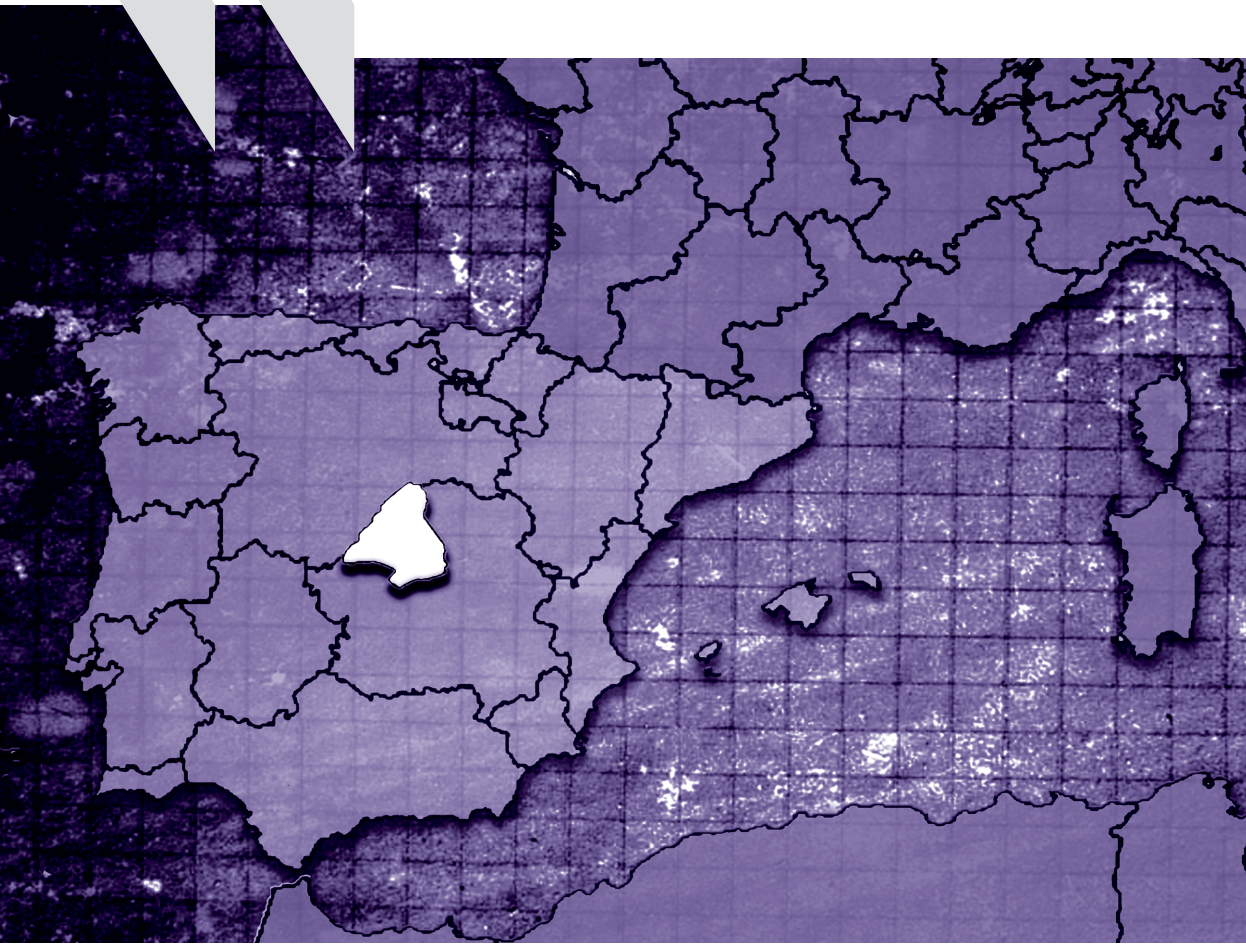
OECD Territorial Reviews

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Foreword

Across the OECD, globalisation increasingly tests the ability of regional economies to adapt and exploit their competitive edge, as it also offers new opportunities for regional development. This is leading public authorities to rethink their strategies. Moreover, as a result of decentralisation, central governments are no longer the sole provider of development policies. Effective and efficient relations between different levels of government are required in order to improve public service delivery.

The objective of pursuing regional competitiveness and governance is particularly relevant in metropolitan regions. Despite producing the bulk of national wealth, metropolitan areas are often characterised by unexploited opportunities for growth, as well as unemployment and distressed areas. Effective policies to enhance their competitiveness need to address their functional region as a whole and thus call for metropolitan governance.

Responding to a need to study and spread innovative territorial development strategies and governance in a more systematic way, in 1999 the OECD created the Territorial Development Policy Committee (TDPC) and its Working Party on Urban Areas (WPUA) as a unique forum for international exchange and debate. The TDPC has developed a number of activities, among which are a series of specific case studies on metropolitan regions. These studies follow a standard methodology and a common conceptual framework, allowing countries to share their experiences. This series is intended to produce a synthesis that will formulate and diffuse horizontal policy recommendations.

OECD TERRITORIAL REVIEWS: MADRID, SPAIN – ISBN-97-89-26403847-9 © OECD 2007

Acknowledgements

This Review was produced by the OECD Regional Competitiveness and Governance Division in co-operation with the Madrid City Council and with the support of the Ministry of Public Administration, Spain. Special thanks are given to Mr. Ignacio Nino Peres and Mr. Daniel Vinuesa Zamorano (Madrid City Council) as well as to Mr. Jose-Manuel Rodriguez Alvarez (Ministry of Public Administration, Spain and Spanish Delegate to the OECD Territorial Development Policy Committee).

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Table of Contents

Assessment and Recommendations **15**

Chapter 1. **Madrid: An Emerging Hub in the Global Economy** **29**

Introduction 29
1.1 Defining the metropolitan area of Madrid 30
1.2 A growing city in a well performing country 33
Positive demographic trends… 33
…due to immigration 36
Spain has a well performing economy… 38
…but challenged by its competitiveness 40
1.3. Madrid is the richest region in Spain 40
The performance of the job market has been strong 49
1.4 Madrid in the global arena 54
An important role in international trade 60
FDI activity and city attractiveness 64
1.5 Madrid's economic structure 75
Sectoral composition of the local economy 75
Main regional clusters 79
Other non-clustered productive specialisations 94
1.6. Challenges ahead 98
Increasing productivity 98
Increasing innovation 103
Improving and promoting a more equitable spatial development 107

Chapter 2. **Strategies and Policies for a Path of Long-Term Competitiveness** **121**

Introduction 121
2.1. Building a dynamic knowledge-based economy 123
Improving labour productivity 123
Strengthening innovation capacity 127
Betting on key strategic sectors 146
2.2. Integrating immigrants 157

2.3 Enhancing spatial planning: towards a more polycentric and inclusive city-region 168
New challenges of transport development....170
Housing: a main obstacle for a city's attractiveness and social cohesion..172
The need for more integrated urban planning....176
Conclusion: organising actors for implementing a competitiveness policy ..178

***Chapter 3.* Innovative Governance for a Competitive Metro-Region.....195**

Introduction....195
3.1. Institutional and fiscal challenges in the Madrid-region 197
Madrid in the Spanish administrative framework 197
Local finance and urban challenges 202
Madrid and the new ongoing stage of decentralisation in Spain 218
3.2. Inter-governmental relationships....221
3.3. From urban government to urban governance....227
The rising role of local actors: increasing leadership and modernisation..227
Enhancing participation of the civil society 229
Conclusion: which innovations for effective governance? 236

***Annex*. Identifying the determinants of regional performances 245**

Decomposition of differences in productivity....245
Decomposition of differences in activity rates....246

Bibliography 247

Tables

Table 1.1. Basic indicators of the Madrid metro-region 32
Table 1.2. Evolution of basic economic indicators at the regional level in Spain 44
Table 1.3. Regional disparities in GDP per capita in Spain....46
Table 1.4. Regional disparities in unemployment rates in Spain....47
Table 1.5. Indicators of R&D activities in 2005: regional differences in Spain 48
Table 1.6. Employment in Spain, in the Madrid metro-region, and in the City of Madrid 49
Table 1.7. Social security contributors in the Madrid metro-region....53
Table 1.8. Top 20 EU airports in terms of total passengers and total freight carried in 2004 65
Table 1.9. FDI in the Madrid metro-region and in Spain 66
Table 1.10. Largest foreign banks in Latin America by consolidated assets - first half of 2003 67
Table 1.11. Distribution of inward FDI in Spanish regions (1985-2002)....68

Table 1.12. Location preferences of investors (1990-2005) 71
Table 1.13. European regional ranking based on the number of greenfield foreign investment projects.....72
Table 1.14. Cost of living in selected European capitals.....75
Table 1.15. Office rent prices, 2005 75
Table 1.16. Contribution to the regional GAV - sectoral decomposition according to the level of technology.....76
Table 1.17. Contribution to regional employment - sectoral decomposition according to the level of technology.....77
Table 1.18. Global and banking network connectivity.....82
Table 1.19. Time evolution of the European financial centres ranking.....83
Table 1.20. Distribution of the creative industry in the Spanish regions.....91
Table 1.21. Main organisations within the Madrid life science cluster.....94
Table 1.22. Tourism arrivals and receipts in the world economy.....96
Table 1.23. Yearly householders' expenditure 110
Table 1.24. Households by Spanish regions and tenancy regime of the main dwelling 110
Table 2.1. Education-job mismatch in the Madrid metro-region (2003) ...126
Table 2.2. Educational match in first job and in present job in Spain (2003).. 126
Table 2.3. Educational match in first job, according to areas of knowledge ... .127
Table 2.4. National science-based bodies in the Madrid metro-region.....130
Table 2.5. Evolution of PRICIT within the Madrid Metropolitan Area 132
Table 2.6. Science parks articulates by IMADE (Community of Madrid) 136
Table 3.1. Exclusive and shared competences of the Community of Madrid.. 200
Table 3.2. Exclusive and shared competences of the City of Madrid.....201
Table 3.3. Institutional functions shared between CM and Madrid's city government 219

Figures

Figure 1.1. Population in municipalities within the Madrid metro-region (2004).....32
Figure 1.2. Areas where transportation infrastructure is managed by the "*Consorcio Transporte de Madrid*".....33
Figure 1.3. Average annual population growth rates among OECD member countries (1995–2002).....34
Figure 1.4. Long term demographic trend in the Madrid metro-region.....35

Figure 1.5. Demographic trend in the City of Madrid and in the Ring Belt (2000 – 2005).....35
Figure 1.6. Natural and migratory growth trends in the Madrid metro-region (1977–2002).....37
Figure 1.7. Demographic pyramid of the City of Madrid (2006).....37
Figure 1.8. Foreign-born population in the Madrid metro-region and in the City of Madrid (1999-2006) 38
Figure 1.9. GDP in the OECD (2005).....39
Figure 1.10. GDP trend in Madrid metro-region and in Spain (1995-2005)...41
Figure 1.11. Share of national GDP in OECD metro-regions (2002) 42
Figure 1.12. GDP trend in Madrid metro-region and in Spain (1996-2004)...43
Figure. 1.13. Differences in per capita GDP of metro-regions and their national level.....45
Figure 1.14. GDP per capita in Spain and in the Madrid metro-region (2000-2005) 46
Figure 1.15. Activity rate in Spain and in Madrid metro region (1996–2006)50
Figure 1.16. Trend of unemployment rate in Spain and in Madrid metro-region (1996–2006) 50
Figure 1.17. Female labour market in the Madrid metro-region (1996–2004)51
Figure 1.18. Employment growth rates in metro-regions and their respective member countries.....51
Figure 1.19. Manpower streams between Spanish provinces 52
Figure 1.20. Influx of foreign workers in the Madrid metro-region by area of provenance.....53
Figure 1.21 Ranking by GDP per capita in PPPs.....55
Figure 1.22. GDP per capita in OECD member countries 56
Figure 1.23. Main explanations of GDP differentials between OECD metro-regions (2002).....58
Figure 1.24. Annual growth rate of labour productivity in the Madrid metro-region.....58
Figure 1.25. Annual growth rate of GDP and employment in the Madrid metro-region 59
Figure 1.26. Average, maximum and minimum yearly growth rate in selected European metropolitan regions.....59
Figure 1.27. GDP trend in Spain, EU 15, and OECD (1986–2004).....60
Figure 1.28. Trade to GDP ratios.....61
Figure 1.29. Commercial balance of the Madrid metro-region.....62
Figure 1.30. Recent trends in trade in selected sectors of the Madrid metro-region.....62
Figure 1.31. Madrid's top ten commercial partners - export 63
Figure 1.32. Madrid's top ten commercial partners - import.....63
Figure 1.33. Sectoral distribution of Spain’s outward FDI 66

Figure 1.34. Inflows of foreign direct investment in OECD member countries and a selection of non-OECD countries....69
Figure 1.35. Sectoral distribution of inward FDI in Spain (2004) 70
Figure 1.36. Share of population of 15 years and more with tertiary education 73
Figure 1.37. Annual gross labour costs before taxes (2005)....74
Figure 1.38. Types of districts....80
Figure 1.39. Domestic stock market capitalisations (equities) (2005)....82
Figure 1.40. Location quotients of the financial clusters compared to the EU average....83
Figure 1.41. Estimates of job numbers in each financial market (2005)....84
Figure 1.42. Specialisation of the City of Madrid in terms of employment....85
Figure 1.43. Localisation of the aerospace industry....89
Figure 1.44. Location of jobs in creative industries within the Madrid metro-region....92
Figure 1.45. Overall tourism receipts in world economy....95
Figure 1.46. Museum visitors in the Madrid metro-region per year 97
Figure 1.47. Annual productivity growth (per worker)....99
Figure 1.48. Evolution of the contracts by type in Madrid 101
Figure 1.49. Index of overall strictness of protection in the national labour market 102
Figure 1.50. Number of patent and utility model applications in a selection of Spanish regions (2005) 103
Figure 1.51. Patents applications in ICT consumer electronics 104
Figure 1.52. Patents applications in biotechnology....105
Figure 1.53. Percentage of public transport and private motor vehicle trips.109
Figure. 1.54. Mortgage market reference rates – rates at issue (mortgage certificate)....111
Figure 1.55. Municipalities of the Madrid metro-region with the highest increase of foreign population (%) 112
Figure 2.1. Patents and utility models per million inhabitants in the Madrid metro-region and in Catalonia 128
Figure 2.2. Percentage of GDP invested in R&D in the most innovative Spanish regions....128
Figure 2.3. Distribution of the grants of the III PRICIT 133
Figure 2.4. Distribution of innovation activities in the Madrid metro-region... 134
Figure 2.5. Scientific parks (A) and technological clusters (b) within the Madrid metro-region....135
Figure 2.6. Anti-competitive regulations in retail distribution....146
Figure 2.7. Confidence intervals for the professional services indicators, 1996 and 2003....147
Figure 2.8. Spaniards buying second residences (1960-1991)....173

Figure 3.1. Sub-national expenditures (% of total government spending in 2003) 199
Figure 3.2. Sub-national expenditures (as % of total government spending) 203
Figure 3.3. Expenditures of the Community of Madrid (EUR millions 2006) 203
Figure 3.4. Trends in regional expenditures in Spain and in Madrid (1984-2003) 204
Figure 3.5. Expenditures of the City of Madrid (EUR millions 2005) 205
Figure 3.6. Community of Madrid revenue sources (EUR millions 2005) 206
Figure 3.7. Municipality of Madrid revenue sources (EUR millions 2003) 208
Figure 3.8. Debt stock variation in the City of Madrid 210
Figure 3.9. Tax rates in the Municipality of Madrid over 2000-2006 212
Figure 3.10. Property tax rates of the six largest cities in Spain over 2000-2006 213
Figure 3.11. Growth of funding sufficiency, fund and population growth in the Community of Madrid (1999-2006) 216
Figure 3.12. Grants per capita in the six largest Spanish cities, 2006 (EUR per inhabitant) 218

Boxes

Box 1.1. The aerospace clusters of Toulouse and Seattle 88
Box 2.1. Successful examples of regional innovation systems in OECD member countries 141
Box 2.2. The challenges of SMEs in Madrid 144
Box 2.3. The research and development strategies of the Pharmatech Spider Web Economy 149
Box 2.4. The Miami connection 151
Box 2.5. The rise and restructuring of Madrid electronics 153
Box 2.6. Competitive aerospace clusters in emerging markets: the development of EMBRAER in São Paulo State 156
Box 2.7. The pro-housing programme and social inclusion of immigrants in the Madrid Metro-region 163
Box 2.8. Integrating immigrants - the case of Toronto, Canada 164
Box 2.9. Mapping immigrant skills against labour market needs: the Toronto Region Immigrant Employment Council 166
Box 2.10. The mobility campaign in Tres Cantos 171
Box 2.11. Lavapiés redevelopment area 175
Box 2.12. Madrid as a logistic hub: the need for a broader strategic perspective 179
Box 2.13. A successful business creation municipal programme in Paris 182

Box 2.14. New forms of governance in the Stuttgart Metro-region.....185
Box 3.1. Revenue sources for Spanish municipalities.....208
Box 3.2. Main bodies for citizens' participation in the City of Madrid's decision-making process.....231
Box 3.3. The City Support Framework in Rome.....235
Box 3.4. The New Regional Master Plan in Paris Île-de-France region: a participatory planning approach 239

Assessment and Recommendations

A booming metropolitan area…

Madrid has captured advantages of globalisation by becoming a Metro-region of 6 million, which attracts foreign workers and firms. Since the mid-1990s, the capital region of Spain has enjoyed one of the highest expansions in population and economic growth within Europe and among OECD metropolitan areas. From 1995-2005, the metro-region has registered an average annual growth rate of 3.7%, above Spain's 3.3%, and growing at twice the average of the European Union for the same period. This economic boom has made the metro-region a magnet for workers, both at the national and international level (population grew by 15.4% over 2000-2006 in Madrid), with an influx of foreign migrants, mainly coming from Latin American countries. From 2000 to 2006, 760 000 new jobs were created and unemployment declined from 11.6% to 6.5%. Today, the capital region concentrates more than 13.5% of the national population and generates above 17% of Spain's output. Madrid is the Spanish financial centre, concentrating around one-quarter of total savings and responsible for around two-thirds of both total inward and outward foreign investments (from 2002 to 2004, Spain was the 6th largest recipient of FDI worldwide and the 5th largest in Europe).

