

# **EXECUTIVE SUMMARY**

# 1. Analysis of the situation of the City of Madrid

## 1.1. Economic environment and prospects

Economic growth has been adversely affected by the stress in the financial system and the strong rise in sovereign debt yield curves, including Spain's, arising from the political instability in Greece and doubts about the situation of the Spanish banking system. This is confirmed by the GDP data for the fourth quarter, with the eurozone GDP contracting by 0.3% QoQ, the first decline since the second quarter of 2009, with YoY growth positive at 0.7%.

Spain's GDP ended the fourth quarter of 2011 with positive YoY growth of 0.3%, but a fall of 0.3% in the QoQ rate, with all components declining, most notable being the sharp drop in public consumption and 'other' construction (3.6% and 11.9% respectively) due to the fiscal consolidation policy. On the positive side, the contribution of the external sector continues to increase, providing 3.1 percentage points of GDP growth, but there are signs of a weakening in exports (with a 3.4% QoQ fall). The Madrid region's economic performance continues to be better than that of the nation as a whole, with YoY GDP growth of 1.4% in the fourth quarter of 2011, due to the good performance of the services sector, which grew by 2.4%. In contrast, industry and construction saw a contraction of 3.2% and 3.3% respectively.

CEPREDE forecasts for 2012 show increasing deterioration in economic activity, with Spanish GDP contracting by 1.1% in 2012; once again, public consumption and gross fixed capital formation (dragged down by public investment) will be the main recessionary factors, with YoY falls of 8.6% and 10.2% respectively, while exports continue to lose momentum (with growth declining from 9.1% in 2011 to 2.8% in 2012). Forecasts for 2013 show a path of relative improvement, though without emerging from recession, with negative growth of 0.5%.

The city of Madrid is not immune to the recession, with its GDP forecast to contract by 1.1% in 2012 and 0.5% in 2013; energy is the only sector forecast to grow (0.9% and 0.3% in 2012 and 2013 respectively), with significant deterioration in industry (falls of 0.8%

and 0.5% respectively), construction (down 4.1% and 1.9%), non-market services (falls of 0.8% and 0.4% due to the fiscal consolidation policies of public administrations), and market services, which leave behind the positive growth of 1.2% in 2011 for a decline of 1.5% in 2012 and 0.6% in 2013.

## 1.2. Production activities

### INDUSTRY

The Industrial Production Index saw an annual average decline of 2% in February 2012; although lower than the national average fall of 2.9%, this interrupts the positive trend observed throughout 2011. Capital goods production turned in a notably good performance, with average growth of 7.3% in February 2012. The remaining products saw larger contractions than the national average, particularly consumer durable goods, which fell by an average annual 13.96% in February (3 points more than the national average).

### CONSTRUCTION AND REAL ESTATE MARKET

The number of building licences rose by 104.6% in 2011, and the start of 2012 shows a strengthening of this trend, with a cumulative annual rate of 155.8% in February 2012. By type, it is social housing which shows the greatest dynamism, with accumulated growth of 130.6% at the end of 2011, compared to 39.7% for other housing. This increased dynamism has continued in the first months of 2012, though it shows less imbalance between housing types, with accumulated annual rates in February of 188.7% in the case of social housing and 101.2% for other housing.

Non-residential construction, on the other hand, continued to deteriorate, ending 2011 with an accumulated average annual fall of 32.9%, notably in industrial and tertiary sector buildings, which fell by 48.4% and 45.8%. The first two months of 2012 saw positive YoY growth of 47.9%, due fundamentally to the strong expansion of the area dedicated to parking lots (up 120.5% compared with the same months of 2011) and civic facilities, which rose by 65.9%; these compensated for the absence of activity (in terms of building licences) in industrial buildings and the contraction of 77.5% in building for tertiary uses.

