knowledge society, tourism, and prices and costs. The Observatory also includes a monographic study analysing the results for the years 2021 and 2022 of the AMB Business Climate Survey prepared by Idescat and the Barcelona Chamber of Commerce.

The results of this study are overall positive in terms of business performance and employment, but show a slowdown from the third quarter due to the impact of the energy crisis and inflation on economic activity. Sales prices remain at historically very high levels, but have moderated in practically all sectors since the third quarter.

This year's report highlights the continuity of the recovery process of economic activity after the intense fall resulting from the pandemic. In addition, poverty indicators and the unemployment rate have withstood the strong shock that the economy has suffered. In this 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 majority of the 34 indicators in the Barcelona Observatory 2022 Report.

Of particular note is the strength of the technological entrepreneurship ecosystem and *startups* in the Catalan capital, which continues to be one of the most dynamic and attractive in Europe and the world, thanks to the push for digitisation in key sectors of the economy. Thus, Barcelona remains, for the fifth consecutive year, as the 3rd favourite city among more than 100 European cities to establish a *startup* (according to the *Startup Heatmap Europe Report 2022*), remains also the 1st ecosystem of *startup hubs* in Spain, 7th in Europe and 37th in the world in 2022 (according to StartupBlink) and is the 9th city in the top 100 emerging ecosystems in the world (according to Startup Genome). These results are reinforced by a labour force that stands out in sectors of high added value and high quality scientific research. According to Eurostat, in 2021 Catalonia is the 7th region in Europe in terms of employment in intensive services in knowledge and leading technology, the 3rd region where more people with higher education work in the field of science and technology and the 4th European region in population employed in manufacturing with high and medium-high technological intensity – it should be noted that female employment in these activities already represents almost a third of the total.

The disruption caused by the pandemic has forced us to step on the accelerator in digital transformation and technology to deal with the situations that have arisen and to get out of the economic and health crisis more quickly. For this reason, it is necessary to continue betting on and promoting an economic fabric of its own in emerging technological sectors, all framed in an ecosystem of startups that are attracted by the opportunities offered by Barcelona, such as the quality of life, qualified workforce, and competitive prices and costs. All this transformation must go hand in hand with the opportunities provided by European funds *Next Generation EU* to promote transformative projects in the digital and sustainability field.

The pandemic also had a strong impact on tourism, an economic engine and backbone of the city, and unprecedented numbers were recorded in 2020. However, during the second part of 2021 and all of 2022, the tourism sector in Barcelona has experienced a remarkable recovery thanks to the economic improvement and the intention to travel contained following the mobility restrictions during the pandemic. The main reference indicators thus show that the reputation and preference of Barcelona and its surroundings as a tourist destination for international visitors is maintained. In 2021, the city holds the 4th position in Europe in terms of international overnight stays (according to the City Destinations Alliance) and is the 10th international destination (according to Euromonitor International). Barcelona is also the 5th city in the world with the best brand, gaining two positions with respect to the 2020 edition.

In terms of the main access infrastructure to the city, in 2022 the Josep Tarradellas Barcelona-el Prat airport will return to the European top ten, ranking 7th in terms of passenger numbers in Europe (up to October). It is getting closer to the record figures from before the crisis, despite the lack of investment in historical infrastructure and without an agreement on the plan to adapt the airport to the new economic models.

With the satisfaction that Barcelona has strengthened its leadership in the technological ecosystem, that tourism is recovering vigorously, and that social cohesion and well-being in the city have shown great resilience during the pandemic thanks to public measures adopted, I want to share with you all this report that should help us reflect on where we are and where we want to go. I hope it will be a useful tool for all economic, social and political agents working to make Barcelona a competitive, innovative, genuine, sustainable and cohesive city.

Mònica Roca i Aparici

President of the Official Chamber of Commerce, Industry, Services and Navigation of Barcelona

Acknowledgements

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INTRODUCTION

Introduction

We present the *2022 report* of the Barcelona Observatory, which celebrates its 20th edition this year. 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 20th 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 this end, the report presents Barcelona's position with respect to the main cities of the world in a set of economic and social indicators that allow monitoring key aspects of urban competitiveness and that, as has happened throughout the entire development of the project, are in line with the strategic priorities of the city's local development policy, which – in the 2030 horizon – establishes the Barcelona Green Deal agenda.

The *2022 Report* presents a number of characteristics summarised below:

- A selection of 34 significant indicators that offer readers a synthetic, efficient presentation of the most relevant figures from the perspective of the city's positioning, of its characteristics and the goals it aims to achieve, which are presented in six thematic areas: a focus for economic activity; quality of life, sustainability and social cohesion; job market and training, knowledge society; tourism; and prices and costs.

As a new feature, this year's report incorporates four new indicators: digital cities of the world, which is part of the "Hub of activity" chapter; cities most prepared for mobility with zero emissions, in the chapter "Quality of life, sustainability and social cohesion"; main *startup hubs* (or emerging company platforms) in the world, in the "Knowledge Society" chapter, and international overnight stays in European cities, in the "Tourism" chapter.

- A synoptic table presenting the series of indicators, in order to showcase the results and a graph showing Barcelona's international positioning according to various rankings.
- A monographic article prepared by the Chamber of Commerce presenting an analysis of the business climate in the metropolitan area of Barcelona in the first three quarters of the year 2022 and the forecast for the fourth quarter of the same year, including a specific treatment 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 built on the basis of a set of indicators, preferably defined at city level, but which can be extended to other territorial scopes.
- The sources of information are all renowned international entities and institutions.
- The majority of the sources are international rankings; and, in the case of seven indicators, data were obtained from a sample collected from the main urban areas.
- When 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 2022

Facts and figures Barcelona 2022

GEOGRAPHICAL ENVIRONMENT

Surface area (km²)	101.4
Population (January 1, 2022)	1,639,981
Foreign population (% of total) (January 1, 2022)	22.2%
Density (inhabitants/km²)	16,178.0
Climatology (Can Bruixa observatory)	
Average monthly temperature	18.1ºC
Annual precipitation (mm)	307.7
Hours of sunshine	2,808.4

ECONOMIC ENVIRONMENT

MACROECONOMIC DATA

GDP (interannual variation %) – Catalonia	5.5
GDP (interannual variation %) – Barcelona	6.6
Persons registered with Social Security	1,183,473
Unemployment rate 16-64 years (Annual average in %)	7.7
Employment rate 16-64 years (Annual average in %)	72.9
Activity rate 16-64 years (Annual average in %)	78.9
CPI (average variation, %) – province of Barcelona	7.6
Exports (millions of €) – province of Barcelona	73,751.2
Imports (millions of €) – province of Barcelona	88,121.4
Investments abroad (millions of €) – Catalonia	580.5
Foreign investments (millions of €) – Catalonia	3,883.5
Businesses – province of Barcelona	480,301
Foreign companies in Catalonia	9,155

COMMERCE AND TOURISM

Retail establishments	24,289
Trade hubs	43
Municipal markets (number and commercial area [m²])	43/124,561
Hotels	
Number	633
Beds	84,511
Tourists	7,381,619

INFRASTRUCTURE

Airport	
Runways (number and length [m])	3/3,352;2,660;2,528
Passengers	41,639,622
International passengers (%)	81.3
Port	
Land surface area (ha)	1,111.9
Total traffic (tonnes)	69,127,547

TRAINING AND KNOWLEDGE CITY

Catalan universities	12
University students in Catalonia (2019/2020 academic year)	282,418
Foreign students (province of Barcelona) (2019/2020 academic year)	26,657
Innovative companies in Catalonia*	4,797

QUALITY OF LIFE (2021)

Urban and forest green space per capita (m² per inhabitant)	17.3
Beaches (number and metres)	10; 4,780
Bike lane (km and bicing + electric bicing subscribers)	240; 131,771
Public libraries (number and users (in millions))	40; 3.96
Heritage centres and large exhibition centres (number and millions of users)	59; 9.8
Performing arts (theatres and spectators in millions)	39; 2.0

*2020 data.

Source: AENA, Barcelona City Council, Chamber of Barcelona, Fira de Barcelona, Generalitat de Catalunya, Idescat, INE, State Ports, Secretary of State for Trade, Barcelona Tourism and Barcelona Culture Institute.

RESULTS

Hub of economic activity

OBSERVATORI BARCELONA

Introduction

The macroeconomic indicators for 2022 highlight – from the second quarter – the slowdown in the recovery of global economic activity after the intense growth of 2021, in an environment marked by the repercussions of the war situation in Ukraine and the tightening of monetary policy. In this context, the annual variation of the Catalan GDP stands at 5.5%, an indicator that in 2023 would moderate significantly to 1.8%, according to estimates from the Chamber of Barcelona, in an environment characterised due to high uncertainty.

In this complex economic context, Barcelona was positioned – for the second time since 2016 – among the 20 most globally competitive cities, according to the Mori Memorial Foundation's *Global Power City Index 2022*, which ranked it 20th in the world and 10th in Europe, ahead of San Francisco, Milan and Geneva, and outstanding in the categories of liveability (2nd) and cultural interaction and accessibility (13th). On the other hand, the *World's Best Cities 2023* ranking by Resonance Consultancy, which evaluates the quality and attractiveness of the city from different perspectives, places Barcelona as the sixth in the world – before Singapore, Amsterdam or Los Angeles, after gaining three positions compared to the previous year.

On the other hand, Barcelona is confirmed as a digital reference hub and in 2022 it will be the thirteenth digital city in the world and the sixth in Europe in the first edition of the ranking *Digital Cities Index* prepared by Economist Impact (of The Economist group), ahead of cities such as Berlin, Madrid and Tokyo. The city excels in the categories of sustainability (where it ranks fourth) and services (seventh). Likewise, according to the report *Tech Cities 2020* by Savills, Barcelona is the fifth most attractive city in the world for digital nomads and ranks among the *Tech Lifestyle Cities* Global scale reference.

Barcelona and Catalonia generate confidence in the field of international investment, as shown by the fact that the Principality ranks seventh among the world's main regions in attracting foreign investment projects – according to KPMG's *Global Cities Investment Monitor 2022* – and stands out as the second region in research centre projects Also, Barcelona remains the city in Europe with the best strategy for attracting foreign investment according to the report *fDi Cities and Regions of the Future 2022/23* (Financial Times group) and ranks as the tenth most attractive European city for international investors, according to the*EY Attractiveness Survey 2022*. It should be noted that, in the 2017-2021 period as a whole, Catalonia has received a total of 876 foreign direct investment (FDI) projects with a volume of €18,018 million – 37.4% higher than in the 2012-16 period – which have created 94,578 direct jobs, and ranks third in Western Europe in terms of jobs created by FDI.

With regard to the activity of international fairs and congresses, the strength and resilience of Barcelona have been evident once again in the ICCA 2021 ranking. In this sense, it should be noted that Barcelona is not just the only international destination that has been in the *top 5* throughout the last twenty years in number of meetings, but historically it has been placed in the first positions in number of delegates and has occupied the first place on several occasions.

As for entrepreneurship, in 2021 the entrepreneurial activity rate (TEA) has grown in the Barcelona area and in Catalonia to reach a value of 7.2%, which exceeds the Spanish average (5.5%) and those of Germany (6.9%), Poland (2%) and Italy (4.8%). Likewise, the rate of female entrepreneurship in Barcelona (6.4%) and that of Catalonia (6.7%) increased in relation to 2020. The Barcelona Chamber of Commerce and Barcelona City Council are both working in this area to promote entrepreneurship and help to create high quality jobs in the city.

In the 2020-21 period, Barcelona City Council has promoted a specific action plan of 54 measures and actions for the economic recovery of Barcelona. It has had a high global impact on the economic and social fabric of the city, with an economic impact of €405.3 million and the creation or maintenance of 13,297 jobs.

Barcelona, among the top 20 most competitive cities in the world

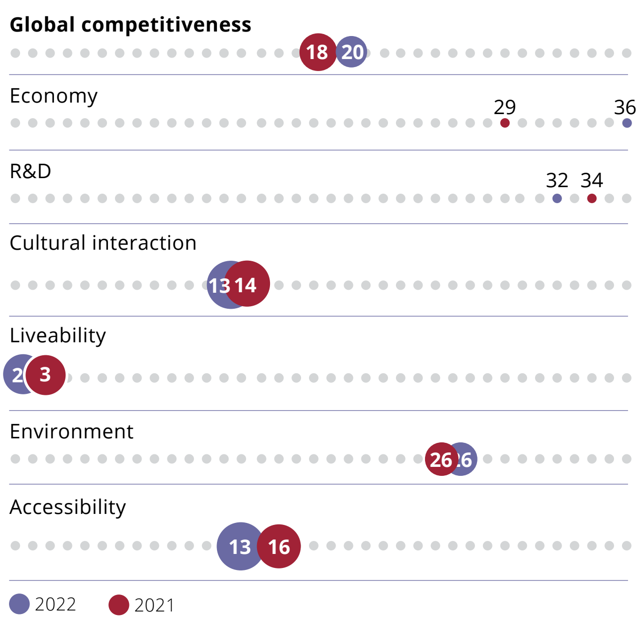
Global competitiveness of world cities in 2022

Barcelona, among the top 20 most globally competitive cities

In 2022, the report *Global Power City Index*, which compares 48 major cities in the world, ranked Barcelona 20th in the world and 10th in Europe for global competitiveness. In a classification headed by the great metropolises of London, New York, Tokyo, Paris and Singapore, Barcelona surpasses cities such as San Francisco, Milan and Geneva, despite losing two positions in the world ranking and three in the European ranking in relation to the previous edition. In this way, Barcelona remains among the twenty leading global cities for the second consecutive year and slightly increases its total score compared to last year.

Since 2008, with the participation of universities and of internationally-renowned *think tanks*, the Japanese Mori Memorial Foundation has elaborated the *Global Power City Index* based on the results of a total of seventy indicators arranged in six categories by areas of urban competitiveness. In 2022, Barcelona is ranked 2nd in the world for livability, 13th for cultural interaction and accessibility and 26th for the environment, while occupying the 32nd and 36th places, respectively, for R&D and economy. In relation to the previous year, the city has advanced in the categories of R&D, cultural interaction, livability and accessibility, while it maintains its position in the environment category, and drops in the economy category. On the other hand, from the point of view of global qualified professionals, Barcelona is the 9th most valued city, while residents also give it 9th position, tourists the 11th and managers 31st.

Categories of urban competitiveness
(positioning of Barcelona)



Source: *Global Power City Index 2022* . Institute of Urban Strategies. The Mori Memorial Foundation.

Global competitiveness of cities around the world. 2022

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

Source: *Global Power City Index 2022*. Institute of Urban Strategies. The Mori Memorial Foundation.

Digital cities of the world in 2022

Barcelona, thirteenth digital city in the world and sixth in Europe

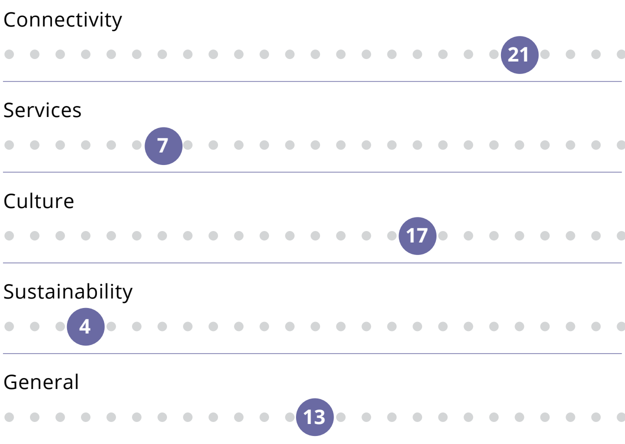
In 2022 Barcelona is the thirteenth digital city in the world and the sixth in Europe in the first edition of the ranking *Digital Cities Index* produced by Economist Impact (of The Economist Group), led by Copenhagen, Amsterdam and Beijing.

This new index ranks 30 cities around the world in relation to four thematic pillars of digital transformation: connectivity, resident services, culture and sustainability, and combines qualitative and quantitative analysis of 17 indicators and 48 sub-indicators and the results of a survey of 3,000 residents of the same cities, taking into account the policies and projects under way to develop technologies such as 5G or artificial intelligence.

Barcelona excels in the categories of sustainability – in which it is in 4th position, only behind Copenhagen, Seoul and Toronto – and services, which includes subcategories such as digital finance, health or electronic administration, in which it occupies 7th position, while it is placed in the intermediate range in culture (17th) and connectivity (21st). The report highlights Barcelona's leadership in areas such as the promotion of digital rights and the democratic use of data, the use of the Internet of Things to optimise the irrigation of public spaces and urban lighting, or the development of pioneering 5G initiatives in education, improved visitor experience and e-commerce.

Likewise, according to the report *Tech Cities 2020* by Savills, Barcelona is the fifth most attractive city in the world for digital nomads, taking into account technological infrastructure, the offer of flexible workspaces, environmental quality and other aspects related to well-being, which located it among the reference *Tech Lifestyle Cities* at global level.

Positioning of Barcelona by dimensions



Source: *Digital Cities Index 2022,* The Economist.

Main cities digital cities of the world. 2022

Position global ranking	City	Position among European cities	Index
1	Copenhagen	1	81.5
2	Amsterdam	2	74.6
3	Beijing		73.7
4	London	3	73.6
4	Seoul		73.6
6	New York		73.3
7	Sydney		72.6
8	Singapore		71.4
9	Washington DC		71.2
10	Paris	4	70.2
11	Toronto		70.1
11	Zurich	5	70.1
13	**Barcelona**	**6**	**69.7**
14	Frankfurt	7	69.1
15	Dallas		68.7
16	Berlin	8	68.2
17	Hong Kong		68.0
18	Dubai		63.8
19	Madrid	9	63.2
20	Tokyo		63.0
21	Rome	10	61.2
22	Auckland		60.1
23	Kuala Lumpur		58.2
24	São Paulo		50.7
25	Bangkok		49.1
26	Buenos Aires		45.1
27	Jakarta		43.5
28	Mexico City		42.6
29	New Delhi		40.3
30	Manila		39.1

Source: *Digital Cities Index 2022, Economist Impact*

Main world urban areas to receive international investment projects in 2021

Catalonia, seventh global region in foreign investment projects

The report *Global Cities Investment Monitor 2022*, by KPMG, places Catalonia in seventh position among the main regions of the world in attracting foreign investment projects *greenfield* in 2021. The region is in the global top 10 – above regions such as Berlin, Madrid or California – and is also the seventh region in projects from Europe in the 2019-21 period (with a total of 434 projects). The report highlights Catalonia's specialisation in research and development centres – where it is the second global receiving urban area, only behind Paris, as well as in projects involving reinvestments (in which it reaches fourth position).

Barcelona remains the city in Europe with the best strategy for attracting foreign investment according to the report *fDi's European Cities and Regions of the Future 2022/23* (Financial Times group). According to the *EY Attractiveness Survey Europe 2022*, Barcelona is ranked as the tenth most attractive city for international investment, in a context in which the impacts of Brexit, the pandemic and the conflict in Ukraine are affecting the volume of foreign investment in Europe as a whole.

Productive foreign investment in Catalonia in 2022 was €3,883.5 million, and 9,155 foreign companies, mainly from France, Germany and the United States, are based in this region. Finally, according to an ACCIÓ report based on data from fDi Markets (Financial Times Group), during the period 2017-2021 Catalonia attracted a total of 876 foreign investment projects – worth €18.018 million – 37.4% more than in the period 2012-16 – creating 94,578 direct jobs, and it is ranked 3rd in the Western European region for jobs resulting from FDI.

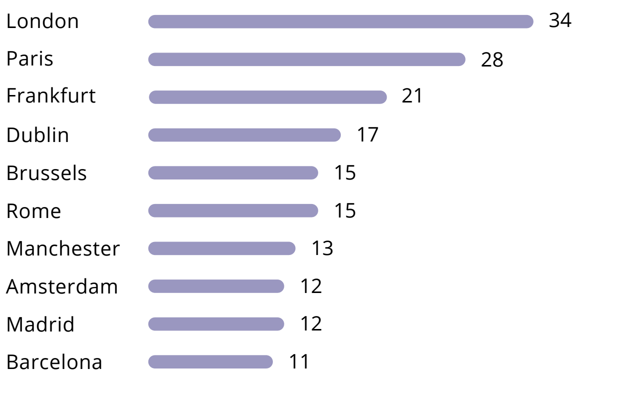
Main urban regions in the world receiving international investment projects 2021

Position 2021	Region	Number of projects
1	Dubai	419
2	London	370
3	Singapore	364
4	Rhineland-Westphalia	322
5	Île-de-France	318
6	Baden-Wurtemberg	233
7	**Catalonia**	**229**
8	New York	220
9	Berlin	219
10	Flanders	181
11	Madrid	179
12	California	174
13	Texas	169
14	Hesse	159
15	Bavaria	153

Source: *Global Cities Investment Monitor 2022, KPMG.*

Most attractive cities in Europe for foreign investment 2022

(% of respondent executives)



Source: *E&Y, Attractiveness Survey Europe 2022.*

Entrepreneurial activity in countries around the world in 2021

The entrepreneurial activity rate is growing in Barcelona and Catalonia

According to the data of the *Global Entrepreneurship Monitor* (GEM), in 2021 the entrepreneurial activity rate (TEA) of the resident population of the province of Barcelona stands at 7.2%, a figure 0.3 points higher than that of the previous year (6.9%) and identical to that of Catalonia, and which remains above the Spanish average (5.5%) – with an increase in interannual terms of 0.6 points.

With this evolution, in 2021 the TEA of Barcelona and Catalonia will exceed those of countries such as Germany (6.9%), Japan (6.3%), Italy (4.8%) and Norway (3.1%). 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 9%.

As for female TEA, the values in Barcelona (6.4%) and Catalonia (6.7%) exceed those recorded in Germany (5.3%), Sweden (6.0%) and Spain as a whole (5.6%), although they are lower than in the high-income countries of the European Union (7.3%). In 2021, female entrepreneurship grows and the difference between male and female rates in Catalonia is reduced to 0.9 points.

Catalonia has withstood the effects of the pandemic relatively well, with a growth in the rate of consolidated entrepreneurs of up to 8.6% (0.4 points compared to the previous year), which is higher than that of Spain (7.2%) and Europe (5.8%), and with a low number of abandonments (only 2.5% of entrepreneurial people have abandoned their business in the last twelve months). In terms of the quality of entrepreneurial activity, in 2021 the reactive reasons for starting a business (to earn a living because work is scarce) prevail over the proactive ones, while the positive elements highlight the increase in the weight of the new entrepreneurial people with higher education in the last two years and the high proportion of entrepreneurial people in the initial phase dedicated to industrial activities and services to companies.

Overall, the assessment of the conditions for doing business in Catalonia (4.9 points) is in the EU average and the strong points are the existence of a physical infrastructure and services and their access (score : 6.25); the existence of a commercial and professional infrastructure and its access; social and cultural norms, and public programmes and entrepreneurial education and training at the post-school stage; while it would be necessary to improve the dynamics of the internal market, education and entrepreneurial training at the school stage, the transfer of R&D and financing for entrepreneurial people.

Entrepreneurial activity rate in countries around the world. 2021 (% of 18-64 year olds)

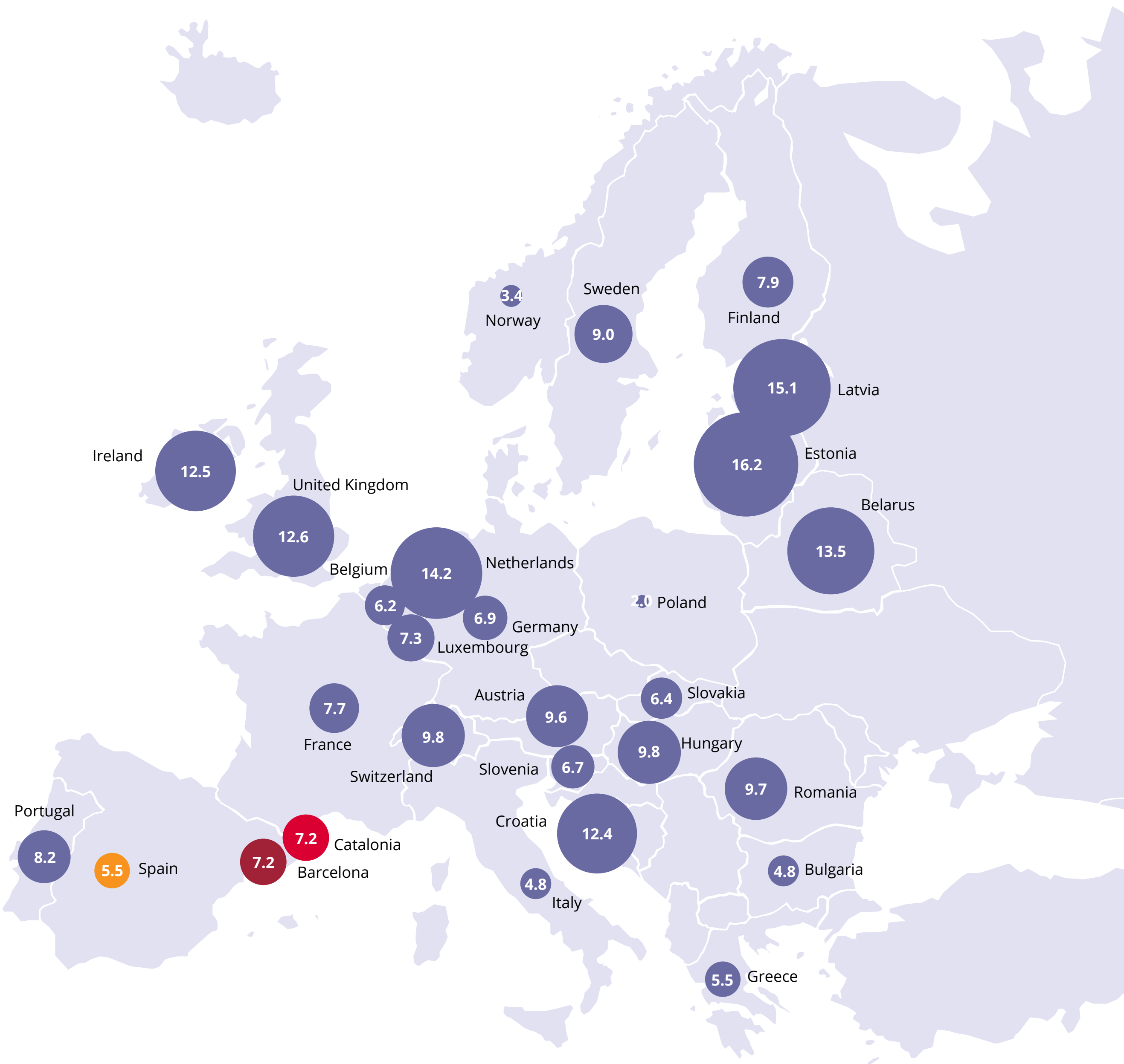
Female TEA	Country	Total TEA
18.7	Brazil	21.0
15.8	Canada	20.1
15.2	United States	16.5
13.0	Netherlands	14.2
10.9	United Kingdom	12.6
11.3	Northern Ireland	12.5
7.2	Switzerland	9.8
8.8	Israel	9.6
7.3	**EU average (high income countries)**	**9.0**
6.0	Sweden	9.0
6.4	**Barcelona**	**7.2**
6.7	**Catalonia**	**7.2**
5.3	Germany	6.9
6.1	Slovenia	6.7
5.0	Slovakia	6.4
6.3	Morocco	6.1
4.6	Greece	5.5
5.6	**Spain**	**5.5**
3.5	Italy	4.8
1.7	Poland	2.0

Note: 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 2021-2022*, Global Entrepreneurship Monitor (GEM).

Entrepreneurial activity in Europe. 2021

(% of 18-64 year olds)



Source: *Global Report* and *Executive Report Catalonia 2021-22*. Global Entrepreneurship Monitor (GEM).