…boosted by a wide range of public investments

Madrid's economic success has been sustained by a set of ambitious policy measures implemented to enhance human, social, infrastructure and institutional resources. Although the recent strong regional performance has had a "country effect" – *e.g.*, international openness, EU membership, macroeconomic and structural reforms – local factors have also contributed to Madrid's recent economic success. In addition to the traditional locational advantages of large cities, *i.e.*, capacity to attract skills and labour force, research centres and headquarters, and to concentrate infrastructure and

communication facilities, pro-active public policies have increased Madrid's attractiveness and quality of life. The region is now endowed with efficient public transport infrastructure: the railway, road and subway network have been continuously expanding (*e.g.*, the metro network has increased on average 6% per year, making it now double the size it was in 1984) and the radial shape of the national transport infrastructure makes Madrid a prime logistics platform in Spain. International and regional accessibility have also improved with the recent Barajas airport expansion, now the largest regional employer, with Madrid ranking 5th for passenger traffic and 9th for freight in Europe. Madrid also has a well-qualified and relatively inexpensive labour force. The metro-region ranks 8th among the 78 OECD metro-regions for the share of the population of 15 years and more with a tertiary education (2nd in Europe after London). Labour costs are relatively low by European standards and the cost of living remains below that of many other metro-regions. Finally, consistent efforts were made by public authorities to valorise urban cultural and natural amenities (museums, green parks) contributing to boosting tourism (Madrid is the 4th tourism destination in Europe after London, Paris and Rome), particularly for business trips thanks to important investments in congress and exhibition centres (ranks among the 10 top places worldwide for international conferences). This overall positive environment has generated expectations among the local community, with the city government's target to become the "most important metropolis in Europe only after Paris and London".

Challenges ahead include improving labour productivity and innovation capacity…

A main challenge for Madrid is to extend its present economic growth into a long-term pattern. Despite significant improvements, Madrid's overall economic system has structural deficiencies that contribute to low labour productivity and innovation capacity. Madrid ranks 20th out of 31 metro-regions in Europe with 1.5 and more million inhabitants, despite having a GDP per capita above the European average. Relatively low labour productivity, 18% lower than the average OECD metro-region in 2002, is a concern throughout Spain, though Madrid has been performing under the national average for labour productivity growth since 2001. The large influx of foreign migrants in Madrid and the regularisation processes that followed have contributed to this trend; structural bottlenecks on the labour market (overuse of short term contracts, education-skills job mismatch) and insufficient specialisation in high value added activities have also limited the increase of productivity levels. Low innovation capacity is another issue for

Madrid, acting as a barrier for upgrading its sectoral mix. Madrid has registered greater specialisation in some productive activities, advanced financial services and medium-high tech manufacturing. However, many new jobs were created in low value-added services (construction, hotel and restaurants, community services) and the crisis in electronics along with insufficient R&D expenditure have also contributed to a reduced share of high tech manufacturing. The share of R&D activities compared to total GDP is higher in Madrid than in Spain (1.82% versus 1.13% in 2005), but Spain itself is close to the bottom of R&D rankings among OECD member countries, with a spending to GDP ratio of 1.1% against an EU average of 2% and 2.4% in the United States. Madrid also produces a number of patent applications only slightly above the national average and relatively low compared to the leading European metro-regions.

... and coping with new demands for transport, housing driven in part by in-migration

Madrid's recent rapid in-migration and fast urbanisation have also generated new demands. Despite a well-developed public transit system, the recent surge in private car users has generated significant congestion costs particularly in the outskirts of the central city. The land and housing markets are also under pressures that have led to significant and consistent price increases, in spite of a large production of dwellings. Consequently, housing costs represent almost 40% of annual household expenditures in Madrid, and the lack of affordable housing impacts the young population (about 22% of Madrid's 20-34 year olds still live with their parents) and the most vulnerable segments of the population, such as the immigrant population. An explanation of this trend is linked with rigidities in the Spanish housing system, that has tended to favour home ownership – also a positive element as a growing percentage of middle classes now own their houses – but to the a detriment of rental housing where the available supply of units has declined while the number of empty units has increased (about 13% in the City of Madrid). Finally, Madrid's recent large influx of 495 000 migrants between 2001-2006 (13.3% of the regional population up from 5.7%), has been a driving force behind Madrid's economic success. Their integration in the labour market and in society has thus far been considered quite successful; however it has also come with a natural gentrification process and spatial/income disparities within the region (especially in the southeast and in the south). Though Madrid has avoided strong spatial polarisation or a high concentration of migrants in distressed areas unlike many other OECD cities, measures are needed to prevent such a trend from emerging in

the event of a business cycle downturn, by incorporating affordable housing and skills improvement.

A well-rounded strategy for a robust growth path

In the present positive environment, public authorities in Madrid will need to consider how to promote longer-term shifts in economic, labour market and spatial structures to sustain the robust growth path. These more strategic goals could be articulated around the three main axes:

1. ***Upgrading the industrial mix towards higher value added activities*** through increased labour productivity, higher innovation capacity and further specialisation in key strategic sectors;
2. ***Leveraging immigrant skills in the labour market*** by seeking a better skills labour market matching and by taking preventive measures to limit potential social and spatial segregation;
3. ***Adapting urban planning to population and economic growth*** through enhanced efforts towards a more polycentric development pattern to release housing, work and traffic concentrations around the city centre and its outskirts, and with measures for developing a better-functioning housing market.

Increasing labour productivity by removing obstacles to training and addressing regional job-skills mismatches

(*i*) Improving *labour productivity* in Madrid could be tackled through central and regional/local policy measures. Short-term contracts in Spain (one-third of total employees against an OECD average of 13%) and in Madrid (28%) act as a disincentive for encouraging strong job performance and have encouraged the creation of low skilled jobs. Whilst reforms to the national employment protection legislation (EPL) are needed, sub-national authorities can provide employers with incentives to reduce the use of short-term contracts for young highly-educated workers. For instance by reducing the burden of severance payments on permanent contracts, and implementing active local labour market policies for well-educated workers (employment counselling, job search assistance, etc.) policy makers could support both employers and employees. Such policies could be conducted in partnership with local universities and professional training institutes to

improve graduate integration into the labour market. This approach would also reduce the significant existing education-job mismatches, which limit the metro-region's ability to take advantage of its highly skilled regional population. While a general reform of the education framework is needed, an effective answer from regional and local actors in Madrid might be the promotion of educational incubators within the metro-region. Considering the weak links of academia with its surrounding environment, educational incubators could facilitate the emergence of new, commercially viable products for the expanding and increasingly diversified educational market in Madrid, transforming it into an educational hub.

Enhancing innovation capacity by increasing R&D spending and improving regional innovation policy…

Boosting *innovation capacity* will require further R&D investment and fine-tuning of the innovation policy. The Madrid Metro-region benefits from a national innovation policy that provides tax reductions and subsidised loans for private R&D, promotes scientific and technical research, and encourages the diffusion of information and technology in firms. The regional government has also been increasingly active in science and technology, implementing four Regional Innovation Plans (PRICIT) since 1990, the last one (PRICIT IV) included the creation of science parks and technological poles in aerospace, biotechnology and ICT. Finally, the City of Madrid has also recently launched a project for a science park to promote technology and innovation in ICT. Despite strong public activism, the fragmentation of the innovation policy limits the efficiency of the already limited public funding in this area evidenced in the low number of patent applications registered in the Madrid Metro-region. Resources are fragmented into many small grants and distributed to different institutions with insufficient focus on strategic and competitive sectors of the regional economy. The lack of vertical co-ordination among the different governmental layers also leads to duplication and reduced scale of initiatives. As a consequence the impact of the innovation policy on the business sector, especially on SMEs, is low such that it has failed in promoting a significant process of technological modernisation.

…and fostering the role of small firms and local universities

Particular attention should be paid to the role of local universities and small firms in the regional innovation system. The interaction of the local

firms with universities is particularly poor, the latter being partly constrained by relatively rigid regulations. The ongoing reform of the university system is helpful in this respect, but local and regional stakeholders could also seek to transform their regional universities into poles of excellences by developing soft programmes aimed at creating relational capital among existing stakeholders of the innovation system. The region's recent initiative aimed at the creation of nine Research Institutes for Advanced Studies is a promising step in the right direction as it involves the participation of internationally renowned researchers in nine different knowledge bases areas. Moreover, instead of implementing generic policies to foster SMEs, it might be relevant to frame local and regional development policies around specific enterprises functions within the territory. This would leverage Madrid's *hub and spoke* pattern, linking a series of large enterprises (firms with more than 250 employees represent 37% of the overall employment) that have interfaces far beyond the local territory, with SMEs to disseminate managerial and productive restructuring trends that are taking place in the main sectors. International headquarters could be attracted by clusters of knowledge intensive SMEs able to act as large companies' advanced service suppliers providing specific business functions like marketing, production, business services and finance.

Investing in key strategic sectors to upgrade the sectoral mix

In order to upgrade Madrid's sectoral mix, efforts towards innovation and technology could be further linked with the *development of strategic clusters*. Madrid shows potential for some medium and high tech specialisation in biotech and pharmaceuticals, aerospace and in electronics, while banking and financial services are emerging as a promising advanced global services segment.

- The regional government is particularly keen to promote a *bio-cluster* of excellence, through the direct involvement of several science parks (three already in action and three planned) and a public venture capital enterprise (with a EUR 25 million investment). Considering the lock-in dynamic of R&D functions, in the short term it might be more relevant to focus on supporting the regional network of universities, institutes and small bio-tech firms to allow them to establish international networking and research alliances with the existing international biotech hubs.
- The *aerospace* industry localised in Madrid has benefited from a national sectoral policy and is now facing rising competition from

newly emerging markets in Asia and Latin America. Regional and local stakeholders might well focus their efforts on building and improving the local and international teaching, research and training networks closely linked to the specific needs of the aerospace hub, both inside and outside the direct scope of the science parks. Strategic research partnerships could also be established with major global players through specific research grants. In general, further specialisation in some niche markets is needed in light of the trend toward productive restructuring, though this will require a more thorough territorial diagnosis to better identify local strengths.

- *Electronics*, the largest manufacturing sector in Madrid since the mid-1970s, has experienced a major restructuring crisis such that, even with global players like Telefónica, this sector in Madrid today plays a relatively marginal role. Yet, Madrid retains a certain technical know-how and tradition in electronics that could be strategic for the success of complementary initiatives, such as the role of ICT within the municipal strategy, the potential for creating "educational or learning incubators" and the locally supplied services for the aerospace hub.

- *Banking and financial* services have recently undergone a rapid process of internationalisation in Madrid, leading to surprising growth in the stock exchange and financial marketplace (Madrid ranks 4th after London, Paris and Frankfurt). In addition to city government interventions aimed at creating real estate opportunities for firms, a more elaborated strategy to support the potential of this sector could be developed. The city council's recent initiative to create a multi-sectoral platform in the financial cluster, involving a wide range of actors (private banks, markets, national regulators) and creating strategic alliances between Madrid and the world's largest financial capitals, is a good step in this direction. It will be crucial for Madrid to improve the general view of the financial cluster's main strengths and weaknesses to better position itself in the global marketplace, especially its potential to connect the financial markets and stock exchanges in Europe and Latin America.

Optimising new migrants' skills

(*ii*) Several actions could be taken to better use the assets of the *immigrant labour pool.* To date Spanish policies regarding the immigrant population have facilitated the legal insertion of workers in the labour

market (national regularisation processes) and promoted their social insertion in society (*e.g.*, the municipal Plan on Social Co-Existence and Cross-Cultural Acceptance). However productivity losses from mismatches between training levels and skills requirements, partly linked with the slow or non-recognition of foreign credentials, still need to be addressed. For example, 40% of newcomers have relatively high levels of training, but they hold only 1% of the jobs that require a high level of qualification. Although still limited, the tendency towards spatial concentration of migrants requires expanding the scope and scale of initiatives for upgrading neighbourhoods and developing training opportunities for low skilled migrants. Inter-governmental collaboration would give public actors from the three levels of governments the opportunity to optimise a multi-sectoral approach to immigration policy, perhaps by establishing a single table to pool their resources. This table could focus on the institutionalisation of mapping jobs to skills in Madrid's metropolitan economy, in co-ordination with the business sector and the labour associations.

Pursuing efforts to deal with transport congestion and addressing problems with the housing market

(*iii*) *Land use and spatial planning* have to adapt to recent fast urbanisation and growth in Madrid. Despite significant improvement linked with the development of sectoral plans, and efforts from the regional government to better co-ordinate land-use and transport, and to encourage more poly-centric metro-regional development, the Madrid-Metro-region is faced with increasing private car use and congestion costs as well as a strain on housing and real estate.

- *Transportation* is a shared competence and is managed by the Madrid Public Transportation Consortium, a "single purpose" independent body, made of representatives of the three layers of government, trade unions, business associations, and civil society, which is in charge of the planning, the implementation, and the management of the regional transportation infrastructure. This governance model in transportation has proved particularly efficient, contributing to the rapid positive development registered in this field. Further actions need however to be taken to address the over-use of private cars and provide transportation alternatives in the inner belts. The ongoing experiments of public-private partnerships with some large companies participating financially to investment in transportation alternatives some outward lying industrial districts are an interesting option.

- In the *housing* sector, national measures are needed to relieve the pressure on the rental market. The local planning standards need to be more flexible and the land development regulations reconsidered, to eliminate perverse financial incentives for local governments to retain land from the market and keep prices high. Public policies for urban regeneration are currently implemented by the central government (Housing Plan, 2005-2008) and the city government (Special Rehabilitation Zones, 2003-2008). The target for the latter programme is to provide an additional 40 000 housing units, with a special emphasis on revitalising public space and housing conditions for the more vulnerable groups in the expanded city area, through flexible approval procedures and financial incentives. A special Municipal Rental Company facilitates the connection to the rental housing market, specifically for young people. As part of a strategy to attract skills and talents, Madrid authorities could make housing available to students and researchers, by reserving land opportunities, transforming vacant buildings into condominiums for students and research centres or by selling land to developers at the "*euro symbolique*" in exchange for commitments to give rental priority to students and researchers.