### SERVICES

#### Financial system

The number of bank branches in the city of Madrid continues to fall, as a result of the mergers and rationalization processes currently being carried out by financial institutions; 2011 saw a reduction of 7%, similar to Spain as a whole (also 7%) and somewhat better than the Madrid region (a fall of 8.2%).

There was a 0.2% cumulative decline in the volume of credit in the Madrid region in the fourth quarter of 2011, less than the whole of Spain (down 1.1%). This was caused by the deteriorating economic situation (which reduces the demand for credit), together with the inability to access wholesale funding markets and the higher capital requirements for financial institutions (which reduces the supply). This decline was more accentuated in the case of mortgage credit (down 40.3%).

The General Index of the Madrid Stock Exchange, in turn, accumulated a fall of 18%, dragged down significantly by losses in the banking sector and construction companies; its performance was substantially worse than that of its European, American and Japanese counterparts.

### **Tourism**

2011 saw increases in the city of Madrid's tourism figures. Thus, the total number of visitors increased by 5.8% overall compared to 2010, with differences persisting between domestic tourism, with much lower growth than foreign tourism (3.4% versus 8.3% respectively). Overnight stays rose somewhat more (7.8%) again due to foreign visitors, which increased by 11.4% (led by Russians and emerging countries) compared to the 3.4% increase in the overnight stays of local visitors. 2012 began with positive figures, although there are signs of a slowdown: while the number of visitors grew 3.5% in the period from September to November 2011, growth fell to 1.4% in the December-February period. Growth in overnight stays declined from 4.8% to 2.9%.

Supply continued to increase in the (by 5.3% in 2011 and 2.7% in February 2012), which together with the slowdown in demand has led to a fall in the level of occupation (down 2%) and in revenue per available room (down 4.7% in December 2011, 5.7% in January and 7.8% in February 2012). Employment ended 2012 with a slight increase (1.7%), which weakened in the first two months of 2012, when it grew just 0.1% compared with the same months of 2011.

### **Transport**

AENA's figures for passenger traffic at Madrid-Barajas airport record a YoY decline of 0.5% due to the significant reduction in domestic traffic (8.9%), which was not offset by the growth in international traffic (4.7%). The start of 2012 points to a worsening of that contraction, with a YoY decline of 6.9% for the months of January and February, due to the fall in both domestic (16.7%) and international traffic (1.3%). As regards freight, the figures for 2011 are better than for passenger traffic, with a YoY growth rate of 5.5% (7.5% in the case of the international cargo, offsetting the fall of 7% in domestic freight). As in the case of passengers, 2012 began with falls for both international (8.2%) and domestic traffic (10.7%), giving rise to a YoY fall of 8.5%.

Urban and intercity mobility in 2011 saw a decline of 0.4% caused by the fall in bus passengers (2.9%), which was not offset by the growth in metro journeys (1.4%). Local train services saw growth of 1.2%.

## 1.3. Business dynamic

Company start-ups showed slight growth (6.2%) in 2011, higher than the increase in closures, leading to a net increase of 6% over 2010. In terms of Social Security contribution accounts, the recovery that began in the second quarter of 2011 was consolidated, with a YoY growth rate of 1.2%, half a percentage point more than in the third quarter, driven mainly by the increase in services (2%), sufficient to compensate the falls in industry (2.6%) and construction (8.7%).

The business confidence indicator for the first quarter of 2012 showed a further deterioration in all sectors, falling 9.9 points with respect to the fourth quarter of 2011, to -27.6 points. The deterioration was most notable in the industrial sector, where the index fell by 115.7% compared to the levels of the fourth quarter of 2011, followed by services (down 50.5%) and construction (down 40%). By business variables, turnover suffered the greatest deterioration with a reading of -44.3 (73% more negative in the fourth quarter of 2011), followed by profits (-42.0, 35% worse than in the fourth quarter), employment (down 75% compared with the end of 2011, to -33.6) and prices (where a fall of 9% over the fourth quarter of 2011 took the reading to -30.3). The outlook for the second quarter of 2012 is for continued deterioration, although businessmen are somewhat less pessimistic except with regard to sale prices, for which they expect an even greater deterioration than that suffered in the first quarter of this year.