Attractive global cities for visitors and entrepreneurs in 2023

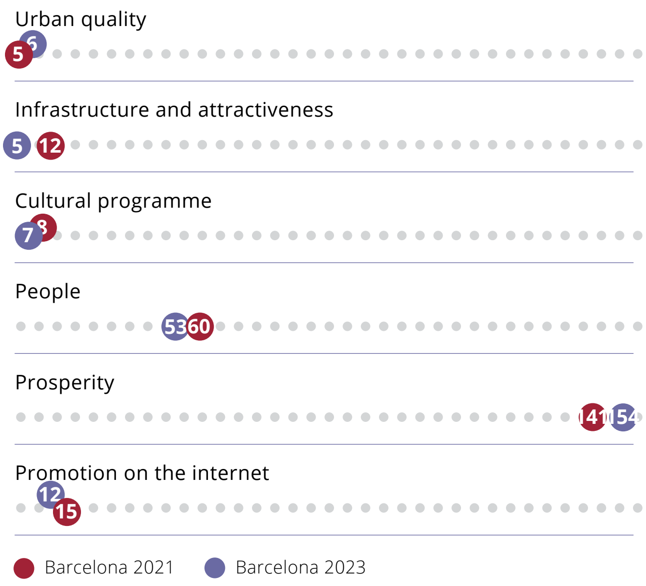
Barcelona is sixth among cities in the world and third in Europe

Barcelona ranks sixth in the world and third in Europe among the most attractive global cities for visitors, entrepreneurs and residents according to the ranking *World's Best Cities 2023* prepared by Resonance Consultancy Ltd. The city gains three positions in the global ranking compared to 2021, after surpassing Moscow, Singapore and Los Angeles in a ranking headed by London, Paris and New York.

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 six main categories.

Regarding the partial results of the ranking, Barcelona's best results are the fifth place in terms of infrastructure and attractiveness – in which it gains 7 positions compared to the previous edition – and the sixth in quality of urban and natural space. Likewise, the city ranks seventh in cultural programming and takes twelfth position in internet promotion, and improves its result both in these areas and in that of people (in 1, 3 and 7 places, respectively), while which in terms of prosperity is at the bottom due to the relatively low presence of multinational companies and the high unemployment rate. The report highlights the recovery of tourism and other activities after the pandemic and the city's firm commitment to sustainable mobility, with projects such as the expansion of the bike lane network or the super-blocks.

Position of Barcelona in assessment categories



Source: *World's best cities report*. Resonance Consultancy Ltd. 2023.

Attractive global cities for visitors and entrepreneurs. 2023

Position 2021	City	Position 2023
1	London	1
2	Paris	2
3	New York	3
6	Tokyo	4
5	Dubai	5
9	**Barcelona**	**6**
11	Rome	7
10	Madrid	8
7	Singapore	9
16	Amsterdam	10
26	Prague	11
8	Los Angeles	12
13	Chicago	13
15	San Francisco	14
20	Berlin	15
29	Hong Kong	16
22	Washington	17
25	Beijing	18
33	Dublin	19
23	Istanbul	20

Source: *World's best cities report*. Resonance Consultancy Ltd. 2023.

Main cities in the world for the number of international delegates at congresses in 2021

Barcelona, the only destination that remains in the *Top 5* of congresses and international meetings in the last 20 years

In 2021, still under the restrictive measures imposed by Covid-19 on meetings, both personal and professional, well into the year, Barcelona is in 2nd position in the ranking of cities in the world in terms of the number of delegates and the 4th in organisation of international congresses, according to the International Congress and Convention Association (ICCA). Thus, Barcelona is the only international destination that remains in the of reference destinations in the last 20 years.

The outbreak of the Covid-19 pandemic has caused a change in trends in the organisation of congresses, conventions, meetings and fairs, in which the virtual or hybrid format is very present. In this new context, the ICCA has reconsidered the format of the annual statistics report, which ceases to be a ranking of cities according to the number of meetings and starts to analyse the new methodology called *Destination Performance Index* (DPI), which provides a more holistic view of how destinations have faced recent challenges. The DPI examines 8,000 meetings promoted by international associations scheduled for 2021, based on performance indicators (planned, unaffected, virtual, hybrid, digitisation and business continuity). In other words, DPI takes into account not only meetings that have actually taken place in a specific location, but also planned, postponed, hybrid and virtual events. The DPI is a combination of these six indicators, highlighting the performance of destinations in terms of original offer, policies, adaptability and technological capabilities to convert face-to-face events to virtual/hybrid and the ability to adapt to new market needs. According to this new index, Barcelona is in fourth place on a global scale, only behind Vienna, Lisbon and Athens.

The strength and resilience of Barcelona is also evident in its position in second place according to the number of delegates at international conferences, only behind Paris, with 144,000 delegates (10,000 face-to-face, 43,000 online/hybrid and 91,000 virtual). according to ICCA. It should be noted that Barcelona is not only the only international destination that has been in the *Top 5* throughout the last 20 years in the world reference ranking of the best destinations for congresses and meetings, but historically it has been placed in the first positions in the number of delegates, occupying the first place on some occasions.

Already in 2022, the recovery of fair activity in the Ciutat Comtal has been complete. Fira de Barcelona has organised its main events in 2022, such as the *Mobile World Congress* (MWC) and 4YFN in late February and early March, Alimentaria in April, ISE and SIL in May or the Boat Show in October. With the celebration of IBTM World at the beginning of December, which has renewed Barcelona as its headquarters until 2025, the Ciutat Comtal almost closes the year with 400 conferences, a figure comparable to that of 2019. For 2023, the prospects are also very good, since the city has confirmed at the end of 2022 thirty congresses with 1,000 delegates expected, thus consolidating its position as a destination of reference in the medical and scientific sector, and also technological. The main challenges facing the city are the diversification of congress topics and consolidating the demand for medium-sized congresses.

Main cities of the world according to organisation of international congresses. 2021

Positioning on the DPI Index (Destination Performance Index)

Source: International Congress and Convention Association (ICCA).

Main cities in the world according to the number of delegates. 2021

Cities	Planned virtual/hybrid	On-site hybrid	Online	Virtual hybrid	Total hybrid/virtual
Paris	70	3	1	184	189
Barcelona	**62**	**10**	**43**	**91**	**144**
Taipei	51	7	9	127	143
London	60	6	6	117	129
Vienna	121	13	8	84	105
Prague	57	7	2	85	94
Singapore	63	6	27	43	76
Stockholm	33	1	2	68	71
Lisbon	53	11	24	36	71
Amsterdam	37	11	20	27	58
Rome	21	6	2	42	50
Seoul	30	6	7	37	50
Glasgow	25	1	9	35	45
Florence	15	1	1	41	42
Dublin	21	1	1	40	42

Note: Data in thousands

Source: International Congress and Convention Association (ICCA).

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) and seeks alliances with other cities, governments and players to tackle climate change and reduce inequalities, among other shared challenges.

In terms of the dimensions associated with a good quality of life, in 2022 Barcelona is the tenth city in Europe most prepared for mobility with zero emissions according to the first edition of the Clean Cities Campaign city ranking, in which it surpasses cities like London, Vienna or Berlin. In addition, Barcelona is considered the eleventh safest city in the world and the fourth in Europe according to the report *Safe Cities Index 2021* – produced by The Economist group, in which it gains 15 positions compared to the previous edition and surpasses cities such as Frankfurt, London and Paris.

Barcelona also stands out as an international reference in the field of sport and reaches seventh position in the *Ranking of Sports Cities 2022*, prepared by the consulting firm Burson Cohn and Wolfe, in which it has remained among the top ten since the first edition (2012), a position shared only by other Olympic cities such as London, Tokyo and Los Angeles. Likewise, in the ranking *Cities for the Best Work-Life Balance 2022* prepared by Kisi – in which the reconciliation of work and personal life is evaluated – the city reaches 50th position among the hundred cities compared in the world, and 28th among European cities; it surpasses Lisbon, New York and Milan, and excels in tolerance and inclusion (where it ranks 6th), health care (13th) and well-being and fitness (15th).

The city is a benchmark for its cultural and creative vitality, according to the results of *The Cultural and Creative Cities Monitor 2019*, prepared by the European Commission, where it ranks ninth in the global index and stands out in the areas of human capital and training, employment in creative and knowledge-intensive activities and openness, tolerance and trust.

After the adverse impact of Covid on the quality of life, the labour market and the social cohesion of cities and regions, in 2021 the rate of risk of poverty or social exclusion in Catalonia moderates and stands at 22.3%, slightly above that of the European Union.

As for sustainability, Barcelona is committed to addressing the climate emergency and has been following the Barcelona Climate Plan since 2018. This is the city's roadmap to help achieve the Paris Agreement goals of not increasing the world's temperature by more than 1.5ºC compared to the pre-industrial period. After becoming the World Capital of Sustainable Food in 2021, in 2022 the city has established the Barcelona 2030 Healthy and Sustainable Food Strategy, a road map that sets out the objectives to be achieved during the eight coming years to achieve a more sustainable food system for the benefit of citizens, the territory and the planet.

Also, Barcelona remains the seventeenth city in the world in sustainable urban mobility according to the report *Urban Mobility Readiness Index 2022* from the University of Berkeley and the Oliver Wyman Forum. The city occupies 24th position in the general ranking of urban mobility – gaining one position compared to the previous edition – and is 21st in terms of public transport, where it stands out for having an efficient and affordable multimodal public transport network and be deploying policies to continue increasing the use of bicycles.

Finally, Barcelona has been chosen as the host for the 2024 America's Sailing Cup, an event that will allow the city to be projected locally and internationally as a benchmark in this field and represents a great opportunity for the promotion of sport and blue ecosystem in the city in terms of employment, talent and positioning in innovation and sustainability.

Barcelona, tenth city in Europe most prepared for zero-emission mobility

Cities most prepared for zero-emission mobility

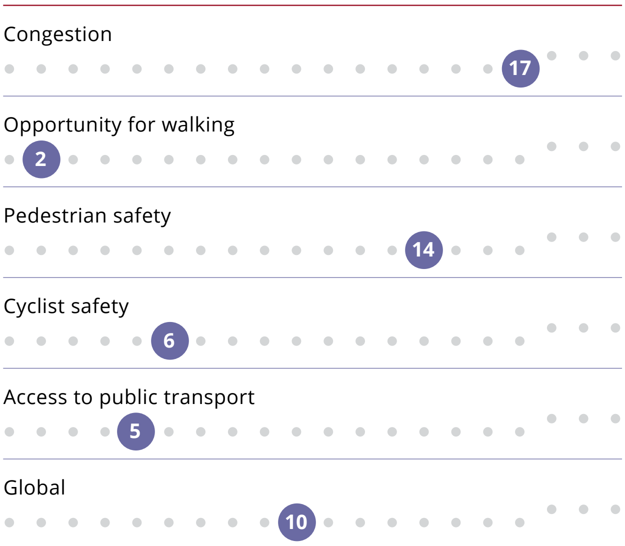
Barcelona, among the ten European cities most prepared for zero-emission mobility

In 2022, Barcelona is the tenth city in Europe most prepared for zero-emission mobility, according to the first edition of the Clean Cities Campaign city ranking, and surpasses cities such as London, Vienna or Berlin in a ranking headed by Oslo , Amsterdam and Helsinki.

Urban areas – responsible for more than a fifth of all greenhouse gas emissions from transport in the European Union – must urgently reduce transport emissions to meet climate goals. To monitor this progress, the analysis of the Clean Cities Campaign – a coalition of non-governmental organisations – compares 36 European cities based on 11 indicators relating to five categories, such as road safety for pedestrians, access to a transport that respects the climate and air quality.

Barcelona obtains particularly favourable results in the categories of ease of travel on foot (in which it reaches second position), access to public transport (fifth) and safety for cyclists (sixth), and is in the middle range in terms of pedestrian safety (fourteenth) and congestion (seventeenth), among others.

Positioning of Barcelona by category. 2022



Source: *Clean Cities Report 2022*, Bloomberg City Lab-Clean Cities Campaign.

Cities most prepared for zero-emission mobility. 2022

Position	City	Index
1	Oslo	71.5
2	Amsterdam	65.5
3	Helsinki	64.2
4	Copenhagen	62.3
5	Paris	61.9
6	Stockholm	61.7
7	Ghent	58.7
8	Munich	57.5
9	Brussels	57.0
10	**Barcelona**	**56.9**
11	Lyon	56.6
12	London	55.8
13	Vienna	55.5
14	Bilbao	55.0
15	Lisbon	53.5
16	Madrid	52.8
17	Birmingham	52.8
18	Antwerp	52.0
19	Berlin	51.6
20	Milan	51.1

Source: *Clean Cities Report 2022*. Bloomberg City Lab – Clean Cities Campaign.

Safety in cities around the world in 2021

Barcelona is one of the 15 safest cities in the world

According to the *The Safe Cities Index 2021*, a report produced by the British journal *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 only 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 (66.1), 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 environmental security. 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. In relation to the other dimensions analysed, the city is in 12th position in terms of personal safety – where it improves 7 positions and surpasses cities such as Zurich, London or Milan, 17th in the field of infrastructure, 18th in the environmental field and 16th in digital security, an area in which it rises 12 positions compared to the previous ranking.

Categories of urban safety

(Barcelona's position)

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

Safety in cities in the world. 2021

Position	City	Index s/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, DC	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
25	Seoul	73.8
	Average	**66.1**

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

Sport in cities around the world 2022

Barcelona, the 7th city most associated with sport

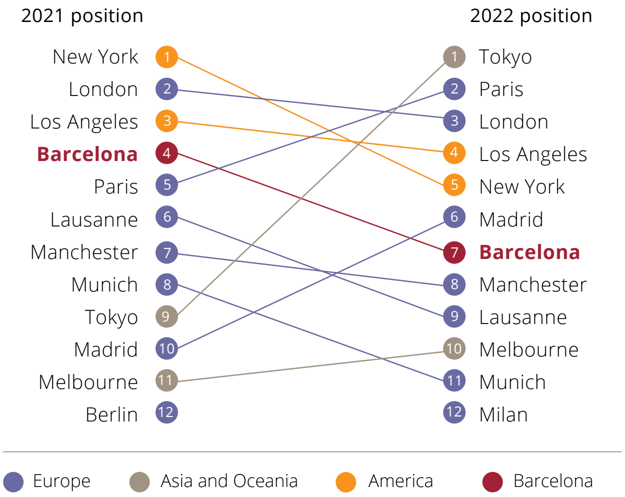
Barcelona ranks seventh among the cities most associated with sport, among the 50 cities in the world evaluated in the *Ranking of Sports Cities 2022* prepared by the consulting firm Burson Cohn and Wolfe, based on a vote in which sports federations, specialised opinion leaders and references from the general public on social networks determine which cities are most associated with sports. The city loses three positions compared to 2021 in a ranking that this year is headed by Tokyo and Paris.

Barcelona has remained among the top six since the first edition (2012), a position only shared 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, a 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.

On the other hand, Barcelona has been chosen as the host for the 2024 America's Sailing Cup, an event that will allow the city to be projected locally and internationally as a benchmark in this field and represents a great opportunity for the promotion of sport and of the blue ecosystem in the city in terms of employment, talent and positioning in innovation and sustainability, in line with the Barcelona Green Deal strategy and the sustainable development objectives of the 2030 Agenda.

Sport in cities round the world. 2022



Source: *Ranking of Sports Cities 2022*. Burson Cohn & Wolfe.

Work-life balance in world cities in 2022

Barcelona is in an intermediate position and stands out in terms of tolerance and inclusion

According to the *Cities for the Best Work-Life Balance 2022* 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 19 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 increases its index compared to the 2019 and 2021 editions, with an increase of 2.8 and 6.2 percentage points, respectively, although it loses 25 positions in relation to 2021 due to the increase in cities analysed – which goes from 50 cities in 2021 to 100 cities in 2022 – and is placed in an average position in the index, in a ranking headed by three European capitals (Oslo, Bern and Helsinki) and where Barcelona obtains a result superior to those of Lisbon, New York and Milan.

By area, Barcelona excels in tolerance and inclusion (where it ranks 6th), health care (13th) and well-being and fitness (15th), and occupies intermediate positions in paid parental leave and inflation (35th and 46th, respectively). On the other hand, it is placed in the lower range of the ranking in terms of the impact of Covid – which the index measures taking into account the characteristics of the pandemic and its incidence in the economic sphere – and in the implementation of the telework, an indicator that is incorporated for the first time and that is considered very relevant to the quality of life in the current work environment.

Barcelona's position 2022

Teleworking	88
Inflation	46
Paternity/maternity leave (days)	35
Work-life balance index	50
Medical care	13
Tolerance and inclusion	6
Impact of Covid	90
Wellness and fitness	15

Source: *Cities for the Best Work-Life Balance 2022*. Kisi.

Work-life balance index. 2022

Global ranking	City	Total score
1	Oslo	100.0
2	Bern	99.5
3	Helsinki	99.2
4	Zurich	96.3
5	Copenhagen	96.2
6	Geneva	95.8
7	Ottawa	95.5
8	Sydney	94.0
9	Stuttgart	93.8
10	Munich	93.7
11	Stockholm	93.3
12	Melbourne	92.8
13	Amsterdam	92.6
14	Tokyo	92.5
15	Leipzig	92.4
16	Vancouver	92.2
17	Auckland	92.1
18	Hamburg	91.8
19	Toronto	91.1
20	Frankfurt	91.1
21	Düsseldorf	90.9
22	Berlin	90.8
23	Bremen	90.7
24	Liverpool	90.7
25	Glasgow	90.7
26	Cologne	90.1
27	London	89.7
28	Paris	89.7
29	Graz	89.4
30	Calgary	89.4
50	**Barcelona**	**84.9**

Source: Kisi. *Cities for the Best Work-Life Balance 2022.*

Creative and cultural cities of Europe, 2019

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

Barcelona is ranked 9th 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 stood out in particular in the facilitating-environment section among cities with over a million residents, reaching 2nd place in human capital and training – behind Paris alone, and 6th in the openness, tolerance and trust indicator, whereas it came 11th in local and international connections and 14th in quality of governance.

As regards the creative economy, Barcelona scored well in jobs in creative sectors – reaching fifth place, ahead of London and Rome, but behind Munich and Madrid – and was among the top 15 in intellectual property and new jobs. In the cultural-intensity section, Barcelona stood out, reaching sixth place in cultural facilities and 9th in participation in culture, among 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	Index of Creative Intensity
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

Note: Cities with more than a million residents.

Source: *Cultural and Creative Cities Monitor 2019.* Joint Research Centre of the European Commission.

Positioning of Barcelona by categories. 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 a million residents.

Source: *Cultural and Creative Cities Monitor 2019.* Joint Research Centre of the European Commission.

Population at risk of poverty or social exclusion in European regions in 2021

The rate of risk of poverty or social exclusion in Catalonia is moderated

According to Eurostat figures, the percentage of the population at risk of poverty or social exclusion (AROPE) in Catalonia was 22.3% in 2021. This was lower than the rate for Spain (27.8%) but slightly higher than the EU-27 figure (21.7%). Regions with higher rates than Catalonia include Rome and Brussels, among others, while the Bratislava and Prague regions, with values of under 10%, boast the lowest rates in the sample. Catalonia's rate has decreased by 0.9 percentage points compared to the previous year, which shows a certain recovery after the worsening resulting from the social impact of the Covid crisis and a more favourable behaviour than that recorded in Europe (where it increases by 0.1 points).

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 25.9%, 0.8 percentage points lower than the figure for the previous year and also above average for the European Union. In an environment still marked by the pandemic, two of the components of the rate improve in relation to 2020 – the poverty rate goes from 21.7% to 19.9% and the low work intensity from 10.2% to 9.6%, while severe material deprivation rises from 8% to 9%.

In the city of Barcelona, according to the Sociodemographic Survey prepared by the Municipal Data Office, in 2020 severe material deprivation affected 6.9% of the population – a rate similar to the European Union average, with a more intense incidence among women, children and the 25-44 age group.

Population at risk of poverty or social exclusion. 2021

Country	Region (main city)	AROPE rate (%)
Slovakia	Bratislavský kraj (Bratislava)*	5.9
Czech Republic	Prague (Prague)	9.2
Finland	Helsinki-Uusimaa (Helsinki)	12.0
Sweden	Stockholm (Stockholm)	13.3
Germany	Bavaria (Munich)**	14.8
Poland	Wojewodztwo Mazowieckie (Warsaw)	15.5
Norway	Oslo og Akershus (Oslo)*	16.2
Romania	Bucuresti – Ilfov (Bucharest)	16.4
Northern Ireland	Ireland – east and centre (Dublin)	16.4
Italy	Lombardy (Milan)	16.7
Portugal	Metropolitan Area (Lisbon)	17.2
Denmark	Hovedstaden (Copenhagen)	18.2
Netherlands	Netherlands – North (Amsterdam)	18.3
Switzerland	Mittelland space (Bern)*	19.4
Germany	Berlin (Berlin)**	19.3
Spain	Community of Madrid (Madrid)	21.6
Greece	Attica (Athens)	21.6
EU27 average (e)		**21.7**
Spain	**Catalonia (Barcelona)**	**22.3**
Italy	Lazio (Rome)	25.6
Spain		**27.8**
Belgium	Brussels	35.3

*Data from 2020 **Data from 2019
Note: The "At Risk of Poverty or Social Exclusion" rate (AROPE) indicates the percentage of the population that is at least 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]Idescat data.

[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.

Urban mobility ecosystem in world cities in 2022

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

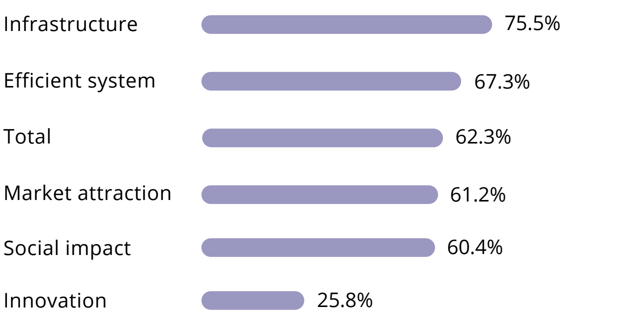
Barcelona remains the 17th city in the world in terms of the sustainable mobility index according to the*Urban City Readiness Index 2022*, developed by UC Berkeley and the Oliver Wyman Forum. In a ranking again topped by Oslo, Amsterdam and Helsinki, Barcelona achieves a similar score to the Canadian cities of Vancouver and Toronto and surpasses Paris, New York and Sydney.

In terms of the general index of urban mobility, Barcelona occupies 24th position and gains one position compared to the previous edition, in a ranking headed by San Francisco, Stockholm and Helsinki and where it surpasses cities such as Montreal, Beijing and Milan.

Likewise, Barcelona ranks as the 21st city in the world in terms of public transport, an index that is incorporated for the first time in this study and which compares 60 global cities from various geographical regions based on the solutions they apply to the challenges of mobility The report highlights that the city has an efficient and affordable multimodal public transport network – well connected to the rail and road transport networks – and is deploying policies to continue increasing the use of bicycles, while it must advance in the use of electric vehicles.

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. Taking into account these categories, Barcelona obtains the best scores in infrastructure and system efficiency and is above average in market attraction and social impact, while it achieves the least favourable result in innovation.

Score of Barcelona by dimension. 2022



Source: *Urban Mobility Readiness Index 2022*, Berkeley University of California and Oliver Wyman Forum.

Cities with the best urban mobility systems. 2022

Position global ranking	City	Position sustainable mobility
18	Oslo	1
6	Amsterdam	2
3	Helsinki	3
2	Stockholm	4
16	Hong Kong	5
4	Singapore	6
7	Munich	7
10	London	8
5	Zurich	9
8	Berlin	10
15	Tokyo	11
19	Seoul	12
32	Dublin	13
20	Madrid	14
22	Vancouver	15
29	Beijing	16
24	**Barcelona**	**17**
33	Shanghai	18
25	Toronto	19
9	Paris	20

Source: *Urban Mobility Readiness Index 2022.* Berkeley University of California and Oliver Wyman Forum.

Labour market and training

OBSERVATORI BARCELONA

Introduction

The macroeconomic indicators for 2022 highlight the recovery of economic activity after the impact of the economic crisis resulting from the Covid-19 pandemic and the remarkable strength of the labour market in a complex and uncertain international context. So, in the third quarter of 2022 employment in the European Union (EU) has increased by 1.1% in year-on-year terms and, in the same period, the economies of Barcelona, Catalonia and Spain reach annual increases of between 3% and 4.5%. In Catalonia, the positive evolution of the labour market results in a year-on-year increase in employment of 80,400 people and a year-on-year decrease in the unemployed population of 61,400 people, according to the labour force survey published by the National Institute of Statistics (INE); the city of Barcelona closes the month of November with 1,194,218 people affiliated to Social Security, the highest value in the historical series.

The employment indicators available on a regional level and presented in this chapter refer to the year 2021, a period of economic recovery in the EU that was also observed in the labour market and saw most member states see an increase in employment rates. In this context, Catalonia's employment rate stands at 67.8% – below the European average – and the unemployment rate (11.6%) clearly exceeds that of the EU (7.0%), so these indicators resume the upward and downward trend – respectively – that they showed from 2013 to 2019. It should be noted that the female employment rate in Catalonia (64.4%) exceeds the EU average (63.4%), after growing by 2.2 points in year-on-year terms.

The part-time employment rate in Catalonia in 2021 was 12.9%, placing it 4.8 percentage points below the EU average (17.7%) and similar to the Spanish average (13.7%). However, by sex, the female part-time employment rate is much higher than the male. The increase in the rate of part-time employment since the crisis that began in 2008 – which has moderated since 2013 – has been a generalised trend in Europe, in an international context in which it has a relevant impact on the quality of work.

One of Barcelona's key assets is a significant critical mass of skilled human capital. In this area, it should be noted that in 2021 the percentage of the working population with university degrees out of the total number of workers in Catalonia has grown to 48.2% and, in the case of working women, exceeds 50% for the seventh time, clearly higher values than the European Union averages (36.6% and 41.5%, respectively). On the other hand, Barcelona is the ninth most attractive city in the world for international talent who wants to work abroad, according to the report *Decoding Global Talent 2021* of the Boston Consulting Group, ahead of Sydney, Paris and Los Angeles, and reaches the tenth position in the ranking corresponding to digital experts.

In 2020 and 2021, Barcelona City Council launched an economic recovery plan for the city with seven strategic objectives, including protecting work and promoting quality employment with specific measures aimed at not leaving no one left behind and maintain the business fabric of the city. These measures have had a significant impact on the labour market, with the creation or maintenance of 13,297 jobs and the participation of more than 23,000 people in training programmes (*reskilling*, *upskilling* technical-professional, etc.) aimed especially at strategic sectors.

Finally, Barcelona continues to be a benchmark as a city of training excellence in the business field, as it is one of the only two European cities with two teaching institutions (IESE and ESADE) among the ten best schools of business of the continent, according to the *Global MBA Ranking 2023* of the *Financial Times*.

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

Job attractiveness of world cities 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 2021*, 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 among the top ten preferred cities for global talent and digital experts – four of these cities are European – after dropping five positions compared to the 2018 survey in a context that has changed preferences for 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 globalising context is based on an extensive online survey (the *Global Talent Survey*), which is answered by more than 200,000 people from 190 countries, of which 9,900 can be described as "digital talent". The report reflects that 50% of the people surveyed would be willing to work in other countries – a high percentage, but 7 points lower than in 2018 and 13 points lower than in 2014 due to restrictions resulting from the pandemic and policies restrictive immigration. In the case of digital experts, the proportion is 55%. On the other hand, 57% of persons surveyed 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.

Comparative positioning of cities in job attractiveness

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

The world's most attractive cities for working abroad

Position 2020 Ranking digital experts	City	Position 2020 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 2021

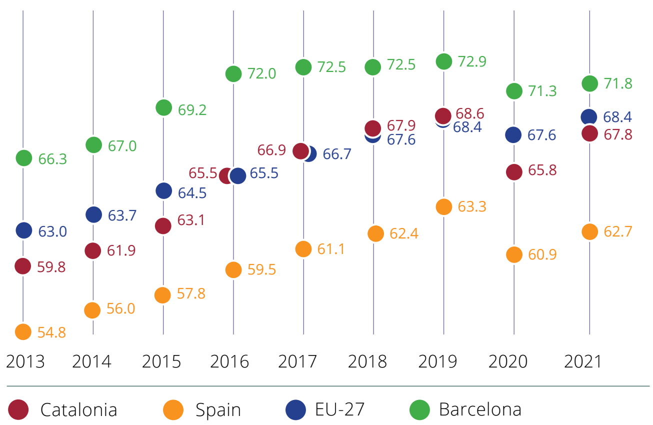
The female employment rate in Catalonia exceeds the European Union average

In 2021, the employment rate in the European Union increases by 0.9 percentage points compared to 2020 to 68.4%, according to Eurostat data, as a result of the recovery of this indicator in most of the regions analysed after the economic crisis resulting from Covid-19.