Madrid's economic success has been in part due to a well-functioning governance framework…

Several elements have contributed to the creation of a governance system in the Madrid Metro-region that supports urban development. First, the democratisation of local governments in 1979, the creation of autonomous communities from 1979-1983, and the successive waves of decentralisation implemented in Spain, have all contributed to Madrid's local and regional governments becoming more pro-active sub-national authorities, delivering more efficient public services and developing important public policies for urban development. Moreover, Madrid has benefited from exceptional conditions compared to most other OECD metro-regions: as the region fits approximately with the functional metropolitan area. As such, it has played *de facto* the role of a metropolitan government with strong political legitimacy and resources, implementing public policies in the virtual absence of social conflict thanks to the development of a neo-corporatist system based on strong linkages with social and economic forces, especially trade unions and business associations. Finally, the City of Madrid has exploited the decentralisation process by taking a more pro-active role in public service delivery

(transport, housing, migration and social services) while developing and implementing a strategic market vision to sustain and increase Madrid's future competitiveness. The metro-region governance will however necessitate some adaptations of its current governance framework, including:

1. ***Streamlining inter-governmental relationships*** within the metro-region, through a smooth implementation of the decentralisation process, and further co-operation and synergies among public actors;
2. ***Fostering the city governance***, through greater involvement of the civil society in urban policy making.

…but new conditions require streamlining inter-governmental relationships,

(*i*) The current *decentralisation* process might help to streamline and clarify the relationships among the local and the regional authorities. In line with trends in OECD member countries and the EU Charter for local autonomy, a new wave of decentralisation towards local governments is being implemented through the *local pact*, a complex legal framework based on negotiations between the different levels of government. In Madrid, the local pact focuses on decentralising competences shared between the two institutions. In addition, since 2006, Madrid benefits from a special law, "Act on Capital Status and Special Regime of Madrid" (already provided in the 1983 organic law for the creation of the Community of Madrid), that reinforces existing competences, decentralises some other minor functions and regulates inter-administrative relations. This overall process should provide an opportunity for clarifying municipal competences and improving vertical co-ordination, especially among regional and local authorities. Main weaknesses however are that this process is advancing rather slowly in Madrid and does not provide financial arrangements. Following a two-step sequence with financial considerations being reported in the second phase might well undermine the opportunities offered by the local pact and the overall devolution process.

…and fostering synergies among public stakeholders…

Better collaboration and co-operation between the city and the region is needed to *avoid duplication and foster synergies*. The system of governance in Madrid is evolving towards a more balanced role among the two layers of

government, with the city increasingly involved in some fields once only occupied by the regional government. For instance, the city like the region has started to regulate the mediation of interests through a corporatist system. It has also taken an increasing role in the field of economic development. This trend is natural and positive: it is in line with a trend observed in many other OECD global cities that are becoming more entrepreneurial in the new intense international competition. However, it is important to avoid creating a zero-sum game of competition amongst public actors, as duplication of functions reduces the effectiveness of public policies. It is for instance essential to create linkages between the bodies in charge of economic development at the city level (the economic development agency, *Madrid Emprende*) and at the regional level (the Madrid Institute for Economic Development [IMADE], and Madri+d Foundation). Synergies among actors and integration of policies are also lacking in the area of strategic planning. Spatial planning in Madrid is a regional competence whereby the regional government approves or rejects *ex post* municipal land use proposals. Missing here is a more pro-active strategic planning framework that will involve all stakeholders in the region following an integrated approach of sectoral policies. In other terms, the Madrid region might well consider developing a master plan that would embody a collective multi-stakeholder vision.

…through flexible innovative co-ordination mechanisms

Developing *innovative and flexible co-operation arrangements* could be helpful to foster inter-governmental collaboration. A wide range of such instruments are already provided by the Community of Madrid's institutional system. They include contractual arrangements (*convenios*) among layers of government to establish co-operation funds for the delivery of social services and job training, for large infrastructure projects like the Barajas airport expansion and for the organisation of the Olympic bid. There are also examples of *ad hoc* inter-governmental bodies, like the aforementioned Regional Transport Consortium. *Mancomunidades*, inter-municipal governmental bodies dedicated to joint public service provision, are the most frequently used instruments for inter-governmental co-ordination. There are 50 *mancomunidades* in the Madrid region, the highest proportion in Spain, involving 156 out of the 179 municipalities of the metro-region (the City of Madrid does not take part). In addition to these different contractual and institutional tools inter-governmental co-operation could be further induced by creating formalised places and procedures for dialogue and mediation between the two levels, particularly in the field of

strategic planning. Effective arrangements that can be found in Madrid within a specific sector of administration and policy making should be used as benchmarks in "innovation-through-learning" processes. For instance, the experiences of co-operation that are based on technical and administrative professionals' cultures and skills should be fully exploited.

Co-ordination on economic development policy making is essential

An innovative and flexible co-operative framework is particularly needed for *economic development*. The City of Madrid has taken a more pro-active role in economic development, implementing policies to support science and technology and entrepreneurship, and internationalisation promotion. Other municipalities in the metro-region like Getafe have also been actively promoting their own economic development policies. The more pro-active role of the City of Madrid and other major municipalities in the region is a logical consequence of the decentralisation process at the local level. However, it requires further co-ordination to avoid overlapping and duplication of programmes and projects, and to guarantee a strategic view over the sector and the necessary scale of initiatives. For example, the number of incubators, science and technology parks, and information systems seems relatively high. On the other hand, the interesting and promising initiatives that are going on at the municipal level, such as the entrepreneurial drive behind Getafe Initiatives, the mobilising potential of the Madrid Forum on the Information Society and the surprising dynamism of the recently established Development Agency of Madrid (*Madrid Emprende*) cannot be put in a rigid centralising institutional framework dominated by the Regional Government through the IMADE agency. The creation of an independent economic innovation agency active in the Madrid Metro-region might be an alternative for improving the effectiveness of local policies. This agency could well follow the model of the Public Transportation Consortium working as an autonomous technical body involving a wide range of public and private stakeholder (including the different local economic development agencies). This agency could be backed up with a Regional Economic Observatory that will provide scientific advice for the content, perhaps by producing sectoral studies on global restructuring in aerospace, biotech, finance and logistics and the implications for the Madrid's strategy.

City governance has been modernised and decentralised…

(*ii*) The City of Madrid has undertaken important *reforms of its urban governance*. The city's leadership has considerably strengthened in recent years, as illustrated by its leading role for the 2012 Olympic bidding. Moreover, within decentralisation and institutionalisation process, the City of Madrid has implemented a wide modernisation reform of its internal organisation, following the new public management principles, including initiatives like an integrated system for economic, financial and human resources management, a service charter (*Carta de Servicios*) aimed at improving the responsiveness of public services to users and the development of electronic administration. The Madrid City Council is also implementing a process of territorial decentralisation towards the 21 Districts. Districts have a specific political structure not based on full direct electoral representation. They are in charge of many administrative functions delegated by the mayor or the governing council in a wide range of fields. In 2007, they managed more than EUR 500 million of the city's budget, *i.e.*, 12% of the total, up from 8% in 2003.

…but civil participation needs to be enhanced

One step for the City of Madrid to improve its urban governance is to foster the participation of the *civil society in urban policy making*, to secure a social consensus for policy implementation. Like the region, the City of Madrid has been quite successful in developing relationships with private actors but less so in involving civil society. Conscious of this weakness, the City of Madrid has recently developed new participatory approaches through a rather homogenous and formalised policy (General Regulation on Citizen Participation) managed by a single municipal department that combines both economic development and civil participation. The presence of a general regulation makes Madrid a singular case amongst European cities, as it fosters an inter-sectoral approach and provides shelters against political changes. Yet further improvements could be reached, for instance by increasing the number of members of associations (including immigrants) in the representative councils and developing consultation mechanisms attached to Madrid's joint commissions for the implementation of the "local pact". Some decisions could be made by civil society, like participatory budgets a process already implemented in some European cities that allows citizens decide how to use part of the financial resources

available for investments within the local government's budget. Further decentralisation of certain functions to the districts could facilitate the participation of the civic sector by creating an internal structure that incorporates a wider range of citizens and associations.

Summing up

Madrid's recent economic success demonstrates that, in addition to a favourable macroeconomic environment, regional competitiveness can be enhanced through the implementation of public policies aimed at valorising specific local assets and providing local collective goods. The large public infrastructure investments in Madrid in transportation, museums and other public utilities and amenities have contributed to attracting firms and workers, creating a virtuous cycle of accumulated wealth. The evolution of public policy making and governance framework in Madrid has provided the metro-region with many of the institutional resources that are needed to make decisions and effectively implement public policies on both the central city and the regional scales. The capacity of the regional and city governments to involve economic and social forces in their main decisional bodies have contributed to building consensus around their main policy objectives and avoiding social conflicts. The wide reform conducted by the City of Madrid to transform its administration has led to increasing public service delivery efficiency at the local level. But winner cities today are not unchallenged.

Madrid is at a turning point as it has to adapt to new opportunities and challenges. It has captured many of the benefits of globalisation, though it confronts the rising role of other metro-regions competitive in its specialisations. Likewise immigration has been a positive asset for development, it could be a liability in the event of an economic downturn. In this context, local and regional stakeholders need to address the challenges to Madrid's future economic competitiveness: labour productivity, job-skills mismatches (especially for immigrants), congestion, housing rental shortage, etc. This needs to be done through the implementation of a collective strategic vision endorsed across stakeholders, including both sub-national governmental levels (which requires developing synergies and avoiding duplication) and the civil society (to reach a social consensus).

Chapter 1

Madrid: An Emerging Hub in the Global Economy

Introduction

The Madrid metropolitan area has reached a high level of international competitiveness during the last decade. Once a regional capital with a central role in Spain but relatively isolated from the rest of Europe, Madrid is becoming a powerful hub within the global economy. Over the last eight years, the economic growth of the metro region has been more than double the average of the euro zone. Madrid has become a large metropolitan region, home to 3 million workers and more than 450 000 firms, several of which are headquarters of some of the most competitive companies in the world. Broadly speaking, there are three factors underpinning this good performance: (*i*) a large supply of labour provided both by immigrants (among which a large number of Spanish-speaking natives from South America) and young educated fixed-term workers; (*ii*) the presence of first-class transportation facilities, such as Barajas airport, that enable Madrid to mitigate the challenge of being a peripheral European region; and (*iii*) the growth dynamic itself, in response to the stability of the economy due to the introduction of the euro, which has generated positive expectations among population promoting local demand. Of course, behind the regional good performance there is a "country effect" that proves difficult to isolate from the local comparative advantage. Although this phenomenon can be observed in many OECD metro-regions, in Madrid it has a larger importance. The historical concentration of the national investment within the Madrid Metro-region has played a key role in promoting Madrid's international accessibility as well as the localisation of some knowledge intensive industries such as aerospace.

Despite this good performance, an initial analysis has highlighted some challenging issues, which should be addressed to sustain Madrid's positive path and strengthen its competitiveness to stand as one of the most competitive metro-regions in Europe. A first challenge is the relatively low

level of labour productivity, a common trend in Spain, partially attributable to the overuse of short-term contracts that contributes to the impermanence of jobs and an increased likelihood of generating educational-skills mismatches. Second, linked with this first challenge, the low innovation capacity in Madrid as compared to other leading OECD metropolitan regions inhibits further specialisation in high value added activities, especially in the manufacturing sector. Public R&D is high in Madrid as compared to Spain, but low by international standards and private R&D is also limited. Finally, rapid in-migration to Madrid as well as fast urbanisation and urban sprawl have generated traffic congestion typical to large metro-regions and rigidities on the housing market are causing strain especially on the more vulnerable segment of the population. Immigration is resulting in new demands that will eventually require certain measures be taken to avoid tension in the event of an economic downturn. This chapter will address these issues, focussing on: (*i*) assessing Madrid's socioeconomic evolution; (*ii*) identifying its major comparative advantages; and (*iii*) discussing key regional challenges in the global economy.

1.1 Defining the metropolitan area of Madrid

When speaking about Madrid, one often refers to the City of Madrid represented by the municipal district known as the capital of Spain. However, the functional economic area, defined by the commuting flows within a labour market area or inter-firm linkages, goes well beyond the geographic border of the municipal district of Madrid. A few in-depth analyses have been conducted to define the commuting zone, though there is a widespread agreement that it coincides more or less with the geographical borders of the Community of Madrid. In this chapter, dedicated to analysis of socio-economic trends and challenges, the OECD will use *two units of analysis:*[1]

- **City of Madrid** (represented by the municipal district of Madrid)

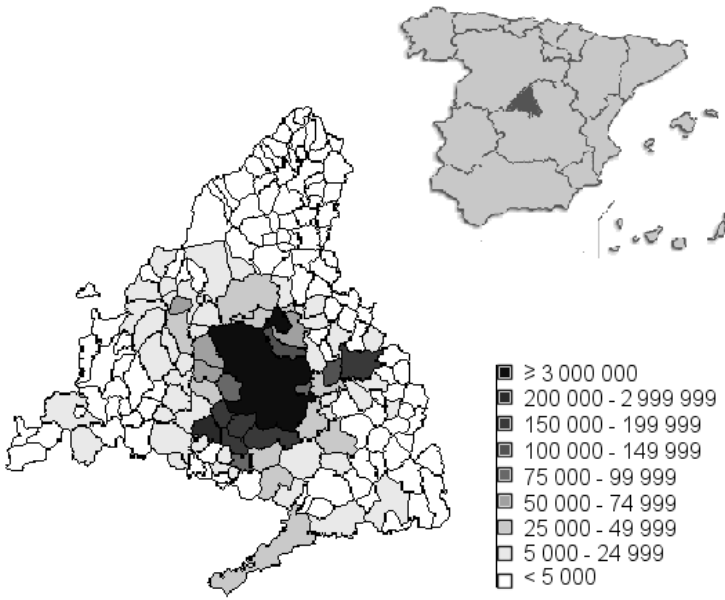
- **Madrid Metro-region** (represented by the Community of Madrid)

The City of Madrid, 3.13 million inhabitants as of 2006, has become the central area of a larger territory, which is the Functional Metropolitan Region (FMR) of Madrid (Figure 1.1). During the last 50 years the development of the Madrid metropolitan region has been built upon the inter-dependence between the central city and the outskirts, generating a series of *metropolitan rings*. The administrative boundaries of the municipality of Madrid are thus too small to cover its area of influence, while the Community of Madrid's boundaries encompass most of Madrid's

commuting and socioeconomic-activity though the influence of Madrid in some places spills even beyond regional boundaries. Accordingly, data must be found to reflect the FMR of Madrid. Broadly speaking, the FMR is a self-contained metropolitan area that should reflect the spatial organisation of social and economic relations within an urban territory. The methodology to define the FMR is based on three criteria: (*i*) large size (in terms of either employment or population); (*ii*) high population density; and (*iii*) higher commuting within the region than between it and other surrounding areas (the local labour market has to be "self-contained"). By using definitions of industrial development (*e.g.*, clusters development and the inter-firm relationships within the area) or transport infrastructure this report could in fact expand the metro-region definition of Madrid. For instance, the "*Consorcio Transporte de Madrid*" (the consortium that co-ordinates all local transportation facilities) includes part of the Castilla-La Mancha region, specifically the cities of Toledo and Guadalajara, in its daily transport and commuting services (Figure 1.2). This transportation consortium is one of the key elements in the functional integration and territorial cohesion of different areas into an FMR, as it facilitates mobility within the metropolitan area. This creates the infrastructure network for further development of greater agglomeration economies. Unfortunately, in the case of Madrid this assessment is constrained by the lack of data below Territorial Level 3 (TL3).[2]

This report, like other studies regarding the Spanish capital, considers the Community of Madrid as a proxy for the Madrid FMR (Tomás, 2002). With around 6 million inhabitants in 2006, Madrid is the most populated urban region in Spain and ranks as a medium-sized metropolitan area in the OECD metropolitan database (which includes 78 other OECD metro-regions with at least 1.5 million inhabitants). The Community of Madrid is composed of 179 municipalities with the City of Madrid representing the core of the functional metropolitan region. Although the City of Madrid covers only 8% of the region's territory, it contains more than 52% of the regional population, as compared for instance to 19% for Paris within the region Île-de-France and 48% for Rome in the Latium region (Table 1.1).[3] Thus, the metropolitan area is strongly concentrated at the centre, though through its evolution it has gradually incorporated surrounding territories into this core, such as satellite towns, economic activity areas, and logistical nodes. This has contributed to population relocation, the restructuring of economic activities in the metropolitan area and the increase in core-periphery and periphery-periphery relationships.