## 1.4. Demand

Consumption in Madrid continues to show no signs of recovery, affected by the deterioration of expectations with regard to the current economic situation. This deterioration is reflected in the fall in retail sales, which show an average annual decline of 7.6% in January 2012, in a depressed confidence index, and in the acceleration of job losses in retailing: employment growth has been negative on a YoY basis since October 2011, reaching -2.3% in January 2012.

Productive investment in the Madrid region ended 2011 with average annual growth of 7.6%, which moderated to 5.5% in January 2012, though its performance is substantially better than the national aggregate, which in January returned to negative values, registering an average annual decline of -0.5%.

The external sector continues to record a positive performance, with YoY growth of exports of 13.6% in January 2012, driven by the good performance of the categories of "other goods", "energy products", "consumer manufacturing" and "capital goods", with increases of 149.4%, 46.2%, 15.7% and 13.6% respectively. This was much higher than the growth in imports (3.0%), helping to reduce the trade deficit.

## 1.5. Prices and salaries

The rise of the Madrid region's CPI continues to slow: in the months from November 2011 to February 2012, the YoY rate contracted by 0.9 percentage points, following a very similar path to the national aggregate. It ended 2011 with an average inflation of 3.1% and standing at 2% in February 2012. Unless there are changes in taxation and/or tensions in the oil market, the deepening of the fall in consumption due to the economic downturn and the poor outlook for employment suggest that inflation for the whole of 2012 is likely to fall to levels of around 1.8% for the headline rate, and 1% for the underlying rate, with further falls in 2013.

In turn, inflation in the Industrial Price Index (IPRI) for the Madrid region has slipped from the highs of November and December 2011 (6.4%) to 5.8% in February 2012. This behavior contrasts with the more pronounced decreases observed in the case of the national index, giving rise to a positive differential of 1.1 percentage points.

With regard to the price of housing in the city of Madrid, second-hand housing prices continue to correct, falling 8% in the fourth quarter of 2011, while those of new housing increased by 2.2%, thus increasing the differential over the national average.

Labor costs in Madrid ended 2011 with an increase of 1.6% in the fourth quarter, identical to the national average, taking the differential to 358 euros.

## 1.6. Labour market

The last two quarters of 2011 saw an acceleration of the deterioration in the city of Madrid's labour market. The labour force fell by 1.9% in YoY terms in the fourth quarter (a smaller decline than in previous quarters) and by 2.7% in the year as a whole. The fall in employment accelerated, with a YoY decline of 5.9% in the fourth quarter of 2011, and 3.4% in the year as a whole. By groups, it was non-wage workers who saw the biggest declines, down 9.6% at the end of the year. By sector, construction again returned the biggest fall in employment (37.8%), while industry was the only area to experience positive growth, with 9.3%.

In terms of unemployment, the EPA (labour force survey) data for the fourth quarter of 2011 take the total to 292,500, interrupting the YoY declines seen in the first two quarters of the year, and leaving the unemployment rate at 17.7%. The registered unemployment data for the first three months of 2012 show an intensification of this declining trend, with a substantial increase in the number of unemployed (7.1% in January, 9.1% in February and 9.4% in March), to 244,943 in March, a new high in the series.

The forecasts leave no room for optimism. The slowdown in the rate of fall in Social Security enrolment has been interrupted in the first quarter of 2012, with a YoY decline of 0.9%. Forecasts for the second quarter point to a strengthening of this trend, with a YoY decline of 1.3%.

Meanwhile, registered unemployment in the city of Madrid maintains its rising trend, with a YoY rise of around 11.6% expected in June.