In this context, the employment rate in the Catalan and Spanish areas resumes the upward trend it had shown during the 2013-19 period, with growth higher than the EU average – of 2.0 and 1.8 points percentages, respectively–, although they remain among the lowest on the continent, as has been happening since the financial crisis that began in 2008. In fact, the employment rate in Catalonia was 67.8% in 2021, placing it below the European average for the thirteenth consecutive year, although still much higher than the overall rate for Spain (by 5.1 percentage points) and above that of regions such as Vienna, Rome and Brussels. On the other hand, the female employment rate increased by 2.2 points to 64.4% in Catalonia in 2021, which is higher than the European average (63.4%) and remains above the Spanish average (57.9%) and that of regions such as Vienna 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.

According to the labour force survey, in the fourth quarter of 2021, the employment rate stands at 74.8% in Barcelona, which represents a strong increase of 5.7 percentage points compared to the same period in 2020. It is worth noting the particularly favourable evolution of the female employment rate in the city, which reached the highest value in the historical series at the end of the year (74.1%).

Employment rate (%)



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

Employment rate in European regions. 2021

Employment rate for women	Region (CITY)	Employment rate (%)
76.8	North Holland (AMSTERDAM)	80.0
75.9	Upper Bavaria (MUNICH)	79.3
75.4	Warszawski (WARSAW)	78.9
79.2	Sostines (VÍLNIUS)	78.8
75.8	South Holland (ROTTERDAM)	78.7
77.3	Stockholm (STOCKHOLM)	78.3
73.9	Central Hungary (BUDAPEST)	78.0
72.9	Stuttgart (STUTTGART)	77.8
70.6	Prague (PRAGUE)	77.6
75.0	Oslo (OSLO)	76.6
74.5	Hovedstaden (COPENHAGEN)	76.5
73.0	Southern Finland (HELSINKI)	75.0
71.5	Sofia (SOFIA)	73.7
71.0	Berlin (BERLIN)	73.6
68.9	Darmstadt (FRANKFURT)	73.4
68.4	Bucharest – Ilfov (BUCHAREST)	72.7
67.1	Middle and East (DUBLIN)	71.1
70.2	Lisbon (LISBON)	71.0
68.0	Latvia (RIGA)	69.9
66.9	Rhône-Alpes (LYON)	69.8
67.3	Île-de-France (PARIS)	69.8
65.9	Community of Madrid (MADRID)	68.9
63.4	**EUROPEAN UNION**	**68.4**
64.4	**Catalonia (BARCELONA)**	**67.8**
64.6	Basque Country (BILBAO)	66.9
59.5	Lombardy (MILAN)	66.5
62.7	Vienna (VIENNA)	66.2
57.9	**Spain**	**62.7**
57.7	Languedoc-Roussillon (MONTPELLIER)	61.3
53.5	Attica (ATHENS)	60.8
52.0	Lazio (ROME)	59.8

Note: 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 2021

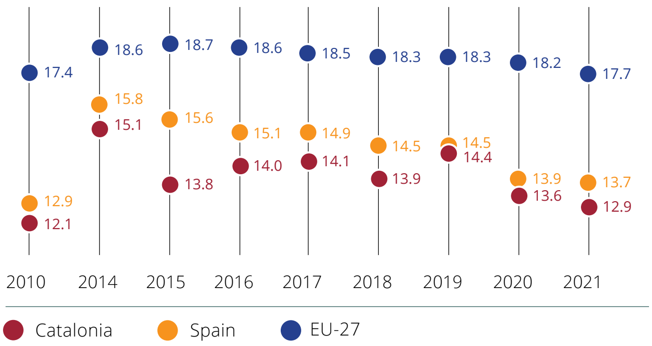
Part-time employment rates in Catalonia are below the European average

In Catalonia, the part-time employment rate, which measures the weight of people who work part-time on all working people, reached a value of 12.9% in 2021 according to Eurostat data. This places it 4.8 points below the EU average (17.7%), close to the Spanish average (13.7%) and far from the regions with the highest rates (Netherlands, Austria, Germany and Denmark), despite surpassing those of regions such as Prague (8.7%) and Lisbon (7.1%). 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 19.9% in Catalonia, 8.9% below the EU average (28.8%), 2.4 points below the rate for Spain (22.3%), 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.

Regarding the temporal evolution, the rate of part-time employment – one of the indicators that reflects the flexibility of the labour market – clearly increased both in the European Union and in Spain and Catalonia between 2007 and 2013, while from 2013 onwards it has remained fairly stable – with a slight downward trend that is accentuated in 2020-21.

As for the city of Barcelona, according to the labour force survey, in the fourth quarter of 2021 it has a total part-time employment rate of 11.8%, close to those of Catalonia and Spain and lower than of the European Union. Regarding the female part-time employment rate in the city (18.3%), it is lower than the Catalan rate, the state rate and, above all, the rate of the EU as a whole.

Part-time employment rate in European regions. 2002-2021. (%)



Source: Eurostat

Part-time employment rate in European regions. 2021

Part-time employment rate for women	Region (CITY)	Part-time employment rate
60.7	South Holland (ROTTERDAM)	40.4
59.1	North Holland (AMSTERDAM)	40.2
43.0	Vienna (VIENNA)	29.8
40.4	Berlin (BERLIN)	29.1
47.6	Darmstadt (FRANKFURT)	28.4
47.3	Upper Bavaria (MUNICH)	27.5
46.5	Stuttgart (STUTTGART)	25.5
30.5	Denmark (COPENHAGEN)	23.0
32.3	Languedoc-Roussillon (MONTPELLIER)	20.8
31.9	Rhône-Alpes (LYON)	19.5
29.5	Brussels (BRUSSELS)	19.1
29.7	Lazio (ROME)	19.0
29.1	Provence-Alps-Cote d'Azur (MARSEILLE)	18.4
27.5	East and Centre (Dublin)	18.0
24.7	Stockholm (STOCKHOLM)	17.9
28.8	**EUROPEAN UNION**	**17.7**
21.4	Southern Finland (HELSINKI)	16.3
24.4	Basque Country (BILBAO)	15.1
20.4	Île-de-France (PARIS)	13.9
22.3	**Spain**	**13.7**
19.7	Community of Madrid (MADRID)	13.0
19.9	**Catalonia (BARCELONA)**	**12.9**
16.9	Estonia (TALLINN)	12.2
14.1	Prague (PRAGUE)	8.7
11.7	Attica (ATHENS)	8.5
10.0	Latvia (RIGA)	7.8
12.4	Ankara (ANKARA)*	7.2
9.0	Lisbon (LISBON)	7.1
10.4	Istanbul (ISTANBUL)	6.4
7.4	Central Hungary (BUDAPEST)	5.1
6.3	Sostines (VÍLNIUS)	4.9

Note: Employed population between 15 and 64 years of age. *2020 data

Source: Eurostat

Unemployment rate in European regions in 2021

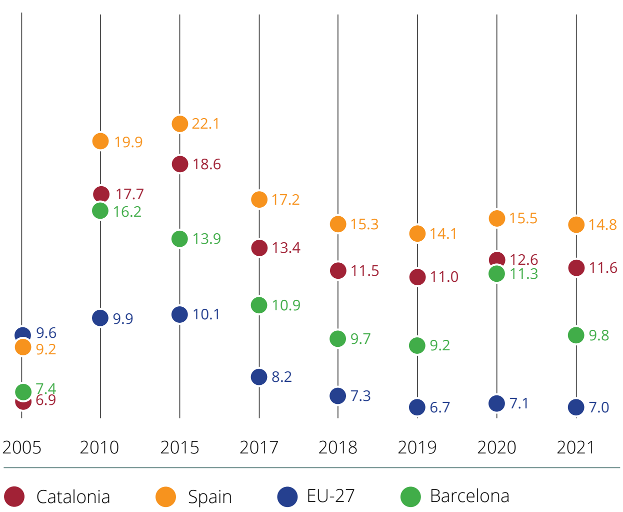
The rate of unemployment in Catalonia has fallen, but is still higher than the European average

In a context of economic recovery following the Covid-19 pandemic, the European Union closes the year 2021 with an unemployment rate of 7.0%, which represents a slight reduction (of 0.1 percentage points) compared to that of 2020, according to Eurostat data. The decrease in unemployment has been more intense in the territories of southern Europe, such as Spain and Catalonia, where the differential with respect to the European average is higher, after this indicator experienced an annual decrease of 0.7 and 1 percentage points, respectively.

In this context, the average annual unemployment rate in Catalonia in 2021 was 11.6%, putting it 4.6 percentage points above the European average and still far from the main benchmark regions, despite remaining below the Spanish average (14.8%). At the same time, the unemployment rate for women was 12.9%, which is 0.5 points lower than in 2020, although it is above the overall average.

In the fourth quarter of 2021, the unemployment rate in Barcelona reached a value of 6.7% – the lowest since 2008 – after decreasing 5.9 points in year-on-year terms, according to the EPA. In the first three quarters of 2022, in an environment of economic recovery, the unemployment rate in the city remains stable at around 7% and thus reaches values similar to the Eurozone average.

Unemployment rate (annual average in %)



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

Unemployment rate in European regions. 2021

Unemployment rate for women (%)	Region (CITY)	Rate of unemployment (%)
2.9	Prague (PRAGUE)	2.3
2.5	Upper Bavaria (MUNICH)	2.7
3.1	Central Hungary (BUDAPEST)	2.9
2.8	Stuttgart (STUTTGART)	3.1
2.2	Bucharest – Ilfov (BUCHAREST)	3.5
3.5	Darmstadt (FRANKFURT)	4.1
3.8	Hamburg (HAMBURG)	4.4
5.0	North Holland (AMSTERDAM)	4.5
3.7	Düsseldorf (DÜSSELDORF)	4.5
4.3	Sostines (VÍLNIUS)	4.8
5.1	South Holland (ROTTERDAM)	5.1
5.5	Denmark (COPENHAGEN)	5.7
5.0	Berlin (BERLIN)	5.7
5.6	Estonia (TALLINN)	6.2
6.4	East and Centre (Dublin)	6.4
6.4	Lisbon (LISBON)	6.8
7.4	**EUROPEAN UNION**	**7.0**
6.9	Rhône-Alpes (LYON)	7.2
6.6	Latvia (RIGA)	7.6
7.6	Southern Finland (HELSINKI)	7.7
7.7	Île-de-France (PARIS)	8.0
7.9	Provence-Alps-Cote d'Azur (MARSEILLE)	8.1
8.3	Stockholm (STOCKHOLM)	8.2
10.0	Basque Country (BILBAO)	9.8
10.7	Lazio (ROME)	10.0
10.5	Languedoc-Roussillon (MONTPELLIER)	11.4
12.5	Community of Madrid (MADRID)	11.6
12.9	**Catalonia (BARCELONA)**	**11.6**
11.4	Vienna (VIENNA)	12.1
12.1	Brussels (BRUSSELS)	12.4
16.8	Istanbul (ISTANBUL)	14.7
16.7	**Spain**	**14.8**
19.9	Ankara (ANKARA)*	14.8

Note: Active population aged between 15 and 74. (*) Data from 2020. The original database contains around 450 regions but the table only shows a selection of benchmark regions.

Source: Eurostat

Working population with tertiary education in European regions in 2021

More than half of women workers in Catalonia have higher education

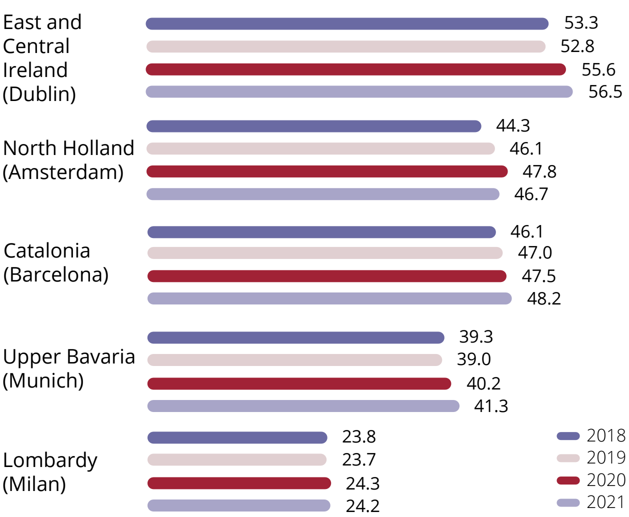
According to figures from Eurostat, 48.2% of the working population in Catalonia had a tertiary degree in 2021, a rise of 0.7 percentage points since the previous year. This was more than 10 percentage points above the EU average (36.6%) and also above benchmark regions such as Amsterdam, Berlin or Munich, as well as above average for Spain (46.2%).

The percentage of Catalan working women with higher education exceeds 50% for the seventh consecutive year and stands at 53.7%, which is an increase of 0.6 percentage points compared to 2020. This indicator – yet again above the global one – also remains well above the EU value (41.5%) and higher than the benchmark European regions mentioned above as well as the Spanish average (52.6%).

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 degree

(% of total employment)



Source: Eurostat

Working population with a tertiary education in the European regions. 2021

Female workers with a tertiary education degree	Region (CITY)	Working population with a tertiary degree
67.8	Brussels Region – capital (BRUSSELS)	62.5
65.0	Basque Country (BILBAO)	61.9
60.7	Île-de-France (PARIS)	57.6
60.5	Central Hungary (BUDAPEST)	57.1
60.9	East and Centre (DUBLIN)	56.5
60.6	Stockholm (STOCKHOLM)	55.2
57.6	Community of Madrid (MADRID)	54.0
56.1	Capital (COPENHAGEN)	51.5
56.7	Oslo og Akershus (OSLO)	51.3
52.2	Prague (PRAGUE)	50.8
55.1	Attica (ATHENS)	50.4
53.0	Vienna (VIENNA)	49.2
55.9	Helsinki-Uusimaa (HELSINKI)	49.1
67.5	Sostines (VÍLNIUS)	62.0
53.7	**Catalonia (BARCELONA)**	**48.2**
50.7	North Holland (AMSTERDAM)	46.7
52.3	Bucuresti – Ilfov (BUCHAREST)	46.4
48.8	Berlin (BERLIN)	46.4
52.6	**Spain**	**46.2**
52.8	South-west Bulgaria (BG) (SOFIA)	46.1
51.5	Lisbon (LISBON)	44.5
50.1	Community of Valencia (VALENCIA)	44.0
44.2	South Holland (THE HAGUE)	42.3
52.1	Latvia (RIGA)	41.8
38.3	Upper Bavaria (MUNICH)	41.3
41.5	**EUROPEAN UNION**	**36.6**
34.2	Darmstadt (FRANKFURT ON THE MAIN)	35.3
30.1	Stuttgart (STUTTGART)	34.2
30.7	Lombardy (MILAN)	24.2

Note: % of the employed population aged 15 or over with a higher qualification. The original database contains around 450 regions but the table only shows a selection of benchmark regions.

Source: Eurostat

Best European business schools in 2023

Barcelona and Paris, the only cities with two educative institutions in the Top 10 MBA business schools in Europe

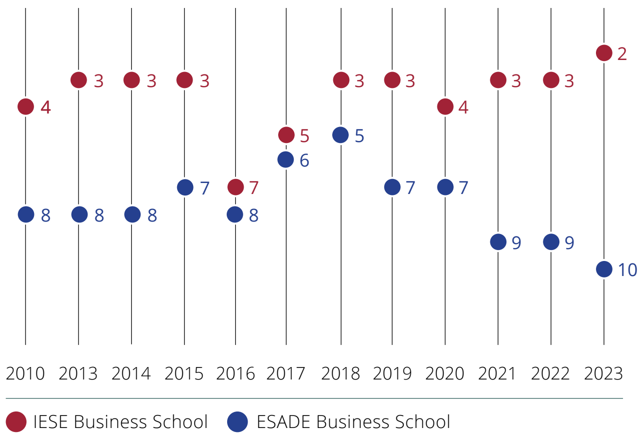
According to the *Financial Times* ranking of the top 100 full-time MBA programmes, which it has been compiling for the last 23 years, Barcelona's IESE and ESADE business schools are 2nd and 10th in the European ranking, above such well known schools as Imperial College Business School and Warwick Business School. This means that in 2023 Barcelona will be – together with Paris – one of the only two cities with two educational institutions in the Top 10 of the best MBA business schools on the European continent.

Likewise, these two Catalan institutions in the European *Top 10* are among the top thirty schools worldwide, with IESE in third place and ESADE in 30th position. With respect to the results of the previous year, IESE improves one position in the European ranking and ESADE loses one, while in the world ranking they gain seven and four, respectively. It should be noted that the IESE MBA ranks second worldwide in teaching the SDGs and net zero emissions, and is 6th in emphasis on reducing the carbon footprint.

Also, according to the full-time MBA ranking of *Which MBA?* of the year 2021, published annually by The Economist Intelligence Unit for eighteen years, the IESE reaches the 1st position in the world ranking.

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

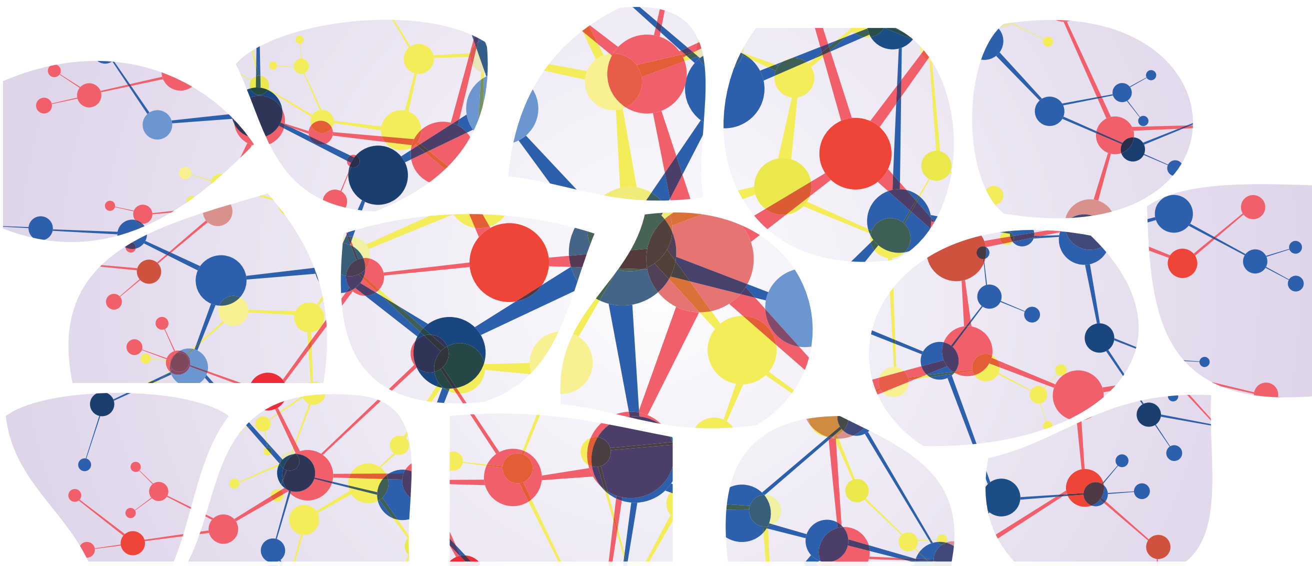


Source: *Global MBA Ranking,* Financial Times.

Best European business schools. 2023

European ranking	Business school	City	World ranking
1	Insead	Fontainebleau	2
2	**IESE Business School**	**Barcelona**	**3**
3	SDA Bocconi School of Management	Milan	6
4	London Business School	London	16
5	HEC Paris	Paris	17
6	IE Business School	Madrid	22
7	University of Cambridge: Judge	Cambridge	23
8	ESCP Business School	Paris	27
9	University of Oxford: Saïd	Oxford	28
10	**ESADE Business School**	**Barcelona**	**30**
11	International Institute for Management Development (IMD)	Lausanne	32
12	Imperial College Business School	London	37
13	Alliance Manchester Business School	Manchester	46
14	EDHEC Business School	Lille	47
15	Warwick Business School	Coventry	55
16	Mannheim Business School	Mannheim	56
17	University of St. Gallen	St. Gallen	59
18	Rotterdam School of Management, Erasmus University	Rotterdam	63
19	Bayes Business School (formerly Cass)	London	66
20	WHU-Otto Beisheim School of Management	Vallendar	68
21	Essec Business School	Cergy	70
22	EMLyon Business School	Lyon	76
23	Durham University Business School	Durham	78
24	The Lisbon MBA Catholic | New	Carcavelos	85
25	Audencia	Nantes	86

Source: *Global MBA Ranking 2023.* Financial Times.



Knowledge society

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Introduction

In 2022, the entrepreneurial ecosystem in Barcelona continues to be one of the most dynamic and attractive in Europe and the world, made up of a combination of investors, accelerators and incubators that constitute a great pole of attraction for *startups* and talent, thanks to the drive for digitisation in key sectors of the economy. Indeed, several recent rankings place the Catalan capital in leading positions and in many it manages to maintain or improve its position.

One of the drivers of the city's economy is the digital sector, which in 2021 continued to create employment and played a key role in the transformation of the production model, which was accelerated following the pandemic. According to the report *Digital Talent Overview 2022* of Barcelona Digital Talent, Catalonia is approaching the figure of one hundred thousand digital professionals in 2021, with Barcelona as a great pole of digital attraction, with 93,516 people. This figure represents 5.4% of the total number of professionals in the city, and almost a third are women (29%). In turn, digital demand grew by 43% to 24,600 published offers, a figure that exceeds that of 2019 and represents 22% of the city's job offers (double that of 2018).

At the same time, other indicators reaffirm Barcelona's position as a technology and digital entrepreneurship hub. The city ranks as the eleventh *European hub* in terms of international investment received, according to the report *State of European Tech 2022* by Atomico. Also, the Catalan capital is positioned as the ninth emerging ecosystem of *startups* of the world and the third in Europe, according to *The Global Startup Ecosystem Report 2022* from Startup Genome; and in the technological field, according to the*StartupBlink Ecosystem Ranking*, Barcelona maintains the 37th position as the best ecosystem of emerging companies in the world in 2021, the sixth among the cities of Western Europe and the first position in Spain. These good results are maintained and reinforced thanks to the organisation of congresses and technological projects in the city, such as the Mobile World Congress – which in 2022 exceeded the figure of 60,000 visitors from 200 countries and obtained an impact of between 250 and 300 million euros, according to GSMA and Barcelona City Council data – and 4YFN, a business platform for the community of *startups*.

As for the attraction of talent, Barcelona has a great attraction due to its climate and quality of life, but also for its universities, business schools and technological centres of reference and worldwide recognition, as well as having good communications and a growing universe of *startups* who demand international talent and who, thanks to telecommuting, are increasingly finding it easier to choose where they want to live. Thus, according to the *Startup Heatmap Europe Report 2022*, Barcelona remains the 3rd most popular city for establishing a *startup* for the fifth consecutive year. At the same time, the city has become a centre of attraction for research and development (R+D) centres of multinational companies from all types of sectors. Factors such as emerging talent, the consolidation of the entrepreneurial ecosystem, price competitiveness compared to other European capitals and the collaboration of public administrations attract the interest of large corporations to establish their headquarters in the Catalan capital innovation centres of global impact. In terms of public policies, a relevant example is the Barcelona Deep Tech Fund, with which the Barcelona City Council – through Barcelona Activa – will invest ten million euros in national private venture capital entities or international, with the purpose of promoting the *startups* of the ecosystem *deep tech* of the city within the framework of the Barcelona Green Deal economic agenda.

The Catalan labour market is characterised by having a relevant and resilient employment fabric in sectors with high added value. In 2021, Catalonia continues in leading positions and even improves its position in this area by ranking as the fourth region in Europe in population employed in high and medium-high technological intensity manufactures (sixth in 2020), the seventh in terms of employment in knowledge-intensive services and cutting-edge technology (eighth in 2020), and the third region with the most people with higher education working in the field of science and technology (fifth in 2020).

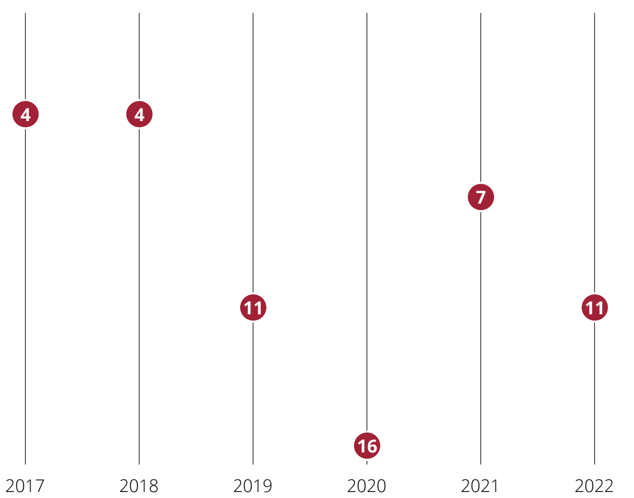
Barcelona, the third favourite city in Europe to launch a startup for the fifth consecutive year

Investment in the technology ecosystem in European cities in 2022

Barcelona is the eleventh European city in attracting technological investment

Barcelona ranks as the eleventh European city in attracting international technological investments in 2022, according to the *State of European Tech 2022* from the Atomico consultancy. The report estimates that the city's entrepreneurial ecosystem has received a total of $1.326 billion from international investors, 70% more than the 2019 figure, but 19% less than 2021. This decrease – according to still provisional data – has occurred in most of the main cities receiving investment. The unprecedented volume of capital supply that drove investment to record levels in 2021 and the first half of 2022 was in part due to the acceleration in its pace of deployment. As a result, the average time between venture capital fundraising and execution has decreased from a long-term average of 3.5 years to 2.4 years in 2022, and consequently had the effect of approximately increasing the amount of capital invested by around 50% per year. As of the second semester, investment activity has normalised after the extraordinary growth of 2021 and the first part of 2022. It should be mentioned that in 2022 the investment process has also been affected by the increase in interest rates and inflation, especially in the second half of the year.

Barcelona's position in the ranking



Source: *State of European Tech 2022*. Atomico.

The number of investment deals also declines in most major European cities in 2022. In this aspect, Barcelona is in ninth place in Europe and will go from 167 agreements in 2021 to 126 in 2022. London remains the main European centre with a total of 895 agreements (514 fewer than in 2021), a figure that is more than double that of the second largest (Paris's 419).

Although the ecosystem has matured, where Barcelona continues to lead the investment volume of the Spanish technology sector, the unexploited potential still abounds and we must continue to bet on innovation. It should also be noted that by 2022 four of the nine unicorn companies[1] in Spain originate in Catalonia (eDreams, Glovo, Wallbox and TravelPerk).

The 20 main European hubs in technology investment. 2022

	City	Interannual variation 2022/2021 (%)	Invested Capital 2022[1] (million of dollars)
1	London	-23	19,234
2	Paris	21	9,864
3	Berlin	-52	5,215
4	Stockholm	-41	4,151
5	Munich	-54	2,124
6	Amsterdam	-62	1,659
7	Zurich	210	1,523
8	Helsinki	33	1,397
9	Milan	94	1,386
10	Tallinn	46	1,330
11	**Barcelona**	**-19**	**1,326**
12	Vienna	-9	1,190
13	Madrid	-25	1,108
14	Oslo	-23	934
15	Dublin	-26	858
16	Zagreb	884	758
17	Hagen	-46	730

Source: *State of European Tech 2022.* Atomico.

1. Estimate, based on annualisation based on actual data through October.

Most popular European cities for establishing a *startup* in 2021

Barcelona ranks as the third favourite city in Europe to establish a *startup* for the fifth consecutive year

According to the seventh edition of the*Startup Heatmap Europe Report 2022*, 20% of startup founders and members of the technology community would choose Barcelona if they had to start a new business project tomorrow, which means that for the fifth consecutive year it remains in third position among more than a hundred European cities. For the second consecutive year, the ranking is topped by Berlin, followed again by London (with 37% and 33% of the votes, respectively). Although these two cities maintain the top positions, in the last six years they have lost 14 and 17 percentage points in terms of support, respectively. With respect to Barcelona, the percentage of votes remains between 17% and 20% since 2018.

In this 2022 edition, the report includes a section asking why Barcelona continues to be one of the most attractive cities for founders of *startups*. On the one hand, Barcelona tends to have a lower cost of living than the main European cities and the quality of life is high in terms of the functioning of the health and education system, the interconnections, the infrastructures and the climate, among others. On the other hand, it is also highlighted that Barcelona is characterised by having a cosmopolitan and multicultural character and that the city is consolidating itself as technology *hub* and innovation centre.