Figure 1.1. **Population in municipalities within the Madrid Metro-region (2004)**



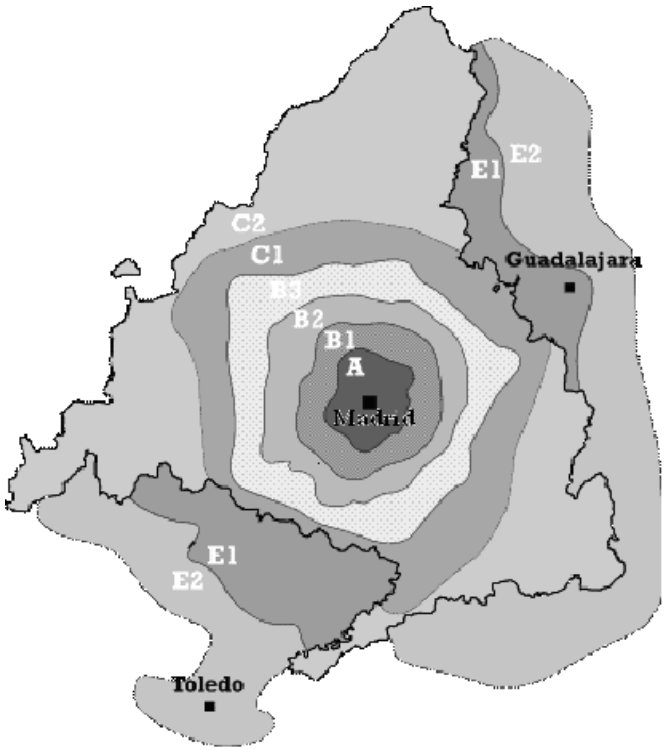
Source: INE – Instituto Nacional de Estadística (Spanish National Institute of Statistics).

Table 1.1. **Basic indicators of the Madrid Metro-region**

	Population in 2006	% of total	Surface area (km²)	% of total	Density in 2006	Evolution of population from 2001 to 2006 (%)
City of Madrid	3 128 600	52.07	607	7.56	5 154.20	8.52
Community of Madrid	6 008 183	100.00	2 704	100.00	2 221.96	11.83

Source: INE – Instituto Nacional de Estadística (Spanish National Institute of Statistics).

Figure 1.2. **Areas where transportation infrastructure is managed by the "*Consorcio Transporte de Madrid*"**



Source: Consorcio Transporte de Madrid (Madrid Transport Consortium).

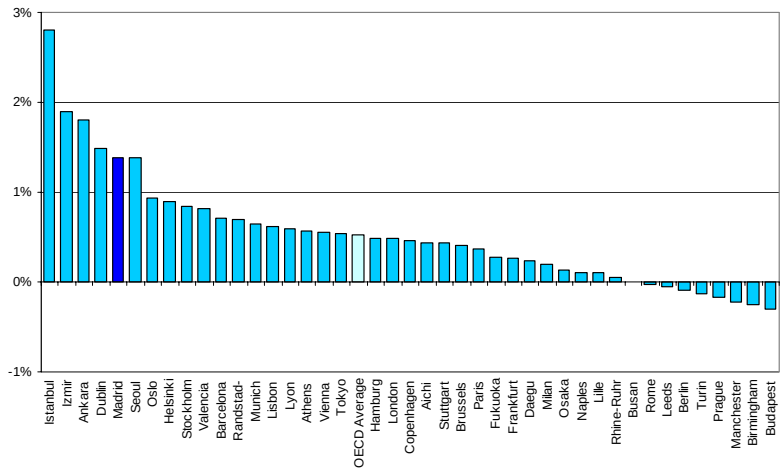
1.2 A growing city in a well performing country

Positive demographic trends…

Madrid has been among the fastest growing OECD Metro-regions in terms of population from 1995-2002 (Figure 1.3). Population increased in the Madrid Metro-region by 1.5 million inhabitants from 1977 to 2005 (Figure 1.4). Looking at yearly trends, the demographic growth is almost entirely concentrated in the last nine years of the series (1996-2005).

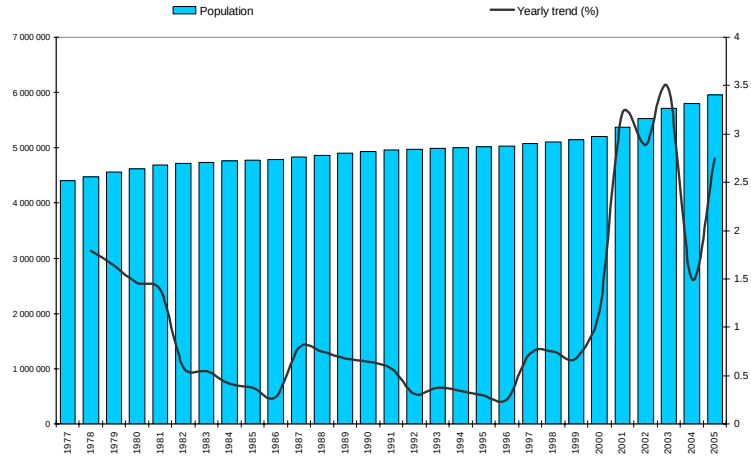
Although the positive demographic trend impacts both the core of the metropolitan area (the City of Madrid) and the "Ring Belt" (the Madrid metropolitan region excluding the City of Madrid), it is the latter that concentrates the bulk of the increase (more than 4.5% increase in population in 2003) (Figure 1.5). This confirms the existence of an urban decentralisation pattern, a constant in almost all major metro-regions in the developed world. This dynamic is probably due to several factors: the greater availability of land in the ring belt than in the core; the deconcentration of industrial economic activities; external diseconomies; the tertiarisation of the economic structure; cheaper housing in the periphery; and the availability of a modern and extensive network of infrastructure that facilitates commuting within the metro-region. Thanks to the availability of greenfields in the city surroundings (Madrid is not surrounded by other major urban areas or other physical constraints), Madrid has avoided a "leap frog" pattern in its urban growth, maintaining strong urban unity with the large urban continuum that stretches around the core area.

Figure 1.3. **Average annual population growth rates among OECD member countries (1995–2002)**



Note: OECD average refers to the average of OECD metro-regions.

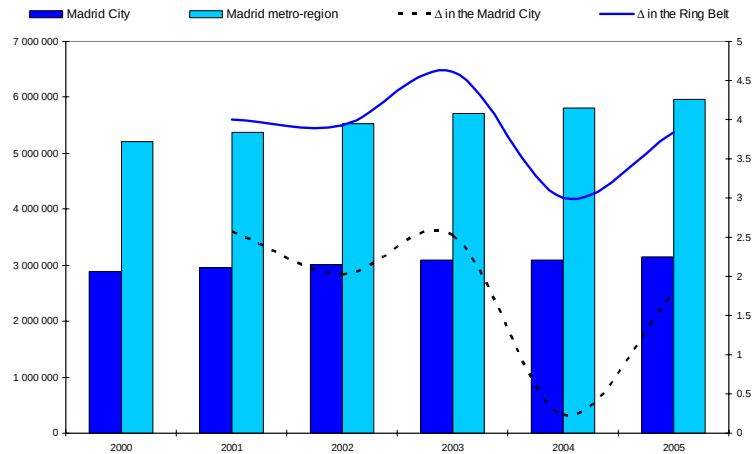
Figure 1.4. **Long term demographic trend in the Madrid Metro-region**



Note: The yearly trend refers to the population growth rate trend (measured by the scale on the right).

Source: INE – Instituto Nacional de Estadística (Spanish National Institute of Statistics).

Figure 1.5. **Demographic trend in the City of Madrid and in the Ring Belt (2000-2005)**



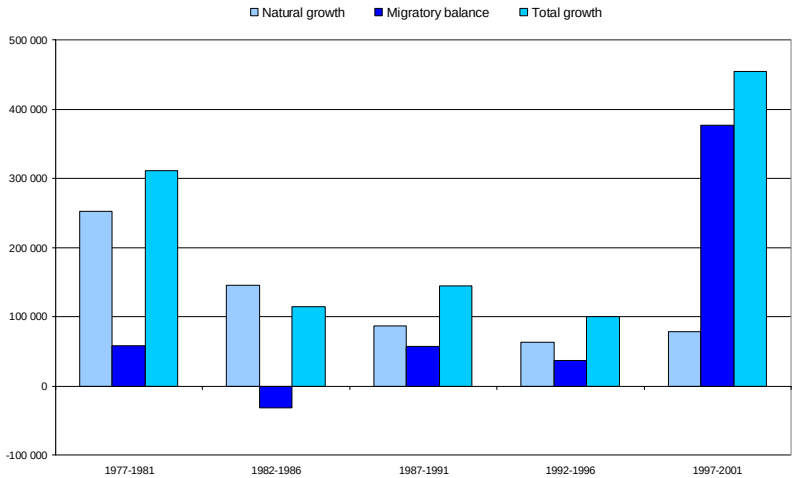
Note: The population of the Madrid Metro-region minus the population of the City of Madrid.

Source: INE – Instituto Nacional de Estadística (Spanish National Institute of Statistics).

…due to immigration

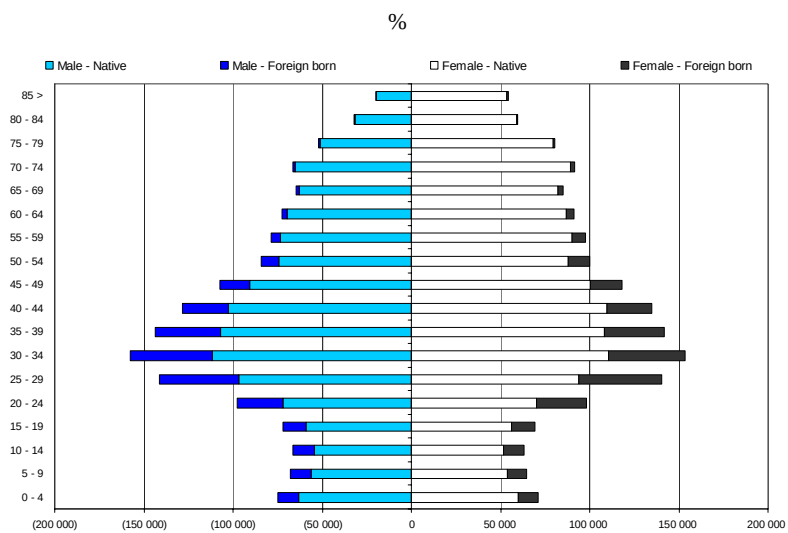
Given the low natural growth rate – comparable to that of other European metropolitan regions – local population growth is fundamentally due to migrant inflows (Figure 1.6). The influx of immigrants has also had a positive impact on the age structure of the region. For instance, in the City of Madrid, the working age population is larger than in the past (Figure 1.7). Immigration into the Madrid Metro-region is not a new phenomenon, but recent migration is new with respect to the past. Until the early 1970s Madrid, as one of the main economic poles in Spain, was a major magnet for national migration. In recent years it has continued to attract nationals, mainly young students and workers, motivated by the city's educational[4] and labour market opportunities. However, the bulk of new migration to Madrid – as is the case for the rest of Spain – is made up of foreigners, transforming what was a relatively homogenous city until the mid-1990s into an increasingly multi-ethnic metropolis (Figure 1.8). Madrid is the largest recipient of foreign migrants in Spain, accounting for 19.3% of total foreigners in 2006. The growth in foreign migrants has been accompanied by an increase in diversity of origin. The largest group of foreigners is from Latin America, followed, at some distance, by Central and Eastern Europeans, Africans, citizens of other countries of the EU15, and Asians. The largest contingent is Ecuadorian, which on July 2006 made up 26% of the total foreign population. The second and third largest groups were Colombians, 8.9%, and Romanians, 7.2%. These were followed by Peruvians, Bolivians, Moroccans, Chinese, and Dominicans, each representing between 6.5% and 3% of the total. Foreign migrants originally clustered in the City of Madrid (67% of the total immigration of the region in 2006), but in recent years the immigration has spread out to the metropolitan rings of the metro-region. Between 2000 and 2002 the largest growth was registered in municipalities located in the south and to the east of the Madrid Metro-region.

Figure 1.6. **Natural and migratory growth trends in the Madrid Metro-region (1977–2002)**



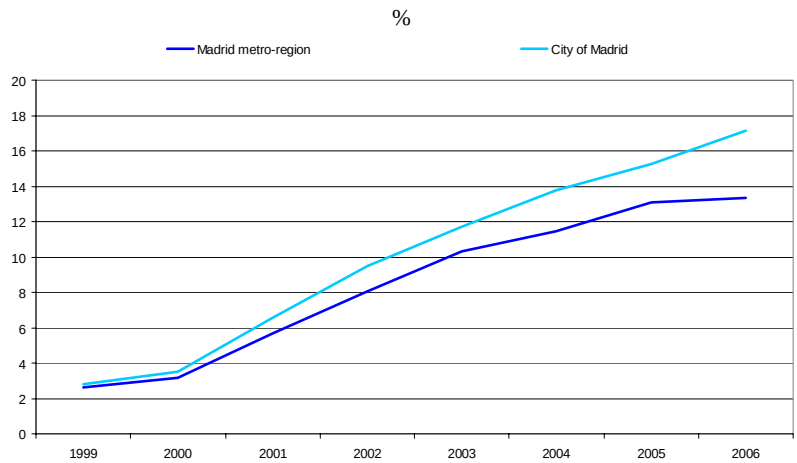
Source: Regional Institute of Statistics – Community of Madrid.

Figure 1.7. **Demographic pyramid of the City of Madrid (2006)**



Source: City of Madrid.

Figure 1.8. **Foreign-born population in the Madrid Metro-region and in the City of Madrid (1999-2006)**



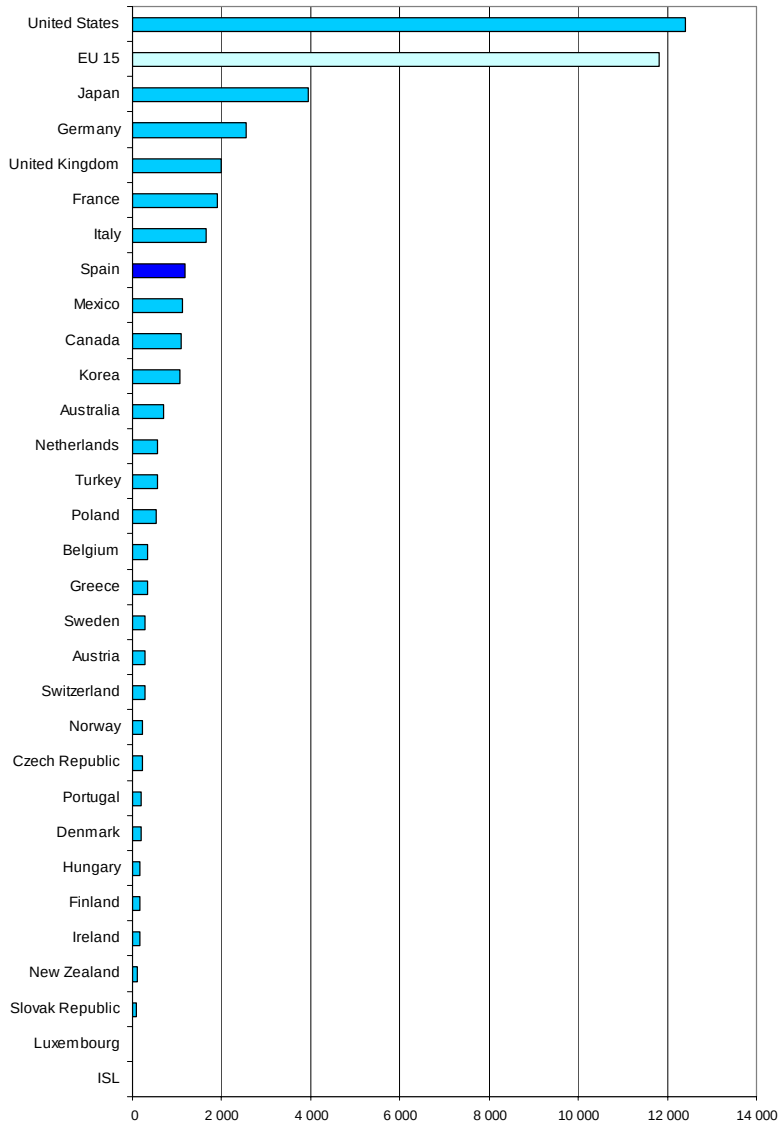
Source: Madrid City Council.