## 2. Monographic report

### **PRODUCTIVITY OF THE ECONOMY OF THE CITY OF MADRID. DISAGGREGATED CHANGES OVER THE PAST DECADE AND COMPARISON WITH THE REST OF SPAIN AND EUROPE**

This paper presents a diagnosis of the productivity of Madrid's economic sectors in relation to its most important geographic references (the Madrid region, Spain and the European Union) for the 2004-2010 period.

Madrid's economy is clearly dominated by the tertiary sector, with services responsible for 85.92% of its GVA. Although it is sometimes debated whether or not productive specialization is a good thing if it involves the reduction of the industrial activity, the important aspect, from the economic point of view, is the productivity of what is produced, as Madrid's case demonstrates.

Productivity, whatever the indicator used to measure it, establishes a relationship between production and productive factors in an economy. It tells us how much we obtain in relation to how much we need to input to obtain it. Thus, the development of productivity is a key driver of economic growth and of convergence in real terms with the more developed countries. For this reason, it is interesting to study the city of Madrid's position in terms of its productivity in relation to the Madrid region and to Spain as a whole, and its situation compared with European regions and other foreign economies is especially interesting.

The analysis of productivity usually begins with the study of apparent labour productivity. This means dividing a given measure of economic production - gross domestic product, value added, actual production, etc. - by the number of workers needed to obtain it. Here we present such an analysis for the city of Madrid in relation to the Madrid region, Spain and the European Union.

The next step is to ask what are the factors behind the increments in apparent labour productivity in the city of Madrid, i.e. to analyse the sources of productivity. The literature distinguishes essentially between two types of effects: the increase in the capital-labour ratio and the growth of total factor productivity (TFP).

Indeed, an increase in apparent labour productivity can occur either because there is an intensification of capital per worker, i.e. because each employee is supported by a larger amount of capital, or because there has been a breakthrough in the economy's pace of generation and assimilation of technological progress, i.e. in the overall efficiency with which it combines the required productive inputs.



The final step for a more rigorous analysis of productivity is to change the denominator of apparent productivity, the number of workers, into the cost of the workers in euros. Thus we obtain an indicator of productivity that tells us how many euros we obtain in relation to how many euros we spend to gain them. This new ratio is productivity weighted by wage costs and is known as the inverse of unit labour costs.

In this paper, we present the development of productivity weighted by cost in Madrid, compared with three references, the Madrid region, Spain, and the European Union, for the period between 2004 and 2010, disaggregating 22 economic sectors.

The results of this deep and detailed analysis lead to the following conclusions:

The main conclusion from the preliminary analysis is that Madrid's economy is highly productive, with higher levels of productivity than the Madrid region (13%), Spain (18%) and the EU-15 (6.5%). Moreover, this advantage has been maintained, and in some cases increased, since 2004.

The city of Madrid shows a clear productive specialisation in the services sector which, moreover, has strengthened in recent years.

The energy and mining sector is the most productive of Madrid's economy. However, it is also that which presents the greatest disadvantage compared to productivity levels in the Madrid region, Spain as a whole and the EU-15. Added to this is the fact that its growth in the city since 2004 has been comparatively low.

On the other hand, the 'other services' sector, second in the productivity ranking, also shows a significant advantage over regional and national levels. In addition, in the 2004-2010 period, this sector's productivity has grown more in the city of Madrid than in Spain and the rest of the EU, increasing its advantage. With regard to the EU-15, what is notable is the city of Madrid's increased level of productivity in retailing, hotels and catering, transport and communications, as well as its higher growth in the 2004-2010 period.

Since 2004, productivity of Madrid's economy has increased by 3.2%, due fundamentally to the increase in the capital-labour ratio, i.e. the greater capitalization of the economy per worker, mainly as a result of the increased capital stock. Productivity growth was higher in the 2006-2009 period than in previous years, which could be related to the job losses arising from the economic crisis, causing an increase in productivity via the capital-labour ratio.

The industries which have increased their productivity most in the city of Madrid have been those in the services sector. In most cases, this increase in productivity is attributable to the increase in the capital-labour ratio. In contrast, in the case of real estate, rentals and business and financial services, the rise in TFP has played an important role.