Preferred cities to locate a new *startup* in Europe

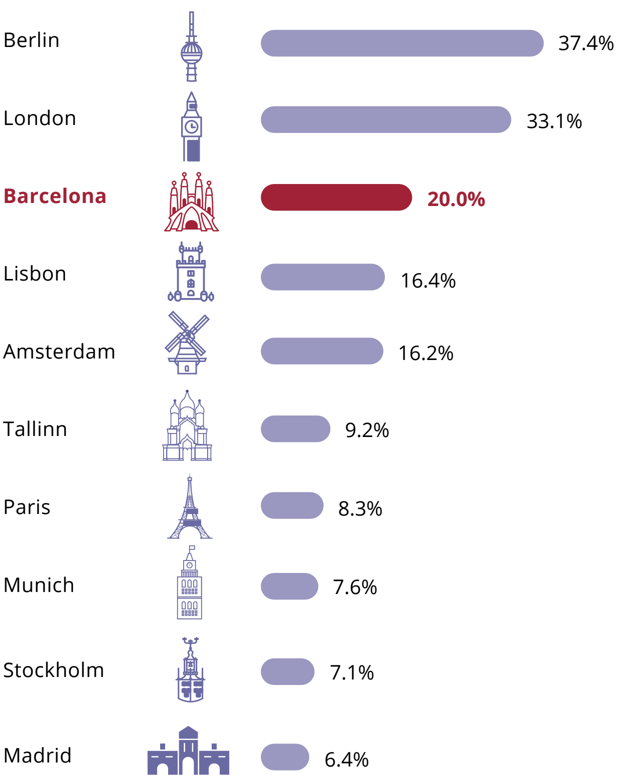
Ranking 2020	City	Ranking 2021
1	Berlin	1
2	London	2
3	**Barcelona**	**3**
6	Lisbon	4
3	Amsterdam	5
9	Tallinn	6
7	Paris	7
5	Munich	8
10	Stockholm	9
13	Madrid	10

Source: *Startup Heatmap Europe, 2022 Startup Heatmap Europe Report*.

It should be mentioned that on 1 December 2022, the Congress of Deputies approved the law of *startups*, which takes effect in January 2023. This law is a leap forward for the digital sector and a recognition of its peculiarities and the needs of entrepreneurs and investors, and at the same time it wants to boost its innovation and build a more competitive country on an international scale. The regulations recognise a separate legal entity for the emerging company or *startup* (innovative company of up to five years of life, or seven years, if it is biotechnological, that invoices a maximum of five million and does not distribute dividends), establishes tax breaks, eliminates bureaucratic procedures when creating one *startup* and to attract professionals who live abroad, and encourages the attraction of capital.

Percentage of entrepreneurial people who cite the city to locate a new *startup* in the year 2021

(With a maximum of 3 votes per entrepreneur)



Source: *Startup Heatmap Europe*, 2022 Startup Heatmap Europe Report.

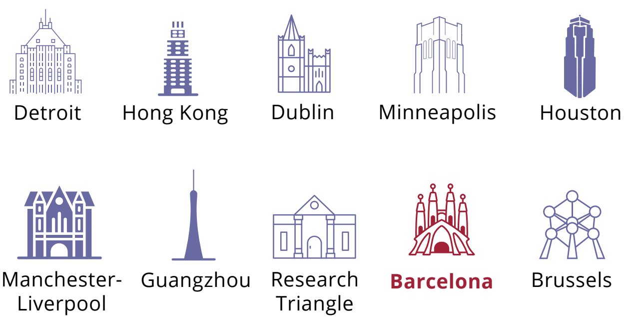
Main *startup* ecosystems worldwide in 2022

Barcelona remains the seventh ecosystem of *startups* of Europe and the thirty-seventh in the world

Barcelona remains the seventh ecosystem of *startup* hubs in Europe and the thirty-seventh in the world in 2022, according to *Global Startup Ecosystem Index 2022* from StartupBlink, which is updated annually since 2017 and takes into account approximately one thousand cities in one hundred countries around the world. This index gives each ecosystem a total score that is the sum of three subscores that measure the quantity, quality and business environment of *startups*. Barcelona continues to be the main ecosystem of *startups* of Spain. However, although Spain continues with the negative trend of last year, by dropping one place and placing itself in sixteenth in the world and tenth in Europe, Barcelona remains stable in the world ranking and is the exception among the eight main ecosystems of *startups* of the State, which lose positions. The city of Barcelona has consolidated and shows continuous growth, thanks to a high number of investment opportunities, talent, innovation centres, *digital hubs*, *startups* and incentive programmes. By industries, the report highlights Barcelona for being an ideal place for *startups* of *foodtech* (15th place), energy and environment (16th place), and e-commerce and retail (21st place). As an example of *startups* in the city, the report highlights iLovePDF, Wallapop and Smadex.

At the same time, according to *The Global Startup Ecosystem Report 2022* by Startup Genome, Barcelona ranks as the ninth city in the top 100 emerging ecosystems in the world and, in the four factors assessed, it is awarded (from 1 to 10) an 8 in profitability, a 10 in financing, a 1 in market size and a 9 in talent and experience. Compared to the previous edition, it drops four positions, three of which are due to the fact that new cities are included in the ranking: Hong Kong, Dublin and Research Triangle (metropolitan area of Raleigh, North Carolina).

Top 10 emerging ecosystems in the world. 2021



Source: *The Global Startup Ecosystem Report. GSER 2022. Startup Genome.*

Main ecosystems of *startups* in the world 2022

City	2021 ranking	2022 ranking
San Francisco	1	1
New York	2	2
London	5	3
Los Angeles	4	4
Boston	6	5
Beijing	3	6
Shanghai	7	7
Bangalore	10	8
Tel-Aviv	8	9
Paris	11	10
Seattle	12	11
Berlin	13	12
New Delhi	14	13
Chicago	17	14
Tokyo – Yokohama	---	15
São Paulo	20	16
Mumbai	16	17
Shenzhen	21	18
Washington DC	19	19
Austin	18	20
San Diego	22	21
Singapore	25	22
Stockholm	24	23
Toronto	26	24
Seoul	23	25
Dallas – Fort Worth	27	26
Amsterdam	29	27
Atlanta	28	28
Moscow	9	29
...	...	...
Barcelona	**37**	**37**

Source: *Global Startup Ecosystem Index 2022. StartupBlink.*

Top cities in the world for scientific academic production in 2021

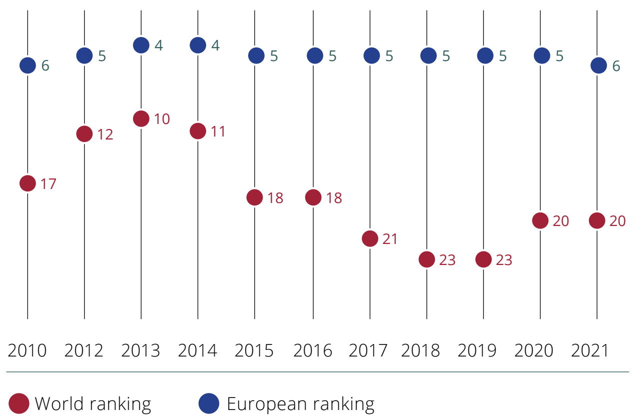
Barcelona is 20th among the world's cities and sixth in Europe

Barcelona, with 25,031 scientific publications, ranks sixth in Europe and twentieth in the world in scientific academic production in 2021, according to the *Knowledge Cities Ranking 2021* prepared by the Centre for Land Policy and Valuations of the UPC based on the Science Citation Index. Barcelona increases the number of publications by 6.7% compared to the previous year, which allows it to maintain twentieth place in the world ranking and a good position in the European top 10 (where this year it ranks as the sixth, with a scientific production close to that of Rome). Barcelona presents a higher number of publications than other relevant cities such as Milan, Cambridge (USA), Berlin and Oxford, although it continues to be largely surpassed by the leading cities in the ranking (Beijing, Shanghai or London, which have been in the lead since 2014).

The Metropolitan Area of Barcelona occupies the 45th position among the 200 main science cities in the world in the 2022 index prepared by the magazine *Nature*. On the other hand, of the 253 grants *Advanced Grant* granted to research staff in 2021 by the European Research Council, 7 have been for Catalan institutions, a figure that represents more than half of the grants granted in Spain (13). It should be noted that, of the 7 researchers with recognition, 4 are women (57%), a figure that represents a significant change in relation to the period 2014-2019, in which only 5 of 36 grants *Advanced Grant* awarded to Catalan researchers were for women (14% of the total).

Barcelona's position in scientific production

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



Source: Centre for Soil Policy and Valuations (CPVS) of the UPC based on data from the SCI (Science Citation Index)

Top cities in the world for scientific academic production. 2021

World ranking 2020	City	World ranking 2021	European ranking 2021	Publications 2021
1	Beijing	1		142,872
2	Shanghai	2		73,247
3	London	3	1	61,991
4	Nanjing	4		57,240
7	Guangzhou	5		50,077
5	New York	6		49,831
6	Boston	7		47,130
8	Seoul	8		44,525
9	Wuhan	9		43,741
10	Tokyo	10		40,864
12	Xi'an	11		40,494
11	Paris	12	2	39,945
14	Hangzhou	13		35,930
13	Chengdu	14		35,666
15	Madrid	15	3	30,581
16	Moscow	16	4	27,907
29	Hong Kong	17		25,913
21	Rome	18	5	25,198
22	Melbourne	19		25,127
20	**Barcelona**	**20**	**6**	**25,031**
24	Milan	21	7	24,741
18	Chicago	22		24,716
19	Toronto	23		25,543
17	Philadelphia	24		24,276
25	Los Angeles	25		23,821
23	Baltimore	26		23,561
28	Cambridge, (USA)	27		23,520
26	São Paulo	28		23,474
27	Houston	29		22,774
30	Singapore	30		20,919
31	Berlin	31	8	20,237

Source: Polytechnic University of Catalonia – Centre of Land Policy and Valuations. Data extracted in November 2022.

Population employed in technological manufacturing and services in European regions in 2021

Catalonia, fourth European region in population employed in manufacturing and seventh in technological services

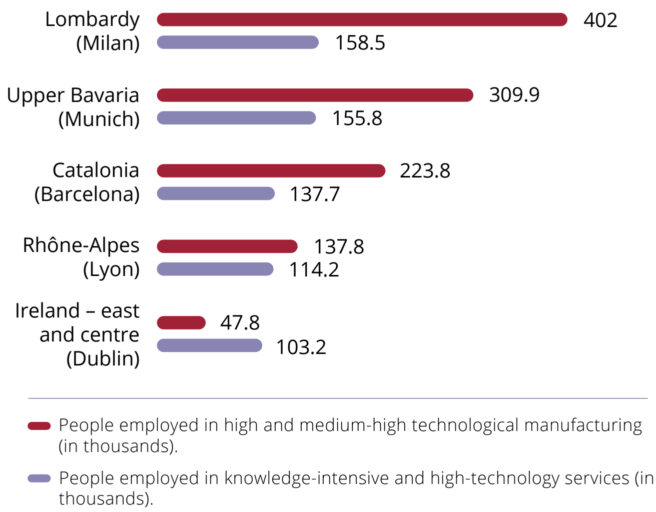
In 2021, Catalonia was in fourth place among the European regions with the largest population employed in manufacturing with high and medium-high technological intensity,[1] it has gained two positions compared to the previous year, and has only been surpassed by the regions of Stuttgart, Lombardy and Upper Bavaria, according to Eurostat data. Catalonia has a total of 223,800 people working in these sectors, 10.8% more than the previous year (21,900 jobs), the highest growth rate of the fifteen main regions. Almost 30% of this employed population are women (66,600), a figure that increases by 8% compared to the previous year (61,800 women). Catalonia has a relative weight of 6.5% of employment in manufacturing sectors with high and medium-high technological intensity (6.1% in 2020), a percentage that places it in the medium-high range among the more than 300 European regions.

Regarding services, with a total of 137,700 workers, in 2021 the Catalan economy is in seventh place among European regions in terms of employment in knowledge-intensive and high-tech services,[2] behind the Île-de-France, Madrid, Berlin, Lombardy, Upper Bavaria and Lazio. Employment in these activities increased again compared to the previous year and did so by 8,500 employed people (6.6%), so that Catalonia climbs its position among the European regions. In addition, the weight of these activities on the total employed population rises by a tenth to 4.0%, a percentage that places it in the middle-high range of European regions. Despite the aggregate improvement in employment in these activities, the employed female population has decreased slightly by 600 people (-1.4%) compared to 2020 and stands at 41,900 women (30.4% of the total) .

[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.

People employed in knowledge-intensive and high-technology services and people employed in high and medium-high technological manufacturing 2021



Source: Eurostat

Population employed in technological manufacturing and services in the European regions. 2021

Knowledge-intensive and high technology services				High and medium-high technological 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)
3.9	28.1	84.2	Stuttgart (STUTTGART)	20.7	111.3	447.6
3.7	48.6	158.5	Lombardy (MILAN)	9.3	109.5	402.0
6.5	53.3	155.8	Upper Bavaria (MUNICH)	13.0	81.5	309.9
4.0	**41.9**	**137.7**	**Catalonia (BARCELONA)**	**6.5**	**66.6**	**223.8**
2.4	15.3	48.0	Emilia-Romagna (BOLOGNA)	10.6	55.0	209.2
5.8	24.8	82.5	Karlsruhe (KARLSRUHE)	14.3	41.1	202.8
2.9	15.8	51.5	Piedmont (TURIN)	10.9	46.6	190.8
2.6	:	27.7	Tübingen (TÜBINGEN)	17.3	40.9	180.7
2.0	12.6	42.1	Veneto (VENICE)	8.5	38.5	175.6
3.6	26.9	88.4	Düsseldorf (DÜSSELDORF)	7.0	42.7	174.4
4.4	29.8	87.6	Darmstadt (FRANKFURT)	8.7	40.4	172.2
2.7	:	31.3	Freiburg (FREIBURG)	13.8	42.1	161.9
3.2	19.6	60.7	Upper Silesia (KATOWICE)	8.5	52.2	160.6
7.3	148.2	409.1	Île-de-France (PARIS)	2.8	54.0	159.5
2.0	4.7	17.6	Western Slovakia (Bratislava)*	17.7	60.3	158.1
5.4	39.5	115.5	Cologne (COLOGNE)	6.6	34.9	140.7
3.9	30.9	114.2	Rhône-Alpes (LYON)	4.7	47.4	137.8
7.2	79.1	226.4	Community of Madrid (MADRID)	3.5	30.4	108.6
8.3	33.3	127.2	Central Hungary (BUDAPEST)	6.7	41.5	101.9
2.9	13.2	46.8	Pays de la Loire (NANTES)	5.5	24.7	88.8
4.9	44.6	125.8	Masovia (WARSAW)	3.3	38.7	86.4
9.0	54.3	164.8	Berlin (BERLIN)	3.9	22.3	70.9
6.8	44.5	153.4	Lazio (ROME)	2.8	17.2	63.6
6.1	17.8	58.6	Hamburg (HAMBURG)	5.8	15.1	55.5
5.9	20.6	77.3	Midi-Pyrénées (TOULOUSE)	4.1	15.7	54.1
6.7	19.9	64.3	Capital Region (COPENHAGEN)	5.2	21.1	50.0
8.5	32.7	103.2	East and Centre (Dublin)	3.9	17.8	47.8
3.6	23.3	71.6	Provence-Alps-Cote d’Azur (MARSEILLE)	2.1	13.4	42.0

Source: Eurostat
* Women employed in knowledge-intensive services and high technology data for the year 2020.
Note: The original database contains a total of 344 European regions, although the table includes the first 15 according to the number of people employed in high and medium-high intensity manufacturing and the rest is a sample of selected regions of interest.
CCAE-09 Manufactures with high technological intensity: 21 and 26.
Manufactures of medium-high technological intensity: 20 and 27-30.
Intensive services in knowledge and high technology 59-63 and 72.

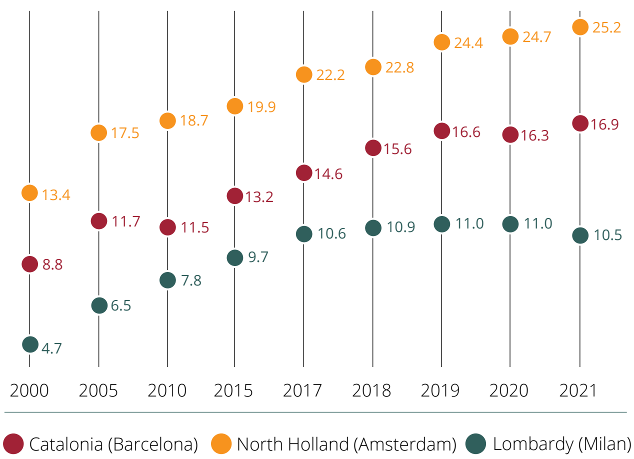
Population employed in science and technology in 2021, and research and development expenditure in European regions in 2020

Catalonia, third European region in employment in science and technology

Catalonia has registered 969,900 workers with higher education dedicated to science and technology[1] in 2021 and is the third European region with the most employment in this area, only behind Paris and Madrid, and above Lyon, Milan, Seville and Munich, among others, according to Eurostat. In this way, Catalonia gains two positions compared to the previous year, after recording an increase of 38,900 people employed in this area (4.2%). The number of people employed in science and technology accounts for 16.9% of Catalonia's overall population (0.6 percentage points more than in 2020), a percentage that places it in the medium-high range among the more than 300 European regions. With data from the labour force survey (LFS), people employed in the information and communication technologies (ICT) sector[2] reach 120,800 in the third quarter of 2022, a figure that represents an increase of 6.0% compared to the previous year – when pre-pandemic levels had already been recovered.

In 2020, the R&D expenditure of Catalan companies was 1.51% of GDP, a value higher than that of regions such as Dublin and Milan and the average of Spain (1.41%). On the other hand, Catalonia is still far from leading areas such as Stuttgart, Mid-Pyrenees or Upper Bavaria, and is below the European Union average (2.3%), which is why it does not meet the objective of the 3% that had been set in the European strategy for 2020. According to advanced data from the National Institute of Statistics of Spain and Idescat for the year 2021, expenditure on internal R+D in Catalonia and Spain has reached 1.67% and 1.43% of GDP, respectively, the highest figures in the historical series and 0.6 and 0.2 points higher than in 2020.

Population employed in science and technology
(as a percentage of the population aged 15 to 74)



Note: Workers with higher education qualifications employed in science and technology.

Source: Eurostat

[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 2021, and research and development expenditure in European regions in 2020

Total internal R&D expenditure (% GDP) 2020	Internal expenditure in business sector on R+D (% GDP) 2020	Region (CITY)	Workers in science and technology (% population) 2021	Workers in Science and technology (in thousands) 2021
2.9	2.0	Île-de-France (PARIS)*	25.5	2,285
1.7	1.0	Community of Madrid (MADRID)	21.3	1,090
1.5	**0.9**	**Catalonia (BARCELONA)**	**16.9**	**970**
2.8	1.8	Rhône-Alpes (LYON)*	20.2	967
1.3	1.0	Lombardy (MILAN)	10.5	781
0.9	0.3	Andalusia (SEVILLE)	11.5	746
4.4	3.3	Upper Bavaria (MUNICH)	21.9	735
2.6	1.8	Masovia (WARSAW)	29.6	669
3.3	1.3	Berlin (BERLIN)	23.6	653
---	---	South Holland (ROTTERDAM)*	22.0	616
2.5	1.5	Provence-Alps-Cote d'Azur (MARSEILLE)*	16.7	602
3.3	2.5	Stockholm (STOCKHOLM)	31.4	557
---	---	North Holland (AMSTERDAM)*	25.2	553
7.3	6.9	Stuttgart (STUTTGART)	17.4	541
3.0	1.2	Cologne (COLOGNE)	16.1	534
1.9	0.8	Lazio (ROME)	12.2	525
2.0	1.5	Düsseldorf (DÜSSELDORF)	13.3	523
1.1	0.5	Community of Valencia (VALENCIA)	13.2	505
3.5	2.7	Darmstadt (FRANKFURT)	16.6	502
0.9	0.6	Upper Silesia (KATOWICE)	15.3	497
1.6	1.0	Attica (ATHENS)	17.1	484
0.9	0.4	Nord-Pas-de-Calais (LILLE)*	15.9	462
1.7	0.9	Lisbon Metropolitan Area (LISBON)	20.8	436
4.8	3.4	Midi-Pyrénées (TOULOUSE)*	19.3	430
1.5	1.1	East and Centre (DUBLIN)*	23.1	426
2.2	1.4	Little Poland (KRAKOW)	17.6	424
1.2	0.8	Pays de la Loire (NANTES)*	15.7	431
1.5	0.8	North (PORTO)	15.3	422

* Data from 2013 for internal R+D expenditure (total and business).
Internal expenditure includes capital, current and employment expenditure (for both researchers and administrative personnel), linked to research activities in proportion to the GDP.

Source: Eurostat

Tourism

OBSERVATORI BARCELONA

Introduction

In 2022, the tourism sector in Barcelona has continued its spectacular recovery thanks to the economic improvement and the intention to travel contained following the restrictions of the pandemic in 2020 and at the beginning of 2021. However, the evolution is being different according to the origin of the tourist person: while the number of travellers staying overnight in hotel establishments from Spain already exceeds pre-crisis levels by 5.4% in Barcelona, the number of foreign people (who represent 80.1% of the total) is still below the pre-pandemic level (-17.7% compared to 2019). According to the Tourism Observatory in Barcelona: City and Region, the indicators of tourist activity in October in Barcelona almost reach the levels recorded in the same period of 2019, especially in terms of demand. The sector, faced with the obstacles looming for 2023, must continue to work for the sustainability of the tourism model.

In this sense, Barcelona has obtained nearly 41 million euros in the call for the 2022 plan for the modernisation and competitiveness of the tourism sector, which is financed with European Next Generation funds and which will be used to finance twenty city projects focused on the impetus for economic recovery and the resilience of the destination through the territorial deconcentration of tourism, the creation of new imaginaries and innovation, in addition to ensuring the social return of tourism and the sustainability of the activity. These projects will be carried out between 2023 and 2025. Barcelona, in recent years, has worked to transform and diversify a tourism model that consolidates the city as a leading destination in urban tourism and that responds to criteria of sustainability, equity and quality. With these objectives, a strategic plan, a tourism marketing strategy, a government measure of new imaginaries and the definition of the visitor economy in the Barcelona Green Deal economic agenda have been defined.

In this context, the city of Barcelona improves some positions as an international tourism destination in the main reference rankings of the sector referring to the year 2021 and 2022. So according to the *Benchmarking Report 2021-2022* of the City Destinations Alliance, Barcelona is in fourth place in Europe in European overnight stays and is the third city with the highest increase in the total number of overnight stays in the top 15. Also, according to the *Top 100 City Destinations Index 2021* of Euromonitor International, Barcelona improves six places and is positioned as the tenth international destination and the eighth in Europe. In a more globalised and digitised future, the city brand takes on great importance; precisely in this aspect the *2022 City Brand Barometer* Saffron's places Barcelona as the fifth city in the world with the best brand (it gains two positions compared to the 2020 edition). Likewise, The Telegraph Travel positions Barcelona as the best city on the planet to visit, thanks to its architecture, the thriving artistic and cultural scene, and the more than 2,500 hours of sunshine a year.

In terms of the main access infrastructure to the city, in 2022 the Josep Tarradellas Barcelona-el Prat airport will return to the European top 10 in terms of passengers and is getting closer and closer to the record figures from before the crisis. At the same time, in terms of origin and destination cruise traffic, Barcelona improves its position as the second port in Europe in 2021 and approaches the leadership, a position it lost in 2020 and which it had sustained during 19 consecutive years. In 2022, there is a gradual improvement in cruises in the port of Barcelona as the year progresses, and it is expected to close this 2022 with approximately 800 operations, an amount very similar to that recorded in 2019. The Port of Barcelona will, this year, be the base port for some of the most efficient and modern cruise ships in the current global fleet. Of the 800 planned cruise ship calls, 53% will be cruise ships less than ten years old.

The tourism sector in Barcelona approaches the record numbers of 2019

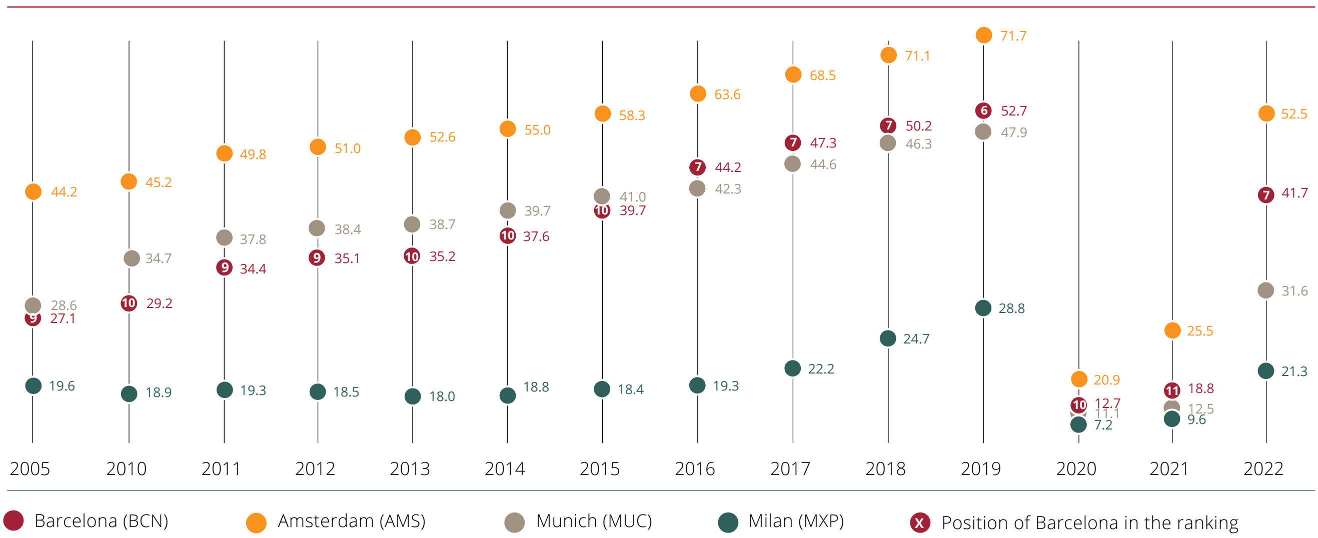
Main European airports by passenger volume in 2022

Barcelona airport once again ranks seventh in Europe in terms of passenger numbers

In 2022, Barcelona airport will regain the seventh European position in terms of passenger volume, a position it held in 2018. The number of passengers has risen to 41.6 million, according to provisional data from AENA. This figure is 120.6% higher than that of the year 2021 as a whole, but it is still 21% below the level of 2019 (52.7 million). According to the origin of the tourist, the increase has been more intense among international passengers (162.1%) – who represent 70.6% of the total – than among nationals (59.4%). The positive annual evolution in the volume of passengers is also observed in the rest of the 25 main European airports, with the exception of Moscow airports. Istanbul, London Heathrow and Paris Roissy airports remain in the first three positions of the ranking.

The pandemic has been a global phenomenon that has severely affected the global airport sector throughout 2020 and 2021. Although in 2020 Barcelona airport suffered the largest drop in passenger volume among the main European airports, in 2021 it was on the doorstep of *top 10* European. In 2022 the figures have maintained a remarkable recovery as the year progressed, which is expected to continue in 2023. According to the Tourism Observatory in Barcelona: City and Region, the global flight schedule for the first quarter of 2023 is currently around 94% of the level recorded before the pandemic, and the total supply of places for the winter season 2022-2023 at Barcelona airport it exceeds 10 million, only 2% below the total number of places offered in the 2019-2020 winter season.

Number of passengers at airports in European cities
(million)



Note: In 2010, Barcelona airport dropped one position due to the entry of Istanbul airport in the ACI statistics. If it were not for that, it would have remained 9th.