Spain has a well performing economy…

Spain's remarkable development over the last decade and the historical concentration of a large share of the national investment have positively affected the growth of the Madrid Metro-region. Spain is one of the fastest growing countries in Europe and the national effect has stimulated local growth. Some others factors have a local origin and depend on local comparative advantages. Spain's economic success over the past 20 years has transformed the country, making it the OECD's 7th largest economy in 2005 (Figure 1.9). Over the last ten years Spain has grown at twice the average of the European Union (3.4% in 2005 compared to 1.6% in the EU25), and per-capita GDP has converged towards the average in the Euro and OECD areas (Spain's GDP per head was USD 24 500 in 2003, compared with an OECD average of USD 26 000). This remarkable economic performance is attributable to different factors: international openness, European Union membership and structural reforms pursued since the 1990s. Since 1999, strong revenue growth and public expenditure control have contributed to reducing the budget deficit. Moreover, in 2006 a surplus (1.8% of GDP) was achieved for the second straight year, proof of the compromise for fiscal stability. In this environment Spain has benefited from a virtuous circle of sustained growth, job creation and convergence with the more advanced economies of the world (OECD, 2006b).

Figure 1.9. **GDP in the OECD (2005)**

Billion USD, current prices and PPPs



Source: OECD (2007b), *OECD Factbook 2007: Economic, Environmental and Social Statistics*, OECD Publications, Paris.

…but challenged by its competitiveness

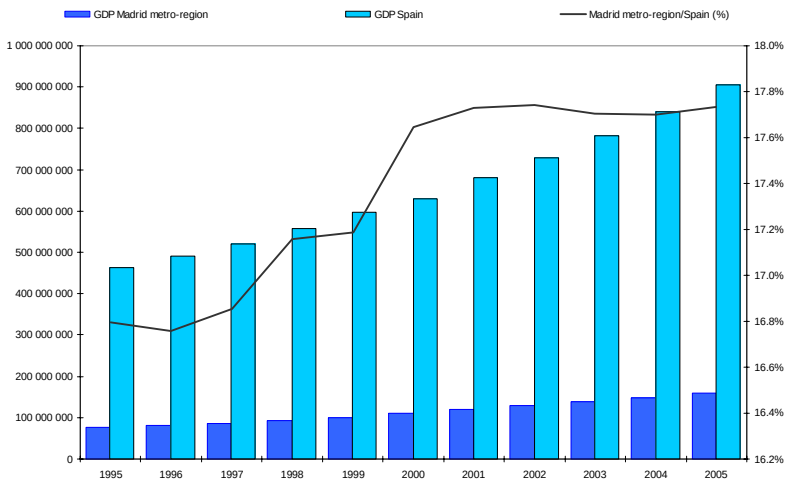
An important challenge for the Spanish economy is to improve its specialisation in knowledge-intensive industries. Since the birth of the euro in 1999, the loss of competitiveness has reached 7.5% points in relation to OECD member countries. As addressed in the OECD Economic Survey of Spain (OECD, 2007a), this loss of competitiveness is reflected in, among other indicators, a growing current account deficit, which reached 8.7% of GDP in 2006. This is the result of inflation rates that have remained consistently above the Euro-area average, and also because many Spanish exports are in sectors and markets characterised by poor performance and growth, mainly in medium- and low-technology sectors. This, in turn, is reflected in Spanish companies' low level of innovation. Expenditure in R&D in 2005 was 1.13% of GDP, well below the EU average of 2%. There is therefore a need for Spanish institutions and firms to adopt policies that promote greater innovation and specialisation in higher-end sectors if Spain is to avoid becoming locked into medium and low technology sectors, where competition from new EU member states and from other countries (*e.g.*, the Asian Dragons) is likely to prove challenging for the Spanish economy.

1.3. Madrid is the richest region in Spain

The Madrid Metro-region has a significant share of the national GDP with almost EUR 160 billion in 2005 (at current prices – base 2000). The metropolitan area alone, which is home to 13.52% of national population (2005), accounts for more than the 17% of Spanish gross domestic product (Figure 1.10). The concentration of national GDP is a typical feature of metro-regions and, within the OECD, metro-regions account for a large share of national GDP. However, Madrid's dominance over the national economy is lower than in some other OECD member countries. The presence of other urban economic poles, such as the metropolitan region of Barcelona and, to a lesser extent, Valencia, Bilbao and Seville, act as counterbalances to Madrid's economic weight in Spain (Figure 1.11).

Figure 1.10. **GDP trend in Madrid Metro-region and in Spain (1995-2005)**

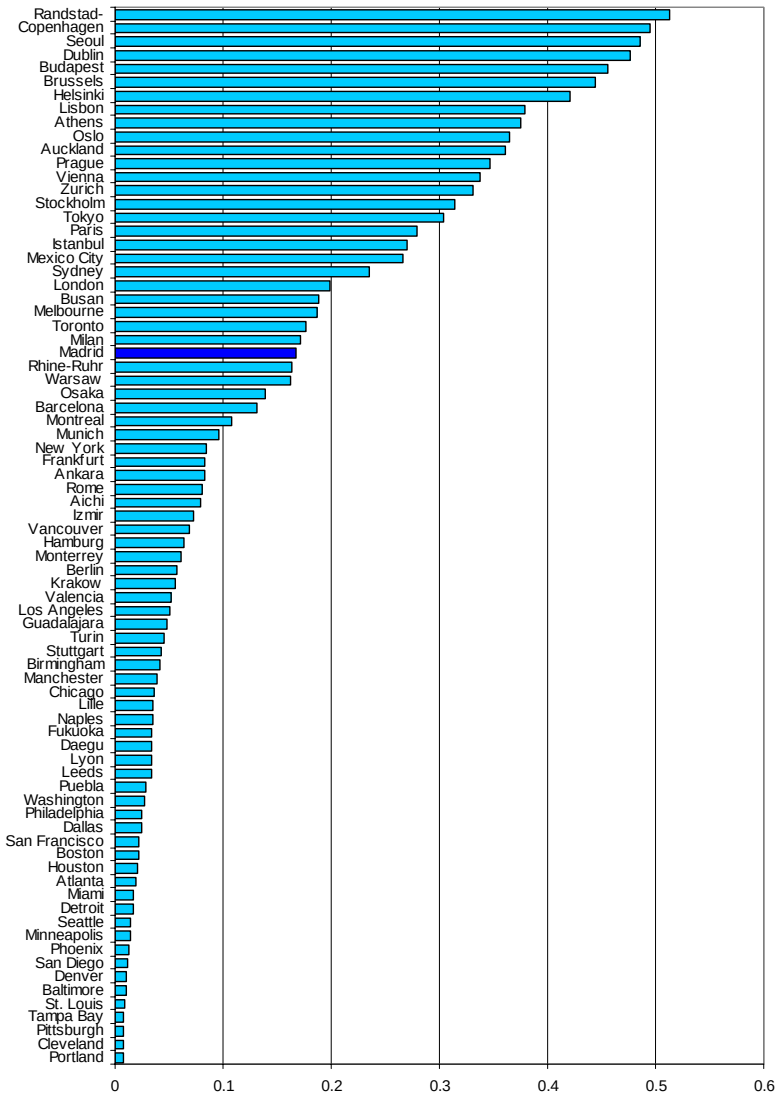
Thousands of EUR – current prices – base 2000



Source: INE – Instituto Nacional de Estadística (Spanish National Institute of Statistics).

The Madrid Metro-region has been growing faster than the country in average GDP from 1996-2004, with an average annual growth rate of 3.7% compared to a 3.3% national average (Figure 1.12).[5] The Madrid Metro-region is certainly taking advantage of its position as the capital city of Spain. Capital cities are essentially political products that governments have worked to develop into the communications centres and main showplaces of the country, in many cases for several centuries. Rail and road networks and major airports tend to be concentrated in them, along with major cultural and sporting facilities. Employment in public administration is by definition centred there, encouraging the location of corporate national headquarters. As a result they have disproportionate shares of educated workforces, good transport links and a high level of public infrastructure (OECD, 2006a).

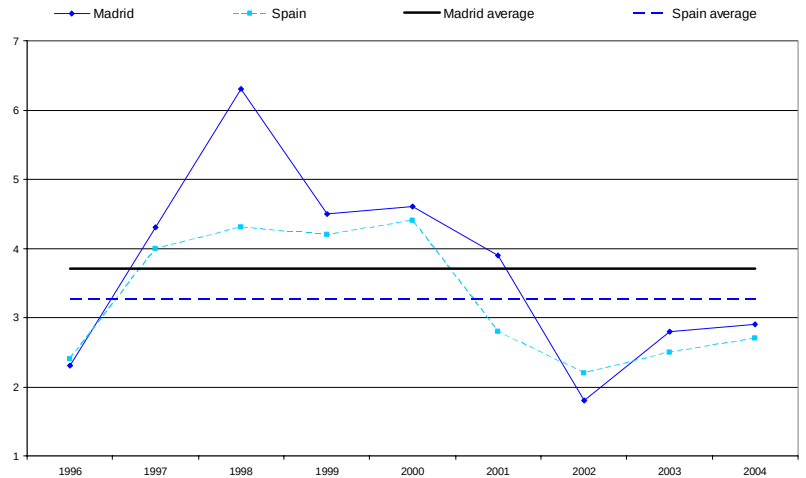
Figure 1.11. **Share of national GDP in OECD metro-regions (2002)**



Note: OECD average refers to the average of OECD metro-regions.

Figure 1.12. **GDP trend in Madrid Metro-region and in Spain (1996-2004)**

% – base prices 1995



Source: INE – Instituto Nacional de Estadística (Spanish National Institute of Statistics).

The Madrid Metro-region also has the highest GDP per capita in Spain. In term of stocks, with EUR 27 300 per capita in 2003 (base prices 2000), Madrid is the richest region in Spain and has a GDP per capita above the European average (the GDP per capita in Madrid was 128.5% of the EU25 average in 2003). This leadership is also confirmed by the evolution of the principal regional magnitudes of the Madrid Metro-region compared to the rest of Spanish regions (Table 1.2). This situation reflects a general trend for large OECD metro-regions to have a GDP per capita greater than the national average (OECD, 2006a). Madrid ranks 28th out of 78 OECD metro-regions for this indicator, scoring a value well above the OECD average (Figure 1.13). As far as trends in GDP per capita are concerned, the Madrid Metro-region shows a positive trend, with the exception of the 2001 to 2002 (Figure 1.14). The negative trend during this biennium was more evident in Madrid than in Spain, likely related to the high influx of immigrants, higher in Madrid than in the rest of the country, and the regularisation process that followed. Within the Spanish context, there has been little modification in the relative positions of each Spanish region during the last two decades.[6] In

analysing income per capita rich and poor regions maintain their levels and positions of regional disparity, a phenomenon that confirms the stagnation process. A similar pattern is observed when analysing regional disparities in unemployment rates (Table 1.3). The persistence of disparities in unemployment within Spain can be explained by low internal spatial mobility, regional differences in the education and qualification levels of the labour force, and the regional sectoral composition of unemployment (Table 1.4).

Table 1.2. **Evolution of basic economic indicators at the regional level in Spain**

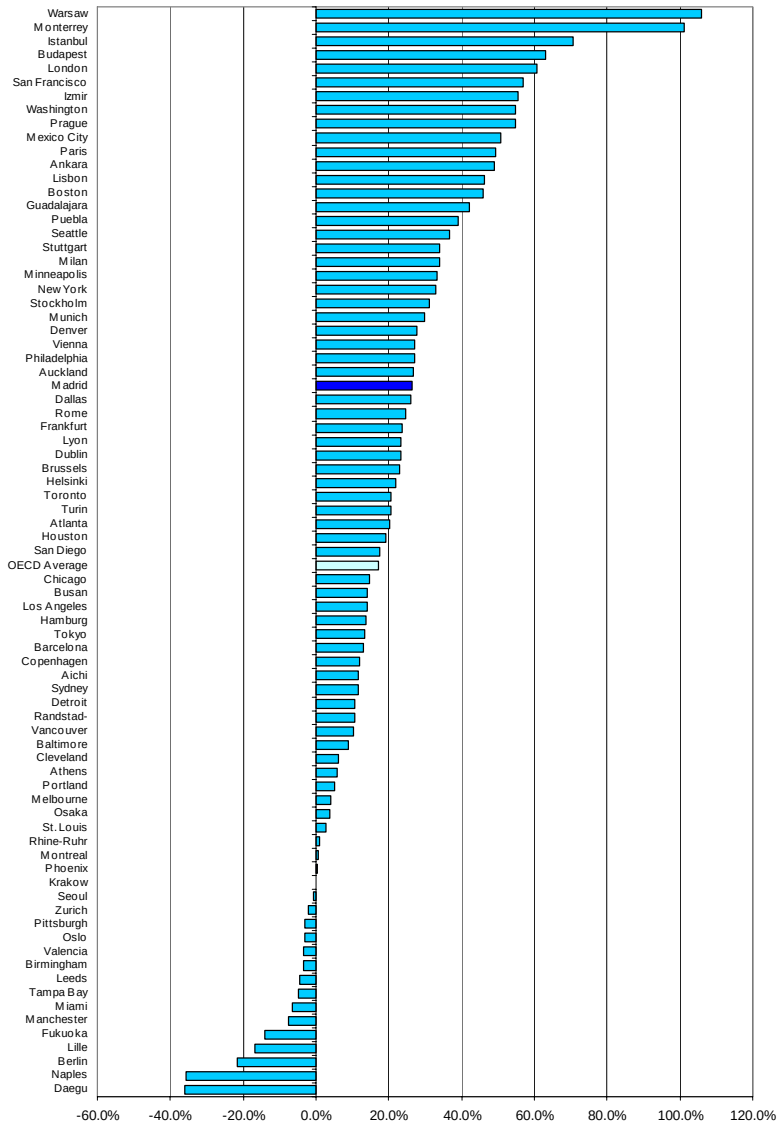
Annual cumulative rates

Region	GVA per capita*	Employment	Productivity
Andalusia	2.78	1.66	1.15
Aragon	2.76	0.75	2.03
Asturias	1.36	–0.28	1.69
Balearic Islands	2.87	2.09	0.82
Canaries	3.86	2.35	1.54
Cantabria	2.69	0.48	2.23
Castilla-Leon	1.85	0.18	1.70
Castilla-La Mancha	2.51	0.96	1.54
Catalonia	2.74	1.36	1.38
Com. of Valencia	3.00	1.87	1.15
Extremadura	3.24	0.84	2.46
Galicia	1.64	–0.04	1.69
Madrid	**3.32**	**1.99**	**1.31**
Murcia	2.89	2.05	0.87
Navarra	2.91	1.23	1.68
Basque Country	2.44	0.73	1.72
Rioja	2.99	0.82	2.25
Ceuta and Melilla	3.96	3.40	0.78
Spain	**2.73**	**1.26**	**1.46**

Note: * Gross Value Added is Gross Domestic Product excluding taxes (fewer subsidies) on products.

Source: Ministry of Economy, Spain.

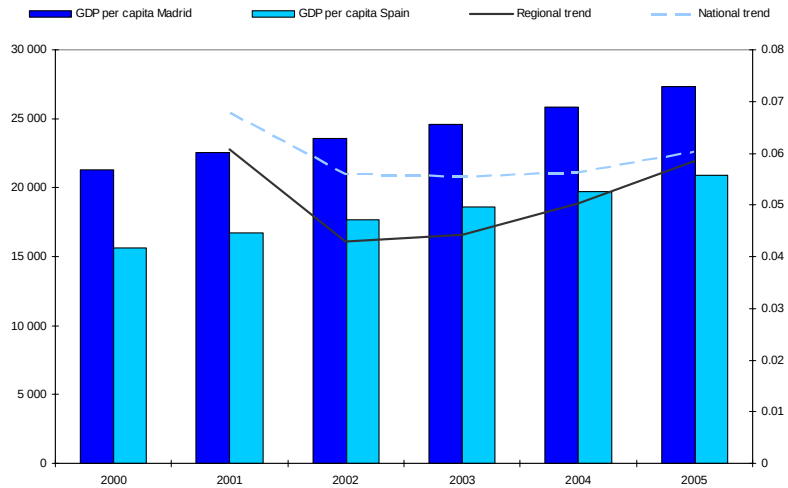
Figure. 1.13. **Differences in per capita GDP of metro-regions and their national level**



Note: OECD average refers to the average of OECD metro-regions.

