

EXECUTIVE SUMMARY

1. Analysis of the situation of the City of Madrid

1.1. Economic environment and prospects

The highs that have marked the main indicators of sovereign risk in recent months, chiefly the upward drift of public debt yield curves in Spain and Italy, are driving the European institutional agenda. The foundations have been laid for a "fiscal union", with more stringent rules around the control of public deficits. However, progress in the area of financial stability is insufficient.

The slowdown in growth in the major European economies is the main result of the financial crisis of the euro which, the latest leading indicators for industry and foreign trade suggest, is likely to develop into recession. The balance of economic variables outside the eurozone offers no signs of relief, except for the "better than expected" economic indicators in the US. The sharp slowdown in the industrial sector in Asia is one of the most important global warning signals.

For now, third quarter GDP growth has surprised on the upside. In the eurozone, GDP grew 0.2% quarterly, with the support of private consumption and investment. The most worrying development is the growing divergence between Germany (up 0.5% QoQ) and the other eurozone countries, especially those on the periphery. The stagnation

GDP growth in the euro area (year-on-year rate in %)

	IVT10	IT11	IIT11	IIIT11
PIB	2.0	2.4	1.7	1.4
Consumption	0.7	0.8	0.3	0.2
Private	1.1	1.0	0.3	0.3
Públic	-0.2	0.3	0.1	-0.1
GFCF	1.2	3.7	1.6	1.6
Stoke (1)	0.5	0.5	0.4	0.2
Domestic demand (1)	1.5	1.6	0.8	0.5
Exports	11.5	9.7	6.2	5.5
Imports	10.7	8.1	4.4	3.6
Foreing demand (1)	0.5	0.8	0.9	0.9

(1) Contribution to YoY GDP growth
Source: Eurostat

of growth in Spain and the fall in GDP in Italy (down 0.2% QoQ) reflect not just the worse cyclical and structural situation of these economies but also the consequences of the tough fiscal adjustment to which they are subjected.

The composition of Spain's GDP growth in 3Q11 has followed the expected pattern: once again, the external sector has offset the fall in domestic spending, and only business investment in capital goods has alleviated the generalized correction in national spending. However, in the short term the expected contraction in Germany and France may weigh on Spanish foreign goods trade and on investment by export-oriented companies. Other worrying signs for 2012 are the new cutbacks in public spending, in line with the deficit targets, and the sluggishness of private consumption.

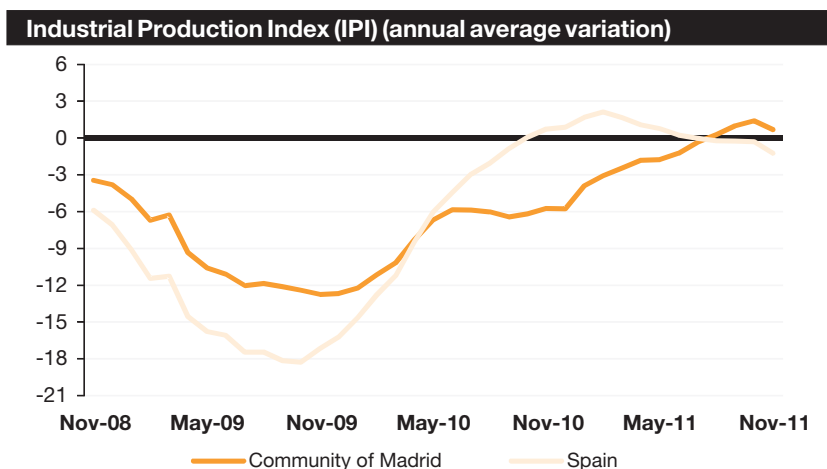
For its part, GDP in the Madrid region recorded growth of 1.7% during the third quarter, driven by services, representing an increase of 0.6 percentage points compared to the previous quarter. The trend in Madrid's labour market does not offer the same picture. The labour force experienced a YoY decline of 1.4%, caused by the loss of jobs (employment contracted by 2.6% YoY), while the number of unemployed increased by 5%.

CEPREDE's November forecasts have been revised downwards compared with the previous ones. Thus, the outlook for YoY GDP growth is reduced to 0.6% in 2011 and 0.8% in 2012 (0.2pp less in each year than the May estimates). The expected growth is insufficient to generate a recovery in employment and economic activity, prolonging the "growth crisis" until 2012 at least. For the city of Madrid, the Instituto L.R. Klein-Stone Centre has also reduced its forecasts for growth in 2011 to 0.8%, 0.3pp less than the initial forecasts. The growth rate is forecast to remain at 0.8% in 2012, well below the 1.3% initially forecast, and will not exceed the 1% threshold until 2013. However, CEPREDE's latest modelling exercise, in December, points to stagnation in 2012.

1.2. Production activities

INDUSTRY

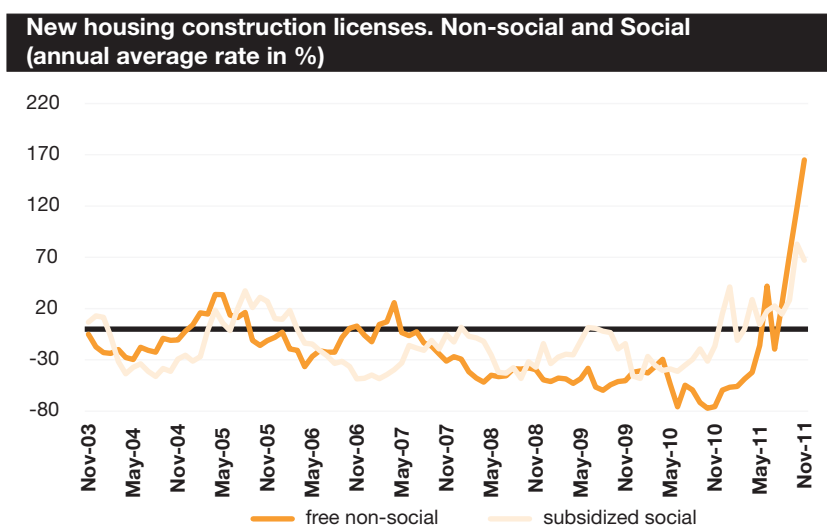
The latest figures published confirm the recovery of the Madrid region's Industrial Production Index (IPI). In November, YoY growth was 0.7%, in contrast to the 5.7% fall a year earlier; this was the fourth month with positive growth. However, the rate has contracted significantly compared with October, when it reached 1.4%. The IPI's good performance was favoured by investment in equipment, with average annual growth of 7.1% in November (6.3pp above the Spanish average). The good IPI data did not benefit the Madrid region's gross value added (GVA), which recorded a YoY decline of 2.3% in the third quarter of 2011. The decline in industrial growth is also reflected in the Social Security enrolment in the city of Madrid, with a YoY fall of 5.3% in the third quarter of 2011, 4pp more than the national average.