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

Main airports by passenger volume. 2022

	City (airport)	Variation for 2022/2021 (%)	Passenger numbers 2022
1	Istanbul (IST)	73.4	64,486,178
2	London Heathrow (LHR)	217.6	61,599,199
3	Paris Roissy (CDG)	119.4	57,474,033
4	Amsterdam (AMS)	105.8	52,472,188
5	Madrid (MAD)	109.8	50,633,652
6	Frankfurt (FRA)	97.1	48,918,482
7	**Barcelona (BCN)**	**120.6**	**41,639,622**
8	London Gatwick (LGW)	424.6	32,839,000
9	Munich (MUC)	153.2	31,642,702
10	Antalya (AYT)	41.8	31,210,119
11	Istanbul-Sabiha Gökçen (SAW)	23.6	30,769,728
12	Rome Fiumicino (FCO)	151.7	29,360,613
13	Paris-Orly (ORY)	85.6	29,187,269
14	Palma de Mallorca (PMI)	97.1	28,573,364
15	Moscow-Sheremetyevo (SVO)	-7.3	28,400,000
16	Lisbon (LIS)	132.6	28,262,000
17	Dublin (DUB)	236.2	27,787,556
18	Vienna (VIE)	127.6	23,682,133
19	Manchester (MAN)	283.2	23,369,770
20	London-Stansted (STN)	226.7	23,319,523
21	Athens (ATH)	84.1	22,728,750
22	Zurich (ZHR)	120.4	22,561,132
23	Oslo (OSL)	139.1	22,467,510
24	Copenhagen (CPH)	141.2	22,143,135
25	Milan Malpensa (MXP)	121.9	21,347,652

Note: Provisional data.

Source: Official airport statistics portals, AENA, Saber MiDT and Airports Council International (ACI).

International overnight stays in European cities in 2021

Barcelona is the fourth city in Europe in international overnight stays

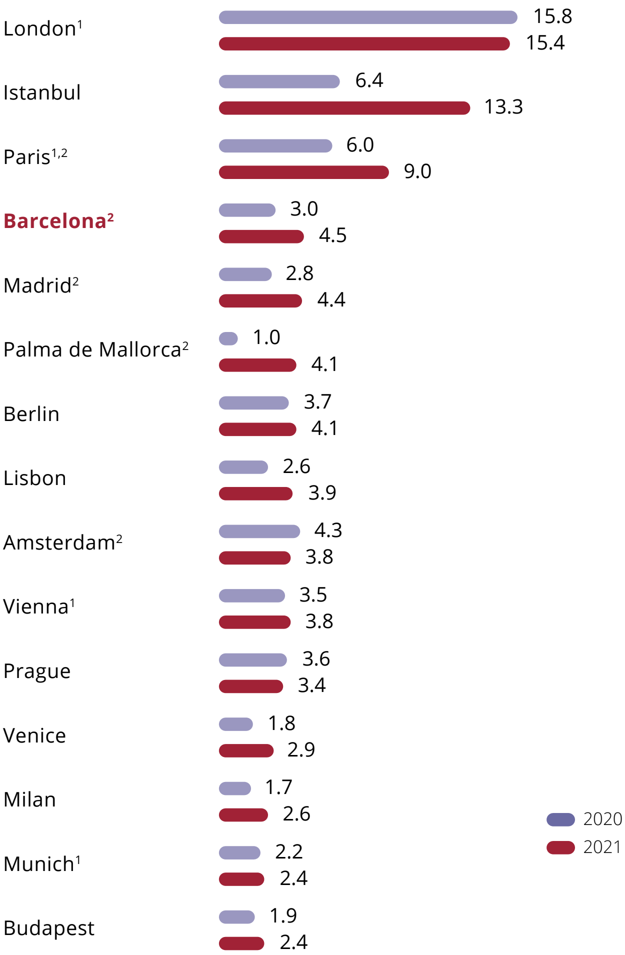
In 2021, Barcelona ranks fourth in Europe for the number of international overnight stays in European cities, according to the *City Destinations Alliance Benchmarking Report 2021-2022*. The number of international overnight stays in hotels in the city reaches 4.5 million, i.e. 1.5 million more than in 2020 (48.5%, the seventh highest relative growth in the top 15). According to the number of total overnight stays (national and international), Barcelona ranks ninth in Europe, with 6.1 million overnight stays, 55% more than the previous year – the third highest increase in the *top 15*.

At the same time, according to the *Top 100 City Destinations Index 2021* of Euromonitor International, Barcelona improves six places and is positioned as the tenth international destination and the eighth in Europe. The Euromonitor index compares 54 different metrics grouped into six key pillars between 100 destinations, to create a global score of the city's attractiveness as an international destination. The pillar where Barcelona receives a better assessment is in politics and tourist attraction, as it is in fifth place (seventeen more than in the previous edition).

The situation of foreign tourism activity improved substantially in 2021 following the end of the state of alarm, the vaccination of the population, the launch of the EU digital Covid certificate and the moderation of restrictions on the hotel industry. But, despite everything, the figures did not reach the record data from before the health crisis. The evolution of 2022 has continued to improve progressively and, according to Barcelona City Council statistics, in October 2022 the number of foreign tourists in Barcelona is already only 12% lower than in 2019.

International overnight stays in European cities 2021

(million)



Note: Overnight stays in all types of paid accommodation in the area of the city of analysis, unless otherwise specified. 2021, Provisional data.
[1] City and metropolitan area
[2] Only overnight stays in hotels

Source: Barcelona Tourism Observatory City and Region, from *City Destinations Alliance Benchmarking Report 2021-2022*.

Top 15 international overnight stays in European cities. 2021

	City	Variation for 2020/2021 (%)	International overnight stays 2020 (millions)	International overnight stays 2021 (millions)
1	London[1]	-2.3	15.8	15.4
2	Istanbul	108.9	6.4	13.3
3	Paris[1,2]	49.6	6.0	9.0
4	**Barcelona[2]**	**48.5**	**3.0**	**4.5**
5	Madrid[2]	58.2	2.8	4.4
6	Palma de Mallorca[2]	321.4	1.0	4.1
7	Berlin	8.7	3.7	4.1
8	Lisbon	47.5	2.6	3.9
9	Amsterdam[2]	-10.2	4.3	3.8
10	Vienna[1]	9.1	3.5	3.8
11	Prague	-3.5	3.6	3.4
12	Venice	60.8	1.8	2.9
13	Milan	55.7	1.7	2.6
14	Munich[1]	7.8	2.2	2.4
15	Budapest	21.6	1.9	2.4

[1] City and metropolitan area.
[2] Only overnight stays in hotels.
Note: 2021 Provisional data

Source: *Barcelona Tourism Observatory City and Region, from City Destinations Alliance. Benchmarking report 2021-2022*

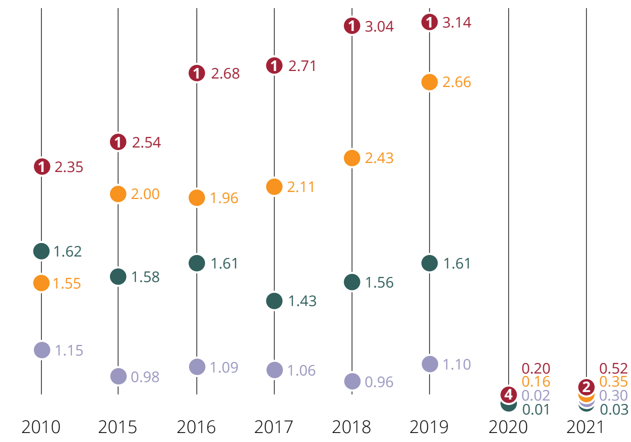
Cruise ships in Europe's main ports in 2021

The port of Barcelona climbs to second position and is on its way to regaining the lead

In 2021, the port of Barcelona will register almost 521,000 passengers (161.9% compared to the previous year) and is the second European base port in terms of number of cruise passengers. The world of cruises has continued to be impacted by restrictions following the pandemic with the extension of the suspension of international cruises until the beginning of June 2021. Thus, Barcelona is still far from recovering pre-pandemic levels (83.4% below the figure recorded in 2019, when 3.1 million passengers were reached). Despite this and although it is true that the port of Barcelona has not regained the leadership it lost the previous year – and that it had sustained for nineteen consecutive years, it does recover two positions this year and is only behind the port of Genoa. In any case, the classification of cruise tourism must continue to be assessed under the exceptionality of the health crisis in 2021.

Indeed, in 2022, with the total lifting of virus lockdown measures, a very favourable recovery of cruises in the port of Barcelona has materialised. According to Ports de l'Estat statistics, Barcelona has registered 2,329,332 cruise passengers in the year 2022 as a whole, almost five times more than in 2021, but still 25.8% below the 2019 figure (3.1 million cruise passengers). Looking ahead to 2023, a recovery of the pre-Covid figures can be seen. According to data from the Barcelona Tourism Observatory: City and Region, around 850 cruises are scheduled in the port of Barcelona in 2023, a figure that exceeds that of 2019.

Cruise-ship passengers (millions of passengers)



Barcelona · Piraeus (Athens) · Venice · Balearic Islands

X Barcelona's position in Mediterranean rankings

Source: Cruise Insight MedCruise and Ports of the State

Cruise ship passengers in the main ports of Europe. 2021

	City	Interannual variation for 2021/2020 (%)	Passengers 2021 (thousands)
1	Genoa, Savona	186.1	591,391
2	**Barcelona**	**161.9**	**520,854**
3	Civitavecchia, Fiumicino and Gaeta	136.9	490,344
4	Marseilles	184.7	351,887
5	Balearic Islands	120.1	345,065
6	Ports of Tenerife	-11.8	304,408
7	Piraeus	1,724.9	303,665
8	Naples, Salerno, Castellammare di Stabia	835.0	263,435
9	Corfu	2,921.4	234,699
10	Bari, Brindisi, Manfredonia, Monopoli	2,484.5	219,705
11	Messina, Milazzo, Calabria Region	1,052.1	156,449
12	Valletta	148.6	147,132
13	Cadiz	228.0	133,427
14	Valencia	397.9	130,869
15	Heraklion	499.7	119,930
16	Malaga	194.6	118,330
17	Madeira ports	-23.1	117,289
18	Dubrovnik, Korcula	2,220.5	116,975
19	Lisbon	131.7	115,984
20	La Spezia, Carrara Marina	99.7	107,820
21	Palermo	42.3	107,084
22	Split	17,623.3	89,148
23	Taranto	100.0	80,309
24	Cartagena	271.6	70,087

Source: MedCruise Ports

Prices and Costs

OBSERVATORI BARCELONA

Introduction

This chapter covers the trend followed by prices and costs in Barcelona in 2022 (until September) in terms of cost of living, property market, taxes and wages. In a context of skyrocketing prices on a global scale, due to the energy crisis following the war in Ukraine and the "Zero Covid" restrictions in China, the average inflation of the year 2022 until the month of November in Catalonia it is 8.3%, that is to say, the highest rate in this period of the last 36 years. However, since August there has been a downward trend in general inflation, supported by a more favourable trend in the price of fuel and electricity, while underlying inflation is increasing due to the translation effect of the increase in costs to the final prices of goods and services. In this sense, it is important to highlight that in Catalonia there is no spiral between prices and wages and, therefore, it can be ruled out that the escalation of prices is fueled by second-round effects. A second element that needs to be emphasised is that medium-term inflation expectations in the Eurozone continue to be in line with the European Central Bank's objective (around 2%). The conclusion is that, if these two factors maintain this trend, inflation should moderate from the second half of 2023 (when the impact of the energy shock begins to dissipate).

With this context of rather high inflation in certain products, the subsectors of the property market – housing, office rental and logistics land – show a stable or slightly upward evolution of prices in 2022 compared to 2021, according to the report of Cushman & Wakefield Research. These are trends that have been observed in other European cities, such as Copenhagen, although most have recorded increases. With regard to the cost of living, according to Mercer Human Resource Consulting, Barcelona will again evolve upwards in this indicator in 2022 for the second consecutive year, after falling in 2019 and 2020. In this case, the rebound has occurred due to the startup of all activity after the shutdown in 2020 and the partial resumption in 2021, and because significant increases have been experienced in the electricity and gas 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 six years. In terms of indirect taxation, general VAT remains at 21% in 2022, although the reduced and super-reduced rates have a significant impact on revenue, especially when compared to other European countries.

Property prices in Barcelona are contained in 2022, but the cost of living on a global scale is rising

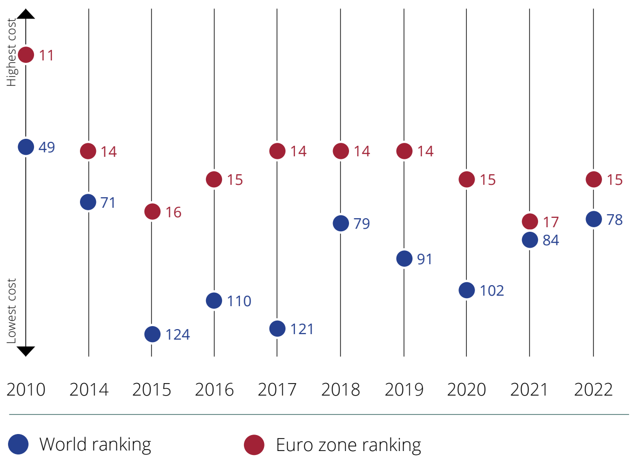
Cost of living in cities in the world 2022

Barcelona continues to rise in the world ranking of cities with the highest cost of living

Barcelona came in 78th position in the 2022 ranking of the 227 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 2022, Barcelona moves up positions in the world ranking of the cost of living and is in the highest position since 2014. This is mainly due to the strong increase in the price of energy and the general increase in the prices of key components of the basket. However, it should be borne in mind that the aforementioned ranking (published in June) would not be incorporating the downward trend in inflation from the month of July.

Regarding the comparison with the euro zone, Barcelona climbs two positions in the ranking of cities with the highest cost of living and goes from seventeenth in 2021 to fifteenth in 2022. Since 2012, the city has remained very stable in this European classification, between fourteenth in 2012 and seventeenth in 2021, which shows a certain synchronisation in the variations in the cost of living between the main cities of the euro zone.

Positioning of Barcelona in cost of living



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

Cost of living of cities in the world

Ranking 2021	City	Ranking 2022	Ranking 2021	City	Ranking 2022
2	Hong Kong	1	55	Oslo	27
5	Zurich	2	22	Taipei	28
8	Geneva	3	51	Washington	29
---	Basel	4	50	Boston	30
10	Bern	5	42	Dubai	31
15	Tel-Aviv	6	48	Miami	32
14	New York	7	52	Munich	33
7	Singapore	8	---	Busan	34
4	Tokyo	9	33	Paris	35
9	Beijing	10	45	Chicago	36
16	Copenhagen	11	23	Osaka	37
6	Shanghai	12	159	Victoria (Seychelles)	38
12	Shenzhen	13	53	Brussels	39
11	Seoul	14	61	Shenyang	40
18	London	15	82	Djibouti	41
---	Nassau	16	72	Atlanta	42
21	Los Angeles	17	56	Helsinki	43
17	Guangzhou	18	28	Chengdu	44
25	San Francisco	19	67	Seattle	45
43	Honolulu	20	60	Berlin	46
37	Vienna	21	---	The Hague	47
34	Tsingtao	22	36	Milan	48
30	Bangui	23	39	Dublin	49
20	Libreville	24	---	Yokohama	50
44	Amsterdam	25	---	---	--
27	Nanjing	26	**84**	**Barcelona**	**78**

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

Corporate income tax and VAT in the countries of the world in 2022

The main taxation rates remain in the middle band for European Union countries

Spain remains in the middle band of Europe in terms of the tax rates of the main tax figures (VAT and corporation tax), as shown by the comparison that PwC prepares and reviews regularly. As for indirect taxation, the general VAT rate has not changed with respect to 2018, remaining at 21%. This threshold is in line with the European Union average (21.5%) and is slightly below some neighbouring countries such as Portugal (23%) and Italy (22%), but in others it is above – as is the case in France (20%) and Germany (19%) – and remains clearly lower than in Denmark, Sweden and Norway (25% in all three cases). But, despite the fact that the general rate in Spain is 21%, there is a wide group of categories of goods and services that benefit from reduced (10%) and super-reduced (4%) rates.

As for direct taxes, the general corporate tax rate was 25% in 2022, above the EU average (21.3%). The last modification of the rate occurred in 2016 with a reduction of three percentage points. 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.

Corporation Tax. 2022 (%)

Source: *Worldwide Tax Summaries Online, PWC.*

VAT and corporate tax in countries around the world. 2022

Country	Basic VAT rate (%)	Country	Basic VAT rate (%)	Country	Base tax Tax on companies (%)	Country	Base tax Tax on companies (%)
Hungary	27.0	Estonia	20.0	Argentina	35.0	Sweden	20.6
Denmark	25.0	France	20.0	Brazil	34.0	Finland	20.0
Norway	25.0	United Kingdom	20.0	Australia	30.0	Estonia	20.0
Sweden	25.0	Germany	19.0	Mexico	30.0	Latvia	20.0
Finland	24.0	Cyprus	19.0	Netherlands	25.8	Thailand	20.0
Greece	24.0	Turkey	18.0	Austria	25.0	Slovenia	19.0
Northern Ireland	23.0	Luxembourg	17.0	Belgium	25.0	Poland	19.0
Poland	23.0	Japan	10.0	**Spain**	**25.0**	United Kingdom	19.0
Portugal	23.0	Australia	10.0	France	25.0	Czech Republic	19.0
Slovenia	22.0	Mexico	10.0	China	25.0	Germany	15.8
Italy	22.0	Switzerland	7.7	Luxembourg	24.9	Lithuania	15.0
Belgium	21.0	Thailand	7.0	Italy	24.0	Canada	15.0
Spain	**21.0**	China	6-13	Japan	23.2	Cyprus	12.5
Latvia	21.0	Brazil	5-30	Turkey	23.0	Northern Ireland	12.5
Lithuania	21.0	Canada	5-15	Norway	22.0	Hungary	9.0
Netherlands	21.0	United States	---	Denmark	22.0	Switzerland	8.5
Czech Republic	21.0	South-Africa	15.0	Greece	22.0	South-Africa	27.0
Argentina	21.0	Egypt	14.0	Slovakia	21.0	Egypt	22.5
Austria	20.0	Saudi Arabia	15.0	Portugal	21.0	Saudi Arabia	20.0
Slovakia	20.0			United States	21.0		

Source: *Worldwide Tax Summaries Online*, PWC

Office rental price in European cities 2022

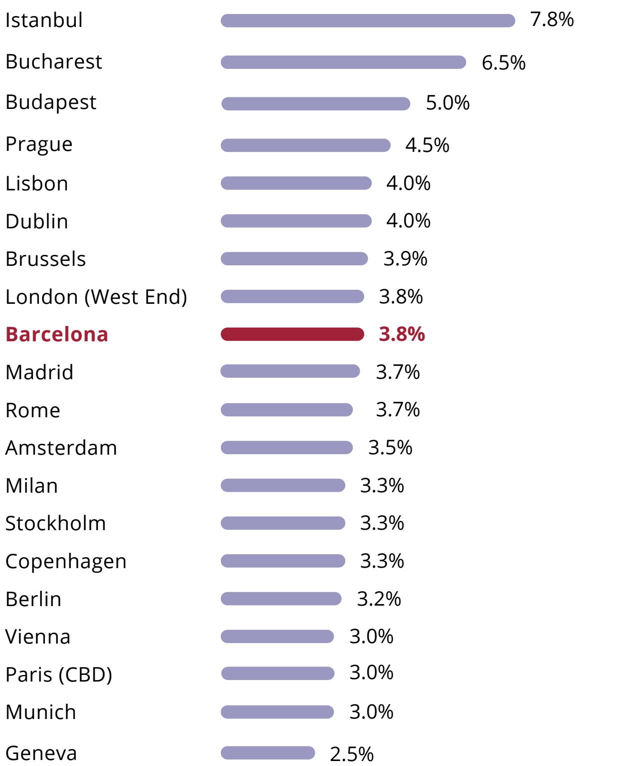
The office rental price remains the same in Barcelona and is positioned in the lower range among the main European cities

In the third quarter of 2022, the price of renting offices in Barcelona was 327 euros per year per square metre, the same price as a year ago, according to the report *The DNA of Real Estate* prepared by Cushman & Wakefield Research. After the fall in prices in 2020 following the arrival of Covid-19 and the stability of 2021, in 2022 most cities register increases in the price of rent (32 out of 46 cities) with various intensities (for over 13% in Milan, London, Amsterdam and Prague), as a result of the economic recovery and the energy crisis and the rise in the price of raw materials. The rest of the cities have recorded stability in prices, as in the case of Barcelona, Copenhagen, Zurich, Vienna and Manchester, among others, and no city has recorded a decrease. These variations have caused the office rental price of Barcelona to remain in position 31, among the 46 European cities analysed (2 less than the previous year, since this year 'Moscow and Cardiff are not included in the study).

Regarding the profitability of renting offices (that is, the return on the investment made), in 2022 Barcelona increases the rate by 4 tenths to 3.8%, the highest in the last five years and similar to that obtained in Brussels, London (West End) and Madrid. The cities that obtain the highest profitability are Istanbul, Sofia, Newcastle and Bucharest (with values above 6%), while at the other extreme are the Swiss cities of Geneva and Zurich (2.5%), and Paris, Vienna and Munich (with a return of 3.0%).

The Barcelona office market is evolving with great dynamism and, after closing the year 2021 with an investment of 1,657 million euros – 70% of that made in Spain, from January to September 2022 it recorded a hiring cumulative of 254,000 m^2, with an increase of 9% compared to the same period of the previous year.

Office rental price in European cities. 2022



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

Source: Cushman & Wakefield Research, *The DNA of Real Estate, 3T 2022 (Europe)*.

Office rental price in European cities. 2022

City	Year-on-year variation 2022/2021 (%)	Rent offices (€/m²/year)
London (WE)	14.3	1,504
Paris (CBD)	3.2	960
Geneva	0.0	915
London (City)	5.8	909
Zurich	0.0	813
Stockholm	0.0	739
Milan	13.3	680
Dublin	3.4	678
Luxembourg	3.8	648
Paris (La Défense)	6.5	575
Frankfurt	2.2	570
Amsterdam (South Axis)	16.3	535
Bristol	11.8	533
Rome	7.1	525
Berlin	10.3	516
Munich	4.9	516
Birmingham	7.9	514
Oslo	7.1	510
Edinburgh	8.3	489
Manchester	0.0	483
Helsinki	3.2	477
Leeds	5.9	451
Glasgow	1.4	445

City	Year-on-year variation 2022/2021 (%)	Rent offices (€/m²/year)
Madrid	8.9	441
Hamburg	6.6	390
Düsseldorf	5.3	360
Prague	31.8	348
Gothenburg	5.7	342
Brussels	6.3	340
Lyon	0.0	340
Barcelona	**0.0**	**327**
Newcastle	0.0	326
Vienna	0.0	318
Istanbul	8.0	312
Lisbon	6.4	300
Budapest	0.0	294
Warsaw	2.1	288
Malmö	0.0	287
Copenhagen	0.0	269
Rotterdam	12.8	265
The Hague	4.3	240
Marseilles	0.0	240
Bucharest	5.4	234
Bratislava	3.0	204
Sofia	0.0	180
Antwerp	0.0	165

Source: Cushman & Wakefield Research, *The DNA of Real Estate, 3T/2022 (Europe).*

Commercial premises rental price in cities in the world 2022

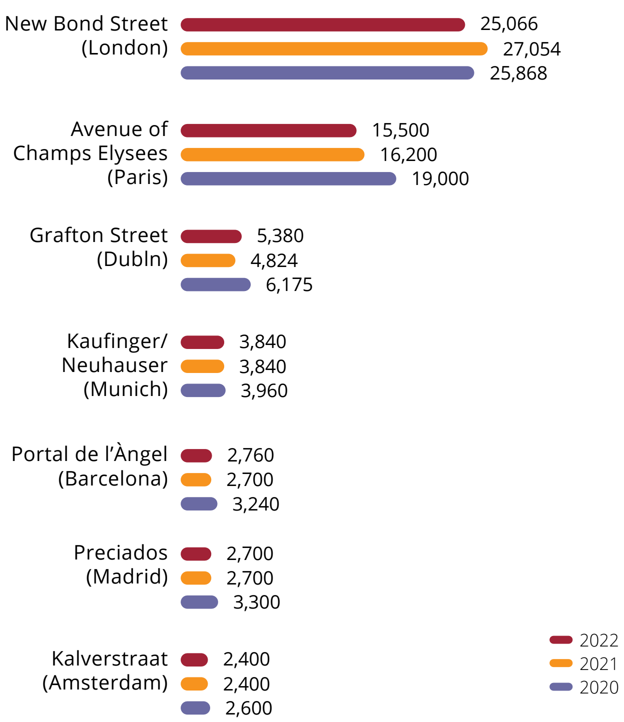
The Portal de l'Àngel remains between the 20 most expensive shopping streets in Europe

In 2022 Portal de l'Ángel remains the most expensive street in Spain, with an annual income of 2,760 euros per square metre, according to the report *The DNA of Real Estate 3T* of 2022, prepared by Cushman & Wakefield Research. Portal de l'Àngel ranks 15th among 41 European locations analysed. Compared to the same quarter of the previous year, the price has increased by 2.2%, and therefore rises two positions in the ranking. Other shopping locations with similar prices are Rue de la République in Lyon, with 2,500 euros per year/m^2, Calle Preciados in Madrid, with 2,700 euros per year/m^2 and Market Street in Manchester, with 2,757 euros per year/m^2. The first four positions continue to be dominated by the streets of New Bond Street in London (25,066 euros/m^2); the Avenue des Champs-Élysées (15,500 euros/m^2); the Corso Vittorio Emanuele in Milan (15,000 euros/m^2) and, finally, Via Condotti in Rome (12,800 euros/ m^2). In the latter cases, prices have increased compared to the previous year in the case of the Milan street (7.1%) and have remained the same in the Paris and Rome streets, while in the London street they have decreased (- 7.0%).

Regarding the performance of commercial premises, in 2022 Portal de l'Àngel has maintained a return of 3.5% in the third quarter of 2022, the same percentage as in the previous two years. This value is identical to that of Calle Preciados in Madrid or that of Strøget in Copenhagen, slightly lower than others such as Kalverstraat in Amsterdam (3.8%) and the Grand Rue in Luxembourg (3.75%), and slightly higher than the Biblioteksgatan street in Stockholm. As for the four most expensive streets, the performance has been 3-3.25%. Some of the locations offering the highest yields (over 5.5%) are Istiklal Street (Istanbul) and Calea Vitorei (Bucharest). It should be mentioned that Stoleshnikov (Moscow) has not been included in the sample of streets this year.

Price of renting commercial premises

(€/m^2/year)



Source: Cushman & Wakefield Research, *The DNA of Real Estate*. Data 3Q 2020/2021/2022.

Price of renting commercial premises in European cities. 2022

City	Street	Rent commercial premises (€/m²/year)	Performance of commercial premises (%)
London	New Bond Street	25,066	3.00
Paris	Avenue des Champs Élysées	15,500	3.25
Milan	Corso Vittorio Emanuele	15,000	3.25
Rome	Via Condotti	12,800	3.25
Zurich	Bahnhofstrasse	8,947	2.00
Dublin	Grafton Street	5,380	4.75
Vienna	Kohlmarkt	5,040	3.10
Geneva	Rhone Street	3,965	4.10
Munich	Kaufinger/Neuhauser	3,840	3.10
Hamburg	SpitalerstraBe	3,000	3.70
Frankfurt	Sail	3,000	3.60
Berlin	Tautentzienstrasse	3,000	3.40
Düsseldorf	Konigsallee	3,000	3.10
Copenhagen	Stroget	2,992	3.50
Barcelona	**Portal de l'Àngel**	**2,760**	**3.50**
Manchester	Market Street	2,757	---
Madrid	Preciados	2,700	3.50
Lyon	Republic street	2,500	4.10
Prague	Na Příkopě street	2,460	5.00
Amsterdam	Kalverstraat	2,400	3.80
Birmingham	High Street	2,256	---
Oslo	Karl Johan	2,136	3.50
Stockholm	Biblioteksgatan	1,779	3.30
Luxembourg	Grand Rue	1,740	3.75
Leeds	Brggate/Commercial Road	1,629	---
Antwerp	Meir	1,600	4.50
Brussels	Rue Nine	1,550	4.50
Lisbon	Chiado	1,470	4.25
Helsinki	City Centre	1,416	4.50
Budapest	Vaci street	1,320	5.35
Marseilles	Rue St Ferreol	1,300	5.50
Rotterdam	Lijnbaan	1,200	5.05
Istanbul	Istiklal Street	1,157	7.25

Source: Cushman & Wakefield Research, The DNA of Real Estate, 3T. 2022 *(Europe)*.