In the case of productivity weighted by wage costs, the city of Madrid has a slight disadvantage compared with the region, and a greater one in relation to the whole of Spain, due to the city's higher wage levels. This disadvantage has intensified since 2004.

By sector, it is tertiary activities which record the highest ratios of weighted productivity in Madrid, in comparison with the Madrid region, Spain and the EU-15.

Some industrial activities also occupy leading positions in the ranking of comparative weighted productivity, notably the manufacture of transport equipment, in which Madrid has an advantage over both the region and in relation to the whole of the EU-15.

### 3. Monographic report

#### IMPACT OF THE INFORMATION AND TECHNOLOGY SECTOR ON THE CITY OF MADRID'S ECONOMY

The present article aims to examine the activities that make up the information and communications technology sector and quantify their economic impact on the City of Madrid in terms of gross value added and employment. This has been done by analysing the Input-Output tables published by the Madrid region's Statistics Institute. However, prior to this, the sub-sectors directly associated with technology activities were identified, using the OECD definitions for this sector. Having identified the sub-sectors, the direct economic impact of the technology sector in Madrid was estimated; it accounts for 9.9% of the City's GVA and 5.6% of its employment.

Similarly, the indirect impacts were estimated, consisting of the effects observed in other sectors of the economy as a result of the demand for intermediate supplies by Madrid's technology sector. These effects are concentrated in a number of sectors, such as real estate, energy, financial intermediation, other professional services, and non-technology activities within communications and publishing, among others.

The study also estimates the induced effects on the economy as a whole resulting from the circulation of the income generated by the above-mentioned effects. Thus, while the indirect impact affects only a series of supplier sectors closely related to technology, the induced effects are more dispersed, depending on the distribution of the income generated by the above-mentioned effects in the various components of final demand. Thus, according to the study, the induced impact of Madrid's technology sector has positive effects on sectors closely linked to final consumption, such as real estate, retailing, hotels and catering, and other services.

In order to take account of recent developments in the City of Madrid's technology sector, data on workers enrolled in the Social Security (from the first quarter 2009 to the first quarter of 2012) have been analysed. This analysis highlights two significant aspects: In the first place, technology activities have performed better than Madrid's economy as a whole. The most advanced sub-sectors within information and communication technologies - identified by codes 61, 62, and 63 in the 2009 national accounts - have recorded cumulative growth of 10.2% between 2009 and 2012, while the variation for all the City's activities in the same period was a fall of 6.4%). Moreover, as well as performing better, the City of Madrid is observed to be reinforcing its specialization in these activities, which in 2009 represented 4.63% of the City's total employment. By the first quarter of 2012, this figure had risen to 5.45% (compared to 1.80% for Spain as a whole and 5.07% for the Madrid region, in the same period).

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

This increase represents a key factor in the modernization of the City's productive structure which, despite the adverse conditions of the crisis, is progressively (through a reallocation of labour) strengthening its focus on activities characterized by higher added value and more intensive use of skilled labour.

In international terms, the City of Madrid is also prominently positioned in the field of technology. This is reflected in various recent classifications, such as the ranking of major European cities presented for the last five years in Madrid's Economy Barometer which put the City in fifth place in terms of technological facilities, or the studies Mapping the ICT in EU Regions (2008) and The European ICT clusters 2010 which put the City in third place, just behind Île de France, Lazio or Colonia.

Finally, the article contains a reference to policies supporting the development of the technology sector being developed by various areas of the Administration. It highlights the Madrid Technology program, promoted by Madrid City Council's Department of Economy, Employment and Civic Participation, with a view to facilitating the establishment of the Information and Knowledge Society in the City. To achieve this, Madrid Technology carries out activities oriented to Madrid's SMEs in areas such as:

- Technological advice and consultancy
- Promotion of integrated solutions for SMEs
- Specific training for small businesses
- Diffusion of technology