Source: INE

CONSTRUCTION AND REAL ESTATE MARKET

Enrolment in the construction sector declined by 11.6% YoY in the third quarter of 2011 (a new low in the series). Despite this, the trend in housing construction licenses authorized by the Housing and Urban Development Department is consolidating its recovery. In November, the average annual increase (for the past 12 months) reached 91.2%, which contrasts with the decline at the beginning of the year. By type of housing, from July the trend in the average annual rate suggests a sustained recovery in non-social housing, reaching a high in November of 165%, compared with 67.3% for social housing. With regard to the distribution of licenses, its spatial polarization is intensifying: the district of Hortaleza alone accounts for 53.4% of the licenses granted in the third quarter. The dynamism of building licenses has not yet been reflected in the completion certificates recorded by the COAATM. Between January and November, 2,792 certificates were issued, representing a decline of 51.5% compared to the same months of 2010. The surface area constructed for non-residential use stagnated, with an average annual variation of 0% in November.



Source: Town planning and Housing Department Madrid City Council

SERVICES

Financial system

The financial system has been characterised by its stagnation during the year, which translates into the impossibility of achieving growth in deposits and loans, which have declined by average annual rates of 0.3% and 0.4% in the third quarter. The restructuring of the financial system has impacted on the number of branches in the city of Madrid, which registered a YoY decline of 7%.

The situation in mortgage financing is even more extreme. The number of mortgages constituted collapsed in the third quarter, with a YoY fall of 38.8% (11,772 mortgages less than a year before). The YoY decrease was even more pronounced in the total amount of funds lent, at 41.1% (a fall of €2.36 billion).

The year in the stock market has been marked by the virulent debt crisis and the eurozone's inability to prevent it which, coupled with the numerous doubts about the Spanish economy, have led to great instability on Madrid's trading floor. In 2011, for the second consecutive year, the Madrid Stock Exchange and the Ibex 35 index recorded double-digit losses (14.5% and 13.1% respectively). The punishment has been even greater in the main bourses of the eurozone, very exposed to contagion of the debt crisis. The EuroStoxx fell 17.1% and the German and French indices fell by 14.7% and 16.9% respectively.

Tourism

In recent months, the growth in the city of Madrid's tourism indicators has slowed. Thus, the number of travellers staying in the city's hotels between September and November registered a YoY increase of 3.5%, far below the 13.9% of the previous three months. The best performance occurred in foreign visitors, with a YoY rise of 4.4%, 2.5pp better than that of Spanish residents. The trend in overnight stays has been similar, although the YoY increase in the past

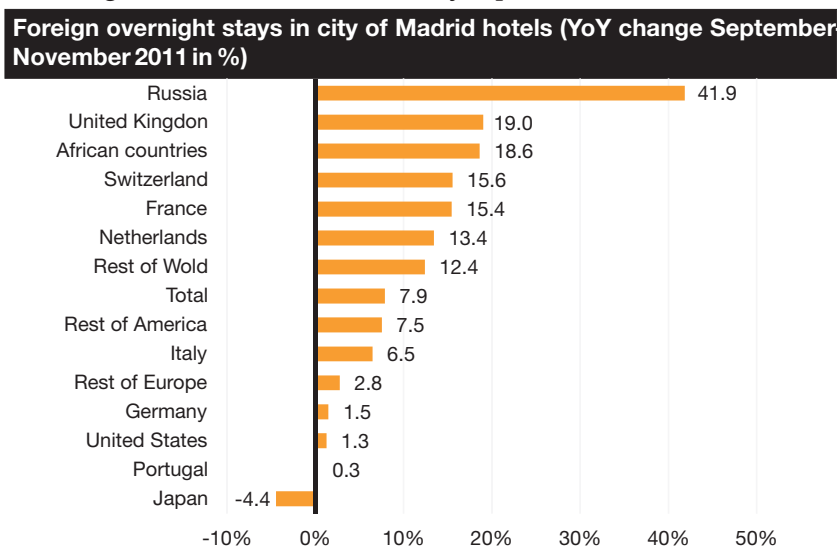
Main tourism indicators for the City of Madrid

	2010	2011			Change %	
		Sep	Oct	Nov	10/09	11*/10
Tourists	7,871,879	760,883	799,671	668,906	9.8%	3.5%
domestic	4,023,172	362,748	370,521	351,034	5.9%	2.3%
foreing	3,848,707	398,135	429,150	317,872	14.4%	4.7%
Overnight stays	15,192,771	1,500,687	1,590,154	1,285,583	11.3%	4.8%
domestic	6,926,264	624,610	625,543	582,701	7.4%	0.8%
foreing	8,266,507	876,077	964,611	702,882	14.8%	7.9%
Average stay	1.93	1.97	1.99	1.92	1.3%	1.2%
domestic	1.72	1.72	1.69	1.66	1.4%	-1.4%
foreing	2.15	2.20	2.25	2.21	0.4%	2.8%
Occupancy rate per place available	54.4	62.4	63.9	53.2	8.3%	1.0%

* Accumulated September-November 2011
Source: Hotel Occupancy Survey (EOH). INE

three months has been higher at 4.8%, due to a large extent to the rise in overnight stays by foreign residents (7.9%), compared with just 0.8% for Spanish residents from outside Madrid.

Looking at the geographical origin of the overnight stays by foreigners in the period September-November, the highlight is once again the YoY growth of Russia, with 41.9%. The main novelty is that the EU was the geopolitical area that contributed most to the increase in overnight stays, with 46.2%, well above the previous months (in June-August, its contribution was only a quarter of that).



Source: Hotel Occupancy Survey (EOH). INE

With regard to employment in hotels and catering, the sector in Madrid has managed to create employment for 11 consecutive months, but in October and November the pace of growth has declined and barely exceeds 0.1%.

Transport

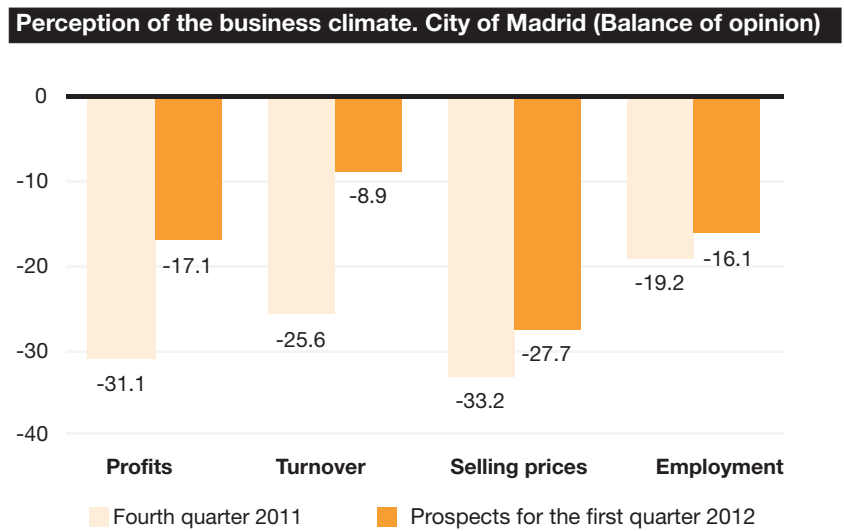
The number of passengers using Barajas airport between January and November declined by 0.6% compared with the same period last year. This slight decrease reflects the contraction of domestic passenger traffic, down 9%, a consequence of both the competition from high speed rail and the country's economic difficulties. By contrast, international traffic increased by 4.5%, or 1.3 million passengers, between January and November (compared to a fall of 1.5 million domestic passengers). In this respect, there has been a remarkable increase in non-EU destinations, which have accounted for almost 40% of international passengers so far this year. Similarly, the dynamism of relations with other countries has been the engine of growth in freight (with a YoY rise of 6.4% in the period analysed).