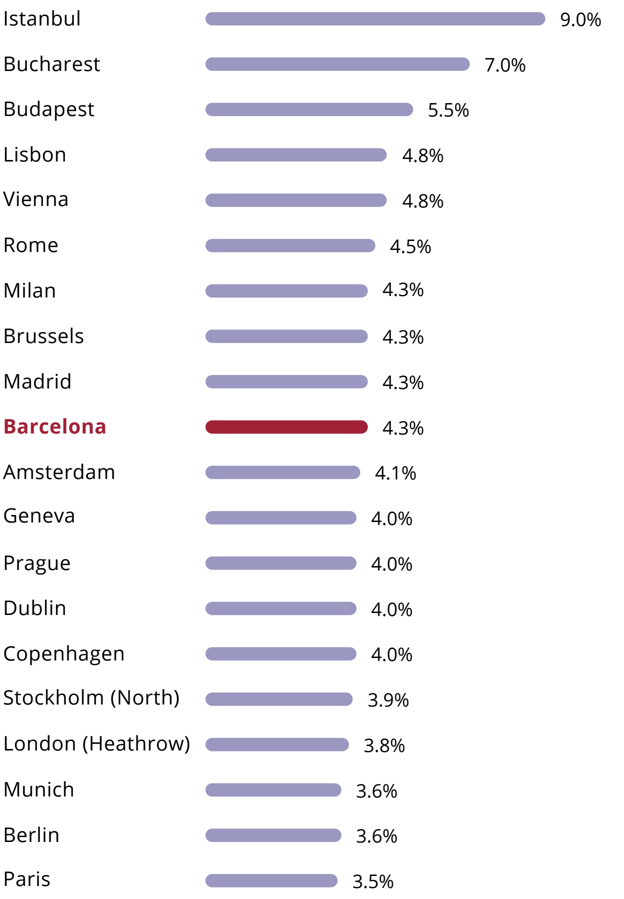
Rental prices for logistics land in Europe's main urban areas in 2022

Barcelona, one of the main urban areas in Europe where rental prices for logistics land increase the least

In 2022, with data from the third quarter, the rental price of logistics land in Barcelona has stood at 88 euros per square metre per year, one euro more than the previous year (1.4%), and is in the medium-high range (seventeenth position) among the 43 cities analysed, according to the report *The DNA of Real Etate 3Q 2022* published by Cushman & Wakefield Research. Of all the cities analysed, Zurich, Geneva and Luxembourg are the only ones that maintain the rental price of logistics land and, of the rest, Barcelona is the one with the lowest annual increase. Average growth has been 13%, but increases have been very uneven, ranging from 3.3% in Vienna or Amsterdam to 37.9% in Birmingham. Prices in Madrid have followed the same upward trend as in most cities (14.3%). In this context, Barcelona drops two positions in the ranking compared to the previous year (fifteenth position), and it should be mentioned that this year the sample of selected cities does not include Moscow. The average rent in Barcelona has been the same as in Newcastle, Scotland and Stockholm; and similar to Copenhagen and Prague (87 euros). The most expensive annual rent prices in Europe's logistics areas were seen in London (Heathrow area at €301 per m^2, Zurich at €244 per m^2 and Geneva at €193 per m^2).

Regarding the return percentages of the logistics land market in 2022, the profitability in Barcelona was 4.25% – 0.25 points more than the previous year. In most cases the profitability ranges between 3.5% and 5.5%, except in Istanbul (9%), Sofia (7.25%), Bucharest (7%) and Luxembourg (6.5 %). Among the 43 areas selected, Barcelona is in the middle range (20). This same evolution has been observed in Madrid, Paris and Lyon.

Profitability of the logistics land market in European urban areas. 2022



Note: The yield refers to the return on the investment in the logistic floor of each city.

Source: Cushman & Wakefield Research, *The DNA of Real Estate, 3T. 2022 (Europe).*

Rental price of logistics land in European urban areas. 2022

Urban areas	Year-on-year variation 2022/2021 (%)	Logistics land Rent (€/m²/year)
London (Heathrow)	35.2	301
Zurich	0.0	244
Geneva	0.0	193
Oslo	11.1	146
Birmingham	37.9	125
Helsinki	5.3	120
Manchester	26.7	119
Dublin	4.5	117
Bristol	5.9	113
Luxembourg	0.0	108
Munich	15.4	108
Leeds	14.3	100
Amsterdam (Schiphol)	3.3	95
Frankfurt	14.0	93
Hamburg	17.4	93
Düsseldorf	33.9	90
Barcelona	**1.4**	**88**
Stockholm (North)	5.6	88
Scotland (central)	7.7	88
Newcastle	16.7	88
Copenhagen	4.0	87
Prague	34.3	87
Rotterdam	13.3	85
Berlin	22.8	84
Istanbul	18.2	75
Vienna	3.3	74
Gothenburg	6.7	74
The Hague	21.7	73
Madrid	14.3	72
Malmö	7.1	69
Budapest	12.9	63
Brussels	6.9	62
Milan	5.3	60
Paris	3.4	60
Rome	7.1	60
Lyon	9.4	58
Bucharest	9.8	54
Warsaw (Zone II)	18.4	54
Antwerp	10.4	53
Lisbon	7.5	52
Sofia	11.8	51
Bratislava	5.0	50
Marseille	6.7	48

Source: Cushman & Wakefield Research, *The DNA of Real Estate, 3T. 2022 (Europe).*

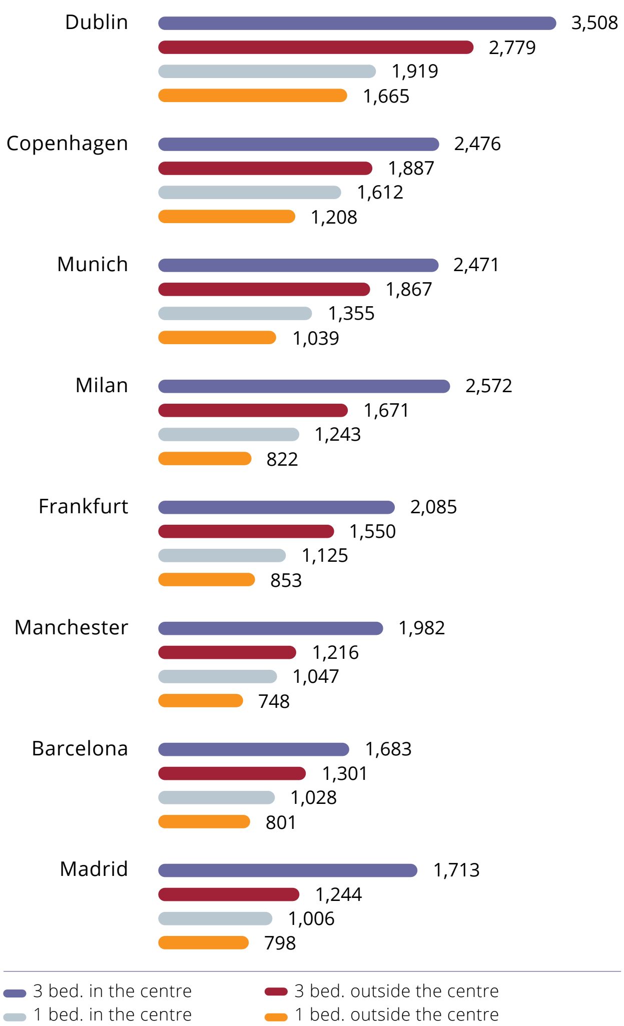
Housing rental prices in the main European cities in 2022

At a European level, the price of housing in Barcelona is in the medium-high band

The monthly price of a house with one bedroom in the centre of the city of Barcelona is 1,028 euros on average, 15% more than in 2021 (894 euros), according to the query made in the Numbeo database in November 2022. Among the 191 European cities analysed, with an almost generalised increase in house prices throughout the sample, Barcelona is in 41st position. Compared to the other six Spanish cities analysed, the price of housing in the centre of Madrid is slightly lower (1,006 euros/month) and ranks 43rd. It is followed by Palma and Valencia with an average price of 837.5 and 760 euros/month, respectively. Málaga, Seville and Alicante register an average price of around 650 euros/month. If the same property was located outside Barcelona city centre, the monthly rent would drop to €801 per month, 28% less than in the centre. As for the rest of the cities, London, Dublin and the Swiss cities of Geneva, Zug and Zurich have the highest monthly rents (more than 1,900 euros are paid for a one-room apartment in the centre).

For three-bedroom family homes or shared three-bedroom properties (also in the city centre), the monthly rent in Barcelona was €1,683, 11% higher than that of the previous year (€1,520). According to this criterion, the city's position would be even lower – 58th – 5 places behind Madrid, whose €1,713 per month makes it 53rd. This difference in positions when comparing the price of small and large homes in Barcelona had been much more pronounced before the pandemic, since there was, in general, more supply of the latter than the former, while more demand for small homes. Likewise, among three-bedroom homes, there has been a much higher increase in prices in those located outside the city centre (19%) than in those located in the centre (11%). This evolution takes place, in part, as a result of the increase in demand for larger homes outside the cities, based on the increase in working from home, which has modified the ingrained patterns of the need to own a home near workplaces (usually centrally located).

Price of renting houses in European cities. 2022
(€/month)



Source: Numbeo. Consulted in November 2022.

Price of renting houses in the centre of European cities (€/month). 2022

Ranking	City (Country)	3 bed.	1 bed.	Ranking	City (Country)	3 bed.	1 bed.
1	London (United Kingdom)	3,731	2,199	31	Frankfurt (Germany)	2,085	1,125
2	Geneva (Switzerland)	4,222	2,019	32	Delft (The Netherlands)	1,495	1,119
3	Zug (Switzerland)	3,915	1,936	33	Espoo (Finland)	1,713	1,103
4	Dublin (Ireland)	3,508	1,919	34	Hamburg (Germany)	2,035	1,067
5	Zurich (Switzerland)	3,653	1,908	35	The Hague (The Netherlands)	1,716	1,066
6	Luxembourg (Luxembourg)	3,056	1,711	36	Tromso (Norway)	1,937	1,062
7	Amsterdam (The Netherlands)	2,890	1,708	37	Edinburgh (United Kingdom)	2,067	1,056
8	Copenhagen (Denmark)	2,476	1,612	38	Trondheim (Norway)	1,799	1,043
9	Lausanne (Switzerland)	3,190	1,567	39	Rome (Italy)	2,168	1,035
10	Saint Helier (Jersey)	2,900	1,543	40	Bergen (Norway)	1,793	1,034
11	Harlem (Netherlands)	2,455	1,518	**41**	**Barcelona (Spain)**	**1,683**	**1,028**
12	Reykjavik (Iceland)	2,048	1,444	42	Aarhus (Denmark)	1,925	1,006
13	Cambridge (United Kingdom)	2,493	1,444	43	Madrid (Spain)	1,713	1,006
14	Cork (Ireland)	2,387	1,400	44	Stavanger (Norway)	1,988	1,002
15	Basel (Switzerland)	2,700	1,390	45	Helsinki (Finland)	2,003	1,000
16	Oslo (Norway)	2,216	1,363	46	Stuttgart (Germany)	1,790	1,000
17	Munich (Germany)	2,471	1,355	47	Norwich (United Kingdom)	1,577	959
18	Galway (Ireland)	2,085	1,307	48	Vienna (Austria)	1,883	955
19	Utrecht (The Netherlands)	1,977	1,306	49	Heidelberg (Germany)	1,717	947
20	Rotterdam (The Netherlands)	1,893	1,304	50	Darmstadt (Germany)	1,679	944
21	Stockholm (Sweden)	2,170	1,303	51	Valletta (Malta)	2,463	931
22	Paris (France)	2,850	1,265	52	Düsseldorf (Germany)	1,791	925
23	Bristol (United Kingdom)	2,057	1,253	53	Birmingham (United Kingdom)	2,056	923
24	Milan (Italy)	2,572	1,243	54	Brussels (Belgium)	1,629	921
25	Berlin (Germany)	2,266	1,239	55	Southampton (United Kingdom)	1,567	886
26	Bern (Switzerland)	2,342	1,192	56	Nice (France)	1,733	875
27	Reading (United Kingdom)	1,974	1,189	57	Freiburg im Breisgau (Germany)	1,858	870
28	Lisbon (Portugal)	2,041	1,182	58	Ais de Provence (France)	1,821	861
29	Eindhoven (The Netherlands)	1,720	1,171	59	Exeter (United Kingdom)	1,659	857
30	Limerick (Ireland)	2,033	1,156	60	Odense (Denmark)	1,698	837

Source: Numbeo. Consulted in November 2022.

SUMMARY OF RESULTS

Summary of results

In 2022, the macroeconomic indicators show the recovery of economic activity, although the growth of the Catalan economy has moderated in the second part of the year. Looking ahead to 2023, the risks linked to the increase in inflation (derived from the increase in the price of raw materials and energy) and the lack of supplies persist, which can slow down the pace of growth. In this economic context, Barcelona has proven to be a resilient city and able to maintain its attractiveness and good economic and business positioning in the European and global spheres, as observed in the 34 indicators collected in the 2022 Report of the Observatori Barcelona, which this year reaches its twentieth edition.

In 2022, Barcelona stood out for being among the twenty cities with the most global competitiveness for the second consecutive year, according to the Mori Memorial Foundation's *Global Power City Index 2022* report, where it remains ahead of San Francisco, Milan and Geneva. Similarly good results can be seen in most of the other indicators analysed in the **economic activity hub** section. In this sense, Barcelona gains three positions and ranks sixth in the world in the ranking *World's Best Cities 2023* from Resonance Consultancy, which assesses the quality and attractiveness of the city from various perspectives. In the same way, Barcelona is confirmed as a reference digital hub and in 2022 it will be the thirteenth digital city in the world and the sixth in Europe in the first edition of the ranking *Digital Cities Index* prepared by Economist Impact (of The Economist group), which highlights Barcelona's leadership in areas such as the promotion of digital rights and the democratic use of data, the use of the Internet of Things and the development of pioneering 5G initiatives. Other indicators reaffirm Barcelona's appeal for doing business and the city's positive image abroad. On the one hand, Barcelona and Catalonia generate confidence in the field of international investment, as shown by the fact that the region occupies the seventh position among the main regions of the world in attracting foreign investment projects, and stands out as the second global receiving region in research centres and the fourth in projects involving reinvestments, according to the *Global Cities Investment Monitor 2022* by KPMG. On the other hand, Barcelona remains the European city with a better strategy for attracting foreign investment according to the report *fDi Cities and Regions of the Future 2022/23* (Financial Times group). Likewise, according to the *EY Attractiveness Survey Europe 2022*, Barcelona is ranked as the tenth most attractive city in Europe for international investment. With regard to the activity of international fairs and congresses, the strength and resilience of Barcelona have been evident once again in the ICCA 2021 ranking, where it has been placed fourth in the organisation of meetings and second in delegated persons. In addition, it should be noted that Barcelona is the only destination that remains in the *top 5* of congresses and international meetings over the last twenty years.

In the chapter about **quality of life, social cohesion and sustainability**, Barcelona is ranked as the tenth city in Europe most prepared for zero-emission mobility in 2022, according to the first edition of the Clean Cities Campaign city ranking. As for the quality of life dimension, Barcelona is the eleventh safest city in the world, according to the report *Safe Cities Index 2021* – prepared by The Economist – and gains fifteen positions compared to the previous edition. Barcelona also stands out as an international reference in the field of sport and reaches seventh position in the *Ranking of Sports Cities 2022*, by Burson Cohn & Wolfe. 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 2019*. However, Barcelona loses positions in the ranking *Cities for the Best Work-Life Balance 2022* developed by Kisi, where work-life balance is assessed, and reaches position 50 among the 100 cities of the world compared, and excels in tolerance and inclusion (sixth). In the field of social cohesion, the Covid-19 pandemic had a widespread detrimental effect in 2020. In Catalonia, the rate of risk of poverty or social exclusion decreases slightly and stands at 22.3% in 2021, slightly above that of the European Union (21.7%), which remains unchanged from the previous year. In the field of sustainability, Barcelona remains the seventeenth city in the world in the ranking of sustainable urban mobility, according to the report *Urban Mobility Readiness Index 2022*.

Regarding the **labour market**, the indicators relating to 2022 highlight the dynamism of the labour market with the achievement of a historic employment figure. In any case, the comparable indicators on a regional scale and presented in this chapter are available until 2021, a year in which the figures were recovering from the economic impact resulting from the pandemic. In this context, in 2021 the employment and unemployment rate in Catalonia show a good evolution: the employment rate increased by 0.9 points and stood at 67.8% – only 0.6 points below the European average – and the unemployment rate decreases by one percentage point (11.6%), but still clearly exceeds that of the EU (7.0%). In addition, the part-time employment rate in Catalonia in 2021 was 12.9%, placing it 4.8 percentage points below the EU average (17.7%). Regarding the female part-time employment rate (which in all the regions analysed is higher than the total), in Catalonia it is 19.9% and is 8.9 points below the EU average (28.8%). In the matter of **higher education**, Barcelona continues to be a reference city on a European scale in business studies, given that Barcelona and Paris are the only cities in Europe with two teaching institutions among the ten best business schools on the European continent in 2023 (IESE and ESADE in the case of Barcelona), according to the *Financial Times*. Likewise, the city stands out for having an important critical mass of qualified human capital: in 2021, 48.2% of the working population of

Catalonia had tertiary education, according to Eurostat, 0.7 percentage points more than the previous year. Likewise, according to the report *Decoding Global Talent 2021* of The Boston Consulting Group, Barcelona is the ninth most attractive city in the world to work abroad, just ahead of Sydney, Paris and Los Angeles.

In the field of **knowledge and technology**, the technology entrepreneurship ecosystem and *startups* of the Catalan capital continues to be one of the most dynamic and attractive in Europe and the world, thanks to the push for digitisation in key sectors of the economy. Thus, several recent rankings place the city in leading positions and in many it manages to maintain or improve it. Barcelona has remained the first ecosystem of *startup hubs* in Spain, seventh in Europe and thirty-seventh in the world in 2022, according to *Global Startup Ecosystem Index 2022* from StartupBlink. Also, according to the*Startup Heatmap Europe Report 2022*, Barcelona, for the fifth consecutive year, remains the third favourite city among more than one hundred European cities to establish a *startup*. The Catalan capital is the ninth city in the top 100 emerging ecosystems in the world, according to the *The Global Startup Ecosystem Report 2022* of Startup Genome, although, compared to the previous edition, it drops four positions due to the fact that new cities are included in the ranking. These results are reinforced by an excellent workforce in the high added value sectors and the quality of scientific research. According to Eurostat, in 2021 Catalonia will be the third region where more people with higher education work in the field of science and technology (with almost 970,000 people employed in this field), the seventh region in Europe in terms of employment in knowledge- and technology-intensive services and the fourth European region in population employed in high and medium-high technological intensity manufacturing (it should be noted that female employment in these activities already represents almost a third of the total). In the scientific field, according to the *Knowledge Cities Ranking 2021*, prepared by the Centre for Land Policy and Valuations of the UPC, Barcelona increases the number of publications by 6.7% compared to 2020, which allows it to maintain twentieth place in the world ranking and a good position in the European ranking (sixth).

In 2022, the **tourism sector** in Barcelona has continued its remarkable recovery thanks to the economic improvement and a contained intention to travel following the restrictions of the pandemic in 2020 and at the beginning of 2021. It should be mentioned that some of the rankings analysed in this section are from 2021, a year in which the Covid-19 crisis still had an impact on the activity of the sector and the comparison by country was exceptional. In this context, the city has the fourth position in Europe in international overnight stays in European cities and is the third most increasing the number of total overnight stays in the *top 15*, according to the *Benchmarking Report 2021-2022* from City Destinations Alliance. Also, according to the *Top 100 City Destinations Index 2021* of Euromonitor International, Barcelona improves six places and is positioned as the tenth international destination and eighth in Europe. In a more globalised and digitised future, the city brand takes on great importance; precisely in this aspect, the *2022 City Brand Barometer* Saffron's places Barcelona as the fifth best-branded city in the world (gaining two positions). In the area of the main access infrastructures to the city, in 2022 the Josep Tarradellas Barcelona-el Prat airport returns to the European *top 10* and is in seventh place in terms of passengers in Europe and is getting closer and closer to the record figures from before the crisis. In terms of origin and destination cruise traffic, Barcelona improves its position as the second port in Europe in 2021 and approaches the leadership position it lost in 2020 and which it had held for nineteen consecutive years.

Regarding **prices and costs**, in a context of rather high inflation due to the energy crisis following the war in Ukraine and the "Zero Covid" restrictions in China, the main indicators keep the city in a competitive position. Thus, the different subsectors of the property market – housing, office rental, commercial premises and logistics land – show a stable or slightly upward evolution of prices in 2022 compared to 2021, but similar to that of other European reference cities, according to the Cushman & Wakefield Research report. With regard to the cost of living, according to Mercer Human Resource Consulting, Barcelona is moving up in the world ranking and is in the highest position since 2014 (78th in the ranking of 227 cities in the world). This is mainly due to the strong increase in the price of energy and the general increase in prices in determining components, but it should be borne in mind that the aforementioned ranking, published in June, would not be incorporating the downward trend in inflation from the month of July. In relation to taxation, Spain remains around the European Union average in terms of tax rates. The corporation tax rate was 25%, the same as in the last five years. Regarding indirect taxation, general VAT remains at 21% in 2022, although reduced and super-reduced rates have a significant impact on revenue, especially when compared with other European countries.

This is the twelfth year that the monograph has been presented ***Business climate in the Barcelona Metropolitan Area (AMB)***, in which the evolution of activity is analyzsed based on the results of the Business Climate Survey at the AMB, which is prepared jointly by Idescat and the Barcelona Chamber of Commerce. The survey reflects a positive recovery in business and the labour market, but which slows down from the third quarter due to the impact that the energy crisis is having on economic activity. Selling prices remain at historically very high levels, but moderated in virtually all sectors in the third quarter and in expectations for the fourth quarter.

Summary of results

	Global competitiveness 2022	Digital cities 2022	Foreign investment projects[2] 2021	Entrepreneurial activity rate[1,3] 2021	Attractive cities for visitors and entrepreneurs 2023	Delegates of international congresses 2021	Cities prepared for mobility with zero emissions 2022	Safe cities 2021	Sports cities 2022
1	London	Copenhagen	Dubai	Brazil	London	Paris	Oslo	Copenhagen	Tokyo
2	New York	Amsterdam	London	Canada	Paris	**Barcelona**	Amsterdam	Toronto	Paris
3	Tokyo	Beijing	Singapore	United States	New York	Taipei	Helsinki	Singapore	London
4	Paris	London	North Rhine-Westphalia	Netherlands	Tokyo	London	Copenhagen	Sydney	Los Angeles
5	Singapore	Seoul	Île-de-France	United Kingdom	Dubai	Vienna	Paris	Tokyo	New York
6	Amsterdam	New York	Baden-Württemberg	Ireland	**Barcelona**	Prague	Stockholm	Amsterdam	Madrid
7	Seoul	Sydney	**Catalonia**	Switzerland	Rome	Singapore	Ghent	Wellington	**Barcelona**
8	Berlin	Singapore	New York	Israel	Madrid	Stockholm	Munich	Hong Kong	Manchester
9	Melbourne	Washington D. C.	Berlin	Sweden	Singapore	Lisbon	Brussels	Melbourne	Lausanne
10	Shanghai	Paris	Flanders	**Barcelona**	Amsterdam	Amsterdam	**Barcelona**	Stockholm	Melbourne
11	Dubai	Toronto	Madrid	Germany	Prague	Rome	Lyon	**Barcelona**	Munich
12	Madrid	Zurich	California	Slovenia	Los Angeles	Seoul	London	New York	Milan
13	Sydney	**Barcelona**	Texas	Slovakia	Chicago	Glasgow	Vienna	Frankfurt	
14	---	Frankfurt	Hesse	Morocco	San Francisco	Florence	Bilbao	Washington D.C.	
15	**20 Barcelona**	Dallas	Bavaria	Greece	Berlin	Dublin	Lisbon	London	

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

	Work-life balance 2022	Creative and cultural cities 2019	Risk rate of poverty or social exclusion[1,2,4] 2021	Sustainable urban mobility 2022	Attractive cities for global talent 2020	Employment rate[1,2] 2021	Part-time employment rate[1,2] 2021	Unemployment rate[1,2,4] 2021	Workers with tertiary education[1,2] 2021
1	Oslo	Paris	Bratislava	Oslo	London	Amsterdam	Rotterdam	Prague	Brussels
2	Bern	Munich	Prague	Amsterdam	Amsterdam	Munich	Amsterdam	Munich	Bilbao
3	Helsinki	London	Helsinki	Helsinki	Dubai	Warsaw	Vienna	Budapest	Paris
4	Zurich	Milan	Stockholm	Stockholm	Berlin	Vilnius	Berlin	Stuttgart	Budapest
5	Copenhagen	Berlin	Munich	Hong Kong	Abu Dhabi	Rotterdam	Frankfurt	Bucharest	Dublin
6	Geneva	Vienna	Warsaw	Singapore	Tokyo	Stockholm	Munich	Frankfurt	Stockholm
7	Ottawa	Budapest	Oslo	Munich	Singapore	Budapest	Stuttgart	Hamburg	Madrid
8	Sydney	Prague	Bucharest	London	New York	Stuttgart	Copenhagen	Amsterdam	Copenhagen
9	Stuttgart	**Barcelona**	Dublin	Zurich	**Barcelona**	Prague	Montpelier	Düsseldorf	Oslo
10	Munich	Hamburg	Milan	Berlin	Sydney	Oslo	Lyon	Vilnius	Prague
11	Stockholm	Madrid	Lisbon	Tokyo	Paris	Copenhagen	Brussels	Rotterdam	Athens
12	Melbourne	Warsaw	Copenhagen	Seoul	Los Angeles	Helsinki	Rome	Copenhagen	Vienna
13	Amsterdam	Cologne	Amsterdam	Dublin	Melbourne	Sofia	Marseille	Berlin	Helsinki
14	---	Rome	---	---	Toronto	---	---	---	Vílnius
15	**50 Barcelona**	Lyon	**Barcelona**	**17 Barcelona**	Seoul	**Barcelona**	**Barcelona**	**Barcelona**	**Barcelona**

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

	Business schools 2023	Investment in technological ecosystems 2022	Preferred cities for establishing a startup 2021	Start-up hubs 2022	Scientific production 2021	Employed population in high and medium-high technology manufacturing[2] 2021	Science and technology workers[2] 2021	Airport passengers 2022
1	Fontainebleau Insead	London	Berlin	San Francisco	Beijing	Stuttgart	Paris	Istanbul (IST)
2	**Barcelona** **IESE Business School**	Paris	London	New York	Shanghai	Milan	Madrid	London Heathrow (LHR)
3	Milan SDA Bocconi School of Management	Berlin	**Barcelona**	London	London	Munich	**Barcelona**	Paris-Roissy (CDG)
4	London London Business School	Stockholm	Lisbon	Los Angeles	Nanjing	**Barcelona**	Lyon	Amsterdam (AMS)
5	Paris HEC Paris	Munich	Amsterdam	Boston	Guangzhou	Bologna	Milan	Madrid (MAD)
6	Madrid IE Business School	Amsterdam	Tallinn	Beijing	New York	Karlsruhe	Seville	Frankfurt (FRA)
7	Cambridge University of Cambridge: Judge	Zurich	Paris	Shanghai	Boston	Turin	Munich	**Barcelona** **(BCN)**
8	Paris ESCP Business School	Helsinki	Munich	Bangalore	Seoul	Tübingen	Warsaw	London-Gatwick (LGW)
9	Oxford University of Oxford: Saïd	Milan	Stockholm	Tel Aviv	Wuhan	Venice	Berlin	Munich (MUC)
10	**Barcelona** **ESADE Business School**	Tallinn	Madrid	Paris	Tokyo	Düsseldorf	Rotterdam	Antalya (AYT)
11	Lausanne International Institute for Management Development (IMD)	**Barcelona**		Seattle	Xi'an	Frankfurt	Marseille	Istanbul-Sabiha Gokcen (SAW)
12	London Imperial College Business School	Vienna		Berlin	Paris	Freiburg	Stockholm	Rome-Fiumicino (FCO)
13	Manchester Alliance Manchester Business School	Madrid		New Delhi	Hangzhou	Katowice	Amsterdam	Paris-Orly (ORY)
14	Lille EDHEC Business School	Oslo		---	---	Paris	Stuttgart	Palma de Mallorca (PMI)
15	Coventry Warwick Business School	Dublin		**37 Barcelona**	**20 Barcelona**	Bratislava	Cologne	Moscow-Sheremetyevo (SVO)