Figure 1.14. **GDP per capita in Spain and in the Madrid Metro-region (2000-2005)**

Base prices – 2000



Source: INE – Instituto Nacional de Estadística (Spanish National Institute of Statistics).

Table 1.3. **Regional disparities in GDP per capita in Spain**

1986-2004

Region	1986	1990	1995	2000	2004
Andalusia	75.26	76.05	74.25	74.19	77.75
Aragon	111.54	115.33	109.75	105.84	107.62
Asturias	98.61	91.63	87.62	84.89	88.19
Balearic Islands	131.98	123.81	118.14	119.67	114.14
Canaries	93.74	88.33	94.28	94.85	97.49
Cantabria	96.57	101.05	93.31	96.51	99.67
Castilla-Leon	94.70	93.26	95.63	93.05	97.19
Castilla-La Mancha	80.43	89.02	82.51	80.83	80.56
Catalonia	117.41	122.26	122.95	120.04	117.59
Com. of Valencia	101.93	101.18	95.01	95.22	95.17
Extremadura	65.23	67.86	63.31	65.73	69.92
Galicia	78.02	74.75	80.45	80.05	84.22
Madrid	**124.05**	**120.16**	**131.27**	**134.45**	**131.79**
Murcia	95.09	95.13	83.59	84.62	84.62
Navarre	121.86	128.60	128.62	126.50	126.52
Basque Country	124.39	119.71	120.04	123.93	129.63
Rioja	117.63	129.85	115.33	116.80	111.71
Ceuta and Melilla	86.91	88.50	82.27	85.18	90.85
Spain	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Source: INE – Instituto Nacional de Estadística (Spanish National Institute of Statistics).

Table 1.4. **Regional disparities in unemployment rates in Spain**

1986-2004

Region	1986	1990	1995	2000	2004
Andalusia	148.4	160.8	149.6	169.9	141.2
Aragon	72.1	56.6	70.3	53.2	69.0
Asturias	93.1	105.3	81.9	122.8	118.9
Balearic Islands	80.0	73.0	64.5	53.9	67.9
Basque Country	109.0	117.2	97.7	89.1	69.8
Canaries	122.6	142.4	102.9	88.6	83.5
Cantabria	87.9	102.5	103.3	104.0	98.8
Castilla-Leon	84.8	93.6	89.9	97.8	106.9
Castilla-La Mancha	74.2	78.9	88.0	94.1	91.0
Catalonia	100.0	78.0	87.3	64.2	85.8
Ceuta and Melilla	147.0	196.0	133.2	160.8	102.4
Com. of Valencia	91.1	86.9	94.3	83.9	71.0
Extremadura	129.5	147.2	136.6	174.0	154.9
Galicia	64.1	76.6	80.9	107.1	143.4
Madrid	**86.4**	**70.9**	**91.2**	**83.9**	**43.1**
Murcia	98.5	94.3	96.5	93.1	121.8
Navarre	85.6	72.8	58.1	42.0	60.1
Rioja	73.7	57.8	65.0	55.2	74.7
Spain	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: INE – Instituto Nacional de Estadística (Spanish National Institute of Statistics).

Broadly stated, the concentration of the national GDP in the Madrid Metro-region may depend on: (*i*) the concentration of financial resources (*i.e.*, percentage of national savings in Madrid); (*ii*) the portion of national R&D expenditure in the Madrid Metro-region; (*iii*) outward and inward FDI; and (*iv*) the region's proportion of national employment.

- First of all, Madrid is the Spanish "treasure chest", holding the highest percentage of national financial resources. Deposits in financial entities (a proxy for Madrid's savings capacity) have been increasing rapidly in recent years, doubling in overall terms between 1999 and 2006. The proportion of national savings concentrated in Madrid ranges between 23% and 25%, which is much higher than the proportion of regional population (13.3%), demonstrating Madrid's capacity to attract national financial resources. Madrid is 31.1% ahead of the region ranked second, Catalonia (data as of March 2005). In addition, the region of Madrid constitutes the main financial centre in Spain, accounting for approximately 26% of the Gross Value Added (GAV) of Spanish financial institutions.

- Second, Madrid is the Spanish region with the highest R&D expenditures, and with the highest concentration of researchers particularly in the public sector. Approximately 28% of national R&D expenditure was concentrated in the Madrid Metro-region in 2005 (Table 1.5). In 2000, the region invested over EUR 1.5 billion in R&D, which represented approximately 2% of regional GDP, *i.e.*, above the Spanish average (0.9%) (INE – Spanish Institute of Statistics).

- Third, Madrid plays the role of international gateway, concentrating the bulk of both inward and outward FDI in Spain. Approximately two-thirds of Spanish investments abroad originated in the Madrid Metro-region in 2004, and it has sustained a similar proportion of the FDI into Spain since the turn of the century.

- Finally, the Madrid Metro-region generates 15% of all employment in Spain (second only to Catalonia at the regional level). The City of Madrid alone concentrates more than half of all employment in the region (Table 1.6).

Table 1.5. **Indicators of R&D activity in 2005: regional differences in Spain**

	Regional investment (millions of EUR)	National share (Spain = 100)	Workers in R&D (in equivalent hours)	Researchers (in equivalent hours)
R&D expenditure (total)				
Spain	10 196.8	100.0	174 772.9	109 720.3
Madrid (Community of)	2 913.1	28.6	44 480.2	26 553.1
Catalonia	2 302.3	22.6	37 862.3	22 240.1
R&D expenditure (universities)				
Spain	2 959.9	100.0	66 995.5	54 028.3
Madrid (Community of)	494.3	16.7	10 743.5	8 402.3
Catalonia	578.5	19.5	12 519.2	9 841.8
R&D expenditure (public sector)				
Spain	1 738.05	100.0	32 076.7	20 445.6
Madrid (Community of)	740.7	42.6	13 479.9	7 690.0
Catalonia	263.2	15.1	5 148.8	3 709.0
R&D expenditure (private sector)				
Spain	5 498.8	100.0	75 700.7	35 246.4
Madrid (Community of)	1 678.1	30.5	20 256.8	10 460.8
Catalonia	1 460.5	26.6	20 194.3	8 689.3

Note: R&D data are not available at the provincial level. This may penalise Madrid (a single province) when compared against Catalonia (four provinces).

Source: INE – Instituto Nacional de Estadística (Spanish National Institute of Statistics).

Table 1.6. **Employment in Spain, in the Madrid Metro-region, and in the City of Madrid**

1st quarter 2005

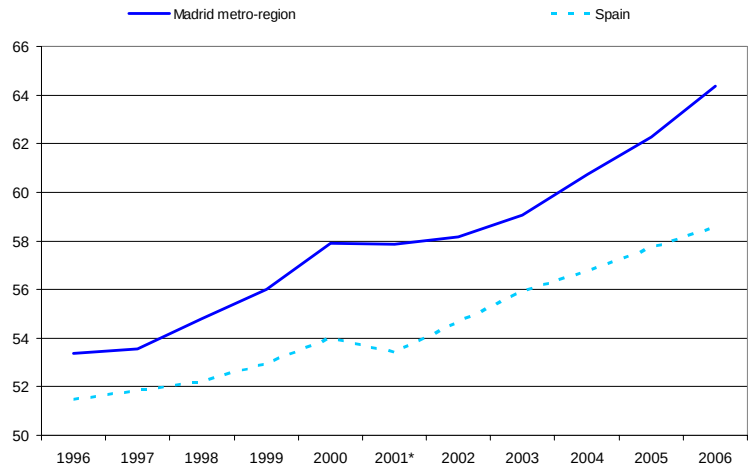
	Employed (thousand)	Percentage of national total
City of Madrid	1 412.2	7.64
Madrid Metro-region	2 783.6	15.05
Spain	18 492.7	100.00

Source: INE – Instituto Nacional de Estadística (Spanish National Institute of Statistics).

The performance of the job market has been strong

Strong economic performance in Madrid has impacted its labour market, evidenced by soaring job creation. More than 760 000 new jobs were created between 2000 and 2006, a significant number of them in the construction sector, triggered by the booming housing market in the City of Madrid and the increasing demand for dwellings and office space from homeowners and service providers (financial, retail, and communications). New jobs were created as well with the enlargement of the airport in 2004, now the largest employer in the region of Madrid with more than 40 000 workers. Although still at a relatively low level (64.4% in 2006), the regional activity rate has improved between 1996 and 2006 (Figure 1.15). Overall unemployment declined from 11.6% in 2000 to 6.5% in 2006 (Figure 1.16). Such a good result is partially attributed to the female labour market. Both the increased female activity rate (3.2% between 2000 and 2004) and the decreased female unemployment rate (-8.52% between 2000 and 2004) demonstrate improvements in the regional labour market (Figure 1.17). From an international perspective, Madrid ranks first among a sample of 38 metro-regions with the highest employment growth from 1999-2002. These positive labour market trends are in line with Spain's overall performance, as the OECD country where such a positive trend has been strongest over the same period (Figure 1.18).

Figure 1.15. **Activity rate in Spain and in Madrid metro region (1996–2006)**

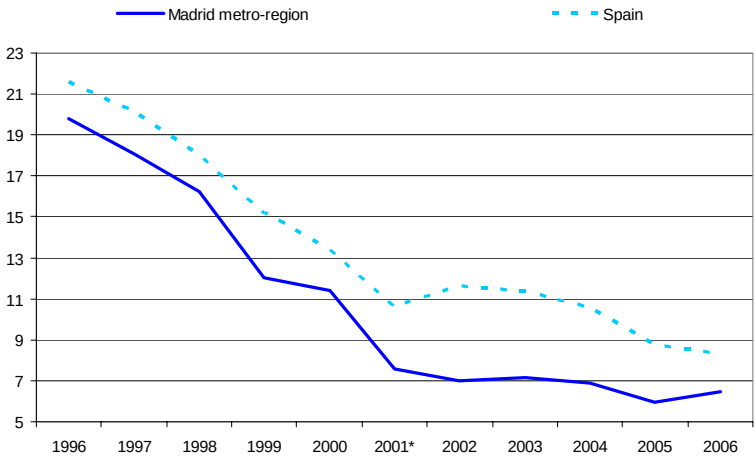


Note: * New definition of activity rate (UE reg. 1897/2000).

Source: INE – Instituto Nacional de Estadística (National Institute of Statistics).

Figure 1.16. **Trend of unemployment rate in Spain and in Madrid Metro-region (1996–2006)**

As of the 1st quarter of each year

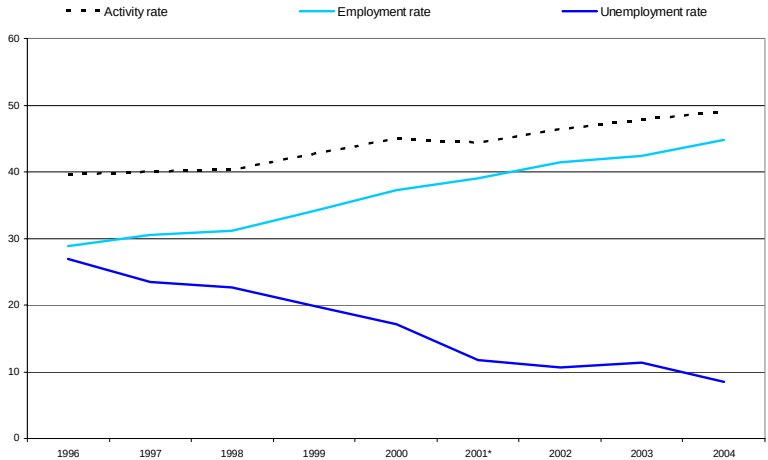


Note: * New definition of unemployment (UE reg. 1897/2000).

Source: INE – Instituto Nacional de Estadística (National Institute of Statistics).

Figure 1.17. **Female labour market in the Madrid Metro-region (1996–2004)**

As of the 1st quarter of each year

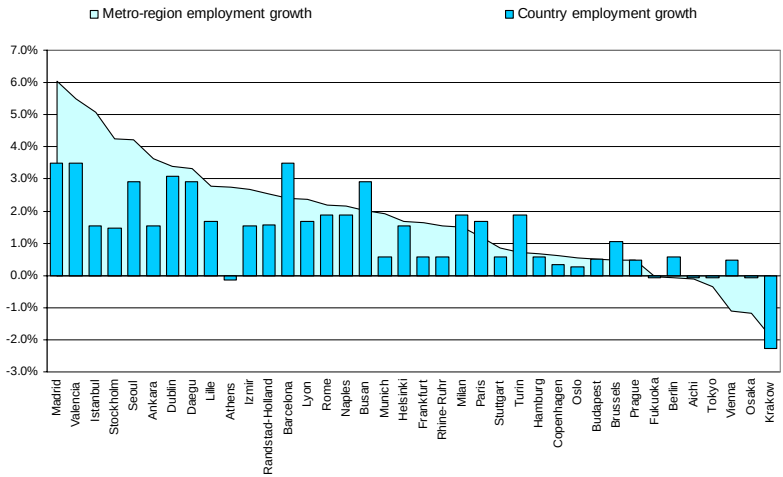


Note: * New definition according to the EU reg. 1897/2000.

Source: INE – Instituto Nacional de Estadística (National Institute of Statistics).

Figure 1.18. **Employment growth rates in metro-regions and their respective member countries**

Average annual growth rates (1999-2002) – Sample of 38 metro-regions



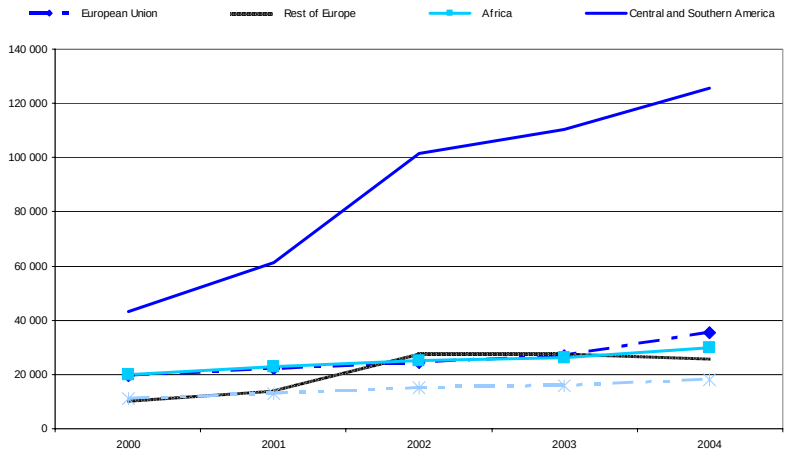
The positive trend of the local economy has made the metro-region a magnet for workers, both at the national and at the international level. At the national level, a 2003 comparison between the workers coming from other Spanish provinces (364 411) and the workers from the Madrid Metro-region working in other Spanish provinces (117 615) resulted in a positive balance of 246 796. Madrid is thus an important net recipient of the national labour force (Figure 1.19). At the international level, figures show a booming influx of workers coming from foreign countries, mainly from South America (with a peak in 2001) (Figure 1.20). The reason for the influx of these workers into Spain rather than into other European countries can, at least partially, be attributed to the Spanish language and the increasing business flows between Spain and South American countries. The evolution of the labour market, and more precisely of the level of employment, can be analysed more accurately by the number of social security contributors (which is not related to the place of residence of each worker) which has increased overall by 21.1% from 1999-2004 (Table 1.7).

Figure 1.19. **Manpower streams between Spanish provinces**



Source: INEM (Spanish National Institute for Employment) (2006), *¿Donde trabajamos? Contratación y movilidad. Geografía de los trabajadores en España*, Ministry of Labour, Spain.

Figure 1.20. **Influx of foreign workers* in the Madrid Metro-region by area of provenance**



Note: * Workers enrolled in the Social Security System. The number of Social Security contributors is representative of Madrid's level of employment, irrespective of each worker's place of residence, therefore accurately reflecting the economic activity developed in the city.

Source: Community of Madrid – Regional Institute of Statistics.