With regard to urban transport, 881 million journeys were made on the Metro and EMT buses between January and October, a YoY decrease of 0.5%. The performance of the different modes of transport was very uneven as, compared with a decline of 3.4% in travel by bus, Metro rides increased by 1.5%. The trend in commuter rail services was also positive, with a YoY rise of 2.2% in the January-August period, evidence of a preference for rail transport.

1.3. Business dynamic

In the third quarter, 2,227 companies were started in the city of Madrid, 24.7% fewer than the previous quarter. The annual average of start-ups in September was 923, far below the average achieved in 2007 (over 1,400 companies). Regarding the capitalization of new companies, and excluding the impact on the average annual rate of the creation of the third largest Spanish bank, Bankia, the last few months shows a declining trend: the monthly average capitalization between April and September was €76,706, compared to €125,816 in the same period a year earlier. The total number of companies, reflected in the number of accounts registered with the Social Security, experienced an YoY increase of 0.7%, 0.6pp more than the second quarter. However, it is a one-off rise and cannot be seen as a change in the trend.

The business climate indicator for the fourth quarter of 2011 indicated a deterioration in economic confidence, standing at -17.7, 1.5 points down on the previous quarter and 7.1 points down since the beginning of the year. Values remain negative in all sectors, although compared to the previous quarter the confidence index improved significantly in industry, being 17.6 points less negative. In terms of economic variables, views are still clearly adverse, and the expectations of a relative improvement in the prospects for the fourth quarter, published in the previous Barometer, have not been met. Assessments are significantly worse with regard to business sale prices, profits, and turnover. Expectations for the first quarter of 2012 are somewhat less negative in all components, although the pessimistic tone and lack of expectations of recovery are widespread among most of Madrid's business community.



Source: Business Climate Survey prepared by the Economic Observatory, Economy and Employment Department. Madrid City Council

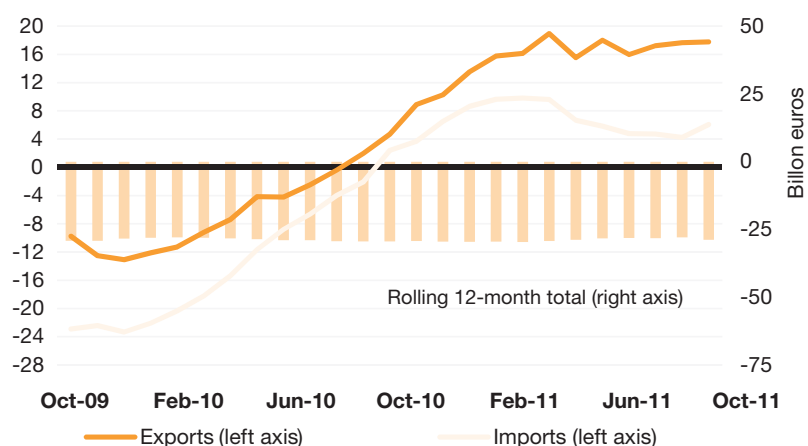
1.4. Demand

The lack of confidence generated by the economic situation has led Madrid's inhabitants to reduce their consumption. In October, retail sales in the Madrid region fell at an average annual rate of 4.2%, the largest fall of the year. For the city of Madrid in particular, the trend in the Consumer Confidence Index is also negative: the recovery seen in the second quarter of 2011 has faded out in the latest period, with a decline of 4.6 points, and the index has again fallen below the threshold of 30 points. However, the trend in the employment rate in the retail trade has not reflected this deterioration, with growth of 1.7% in October.

In the course of 2011, the recovery of productive investment in the Madrid region has consolidated. The average annual variation in investment in capital goods has risen from a fall of 0.4% in January to an increase of 7.8% in October, marking 10 consecutive months of positive growth.

With respect to the external sector, in the twelve months to October 2011 there was a notable rise of exports from the Madrid region, amounting to €24.02 billion, 17.8% up on the year before. Imports, in turn, showed a more moderate growth (6.1%), enabling the balance of trade deficit to be reduced by €785 million since the beginning of the year. In the short term, the economic stagnation of our major trading partners in Europe and the imminent risk of recession as we enter 2012 may interrupt the growth in Madrid's external sector.

Foreign Trade of the Madrid Region (year-on-year rate in accumulated twelve months in %)



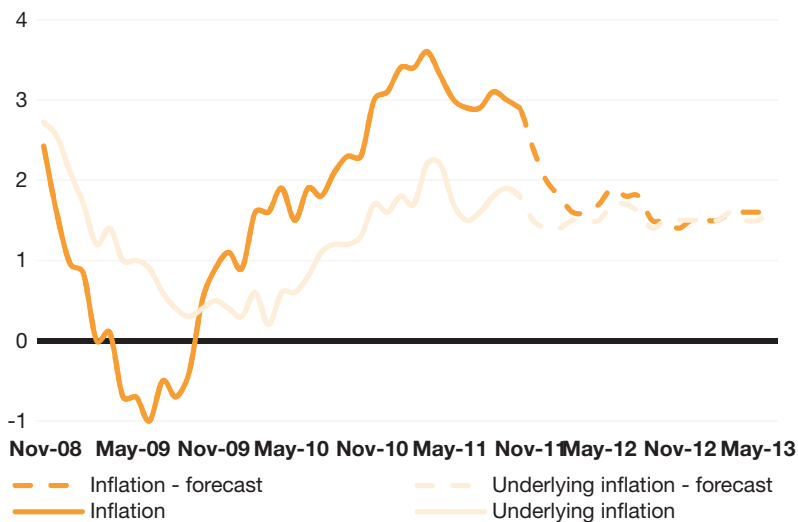
Source: ICEX

1.5. Prices and salaries

The YoY rate of inflation in the Madrid region reached 2.9% in November, 0.7pp less than April. If the forecasts are met, the CPI would end the year at 2.4%, 0.6pp less than a year earlier, but 0.4pp more than initial expectations. The inflation forecasts of the Instituto Flores de Lemus point to further declines in the CPI over the next few months, reaching 1.6 per cent in March 2012, although these forecasts may be upset by upward fluctuations in the oil price (itself subject to the euro exchange rate, geopolitical factors and the level of aggregate demand).

With regard to other prices, the Producer Price Index (PPI) for the Madrid region reached an annual rate of 6.1% in November, an increase of 1.2pp with regard to June. By contrast, TINSA's data for the third quarter of 2011 recorded a further decline in prices for second-hand housing in the city of Madrid, with a YoY fall of 10.3% (the biggest fall in the series). With regard to labour costs in the Madrid region, they amounted to €2,825 per worker per month, €358 more than the Spanish average. This implies a YoY increase of 1.3%, although they have been significantly reduced with regard to the previous quarter (by 127 euros).