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

	International overnight stays in Europe 2021	Cruise passengers in Europe 2021	Cost of living 2022	Corporation tax[1,3] 2022	Office rental prices 2022	Retail premises rental prices 2022	Logistics land rental prices 2022	Housing rental prices 2022
1	London	Genoa, Savona	Hong Kong	Argentina	London (WE)	London New Bond Street	London (Heathrow)	London
2	Istanbul	**Barcelona**	Zurich	Brazil	Paris (CBD)	Paris Avenue des Champs-Élysées	Zurich	Geneva
3	Paris	Civitavecchia, Fiumicino, Gaeta	Geneva	Australia	Geneva	Milan Corso Vittorio Emanuele	Geneva	Zug
4	**Barcelona**	Marseille	Basel	Mexico	London (City)	Rome Via Condotti	Oslo	Dublin
5	Madrid	Balearic Islands	Bern	Netherlands	Zurich	Zurich Bahnhofstrasse	Birmingham	Zurich
6	Palma de Mallorca	Ports of Tenerife	Tel-Aviv	Austria	Stockholm	Dublin Grafton Street	Helsinki	Luxembourg
7	Berlin	Piraeus	New York	Belgium	Milan	Vienna Kohlmarkt	Manchester	Amsterdam
8	Lisbon	Naples, Salern, Castellammare di Stabia	Singapore	**Spain**	Dublin	Geneva Rhone street	Dublin	Copenhagen
9	Amsterdam	Corfu	Tokyo	France	Luxembourg	Munich Kaufinger/Neuhauser	Bristol	Lausanne
10	Vienna	Bari, Brindisi, Manfredonia, Monopoli	Beijing	China	Paris (La Défense)	Hamburg Spitalerstraβe	Luxembourg	Saint Helier
11	Prague	Messina, Milazzo, Calabria region	Copenhagen	Luxembourg	Frankfurt	Frankfurt Zeil	Munich	Harlem
12	Venice	Valletta	Shanghai	Italy	Amsterdam (Zuidas)	Berlin Tautentzienstrasse	Leeds	Reykjavík
13	Milan	Cadiz	Shenzhen	Japan	Bristol	Düsseldorf Konigsallee	Amsterdam (Schiphol)	Cambridge
14	Munich	Valencia	---	Turkey	---	Copenhagen Strøget	---	---
15	Budapest	Heraklion	**78 Barcelona**	Norway	**Barcelona**	**Barcelona Portal de l'Àngel**	**Barcelona**	**41 Barcelona**

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

Positioning of Barcelona in international city rankings

Global competitiveness. 2022

1	2	3	4	5	6	7	8	9	10	11	12	13	14	20
London	New York	Tokyo	Paris	Singapore	Amsterdam	Seoul	Berlin	Melbourne	Shanghai	Dubai	Madrid	Sydney	...	**Barcelona**

Digital cities. 2022

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Copenhagen	Amsterdam	Beijing	London	Seoul	New York	Sydney	Singapore	Washington D.C.	Paris	Toronto	Zurich	**Barcelona**	Frankfurt	Dallas

Attractive cities for visitors and entrepreneurs. 2023

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
London	Paris	New York	Tokyo	Dubai	**Barcelona**	Rome	Madrid	Singapore	Amsterdam	Prague	Los Angeles	Chicago	San Francisco	Berlin

Foreign investment projects. 2021

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Dubai	London	Singapore	North Rhi-ne-Westphalia	Île-de-France	Bathe-Wuerttemberg	**Catalonia**	New York	Berlin	Flanders	Madrid	California	Texas	Hesse	Bavaria

Safe cities. 2021

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

Work-life balance. 2022

1	2	3	4	5	6	7	8	9	10	11	12	13	14	50
Oslo	Bern	Helsinki	Zurich	Copenhagen	Geneva	Ottawa	Sydney	Stuttgart	Munich	Stockholm	Melbourne	Amsterdam	...	**Barcelona**

Sustainable urban mobility. 2022

1	2	3	4	5	6	7	8	9	10	11	12	13	14	17
Oslo	Amsterdam	Helsinki	Stockholm	Hong Kong	Singapore	Munich	London	Zurich	Berlin	Tokyo	Seoul	Dublin	...	**Barcelona**

Attractive cities for global 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. 2023

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

Scientific production. 2021

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

Investment in technological ecosystems. 2022

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
London	Paris	Berlin	Stockholm	Munich	Amsterdam	Zurich	Helsinki	Milan	Tallinn	**Barcelona**	Vienna	Madrid	Oslo	Dublin

Favourite European cities for establishing a startup 2021

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Berlin	London	**Barcelona**	Lisbon	Amsterdam	Tallinn	Paris	Munich	Stockholm	Madrid	...	...	...	...	...

Airport passengers. 2022

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Istanbul (IST)	London Heathrow (LHR)	Paris Roissy (CDG)	Amsterdam (AMS)	Madrid (MAD)	Frankfurt (FRA)	**Barcelona** (BCN)	London Gatwick (LGW)	Munich (MUC)	Antalya (AYT)	Istanbul- Sabiha Gökçen (SAW)	Roma-Fiumicino (FCO)	Paris-Orly (ORY)	Palma de Mallorca (PMI)	Moscow-Xeremétievo (SVO)

Cost of living. 2022

1	2	3	4	5	6	7	8	9	10	11	12	13	14	78
Hong Kong	Zurich	Geneva	Basel	Bern	Tel-Aviv	New York	Singapore	Tokyo	Beijing	Copenhagen	Shanghai	Shenzhen	...	**Barcelona**

SPECIAL REPORT

Business Climate in the Barcelona Metropolitan Area.

Developments in 2022

OBSERVATORI BARCELONA

Executive Summary

Positive trend in business performance in 2022

The *Business Climate Survey* conducted for the AMB reflects a partial recovery of the economy across all sectors, but there is a slowing down from Q3 onwards due to the impact of the energy crisis on economic activity:

- Business performance improved until September, registering a positive balance, although a slowdown in Q3 is also revealed.
- Employment trends were positive across all sectors in Q3, despite signs of a slowdown.
- Sales prices remained at historically high levels, despite falling in almost all sectors in Q3.

The hospitality sector was where the greatest improvement could be seen, and the one that registered the most positive balances in 2022

- The most positive sectoral results in terms of business performance and employment are to be seen in hospitality.
- Commerce was the only sector to see a slight decline in business performance up to Q3.
- Construction stagnated in terms of business performance. Price increases accelerated in Q3.
- In industry, very high sales prices continue to be observed. On average, 45% of business people think that prices have increased.
- Other services registers positive balances in all variables, and is in an intermediate position with respect to the other sectors.

Stagnation is likely in the fourth quarter of 2022

Business performance is expected to show little or no growth in Q4 (22% of entrepreneurs say it will be positive, compared with 20% who say the opposite). By sector, the business community expects negative growth in the commercial sector, stagnation in industry and construction, and positive growth in hospitality and the rest of the service sector. These latter two sectors are the only ones to present a positive outlook in all the variables analysed.

It remains to be seen how the energy crisis evolves, what direction inflation and monetary policy will take, and how this will affect economic and business activity.

Increased competition and the shortage of suitably skilled workers gained prominence as factors limiting business performance in 2021

- Weak demand continues to be the factor most frequently mentioned by businesses in the AMB, but less frequently than in the previous year.
- Competition and a lack of suitably skilled workers have gained considerable weight over the last year, moving up to second and third place respectively.
- Funding difficulties have lost much of their importance since recovery from the economic crisis, dropping from second to fourth place as a factor limiting business performance.

Business Performance. Evolution and prospects

The AMB as a whole

The year 2021 saw a process of economic recovery as the year progressed. According to Idescat, GDP in Catalonia grew by 5.8% in 2021, a significant increase that can be explained by the sharp fall in activity in 2020 (-11.7%). This strong recovery was primarily due to the gradual withdrawal of social distancing measures, which allowed a revival of those sectors most affected by the pandemic, such as hospitality and transport. This increase is five tenths above the growth of the eurozone as a whole (5.3%) and seven tenths above the average for the Spanish economy (5.1%).

In 2022, the economic recovery process has continued, reaching pre-crisis levels in some labour market indicators. According to Cambrabcn estimates, GDP could end 2022 at 4.3%, only 3% below the pre-Covid level. However, from the second quarter onwards, a slowdown in economic growth can be observed. This decline highlights the impact that the energy crisis (which has led to a higher than expected increase in interest rates by the ECB) is having on economic activity.

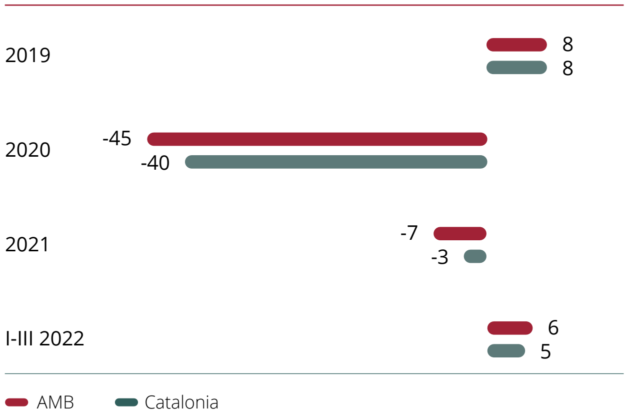
Against this economic backdrop, in 2022 (based on data up to Q3) **business performance** in the AMB recorded a positive balance of 6% (-2% in Catalonia), according to data from the *Business Climate Survey* produced by the Barcelona Chamber of Commerce and Idescat. However, the quarterly evolution is asymmetrical. In the first quarter there was a virtual stabilisation of the balance (-1%), Q2 saw a notable positive improvement (+14%), and in Q3 the pace of recovery slowed (+5%). The outlook for Q4 is somewhat positive, almost stabilising (2%).

Economic sectors

In 2021, the impact of economic recovery differed across the major economic sectors. The strength of the recovery has been linked to the moderation or withdrawal of restrictions on sectors over the course of the year. However, the fall in business performance slowed substantially across all sectors, especially in construction, where the balance of business performance contracted by 45 percentage points (from -48% in 2020 to -3% in 2021). The balances for retail, industry and other services also broadly stabilised (-1%, -2% and -5%, respectively). Hospitality continued to be the sector that had been hardest hit (-52%), due to mobility restrictions during part of the year, and two out of three business establishments said that business was still sluggish.

Annual performance across the whole of the economy[1]

(balances[2], in %)

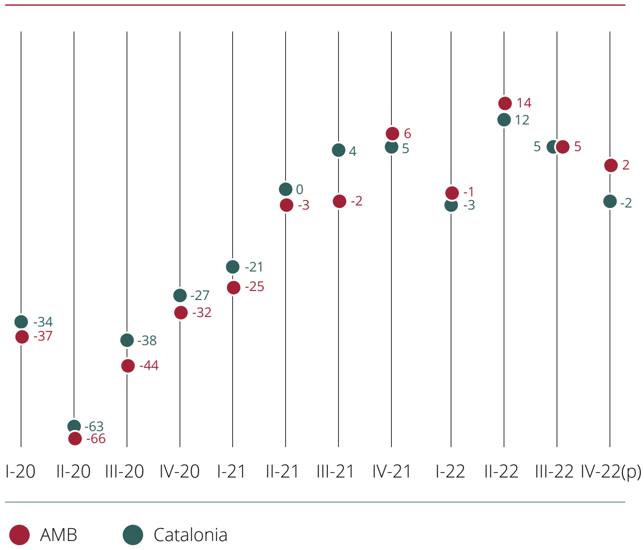


Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

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 business establishments which state that the variable analysed 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 %)



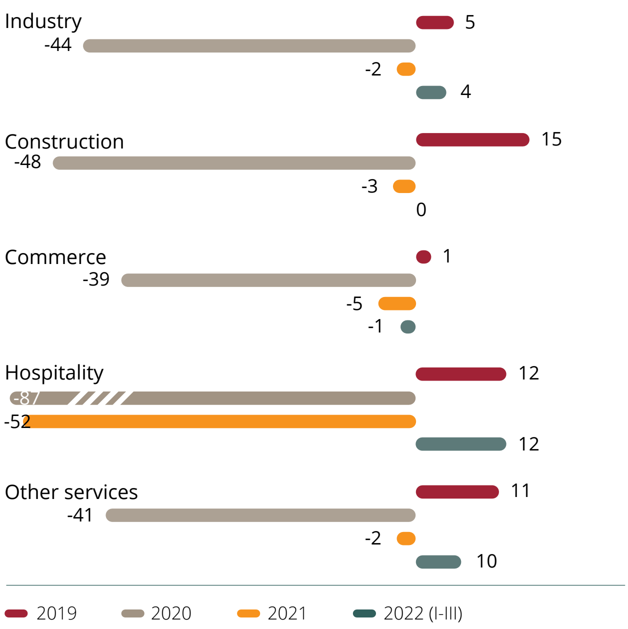
Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

As for 2022 (based on data up to Q3), business performance has improved across all sectors, especially in hospitality, which recorded the most positive sectoral balance, followed by other services and industry (+12%, +10% and +4%, respectively). Construction and retail recorded stabilised balances (0% and -1% respectively).

For Q4, the outlook is positive for hospitality and other services. Industry and construction are expected to stabilise. For retail the outlook is slightly negative, deteriorating with respect to the previous quarter. Finally, in retail the outlook is gloomy: almost a third of the business community believes that business will be unfavourable in Q4. It is worth noting that the outlook is worse than in the previous quarter in all sectors, but remains positive in hospitality, other services and construction. In the case of hospitality, it should be borne in mind that this evaluation is also impacted by seasonal factors.

Annual evolution of the business performance in the AMB by sector

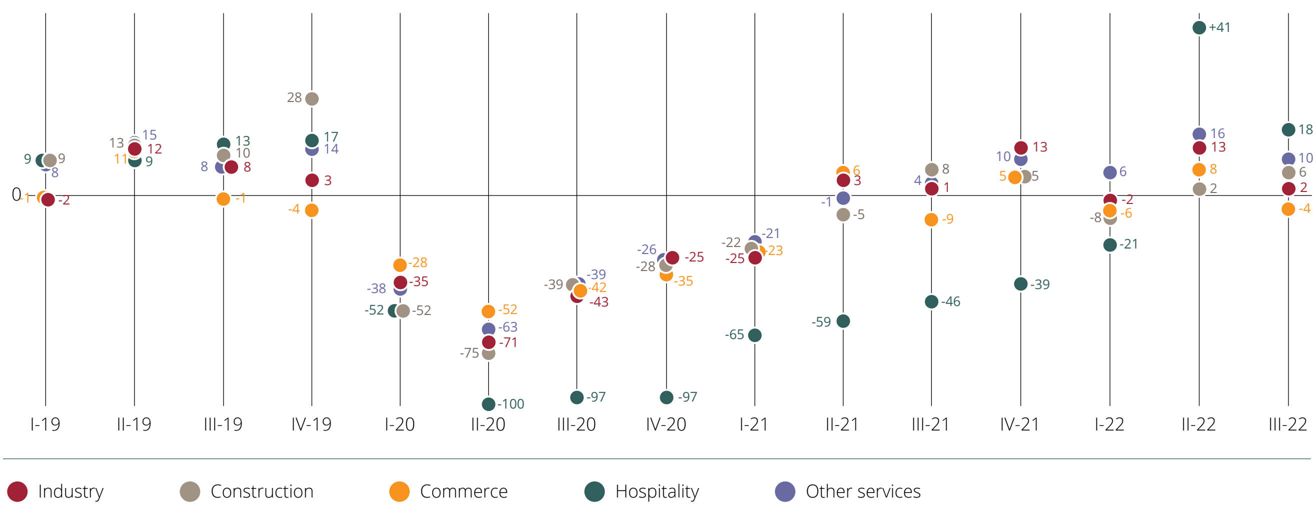
(Balances in %)



Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

Quarterly evolution of business performance by sector in the AMB

(Balances in %)



Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

Factors that limited good business performance in 2021

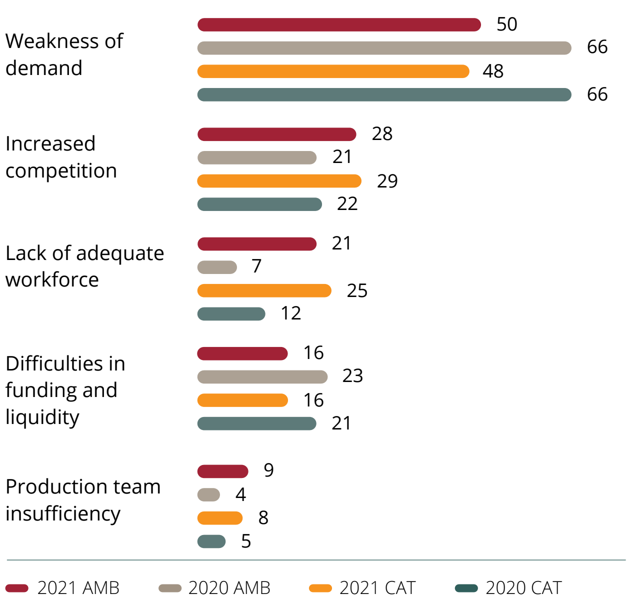
For the whole of the metropolitan economy, **weak demand** was the factor that most limited good business performance in 2021 (last available data, as the factors that limit good business performance only figure in survey questions in the last quarter of the year, referring to the year as a whole). This factor gradually decreased in importance from 2012 to 2019 thanks to the economic recovery (it was mentioned by 90% of entrepreneurs in 2012 and by 49% in 2019), but in 2020, with the onset of the global health crisis, it gained prominence once again. In 2021, with the economic recovery and improved economic outlook, this factor lost weight once again, being mentioned by 50% of entrepreneurs, a very similar percentage to that recorded in 2019. Likewise, difficulties in terms of funding and cash flow have become less significant as a limiting factor as a result of the economic recovery, falling from being the second to the fourth factor most frequently mentioned by business establishments. Increased competition and the lack of suitably skilled workers came in second and third place respectively, with 28% and 21% of establishments citing these factors, figures that showed an increase in both cases compared to 2020.

By **sector**, weak demand was the main limiting factor in 2021 in all sectors. The percentage of establishments mentioning this factor ranged from 75% in hotels and catering to 42% in other services. With the exception of in hospitality, the second most frequently mentioned factor was increased competition (cited by 42% of businesses in construction and 21% in industry). For hospitality, financial difficulties (29% of establishments) were the second most important factor constraining business performance.

If the results for the AMB are viewed alongside those for **Catalonia as a whole**, it can be seen that businesses also placed weak demand in first place, followed by increased competition, as in the metropolitan area. In the first case, the percentage decreased by 18 pp to 48%, while in the second it increased by 7 pp to 29% of responses. In third place, not far behind, is the lack of suitably skilled workers (25%, showing an increase of 13 pp compared to the previous year). It is in this last factor where the most significant difference between the two regions can be seen – the figure is 21% in Catalonia as a whole, and 25% in the AMB.

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

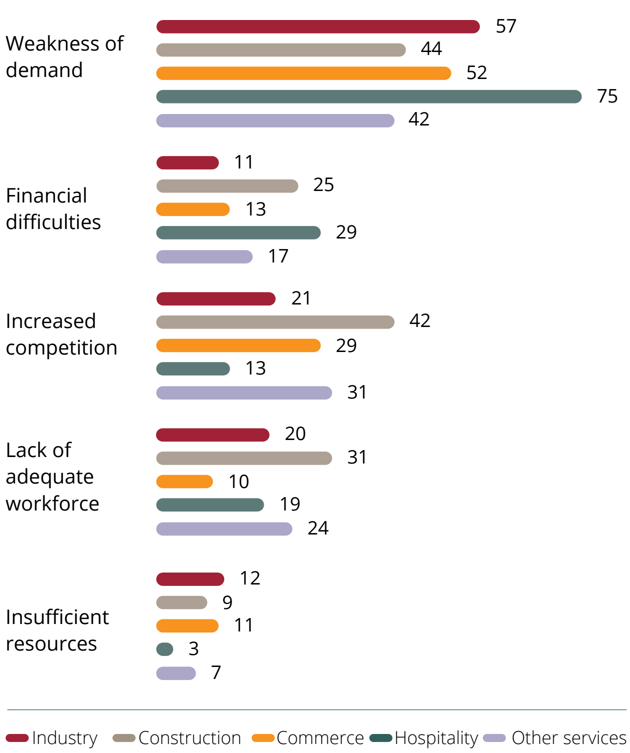
(in %)



Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

Factors that limit good business performance in the AMB by sector. 2021

(in %)



Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

Evolution and prospects of the main business variables

The AMB as a whole

Sales prices, according to business establishments, remain very high, and have increased significantly in the first three quarters of 2022, with the balance at an all-time high of 31% on average. Thus, up to Q3, more than a third of business people say that sales prices increased, compared to only 4% who say the opposite. This upward price trend is largely the result of the increase in gas prices due to the interruption of Russian gas supplies in the summer of 2022. However, the deceleration in energy prices and the supply crisis have contributed to the moderation of the price growth outlook in Q4. In fact, inflation eased in October, falling to 6.8% in Catalonia, the lowest rate since January.

The AMB economy has continued to create **employment** at a good pace throughout 2022. Thus, the number of registered workers remains at record highs in the metropolitan area, but the rate of growth is starting to show signs of slowing down. The employment balance is on average 9% up until the third quarter of 2022 (-1% in 2021). The percentage of positive responses has been 18% compared to 9% negative. However, job creation is expected to stagnate in Q4, with a balance of 0%.

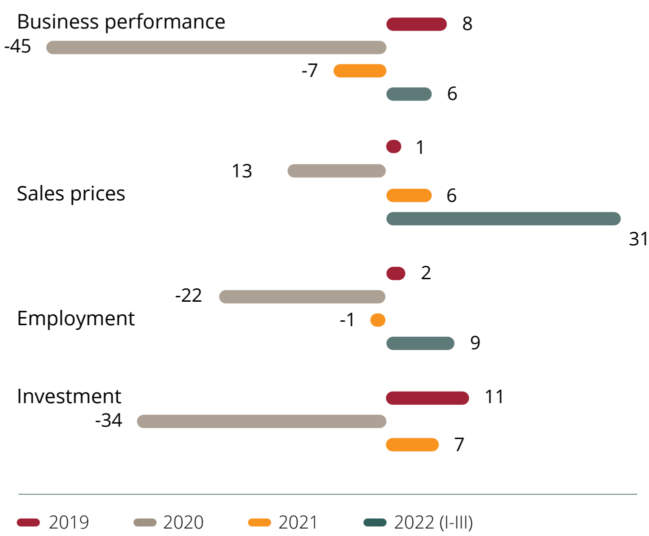
Investment over the course of 2021 (the most recent data available as this variable is only included in the survey for the last quarter, for the whole year) has a balance of 7%, with 23% of businesses considering that it had increased compared with 17% who say that it had decreased. This contrasts with the sharp contraction in 2020 (-33%). The economic recovery in 2021 favoured this increase in gross fixed capital formation in Catalonia (8.1% in 2021).

Sector results

If we analyse business performance by major economic sector (up to Q3 2022), hospitality, other services and industry show positive balances; in contrast, in construction and com-

Annual evolution of the main variables businesses at the AMB

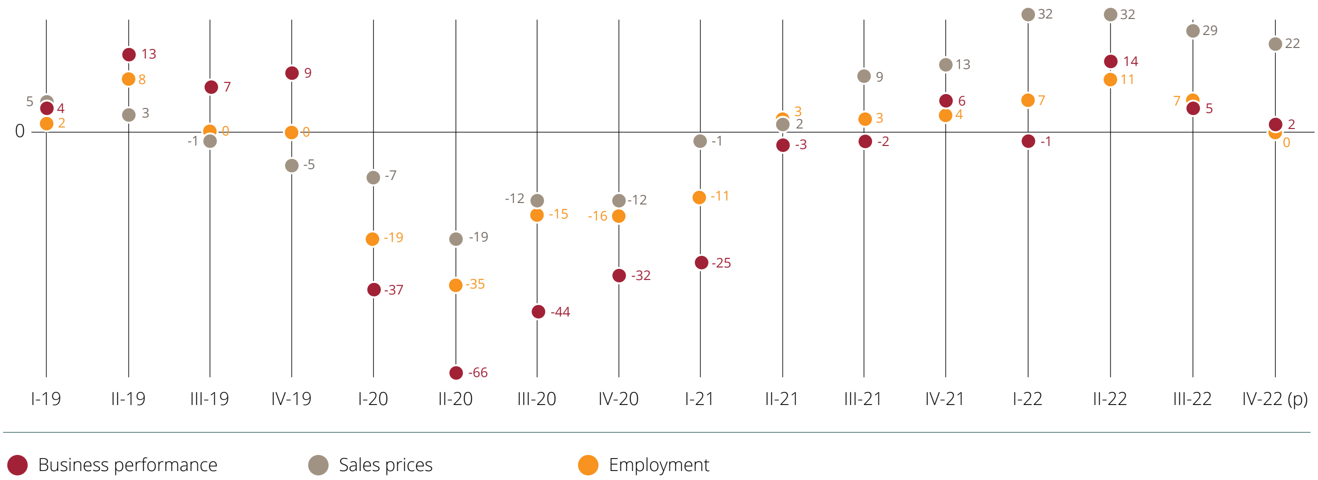
(Balances in %)



Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

Quarterly evolution of business performance by sector in the AMB

(Balances in %)



Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

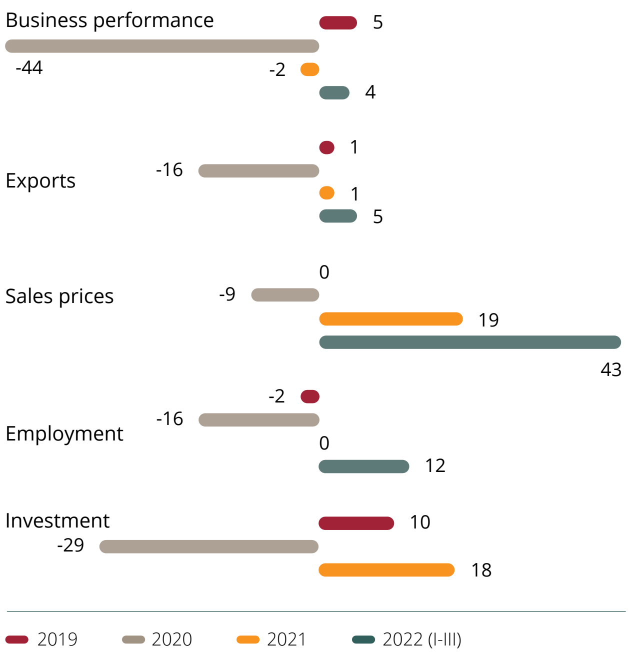
merce stagnation is observed. In terms of employment, positive balances are recorded in all sectors, to a greater or lesser extent. As far as sales prices are concerned, the balances are very positive in all sectors. As already noted, hospitality has been the sector that has made the strongest recovery, obtaining the most positive balances for all variables analysed. This is because it has bounced back vigorously, and also due to the rebound effect (as it started from the most negative balances in the previous year).

Industry

During 2022, the stagnation and weakness of the **industrial** sector has been fuelled by the difficulties associated with the persistent inflation in energy and raw materials prices, and by ongoing bottlenecks in the supply chains of certain goods. Business performance in industry was marginally positive (4% in 3Q22) and is in an intermediate position compared to the rest of the sectors. However, this average aggregate result masks quarterly differences: -2% in Q1, 13% in Q2 and 2% in Q3. The industrial production index confirms that the sector continues to grow but at a moderate rate, a cumulative 1.1% up to September. The outlook for Q4 is for a slight fall in business performance (-1%).