Table 1.7. **Social security contributors in the Madrid Metro-region**

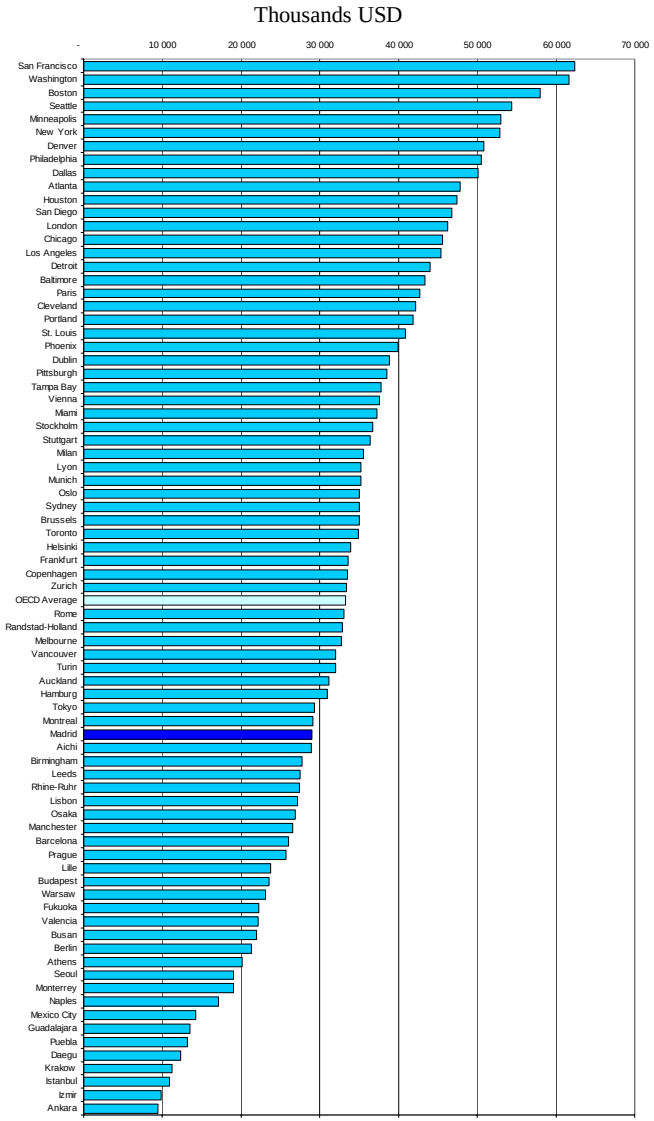
	1999	2000	2001	2002	2003	2004	Δ 04/99 (%)
City of Madrid	1 479 064	1 589 841	1 647 843	1 668 948	1 691 977	1 731 479	17.1
Madrid Metro-region	2 200 991	2 352 189	2 442 146	2 510 466	2 568 226	266 966	21.1

Source: Community of Madrid – Regional Statistic Institute.

1.4 Madrid in the global arena

Madrid's low ranking in GDP per capita among large metro-regions reflects Spain's position. In the OECD metropolitan database, Madrid ranks 50th out of 78 metro-regions with approximately 1.5 million inhabitants, in terms of GDP per capita (Figure 1.21). If one excludes US cities, it ranks 20th out of 31, below cities like London, Paris, Dublin, Vienna, Stockholm, Helsinki, Copenhagen, and Rome. This standing reflects Spain's income levels as compared to other OECD member countries: Spain ranks 21st out of 30, below the OECD average (Figure 1.22). However, though GDP per capita is the most traditional indicator used to assess competitiveness, there are many other factors that need to be taken into account, such as the path of economic growth over time and in this respect Madrid has been performing relatively well in recent years (see below). Several city rankings have been developed using different and more complex indicators than GDP per capita.[7] One way to measure a cities' competitiveness comes from the "World Cities Hypothesis" (Friedmann, 1986), which states that the world urban system is a spatial manifestation of the "new international division of labour" and the competitiveness of a given city depends on the level (and variety) of its productive specialisation within the global context, and on its international accessibility. Following such methodology, Madrid is a "secondary city" (like Milan, Amsterdam, and Vienna) in a "core country" (in Europe).[8] Another way to assess a European region's competitiveness comes from a Robert Huggins Associates' study, which assesses regional competitiveness according to the capacity to attract firms with stable or rising market shares in an activity that create high quality jobs. In this case, Madrid ranks 18th out of 91 European regions (see *www.hugginsassociates.com*). Finally, a promising approach currently held at the national level for OECD member countries is using indicators that provide alternative measures to well being (OECD, 2006e) such as income distribution, health and social cohesion.

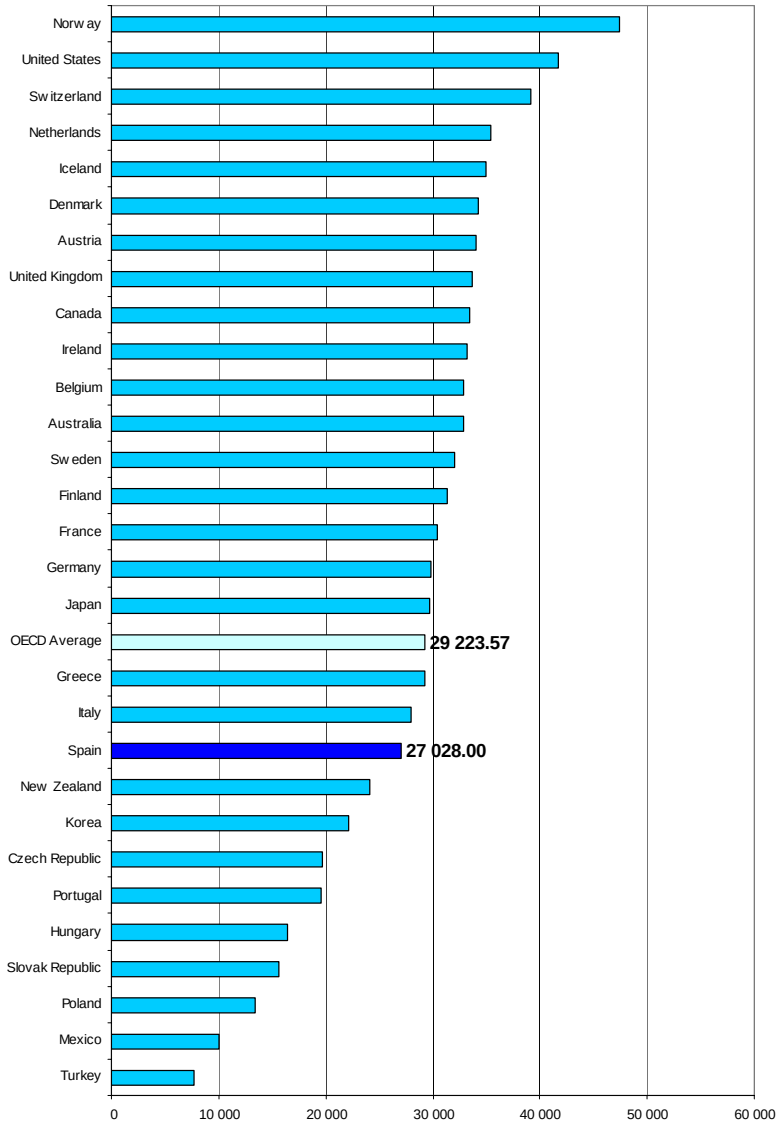
Figure 1.21. **Ranking by GDP per capita in PPPs**



Notes:
(1) This ranking by GDP per capita should be interpreted carefully. Due to data availability, there are a number of cities that have been included in the sample of 78 metropolitan regions that were over- or under-estimated. (2) OECD average refers to the average of OECD metro-regions.

Figure 1.22 **GDP per capita in OECD member countries**

USD, current prices and PPPs, 2005 or latest available year

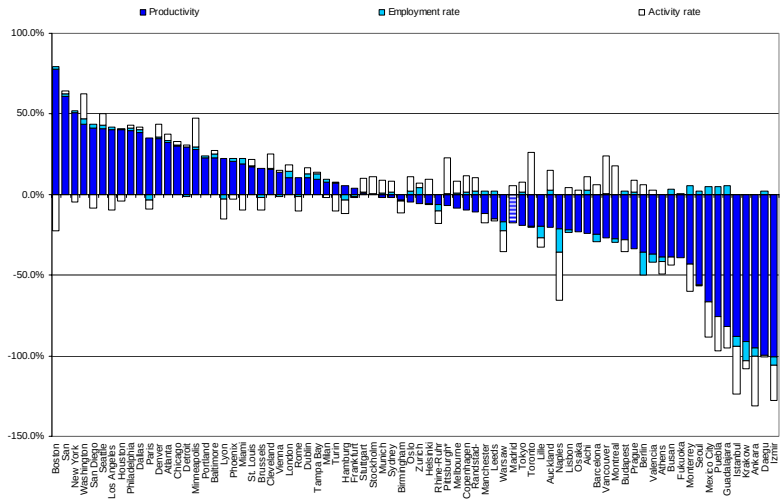


Source: OECD (2006c), *OECD Factbook 2006: Economic, Environmental and Social Statistics*, OECD Publications, Paris.

A main challenge for Madrid's competitiveness is to increase its level of labour productivity. The latter explains a large part of Madrid's difference in GDP per capita versus the average of OECD metro-regions (Figure 1.23).[9] Labour productivity growth has been slightly positive over the last decade (on average, it grew by 1% from 1996-2005), and then turned negative (-0.2%) between 2002 and 2005 (INE – Spanish National Institute of Statistics, Regional Accounts). As indicated in the recent OECD Economic Survey of Spain, labour productivity has been low and even declining in Spain (OECD, 2007a), corroborated by the Spanish Prime Minister's Cabinet's latest economic report (*Informe Económico del Presidente del Gobierno*, 2007). There are a number of mitigating factors, possibly beneficial for future development, that limit the interpretation of this indicator. For instance, measures to increase the flexibility of the labour market have facilitated the entrance of unskilled workers into the labour market.[10] Moreover, incorporating a large numbers of workers (fundamentally the young and immigrants, who might have lower-than-average productivity) into the labour market has contributed to a reduction in the overall labour productivity. It is also worth noting that successive regularisations of immigrants have pushed down productivity figures. The official surfacing of illegal immigrants has led to blips in productivity measurements, such as those between 1999 and 2000 as a consequence of the first wave of regularisation in 2000, when local productivity hit record lows (Figures 1.24 and 1.25). This can be attributed to the fact that their economic impact was, to a large extent, already included in economic accounts at a time when they were not officially counted as workers.

In terms of trends, Madrid has been one of the fastest growing metro-regions in Europe in terms of total GDP, with only Prague, Dublin, and London growing faster from 1995-2003 (Figure 1.26). Furthermore, when yearly trends are taken into account, Madrid shows consistent performance, demonstrating that the local development path is relatively stable. At the national level (an important reference as Madrid accounts for 17% of Spain's economy) the performance is also positive. Spain has been growing faster than both the OECD and the European averages since 1986, when Spain joined the UE, through 2004. Specifically, since 1997, Spain's growth trend has ceased being correlated with that of the other countries, showing a completely different evolution (Figure 1.27). Actually, Madrid was one of the faster growing 78 OECD metro-regions in terms of GDP over 1995-2002 (it ranked 16th out of 45 metro-regions, well above the OECD average).

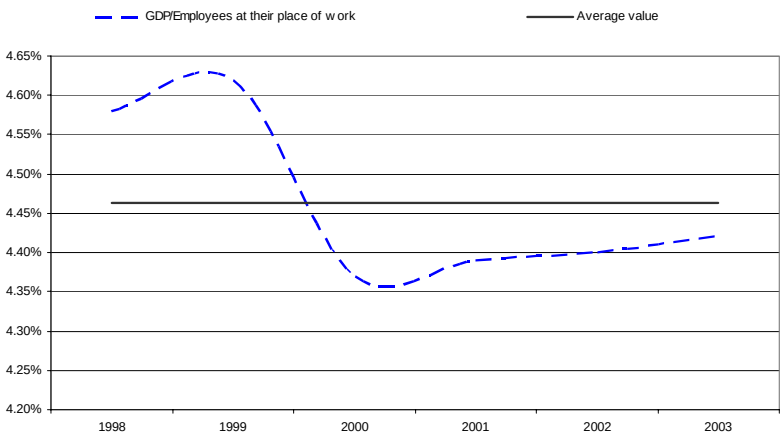
Figure 1.23. **Main explanations for GDP differentials between OECD metro-regions (2002)**



Note: See Annex for an explanation of the indicators used here.

Figure 1.24. **Annual growth rate of labour productivity in the Madrid Metro-region**

1998-2003



Note: The low average value is due to a fall in labour productivity between 1999 and 2000, when Spain implemented a large regularisation of illegal immigrants.

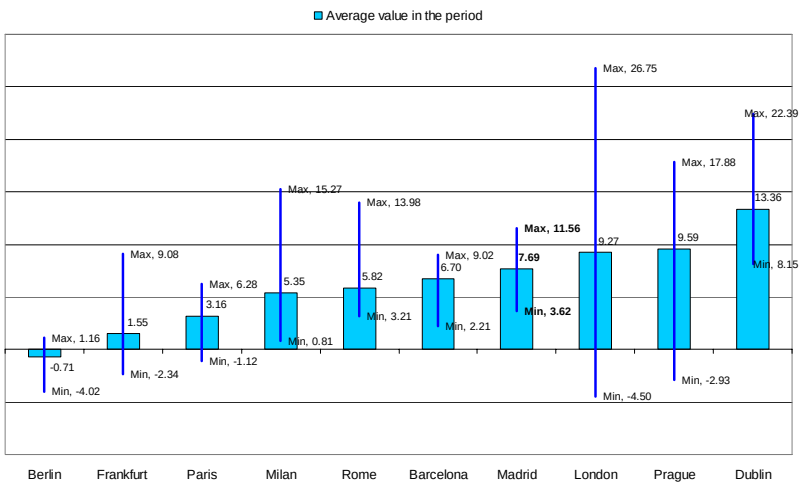
Figure 1.25. **Annual growth rate of GDP and employment in the Madrid Metro-region**

1999-2003 – %



Figure 1.26. **Average, maximum and minimum yearly growth rate in selected European metropolitan regions**

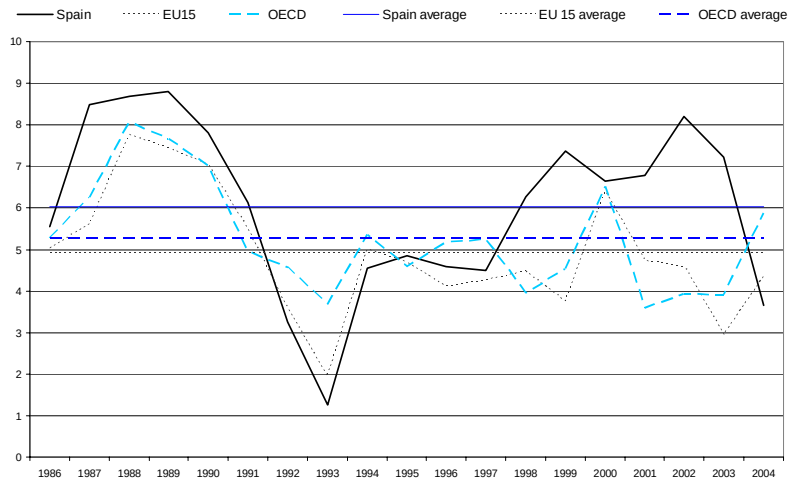
GDP at current prices – 1995-2003



Source: Eurostat, Regional dataset (NUTS 3).

Figure 1.27. **GDP trend in Spain, EU 15, and OECD (1986–2004)**

Billion USDs, current prices and PPPs



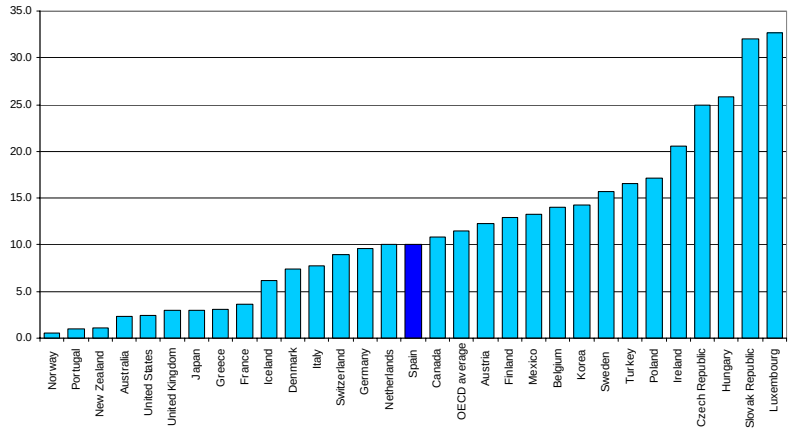
Source: OECD (2006c), *OECD Factbook 2006: Economic, Environmental and Social Statistics*, OECD Publications, Paris, and Eurostat.