Headline and underlying CPI in the Madrid Region
(year-on-year rate in %)



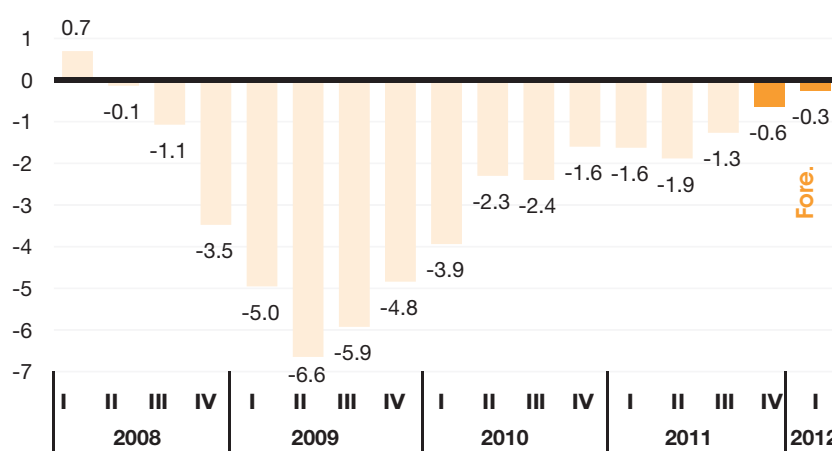
NB: The dotted lines show forecasts
Source: INE and IFL

1.6. Labour market

The year 2011 has put a stop to expectations of recovery in the labour market in the city of Madrid. The decline of the labour force, accompanied by an increase in unemployment, is a symptom of this lack of dynamism. The collapse in employment is even more disturbing: in the third quarter, the number in employment fell below the threshold of 1.4 million, returning to a level last seen in 2004. Among contributors registered with the Social Security, non-wage-earners have suffered particularly severe job losses, being affected by the deteriorating economic situation, although in absolute terms permanent wage earners are accumulating the heaviest losses. In parallel, the unemployment rate has risen to 16.3%, marking a new high in the city since the crisis began in 2008. Unemployment particularly affects young people between the ages of 20 and 24, whose unemployment rate is bordering on 40%.

With regard to Social Security enrolment in the city of Madrid, the YoY variations continue to be negative (as they have been since September 2008), although the rate of decline has slowed. The forecasts for the end of 2011 point to a YoY fall in Social Security enrolment of 0.6% (compared to a decline of 1.2% in the third quarter), and a further slowing in the first quarter of 2012 (a fall of 0.3%).

**Quarterly forecast for enrolment in the City of Madrid
(year-on-year rate)**

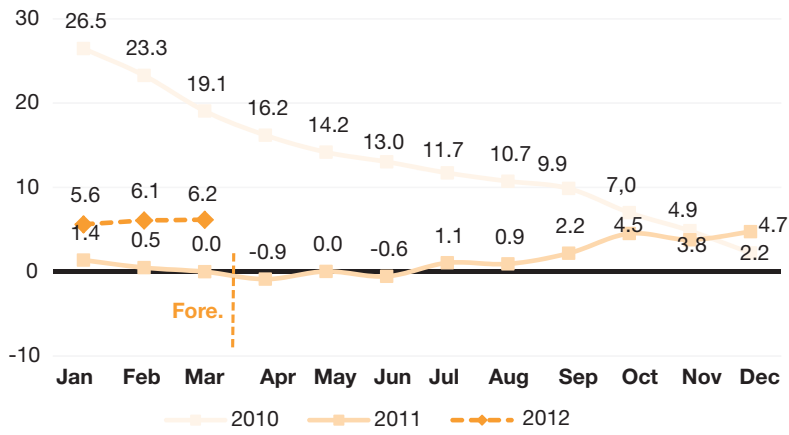


Forecast: 4Q 2011 and 1Q 2012

Source: Statistics Dept., Madrid city Council Social Security Treasury and Afí

Forecasts for the trend in unemployment at the beginning of 2012 are even more pessimistic. Thus, the number of registered unemployed may experience a YoY increase of more than 5% in the first three months. If these predictions materialize, the number of registered unemployed in the city of Madrid would rise to around 238,000 in March, 12,000 more than in December 2011.

Monthly forecast of registered unemployment in the City of Madrid (year-on-year rate in %)



Forecast: January-March 2012
 Source: Statistics Dept., Madrid city Council. State Employment Service and Afi

2. Business attraction pole

RANKING OF EUROPEAN CITIES 2011

International ranking of cities

For the fifth consecutive year, we present the ranking of the 25 European cities considered major metropolises, which include Madrid

The 31st issue of the Barometer presents, for the fifth consecutive year, the results of the ranking of the 25 European cities considered major metropolises, which include Madrid. It analyses the development of the cities and the changes in their positions on the basis of the rankings obtained in four dimensions: 1) Economy and the labour market; 2) Transport and communications; (3) the Knowledge society and 4) Quality of life, plus a global ranking developed from a combination of these.

The new sources included in the 2011 ranking supplement and strengthen the analysis of the four dimensions considered

With the aim of improving the quality of the results, the information sources have once again been revised with a threefold objective. In the first place, to incorporate the new figures for those classifications which have been updated in 2011. Secondly, we have eliminated some sources because their information was outdated and did not reflect the current reality of the cities analysed. Thirdly, we have incorporated new sources whose more recent information replaces the outdated sources, allowing us to maintain a set of relevant indicators for measuring the positioning of the main European cities.

A total of 33 indicators has been selected, and classified according to four dimensions: the first consists of 17 indicators, the second of 8, and the third and fourth of 4 each

Each source contains one or more indicators that have been selected for the relevance of the information provided on the city in relation to the four dimensions analysed. Moreover, the selection process prioritizes the provision of information which covers the majority of the 25 cities being compared and offers a quantitative assessment (not just a position within a ranking).

Results by dimension

Below are the rankings obtained in the four dimensions analysed for the 25 cities selected on the basis of the scores obtained (where first place is the best result and 25th the worst).

Economy and labour market

Madrid retains 2nd position in the ranking by size of economy and labour market

Madrid occupies 2nd position in the economic ranking, behind only London, and in front of important centres such as Berlin, Paris and Frankfurt. Its best results are in commerce and the availability of office space, with second place in both, followed by economic influence, population of the metropolitan area and population estimated for 2020, in which it is third. It should also be noted that in the newly incorporated indicator for international events Madrid is in 5th position. By contrast, the worst results arise from the high unemployment rate and the wage level, where Madrid falls to 20th and 16th place respectively. With respect to 2010, the variables in which Madrid has lost most ground are the wage level (down from

eighth spot to eighteenth) and the value of office space (down three places). The biggest improvements occur in the availability of office space, workers' qualifications, the cost of labour and access to markets (rising 6, 5, 3 and 2 positions respectively).

With regard to the performance of other European cities, apart from London's leadership, the highlight is the rise of the German cities (particularly Berlin, Munich and Hamburg).