As for **sales prices**, these have risen very significantly and register the sector's most positive and highest sectoral balance since 2009 (the beginning of the available series), due to increases in the price of energy and raw materials, as mentioned above. In the first three quarters of 2022, on average

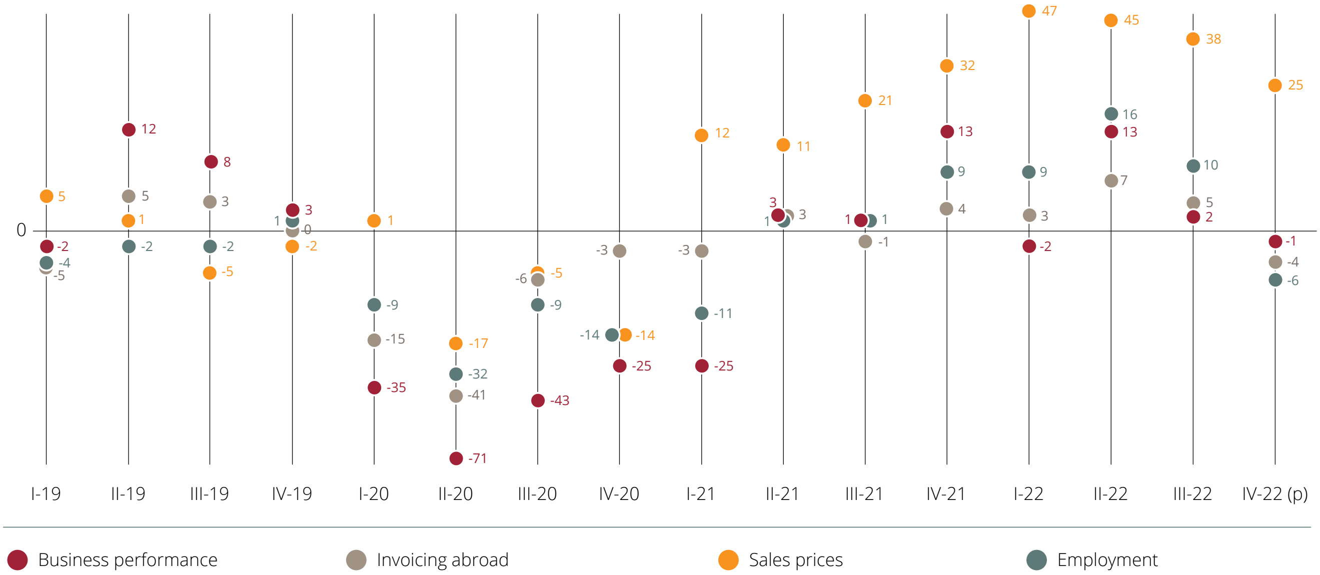
Annual evolution of the main business variables in industry at the AMB
(Balances in %)



Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

45% of industrial establishments claim that prices increased compared to only 2% who say that prices decreased. However, looking ahead to Q4, businesses expect to see a slow-

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



Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

down in price increases. Consistent with the above, in Catalonia the Industrial Price Index increased by 16.9% from the beginning of the year to September 2022.

Employment in industry shows the second most positive sectoral balance (12%), coming in behind only hospitality (27%). However, the forecast is for a downturn (-6%), which is expected to the same extent only in this sector and in construction. Thus, the official data record shows that the rate of growth of the labour market in industry is lower than in other sectors, while in September 2022 the number of registered workers was 3.3% higher than in the same month in 2021. In the case of the industrial sector, the variation was only 1.6%.

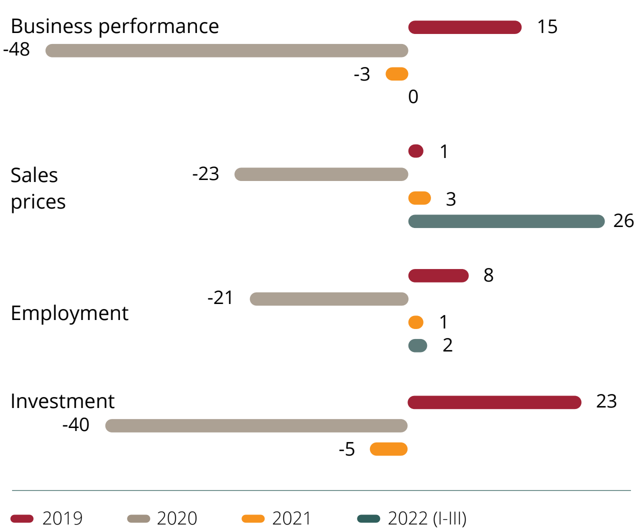
Taking into account the backdrop of rising prices, **sales abroad** show a positive dynamic, with 14% of industrial firms reporting an increase in turnover compared to 9% who report the opposite. It remains to be seen how the slowdown in the European economy, especially in Germany and Italy, and the reconfiguration of trade flows associated with the armed conflict in Ukraine, will affect the evolution of exports.

Investment, based on data for 2021, increased notably (from -29% in 2020 to +18% in 2021), achieving the most favourable balance among all sectors.

Construction

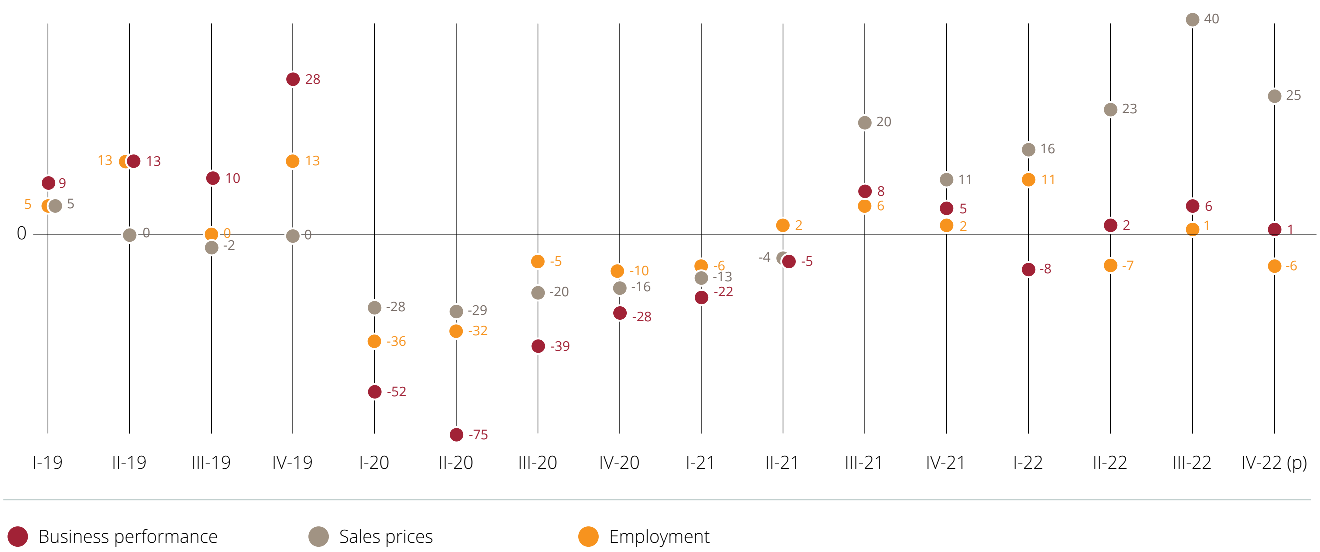
Construction activity indicators have been more resilient than expected throughout 2022. Thus, cement consumption and the number of new workers registered in the sector in Catalonia show cumulative growth up to September of 5.5% and 3.2%, respectively. However, this evolution could be curtailed by the tightening of monetary policy and the persistence of inflationary pressures, together with a depletion of the savings accumulated during the pandemic, factors that could contribute to a reduction in the demand for housing in 2023.

Annual evolution of the business main variables in construction at the AMB
(Balances in %)



Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

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



Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

In this context, **business performance** in construction closed the first three quarters of the year showing stagnation (0.4%), with only retail presenting a less favourable sectoral result (-1%). This result is due to the fact that 16.7% of businesses in the sector said their performance had been positive while 16.3% considered it had been negative. When analysing the quarterly evolution, it can be seen that this aggregate result is the result of a mixed path: a negative Q1 (-8%), a Q2 where business performance recovered (+2%) and a Q3 where it continued to improve (+6%), unlike the rest of the sectors where the evolution moderated in this last quarter. Despite this positive quarterly evolution, a slowdown in the pace of recovery is expected in Q4 2020 compared to the previous quarter (+1%).

With regard to **sales prices**, these have gradually increased to register a balance of 40% in Q3, the highest in the historical series, and the second highest sectoral balance, only behind hospitality (41%). This balance is the result of 44% of businesses reporting that sales prices have increased, and 4% saying that they think they will fall. However, the prospects of containing and moderating the increase in energy and raw material prices relax price increases in the sector for Q4: 31% of establishments forecast an increase in prices compared to 19% who consider that they will decrease (balance 25%).

Employment in the sector registered the least positive sectoral result in the first three quarters of 2022 overall (2%). The outlook for Q4 reflects a contraction of the labour market (-6%).

Finally, **investment** in construction in 2021, despite the notable improvement compared to the previous year, recorded the second most negative result, behind hospitality. The year closed with a balance of -5% (12 points below the global average). This figure was the second lowest since 2013, behind only the previous year (-40%).

Commerce

The results of the 2022 Business Climate Survey show a recovery in retail in terms of employment, but stagnation in terms of business performance. Household savings during lockdown have contributed to the maintenance of turnover in the sector throughout the year, but it remains to be seen whether the persistent increase in prices will translate into a reduction in consumption in the coming months.

Business performance in the retail sector in the AMB in 2022 has improved compared to the previous year, but is still slightly negative: an average balance of -1% (4 points higher than the previous year), with 23% of responses reporting an upward trend and 24% a downward trend. Commerce is the only sector still in negative territory. For Q4 (which includes the Christmas season), retailers in the AMB predict a more negative situation compared with the previous quarter (-8%).

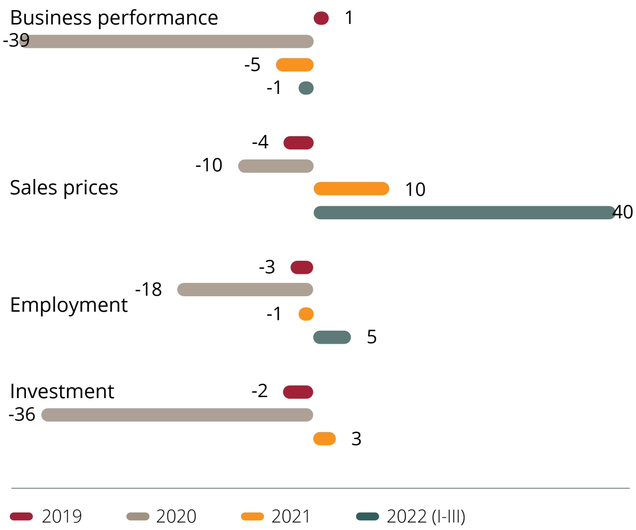
The increase in **sales prices** has remained very high throughout the year (balance of 40% up to Q3), the highest in the available series and only slightly behind industry (43%) and hospitality (42%). Moreover, wholesale establishments continue to have a high sales price outlook (37%), with 43% believing that prices will increase compared to 5% who believe the opposite.

In terms of **employment**, positive balances continue to be recorded throughout the year, 5% on average in the first three quarters of the year, as a result of 14% of businesses stating that there has been an overall increase in the number of available jobs compared to 9% who say the opposite. Looking ahead to the fourth quarter, the positive balance remains fairly stable compared to the previous quarter (3%).

Investment recovered in 2021 after a decline in 2020 (-36% in 2020 and +3% in 2021). This balance is 4 percentage points below the average for the AMB economy (+7%).

Annual evolution of the main business variables in commerce at the AMB

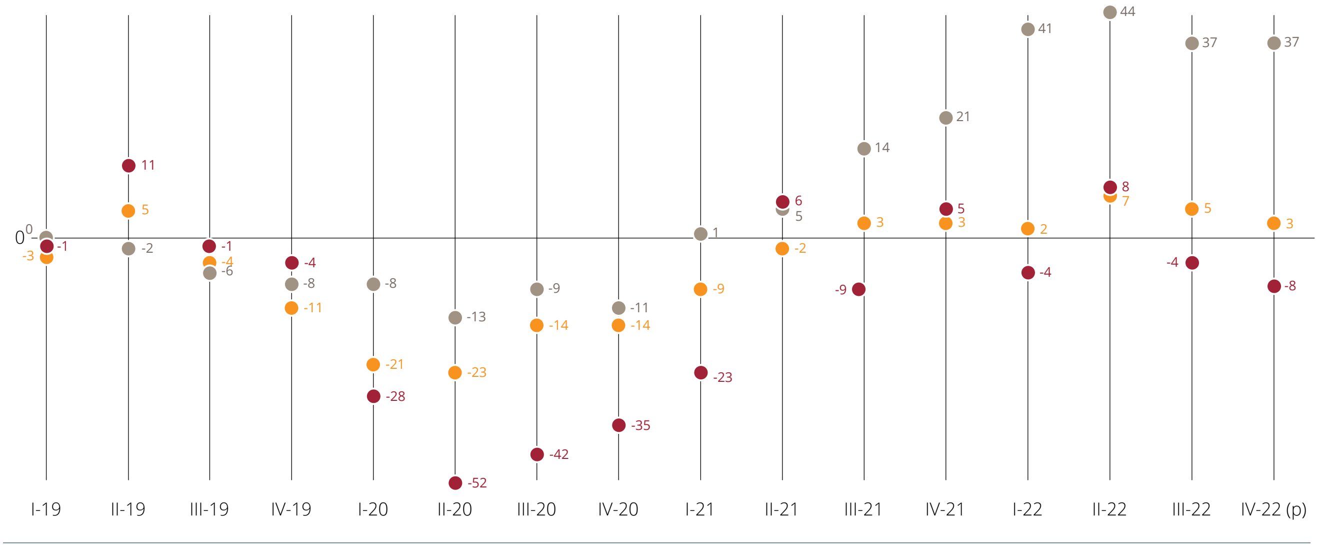
(Balances in %)



Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

Quarterly evolution of the main business variables in commerce at the AMB

(Balances in %)



Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

Hospitality

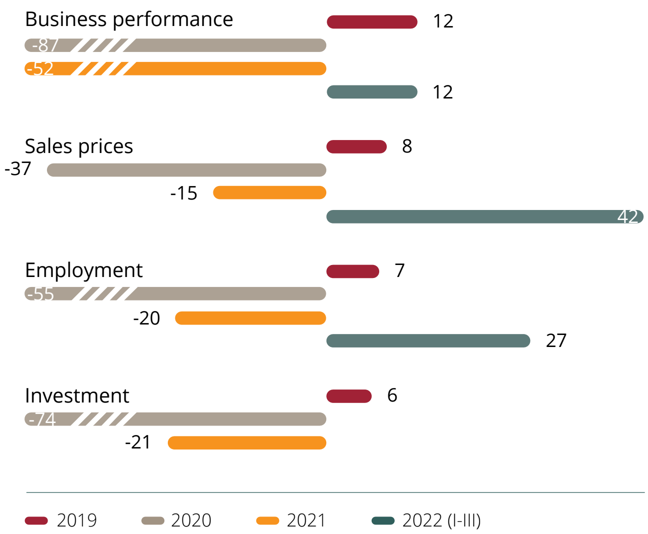
Hospitality is the sector that has seen the greatest improvement and also the one that has shown the best results in 2022, thanks to the strong performance of national and international tourism throughout the year, especially in the summer season. The sector's activity indicators show an almost complete recovery, almost reaching pre-pandemic figures. Thus, the number of overnight hotel stays by foreign residents during the summer was only 10.7% below the same period in 2019, a considerable improvement compared to previous quarters.

Thus, **business performance** in hospitality was favourable for one in three businesses in the first nine months of the year (10% in 2021 as a whole) and unfavourable for 21% (63% in 2021). The resulting balance of 12% is the best sectoral result. The improvement was noticeable from Q2 onwards thanks to the strong performance of domestic and foreign tourism in the Easter and summer holiday periods, where balances recovered strongly. Looking ahead to Q4 2022, the outlook for hospitality businesses remains the most positive among all sectors (18%), with 36% believing that the situation will improve, and 17% believing that business will slow down.

As for **sales prices**, these rose significantly, from -15% in 2021 as a whole to +42% up to Q3 2022. The increase has been particularly sharp since the second quarter of the year, reaching record highs since 2009 (beginning of the available series). Looking ahead to Q4, businesses expect prices to continue to rise, but at a slower pace (24%).

Annual evolution of the main business variables in the hospitality industry at the AMB

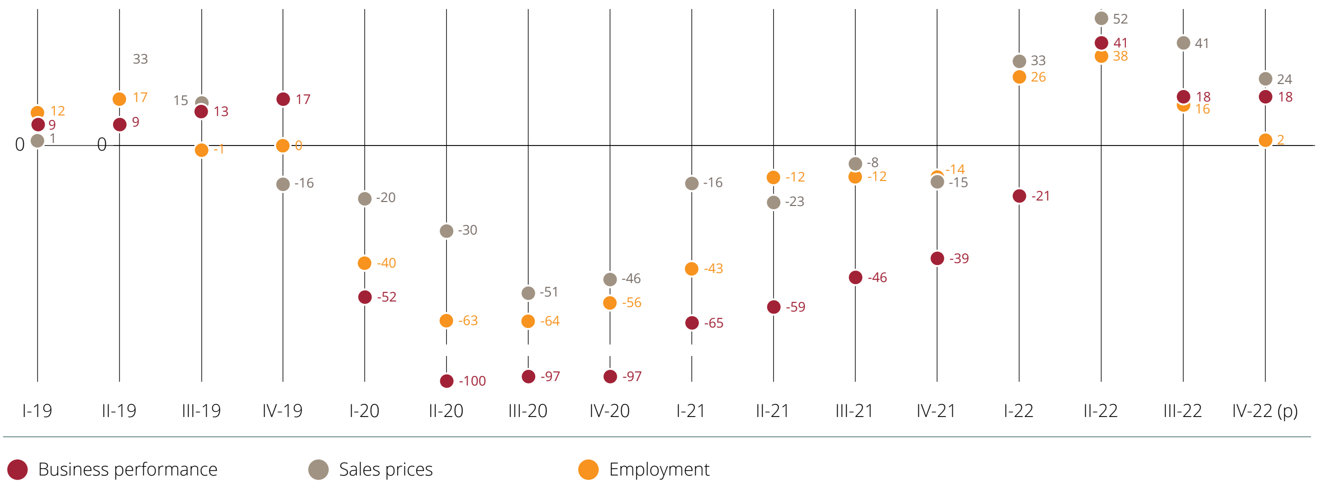
(Balances in %)



Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

Quarterly evolution of the main business variables in the hospitality industry in the AMB

(Balances in %)



Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

As for the number of **people employed**, the balance was 27% in 2022 (up to Q3), the best result over all sectors. Although in Q3 the balance dropped considerably (from 38% in Q2 to 16% in Q3), hospitality still presented the best sectoral result. For the last quarter of the year, the slowdown in the labour market continues, approaching stabilisation (2%).

In 2021, **investment** in the sector remained negative (-21%), but less so than in 2020 (-53%). This reduction is the most significant among all sectors, and therefore, higher than that recorded by the metropolitan economy as a whole in 2020 (-40%).

Other services

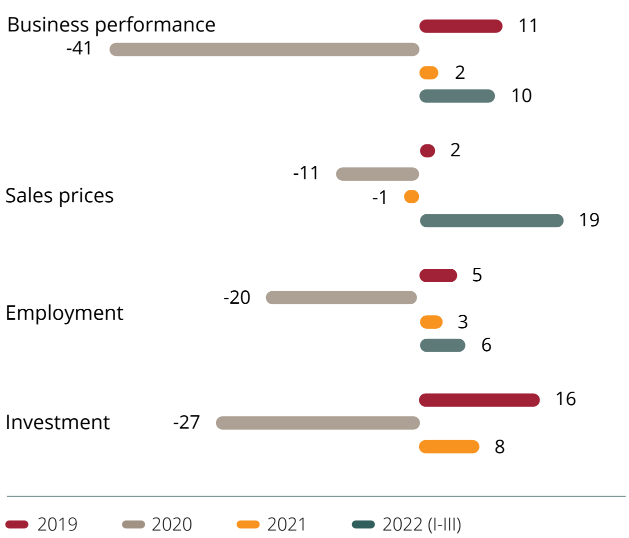
The other services sector (services with the exception of retail and hospitality) shows higher levels of recovery than the economy as a whole, both in terms of business performance and employment. Thus, in comparison with the other sectors, other services came in second best in terms of business performance (behind hospitality) and third best in terms of employment. In terms of sales prices, other services had the least positive result.

As far as **business performance** is concerned, the balance is 10% up to Q3, with 23% of establishments in the sector considering that business performance has been favourable, compared to 13% who say that it has been poor. Looking ahead to Q4, retailers expect the positive trend to continue, but less strongly than in the previous quarter (7%).

As for **sales prices**, after stagnating in 2021 (-1%), in 2022 these have been rising – reaching record highs since 2009, the beginning of the available series – but as the year has progressed the increase has slowed down (22% Q1, 18% Q2 and 16% Q3) to register an average balance of 16%, 13 percentage points below the average for the sectors as a whole. For the last quarter of 2022, sales prices are expected to continue to fall (13%).

Annual evolution of the main business variables in other services at the AMB

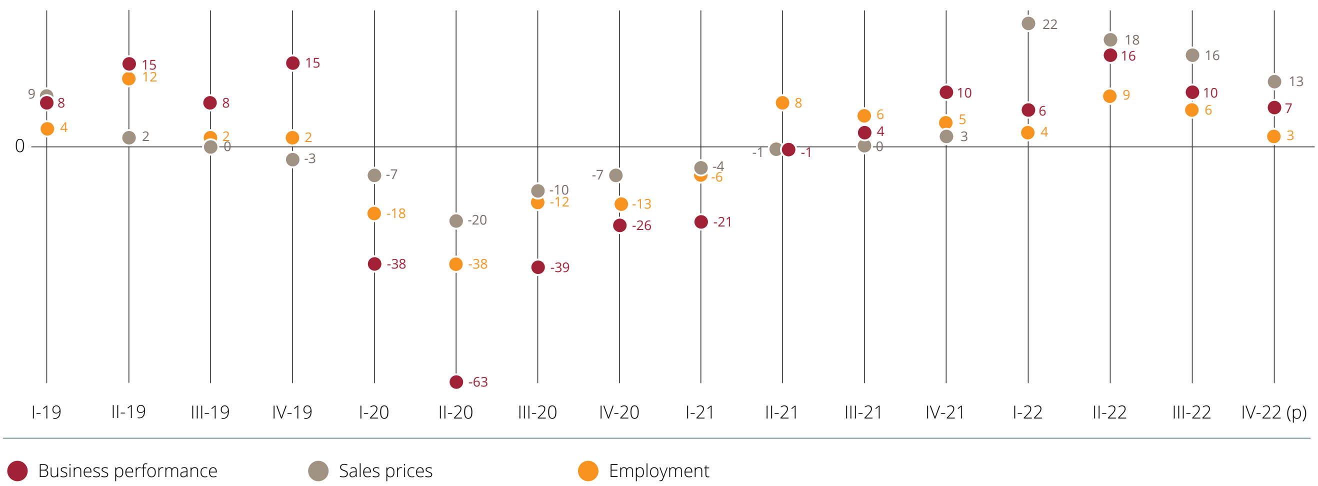
(Balances in %)



Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

Quarterly evolution of the main business variables in other services at the AMB

(Balances in %)



Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

The **labour market** in other services shows a positive result and the third best of all sectors (6%), the result of the difference between 17% of establishments saying that employment has increased and 1% saying that it has decreased. For Q4 2022, businesses expect an increase in the number of employees, but fewer than in the previous quarter (3%).

Finally, in 2021, **investment** showed a positive balance (8%), very much in line with the average for all sectors (7%). This was the result of 22% of establishments saying that it had increased, compared with 14% saying that it had decreased.

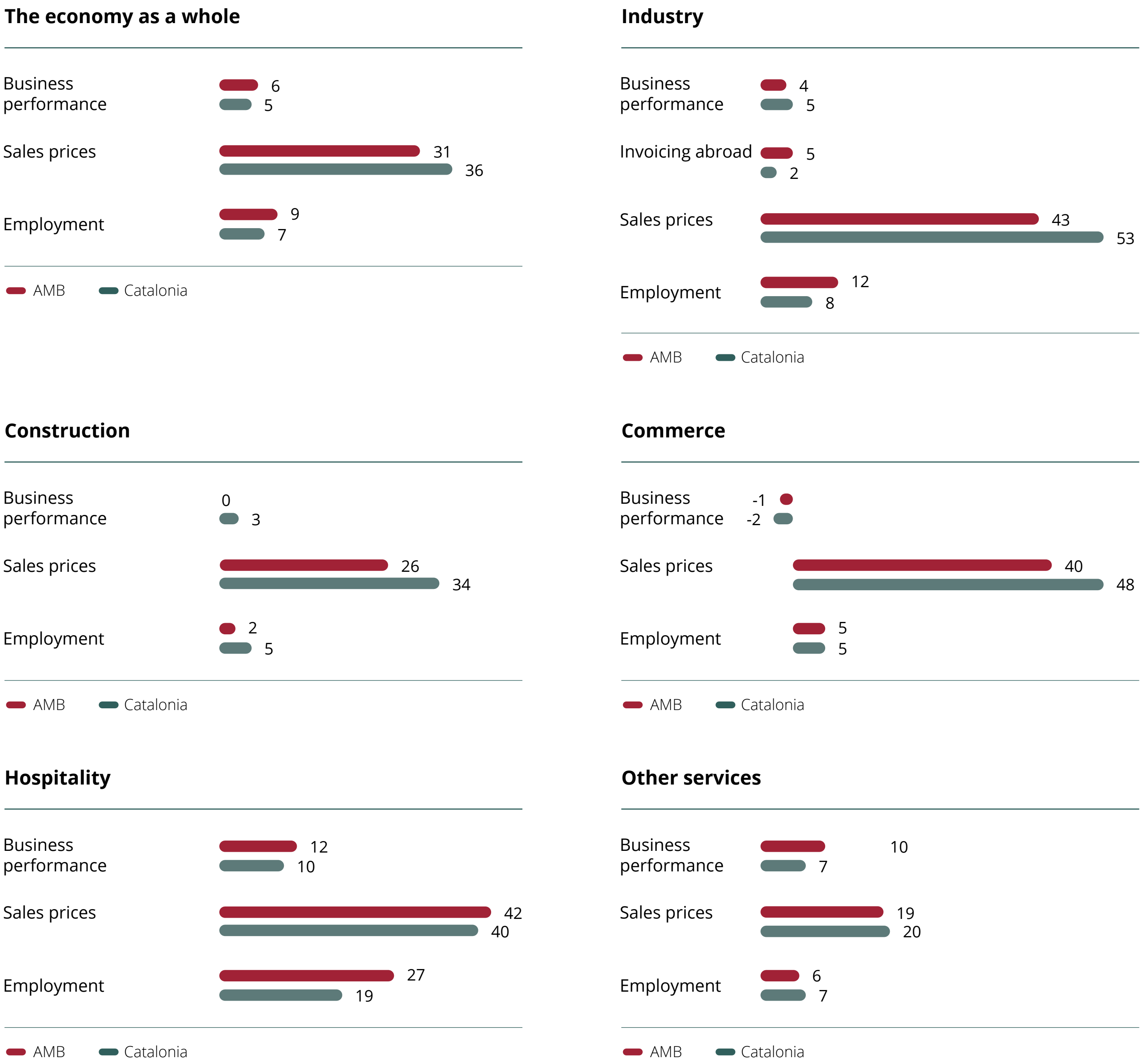
Comparison with Catalonia

In terms of the evolution of activity compared by area, the AMB shows slightly better results than Catalonia as a whole in the first three quarters of 2022. The increase in business and jobs has been greater in the metropolitan area, while the notable increase in sales prices has been less significant. It is important to bear in mind the very significant weight of Barcelona in the AMB as a whole, as well as the greater dependence on exports and international tourism, the sector that has recovered most this year.

All sectors have seen a more positive evolution in **business performance** in the AMB than in Catalonia as a whole, except for industry. As for **sales prices**, the increase was greater in Catalonia as a whole than in the AMB, with the exception of hospitality. Finally, the evolution of **employment** in the AMB has been more positive than in Catalonia in industry and in hospitality, much the same in retail, and less positive in construction and other services.

Main business variables with Catalonia. Year 2022 (Average IT-IIIT)

(Balances in %)



Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

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 mineral 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 Building construction

42 Construction of civil engineering works

43 Specialised 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)

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. Barcelona Metropolitan Area 2022*

Sectors	Sample	Error[3]
Industry	160	7.7%
Construction	82	10.8%
Trade	200	6.8%
Hospitality	74	11.5%
Other services	503	4.4%
Total	**1,019**	**3.1%**

* Average for quarters I-III.

Source: Barcelona Chamber of Commerce and Idescat (Statistical Institute of Catalonia)

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