Dimensión 1. Economy and labour market							
INDICATOR	London	Madrid	Berlin	Paris	Frankfurt ...	Athens	
Economic influence	1	3	5	2	6 ...	6	
International events	8	5	4	3	13 ...	13	
Retailing	1	2	5	3	12 ...	15	
Salary level	10	18	9	15	4 ...	22	
Metropolitan areas	1	3	5	2	8 ...	10	
Population in 2020	2	3	8	1	5 ...	7	
Business localisation	1	7	5	2	3 ...	36	
Recent improvement	1	5	4	3	6 ...	12	
Expansion plans	1	7	3	4	10 ...	19	
Access to markets	1	5	6	2	3 ...	21	
Labour qualifications	1	5	9	2	3 ...	22	
Labour costs	21	5	10	21	20 ...	8	
Government climate	2	13	10	12	6 ...	20	
Office space availability	6	2	1	8	5 ...	19	
Office space value for money	15	6	2	17	10 ...	13	
Activity rate	13	5	11	18	9 ...	22	
Unemployment rate	13	20	18	12	4 ...	17	
2011 AVERAGE	5.8	6.7	6.8	7.5	7.5 ...	16.6	
2011 RANKING	1	2	3	4	4 ...	25	
2010 RANKING	1	2	7	4	5 ...	25	
2009 RANKING	1	2	6	4	7 ...	25	
2008 RANKING	1	2	7	3	6 ...	23	
2007 RANKING	1	3	7	2	6 ...	17	

The German cities of Berlin, Hamburg and Munich show notable economic dynamism; together with Frankfurt, they have climbed into the top places in the economic ranking

Source: Prepared by Afi based on main international city classifications

Transport and communications

In the field of transport and communications, Madrid achieves 4th position in the 2011 ranking, behind Munich, Barcelona and Amsterdam, which is a fall of two places with respect to the 2010 ranking. The key to this decline is the lower growth in the number of passengers at Barajas airport compared with the greater dynamism of other European cities. Thus, the latest available figures for YoY growth (2009-2010) show an increase of 3.6%, which puts Madrid in 15th place in terms of passenger growth (12 places lower than in 2010), while the leader is Copenhagen (9%). However, Madrid retains fourth place in the rankings with regard to volume of passengers. The main improvement is seen in the increase in the number of tourists (11.1%), which allows Madrid rise six positions in the 2011 ranking. In the remaining indicators, the differences are insignificant.

Despite its good results in the transport indicators, Madrid falls to 4th position in the transport dimension, largely due to the higher growth of air traffic and tourist numbers in other European destinations

Dimension 2. Transport and communications

INDICATOR	Munich	Barcelona	Amsterdam	Madrid	Paris	...	Glasgow
Total passenger traffic	8	9	5	4	2	...	25
Change in passenger traffic	6	4	14	15	19	...	24
Tourists in hotels	4	11	8	6	1	...	24
Change in tourists in hotels	6	1	2	9	19	...	21
Communications	7	10	4	6	2	...	13
Internal communications	6	6	9	5	2	...	17
2011 AVERAGE	6.2	6.8	7.0	7.5	7.5	...	20.7
2011 RANKING	1	2	3	4	4	...	25
2010 RANKING	4	10	8	2	3	...	20
2009 RANKING	5	7	7	2	1	...	25
2008 RANKING	6	5	8	2	1	...	24
2007 RANKING	3	2	6	3	1	...	23

Source: Prepared by Afi based on main international city classifications

Knowledge society

For the fifth year in a row, London, Paris and Stockholm, in this order, lead the knowledge society ranking. They are followed by Munich and Copenhagen which experienced a dramatic rise (the previous year, these cities were in 10th and 8th position respectively). Madrid's ranking of 11th position puts it on an intermediate level, immediately behind Frankfurt and in front of Amsterdam. This represents a fall of five places from the previous year, although this variation should be viewed in the light of the changes in the indicators in the latest ranking. The highest rating is achieved in the availability of technology (5th position), and the worst in investment in R&D relative to the size of population (16th).

Dimension 3. Knowledge society

INDICATOR	London	Paris	Stockholm	Munich	Copenhagen	Madrid...	Warsaw	
R&D investment	9	5	3	2	1	16	...	25
R&D workers as % total employed	2	4	7	3	1	10	...	23
Availability of technology	2	3	1	6	6	5	...	6
Telecommunications quality	1	2	4	5	13	10	...	20
2011 AVERAGE	3.5	3.5	3.8	4.0	5.3	10.3	...	18.5
2011 RANKING	1	1	3	4	5	11	...	25
2010 RANKING	1	2	3	10	8	6	...	25
2009 RANKING	1	2	3	7	7	6	...	24
2008 RANKING	1	2	3	10	7	6	...	25
2007 RANKING	1	2	3	6	10	15	...	25

Source: Prepared by Afi based on main international city classifications

Quality of life

Compared with the previous year, the city of Madrid climbs one place to 10th position. The best marks are for the quality of life for employees, where Madrid rises two places to occupy the third position. Madrid also ranks highly among the more habitable cities (6th position), while in Mercer's quality of living survey it remains

among the lowest places in the ranking (18th). Copenhagen continues to lead the quality of life ranking, followed by Munich and Vienna, which shared the 2nd position, with Stockholm in 4th.

Dimension 4. Quality of life								
INDICATOR	Copenhagen	Munich	Vienna	Stockholm	...	Madrid	...	Athens
Quality of life	4	2	1	8	...	18	...	19
Most liveable cities	2	3	4	7	...	6	...	12
Air quality	2	6	3	2	...	9	...	6
Employees' quality of life	5	4	7	2	...	3	...	25
2011 AVERAGE	3.3	3.8	3.8	4.8	...	9.0	...	15.5
2011 RANKING	1	2	2	4	...	10	...	25
2010 RANKING	1	4	1	7	...	9	...	22
2009 RANKING	1	5	2	6	...	9	...	21
2008 RANKING	2	1	5	3	...	12	...	18
2007 RANKING	7	1	2	3	...	12	...	21

Source: Prepared by Afi based on main international city classifications

Madrid has achieved the tenth position in Quality of life, with a result close to Paris, and with an advantage over other advanced cities, such as London and Frankfurt

New results for the ranking of European cities

The ranking of European cities, prepared on the basis of a synthetic index, weights the four dimensions analysed in a differentiated manner to better reflect the valuation of a city as a pole of attraction. For this purpose, the socio-economic aspects, along with the provision of infrastructure, are the most valued, with weightings of 42% and 28% respectively. Less importance is given to aspects related to the Knowledge Society and quality of life, whose weight in the index is 20% and 10% respectively.

Berlin's rise to third position pushes Madrid down into 4th position. Paris tops the 2011 ranking of European cities, and for the first time London slips to second place

Madrid lies in 4th position in the 2011 ranking, down one place with respect to the previous year. However, despite the country's economic problems, Madrid retains its privileged status among the leading European metropolises, largely supported by the strong assessment of its economic and transport dimensions. Paris takes top spot in the ranking for the first time, pushing London down into the second position. The other great novelty lies in the progression of German cities. Berlin is in third place, due largely to the strength of its economic dimension. The rise of Munich is even more striking, up six places to 5th position, thanks to its good performance in the dimensions of transport, quality of life and the knowledge society.

The methodological changes introduced in the latest ranking, with the incorporation of new indicators and the substitution of others, makes it more difficult to analyse the changes in the relative positions of the cities. However, with this caveat in mind, there are some interesting aspects to note.

Ranking of european cities 2011

Ranking	CITY	DIMENSION			
		1	2	3	4
1	Paris	4	4	1	8
2	London	1	7	1	14
3	Berlin	3	6	7	5
4	Madrid	2	4	11	10
5	Munich	11	1	4	2
6	Amsterdam	7	3	13	6
7	Barcelona	6	2	17	7
8	Frankfurt	4	9	10	13
9	Vienna	8	11	8	2
10	Stockholm	10	13	3	4
11	Brussels	9	10	9	12
12	Copenhagen	20	11	5	1
13	Hamburg	15	14	11	8
14	Milan	14	7	21	20
15	Manchester	12	16	18	18
16	Lisbon	13	18	16	16
17	Helsinki	21	20	6	11
18	Lyons	22	17	13	16
19	Dublin	17	22	18	15
20	Prague	16	21	22	21
21	Glasgow	18	25	15	22
22	Rome	25	15	20	19
23	Budapest	18	23	22	24
24	Warsaw	23	19	25	22
25	Athens	24	24	24	25

Source: Prepared by Afi based on main international city classifications

Paris takes top spot in the ranking for the first time, pushing London down into the second position. The other great novelty lies in the progression of German cities. Berlin is in third place, due largely to the strength of its economic dimension. The rise of Munich is even more striking, up six places to 5th position, thanks to its good performance in the dimensions of transport, quality of life and the knowledge society. With regard to the other European cities, the biggest rise corresponds to Vienna, up eight places. Other cities showing marked improvement are Lisbon, Prague and Dublin, which have thus managed to halt the decline of previous years. The cities with worsening positions are Lyon, Manchester, Glasgow and Frankfurt. Finally, Athens, whose economic crisis weighs on the other dimensions, occupies the last place in the rankings.

Ranking of european cities

	2011	2010	2009	2008	2007
Paris	1 ↑	2 =	2 =	2 =	2
LONDON	2 ↓	1 =	1 =	1 =	1
Berlin	3 ↑	5 =	5 ↓	4 ↑	7
Madrid	4 ↓	3 =	3 =	3 =	3
Munich	5 ↑	11 ↓	8 =	8 ↓	6
Amsterdam	6 ↓	4 =	4 ↑	5 ↓	4
Barcelona	7 ↑	8 ↓	7 =	7 ↑	8
Frankfurt	8 ↓	6 ↑	8 ↓	6 ↓	5
Vienna	9 ↑	17 ↓	13 ↑	16 ↓	14
Stockholm	10 ↓	7 ↑	11 ↑	12 ↓	10
Brussels	11 ↓	9 ↓	6 ↑	9 =	9
Copenhagen	12 ↑	14 ↓	12 ↑	14 ↑	15
Hamburg	13 ↑	15 ↑	17 ↑	21 ↓	12
Milan	14 ↓	12 ↑	15 ↓	13 =	13
Manchester	15 ↓	10 =	10 ↑	11 =	11
Lisbon	16 ↑	19 ↑	20 ↑	22 ↓	17
Helsinki	17 ↑	18 ↑	19 ↓	18 ↑	20
Lyons	18 ↓	13 ↑	16 ↓	15 ↑	21
Dublin	19 ↑	23 ↓	22 ↓	10 ↑	16
Prague	20 ↑	22 ↑	23 ↓	19 ↑	22
Glasgow	21 ↓	16 ↓	14 ↑	20 ↓	18
Rome	22 ↓	20 ↑	21 ↑	25 ↓	24
Budapest	23 ↑	25 ↓	24 ↓	23 ↑	25
Warsaw	24 ↓	21 ↓	17 =	17 ↑	23
Athens	25 ↓	24 ↑	25 ↓	24 ↓	19

Source: Prepared by Afi based on main international city classifications

3. Monographic report

THE CITY OF MADRID IN THE KNOWLEDGE ECONOMY¹

Introduction: knowledge economy and urban development

The European Union's *2020 Europe Strategy* promotes smart, sustainable and integrated growth

It is a well known and much repeated fact that, in the current phase of globalization and the knowledge society, big cities are reinforcing their influence in the economic and territorial organization at all levels. The evidence that they are the locations of the main challenges and threats to development is equally well known. In recent years, some of the most interesting conceptual and analytical proposals have arisen in the debate on what is the the right direction for the growth of cities: models of urban development in which knowledge and innovation (economic and social) serve to promote competitiveness, social cohesion and environmental sustainability.

The "knowledge cities" are characterized by their stock of human resources, innovative clusters, dynamic innovation system and network connections

Here we focus on the proposal for *knowledge cities*, which shines a light on a possible way forward with regard to strategies for emerging from the crisis, linking directly with the new *Europe 2020 Strategy*, to achieve a smart, sustainable and integrated growth². The specialized literature identifies four key components of knowledge cities³:

- I. Stock of human capital and the presence of a "*creative class*" (teachers, artists, technology sector professionals, advanced services, etc.)⁴. The ability to attract (and retain) this talent is related to the economic history of the city and to factors both "hard" (creation of clusters and quality employment) and "soft" (urban equipment, cultural life, quality of life, etc.)
- II. Innovative clusters of technology-intensive industries, knowledge-based services, including advanced company services, and creative and cultural industries, key for competitiveness and to ensure that these activities do not relocate elsewhere.
- III. Innovative effort by companies and tangible results in the form of social and economic innovation, with special attention to the role played by the concentration and quality of institutions.
- IV. Integration in the networking space; from social and institutional networks, to those formed by cities and digital infrastructures which, among other things, make possible new schemes for more horizontal and participatory urban governance (*e-democracy*).

¹ Simón Sánchez Moral. *Universidad Complutense de Madrid*. Investigador del subprograma "Ramón y Cajal" del Ministerio de Ciencia e Innovación. Este texto forma parte del Proyecto del Plan Nacional de I+D: "Las regiones metropolitanas españolas en la Sociedad del Conocimiento: tendencias económicas y cambios territoriales" (CSO2009-10888).

² Comisión Europea (2010): *Europa 2020: Una estrategia para un crecimiento inteligente, sostenible e integrador*. COM (2010) 2020, Bruselas (p.12)

³ Méndez, R.; Sánchez Moral, S., Abad, L. y García Balestena, I. (2009): Sistema urbano y sociedad del conocimiento: hacia una tipología de las ciudades españolas. *Investigaciones Regionales*, 16: 117-142.

⁴ Florida, R. (2005): *Cities and the creative class*. Routledge, Nueva York.

Madrid in the spanish urban system: an initial explanatory model

The results of the work of R. Méndez and S. Sánchez Moral (2011) published in the journal *European Urban and Regional Studies* provide the starting point of our analysis. A range of indicators for the Spanish cities of more than 20,000 inhabitants forms the basis of an analysis of their positioning in the four components identified.

Large cities, among which Madrid is a leader, present the greatest concentrations of knowledge resources and capacity for innovation

Large cities concentrate the bulk of the resources for knowledge and innovation. The EPA (labour force survey) data put the ratio of university graduates to population over 16 years of age in Madrid at 36.85% in 2011, while for directors, managers and support staff the ratio is 24.30%, according to the Social Security. Similarly, the City also leads in employment in innovative clusters, particularly knowledge-intensive services and cultural industries. Madrid also hosts the main concentrations of companies with quality certification and of registered patents, and the second largest, behind Barcelona, in terms of investment by the Centre for Industrial Technological Development (CDTI) and proportion of exporting companies. The concentration of broadband internet lines is also very important, with 496,189 in 2010 (53.91% of the total in the region).

An analysis of principal components allows four integration strategies to be identified; Madrid leads a group of 21 cities with above average levels of human capital and specialization in innovative clusters, as well as high levels of business innovation. This group includes 16 provincial capitals and other major cities with a significant volume of employment in education and health, in addition to advanced company services that serve major local industrial sectors.

The City of Madrid's strategy is based on its human capital, advanced company services and its capacity for innovation

Madrid in the European regional context

Regional Innovation Index: facilitators, company activities and outputs

The *Regional Innovation Scoreboard* (2009), commissioned by the European Commission, highlights the varied nature of the Spanish case, with Madrid being one of the few European regions with a "medium-high" performance in innovation, standing out from the national average, which is much less dynamic. This diagnosis summarizes the results in three basic dimensions: facilitators or enablers, company activities and outputs.

According to the 2009 *Regional Innovation Scoreboard*, Madrid is a region of "medium-high" performance in innovation compared with other European regions

Madrid's main strengths are found among the *facilitators* dimension, in which it is classified as a "high" performance region, in the same group as London and Paris. It is especially notable for its high proportion of university students (in 11th place out of 205), with somewhat lower concentrations of qualified workers in science and technology. This points to qualified workers being oriented more towards academic research and less to technological applications,

more distant *a priori* from innovation processes. In terms of public R&D expenditure, Madrid falls slightly behind the leading regions (in 45th place).

In the *company activities* dimension, Madrid's performance is "medium-low", with a similar profile to the urban regions of London and Amsterdam. The main weaknesses are related to the registration of patents (115th place) and collaboration between innovative SMEs (98th place). In this regard, the lack of "proportionality" between resources and results reflects a series of causes, beginning with the fact that not all research generates innovations, and that these may have an origin not based on scientific knowledge; other factors are the experience and effectiveness of the actors involved, their networking capacity and the opportunities to develop innovations in a specific field.

With regard to *outputs*, the region is characterized by a "medium-high" performance, thanks to the concentration of employment in knowledge-intensive business services (13th place), thereby offsetting the mediocre results achieved in innovation and employment in technology-intensive industries (157th place).

Other indicators of positioning with regard to innovative clusters

Madrid claims a prominent position in two cultural industry clusters: publishing and radio and television

According to the latest Eurostat data, relating to 2008, and bearing in mind the limitations of these data, Madrid has the second largest concentration of employment in advanced company services (407,688), behind London. According to studies by the *GaWC* network, the City is in 4th position, behind London, Paris and Milan, in terms of the volume of relations between offices of multinationals in the sector. With regard to cultural industries, Madrid achieves a notable sixth position in the publication of books and newspapers, one of its main strengths, associated with the production of content in Spanish. In radio and television, Madrid is in third position in Europe.

Having identified Madrid's positioning in the national and European contexts, below we set out the results of research conducted specifically for this monograph, which includes the use of some innovative statistical sources.

Employment in the knowledge economy in the city of Madrid

Volume and structure

424,990 people work in the knowledge economy, more than a quarter of total employment in the City of Madrid

At the beginning of 2011, there were a total of 424,990 workers in the City of Madrid's knowledge economy (25.86% of the total), of whom 39,445 were self-employed. The bulk of employment corresponds to advanced company services, with 231,958 workers (54.57% of the knowledge economy); other knowledge-intensive services account for 33.12%, with 140,798 workers, cultural industries and services have 45,404 (10.68%) and technology-intensive industries, with only 6,830 workers, 1.60%.

Social Security enrolments in the knowledge economy in the city of Madrid in 2011 according to 2009 National Accounts

Code	Clusters	Total enrolments		General scheme*		Self-employed**
		W	CA	W	CA	W
	TECHNOLOGY-INTENSIVE INDUSTRIES	6,830	176	6,692	175	137
21	Manufacture of pharmaceutical products	4,646	67	4,632	66	13
26	Computer, electronic, and optical products	1,058	91	942	91	116
303	Aerospace construction...	1,126	18	1,118	18	8
	ADVANCED COMPANY SERVICES	231,958	14,416	203,369	14,413	28,567
62	Programming, consulting and other IT activities	51,842	1,800	48,988	1,800	2,854
63	Information services	7,055	490	5872	490	1,183
69	Legal and accounting activities	47,707	4,683	40,734	4,683	6,973
70	Headquarters and management consultancy act.	16,430	1,197	13,837	1,197	2,593
71	Architecture and engineering, technical services, testing and analysis	46,020	2,483	40,902	2,483	5,118
72	Research and development	15,668	321	14,347	321	1,321
73	Advertising and market research	32,025	2,500	28,108	2,497	3,895
74	Other professional, scientific and technical act.	12,879	811	8,423	811	4,456
781	Employment agency activities	2,332	131	2,158	131	174
	OTHER KNOWLEDGE-INTENSIVE SERVICES	140,798	2,304	136,635	2,304	4,163
61	Telecoms	29,589	381	29,032	381	557
64	Financial services	56,722	502	56,561	502	161
65	Insurance and pension funds	17,058	317	16,885	317	173
66	Financial services ancillary activities	14,820	902	11,548	902	3,272
854	Higher education	22,847	202	22,609	202	238
	CULTURAL INDUSTRIES	45,404	2,364	37,260	2,220	6,578
58	Publishing	22,429	1,012	21,098	1,008	1,287
59	Cinema, video and television activities	8,541	637	7,034	582	1,118
60	Radio and TV programming and broadcasting activities	2,452	66	2,174	65	95
90	Creative, artistic and entertainment act.	9,477	543	4,561	459	3,966
91	Libraries, archives, museums and other cultural act.	2,505	106	2,393	106	112
	TOTAL KNOWLEDGE ECONOMY	424,990	19,260	383,956	19,112	39,445
	Total Economy	1,643,189	88,700	1,463,319	88,176	175,213

W: Workers; CA: Contribution account

Date file extracted:* December 2010 ** January 2011

Source: Prepared by author from Social Security (TGSS)

Recent studies reveal the impact of the crisis on some advanced knowledge-intensive services, in connection with the bursting of the real estate-financial bubble and a fall in demand from public authorities, slowing the trend of overall growth maintained since the early 1990s.

Spatial distribution

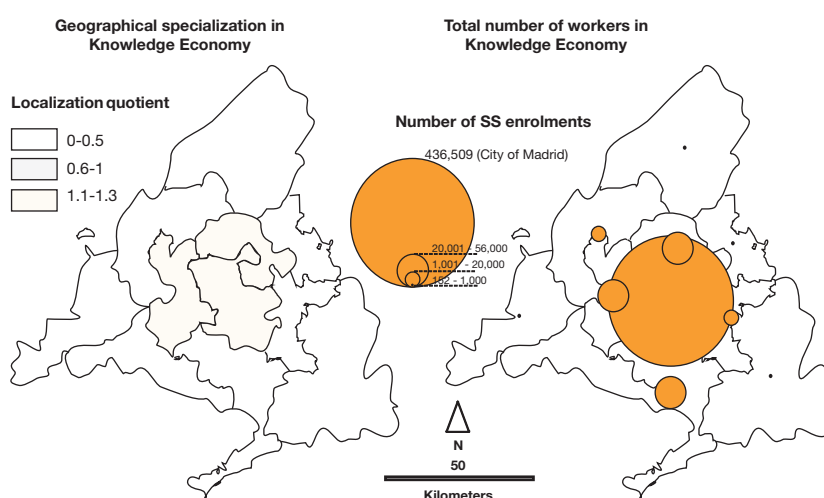
At the beginning of 2011, Madrid had 436,509 knowledge workers in the Social Security's General Scheme (74.19% of the regional total), with high technology industry having the lowest levels of concentration in the City (21.20%), the consequence of industries migrating to the rest of the region. By contrast, advanced company services had 75.93% of the regional total; particularly noteworthy are business services, for which projects such as the *Four Towers* and their 175,000 sq.m. of office space represent a qualitative leap in the City's integration strategy. On the other hand, the concentration of R&D activities is evident, notably the 44 centres of the CSIC and

Three quarters of the Madrid Region's knowledge workers are located in the City, notably advanced company services and R&D

other major establishments such as the Energy, Environmental and Technology Research Centre (CIEMAT), the Carlos III Institute of Health and Telefónica's Research and Development division.

Other knowledge-intensive services also have very high concentrations in the City of Madrid (76.97% of the regional total), combining a dynamic of "dispersion" in telecommunications and higher education, with one of "concentration" in financial services, attracted by the quality of employment and infrastructure, the concentration of information and knowledge sources, the favourable environment for business, and other intangible factors related to the symbolic value of location in the central City. Finally, the cultural industries have an intermediate level of concentration in the City (69.88%), mainly affecting traditional cultural industries and those linked to the cultural heritage and artistic creation, in addition to publishing, one of the traditional mainstays of industry in Madrid.

Workers linked to the knowledge economy according to Social Security enrolment, 2011



Source: Prepared by author from Social Security

In each of these four clusters of the knowledge economy, it is possible to identify economic promotion initiatives of obvious interest in the City of Madrid, such as some of those carried out by *Madrid Emprande*, the Department of Innovation and Technology, the Department of Arts or the Madrid Designers Association (DIMAD). Two general ideas underlie these examples; the horizontal nature of the knowledge-based economy as an axis for positioning the City and the demand for a dual approach which promotes it by integrating the economic and cultural viewpoints.

Qualifications and quality of employment

155,461 Madrid workers can be classified as members of the "creative class" according to their occupation and the sector in which they work in the knowledge economy

In the City of Madrid, there are 155,461 qualified workers in the higher Social Security contribution groups (engineers and graduates; technical engineers, experts and qualified assistants), which approximates to the concept of "creative class" (9.46% of the

employment of the City and 72% of this collective in the region). They represent a higher proportion among advanced company services (43.89%), though lower in the cultural industries.

As regards the quality of employment, 317,730 workers in the knowledge economy had a permanent contract in 2011, i.e. 79.85% of the employees in the sectors in question. This means that the quality of employment is certainly high, although it should be noted that there are strong internal contrasts. Compared to technology-intensive industries (pharmaceutical and aerospace), where more than 91% of the contracts are permanent, there are knowledge-intensive services, such as higher education and R&D activities, in which permanent employment barely exceeds 42% and 27% respectively.

Almost 80% of workers in the knowledge economy have a permanent contract, but there are wide variations depending on their activity

Social and professional profiles

To analyse the social and professional profiles of workers in the knowledge economy, we have employed a statistical source which is complex but clearly of interest for our objectives, the *Continuous Working Life Survey* (2008). Of a total of 18,874 workers recruited in the knowledge economy in 2008, 13,691 had at least secondary education and were in the top two groups of Social Security contributors.

The study of these "creative classes" allows an approximation to their personal characteristics; in general, these are younger workers (38.48 years on average) with a low proportion of women (38.04%); 8% had been born outside Spain, and 20% started their professional career in another province. With regard to their employment situation, their relative stability in employment is evident (5.94 years on average); however, there is evidence of the growing flexibility and mobility in the new schemes of work organization, especially in the cultural industries. In general, knowledge workers tend to be employed less in the public sector (10.65%) and more in limited companies; these are also relatively small in size, reflecting the fragmentation of the sectors in question (especially in cultural industries). The amount and structure of their income also reflect differences within the industry, as well as with other workers.

Madrid attracts 8% of its knowledge workers from abroad and as many as 20% from other regions

The knowledge economy in general employs younger workers, fewer women and fewer foreigners

Conclusions

From the point of view of Madrid's integration into the knowledge economy, its strengths are quite evident at the national level, especially from the perspective of its human capital endowment, the development of innovative clusters (advanced company services) and its capacity for entrepreneurial innovation. The comparison with the rest of Europe, in which Madrid appears as a region of "medium-high" innovative performance, focuses on the importance of "facilitators" such as human capital, public spending on R&D, and digital infrastructure. This dynamism does not seem to be reflected in business activity, and a certain lack of correspondence between efforts and results is apparent.

Hence, it seems relevant refer to the "intelligent specialisation strategy" proposed in *Europe 2020*. In fact, the City already has a long history of specialization in urban and knowledge services, the promotion of which could form part of an effort to rationalize the resources available, improving the intensity of R&D and of marketing systems, without forgetting the effort to bring out and redirect that "hidden innovation" stemming from cultural and creative activities.

If the City wishes to opt for the knowledge economy as a strategy for emerging from the crisis, it must strengthen its capacity to promote knowledge-intensive clusters and continue to generate quality employment opportunities, as a key variable in the processes analysed here, in addition to focussing on the smart growth strategy. In this respect, it is essential to adopt measures for strengthening the ICTs due to their intersection with different approaches, in addition to strictly economic measures. Similarly, the environment and sustainable mobility, and the dissemination of new, more participatory, forms of governance and geographical management (e-government), represent another key dimension in the dichotomy between the knowledge economy and urban development.

Madrid City Council's initiatives in support of entrepreneurs, such as *Madrid Emprende*, *the On-line Cathedral of New Technologies*, *Matadero*, *Medialab-Prado* and the *Design Central*, are recent relevant initiatives in this field.