An important role in international trade

The Madrid Metro-region processes the lion's share of Spain's international trade, acting as the national gateway. After a period of relative isolation, Spain has transformed into an important country with regards to international trade. Past statistics show Spain with trade as a share of GDP below the OECD average. In 2005 Spain was the best performer among the large European countries (in terms both of population and GDP) and, reaching 58% of GDP in 2005, slightly above the average of 51% for all OECD member countries (Figure 1.28).[11] The Madrid Metro-region generated EUR 16 billion of exports and EUR 52 billion of imports in 2005, roughly 10% and 22% respectively of the national total. The metro-region's commercial balance is negative with a deficit of nearly EUR 17 800 million (2005), 49.0% of the national deficit, and 5.8 points less than in 2004. It should be noted that these are potentially biased data given Madrid's role as the main administrative centre for Spanish international trade.

Figure 1.28. **Trade to GDP ratios**

Difference between 2004 and 1991 ratios in percentage points

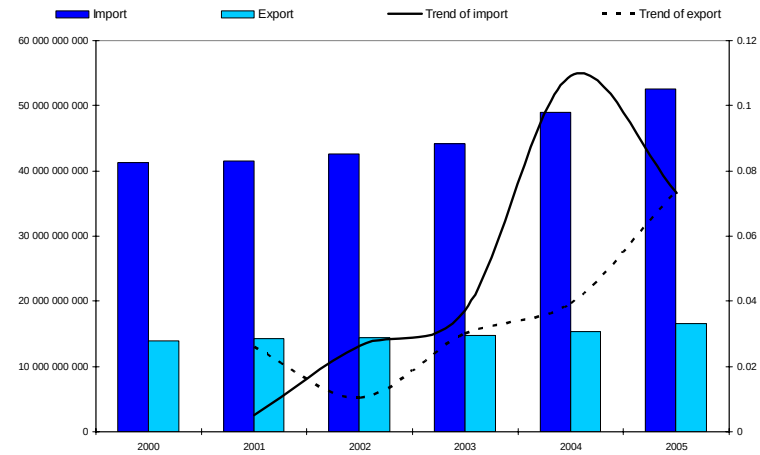


Source: OECD (2006c), *OECD Factbook 2006: Economic, Environmental and Social Statistics*, OECD Publications, Paris.

In term of trends, the evolution of trade over time is positive both in the case of imports and exports (fluctuating more in the case of imports due to the evolution of petrol prices and the Euro-Dollar exchange rate). Exports have increased by an average of 3.6% between 2000 and 2005 and imports by 5% within the same period. The growth rate for exports from Madrid exceeds the rate for Spain as a whole, while imports fall short of this figure, increasing by only a third of the figure recorded for Spain (Figure 1.29). Although deficits in the commercial balance have been the norm in recent years, it is important to note that (*i*) international transactions have been continuously growing, making Madrid's economy more open, with some predictions of increasing export growth rates and decreasing import growth rates, and (*ii*) if we consider the Madrid Metro-region as a "territory" trading with the "rest of the world" (Spain without Madrid, and the other nations) the sectoral decomposition of exports and imports indicates a positive balance in the service sector, particularly in whole retail, communication, and finance (Figure 1.30). In other words, Madrid imports capital goods and exports advanced services. Finally, Madrid's main commercial partners are EU countries (France, Portugal and Germany, in particular) and OECD member countries (United States and Mexico) (Figures 1.31 and 1.32).

Figure 1.29. **Commercial balance of the Madrid Metro-region**

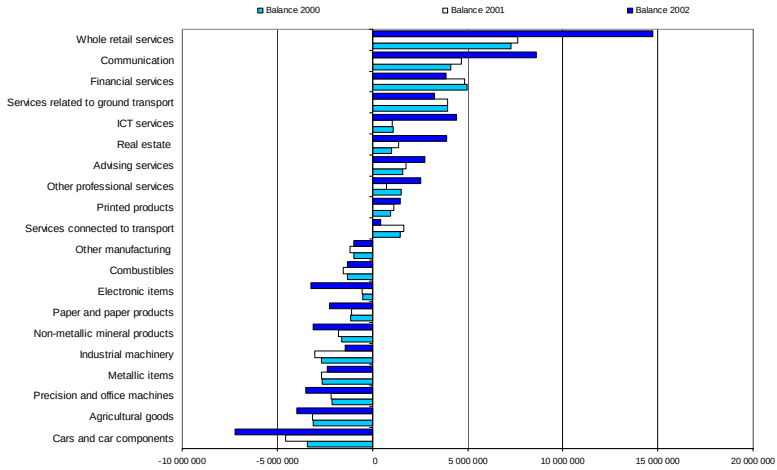
Value



Source: Chamber of Commerce of Madrid.

Figure 1.30. **Recent trends in trade in selected sectors of the Madrid Metro-region**

2000-2003

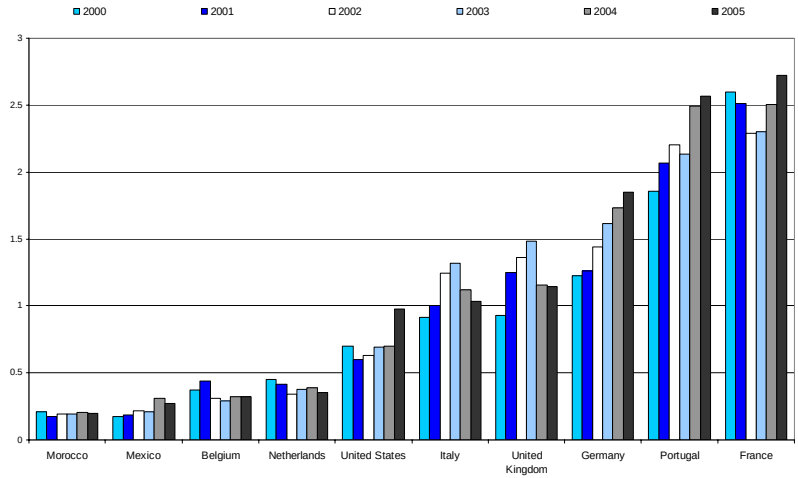


Notes: (1) The first ten sectors in import and the first ten sectors in export. (2) The Madrid Metro-region here is considered as a nation.

Source: Instituto de Estadística – Comunidad de Madrid (Statistics Office of the Community of Madrid – Elaboration of the Input-output matrix, 2002).

Figure 1.31. **Madrid's top ten commercial partners – export**

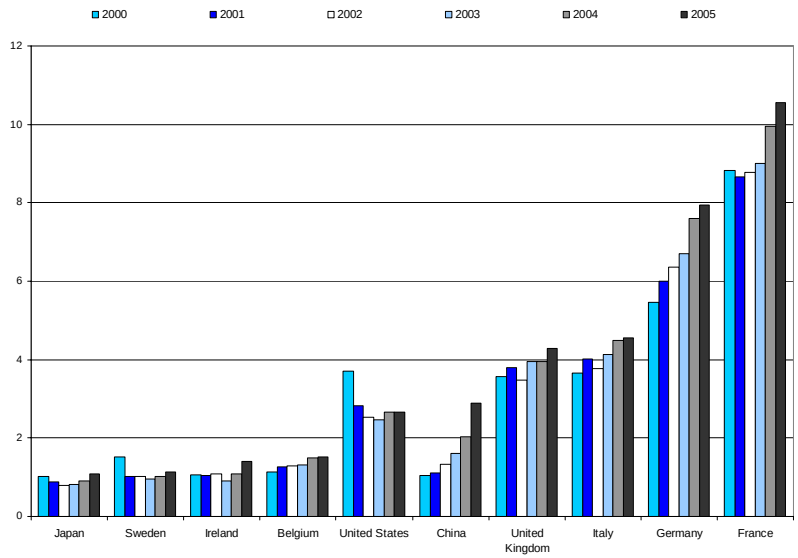
Billion EUR



Source: Chamber of Commerce of Madrid.

Figure 1.32. **Madrid's top ten commercial partners – import**

Billion EUR



Source: Chamber of Commerce of Madrid.

Madrid has an efficient endowment of transportation facilities within its trade hub offerings. The actual comparative advantage of Madrid in logistics is the consequence of: (*i*) major improvement over the last two decades in transportation infrastructure, which has translated into lower transport costs, and (*ii*) the relative availability of land, a scarce resource for many other competitors. Concerning the transportation infrastructure, all major Spanish railroad and road axes pass through Madrid, and local Barajas airport is the main national hub and one of the most important airports in Europe. It ranked 5th in Europe in passenger traffic and the new extension that opened in 2006 – which in effect doubled its size – will allow it to challenge Paris Charles de Gaulle and Frankfurt Main for second place in the foreseeable future (Table 1.8).[12] The airport, while clearly specialised in passenger traffic, has in recent years also started to focus greater attention on freight, making it the 9th largest airport for freight in 2004 in Europe. The overall competitiveness of Madrid in logistics will probably be further enhanced by the high capacity railroad axis connecting Madrid with Barcelona (under construction), contributing to connecting the Spanish capital to the Mediterranean more efficiently.[13] In addition, the Madrid Metro-region also enjoys a privileged position at the international level. The enlargement of the European Union to Central and Eastern European countries opens new opportunities for international trade relationships from which Madrid may benefit, bearing in mind that these countries may also be potential competitors. Moreover, Spain and, in particular, Madrid, have been successful at exploiting the advantage of being considered the gateway of Europe to emerging international markets in North Africa, Latin America and the Caribbean.

FDI activity and city attractiveness

The largest part of Spanish outward investments comes from Madrid and reflects the sectoral specialisation of the metro-region's economy. Between 2000 and 2004, services have been the principal sector of Madrid's foreign investments, with banking and telecommunications making up 27% and 18% respectively. During the same period Madrid's outward FDI in the manufacturing sector has been concentrated in traditional activities, and medium and high technology sectors (26% of the total) (Figure 1.33). From a geographical perspective, Latin America continues to be the main recipient of Spanish FDI, despite decreasing importance over the last year.[14] The bulk of investment in Latin America is carried out in the banking and telecommunications sectors. Concerning the former, the two largest Madrid-based Spanish banks (*Banco Santander Central Hispano*, BSCH and *Banco Bilbao Vizcaya Argentaria*, BBVA) gained a major position in the Latin American market (Table 1.10).[15] Regarding telecommunications,

Table 1.8. **Top 20 EU airports in terms of total passengers and total freight carried in 2004**

Passengers			Freight		
Airport	Thousand passengers	Growth rate 2003/2004	Airport	Thousand tons	Growth rate 2003/2004
London Heathrow	67 110	6.2	Frankfurt am Main	1 827.3	11.2
Paris Charles de Gaulle	50 951	6.1	Amsterdam Schipol	1 467.0	8.4
Frankfurt am Main	50 700	5.6	London Heathrow	1 412.0	8.6
Amsterdam Schipol	42 425	6.6	Paris Charles de Gaulle	1 275.8	6.9
Madrid Barajas	38 155	7.9	Brussels National	660.4	8.9
London Gatwick	31 392	5.0	Cologne-Bonn	621.9	17.3
Rome Fiumicino	27 160	6.6	Luxembourg	616.6	2.3
Munich	26 601	11.1	Milan Malpensa	360.6	13.3
Barcelona	24 354	8.3	**Madrid Barajas**	352.8	19.1
Paris Orly	24 049	7.1	East Midlands	277.2	16.8
Manchester	20 970	7.4	London Stanstead	239.0	17.9
London Stanstead	20 909	11.7	London Gatwick	226.9	–2.8
Palma de Majorca	20 363	6.5	Munich	192.4	17.8
Copenhagen	18 889	7.6	Vienna	158.1	24.5
Milan Malpensa	18 419	5.4	Manchester	153.3	21.9
Dublin	17 032	7.9	Rome Fiumicino	139.6	–14.8
Stockholm	16 467	7.7	Bergamo Orio la Serio	129.6	1.3
Brussels National	15 445	2.3	Helsinki Vantaa	118.0	33.9
Dusseldorf	15 092	6.8	Genoa Sestri	111.4	.
Vienna	14 711	15.7	Athens	104.1	–20.8

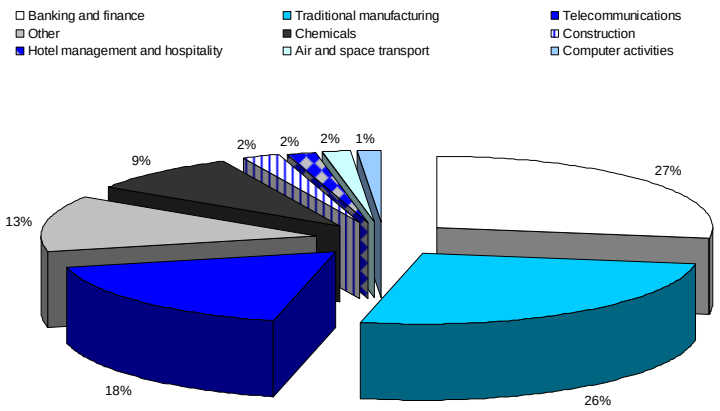
Source: Eurostat.

by 1994, *Telefónica de España* had become the dominant telecommunications provider in South America, with major holdings in Argentina, Chile, Venezuela, and Peru (*The Economist*, 1995). Moreover, the company paid USD 142 million for a 79% share of TLD (*Telefónica Larga Distancia*), the Puerto Rican long-distance operator, to get into the Spanish-speaking market in the United States (Baklanoff, 1996), Of course outward investment from Madrid is influenced by the national trend, given its role as the capital city. Spain was the 4th largest outward investor in the world in 2004, only behind the United States, the United Kingdom and Luxembourg, and the 2nd largest in Latin America, only behind the United States. Approximately two-thirds of Spanish investments abroad – reaching 80% in 2005 – originated in the Madrid metropolitan region (Table 1.9).[16] Spanish outward investment has soared since 1997, a development that reflects a variety of factors. First, with the deregulation of the Spanish economy in recent years, big companies, many previously state-owned companies, have adopted more market-oriented business strategies while seeking to benefit as much as possible from economies of scale. Second, the progress made in real convergence in recent years has narrowed

the gap between the level of development in Spain and European standards, both regarding productivity and costs, so that in some ways the domestic market can be regarded as a mature market. Third, once a company is big enough, international expansion is a way of increasing the client base and diversifying risks (Sebastian and Hernansanz, 2000).

Figure 1.33. **Sectoral distribution of Spain's outward FDI**

Average 2000-2004



Source: Ministry of Trade, Spain.

Table 1.9. **FDI in the Madrid Metro-region and in Spain**

Millions EUR

		2002	2003	2004	% 04/03
Madrid Metro-region	Outflow	15 586	10 795	23 708	120
	Inflow	5 750	6 188	4 475	–28
	Balance	–9 836.00	–4 475.00	–19 233.00	317.50
Spain	Outflow	25 202	18 344	35 406	93
	Inflow	11 428	9 915	11 129	12
	Balance	–13 744.00	–8 429.00	–24 277.00	188.00
Madrid Metro-region/Spain (%)	Outflow	61.8	58.8	67.0	
	Inflow	50.3	62.4	40.2	
	Balance	71.4	54.7	79.2	

Source: Ministry of Trade, Spain.

Table 1.10. **Largest foreign banks in Latin America by consolidated assets – first half of 2003**

Millions USD

Rank in 2003	Rank in 1999	Bank	Country of origin	Assets	Main subsidiaries[1]
1	1	**BSCH**	**Spain**	62 894	Brazil, Chile, Mexico, Argentina, Venezuela
2	3	**BBVA**	**Spain**	61 019	Mexico, Argentina, Chile, Peru, Venezuela, Colombia, Panama, Uruguay
3	2	CitiBank	United States	59 463	Mexico, Brazil, Argentina, Chile, Colombia, Peru, Venezuela, Uruguay, Paraguay
4	5	ABN Amro Bank	Netherlands	16 174	Brazil, Chile, Argentina. Colombia, Paraguay
5	4	FleetBoston Financial Corp.	United States	13 754	Brazil Argentina, Chile, Uruguay, Mexico, Panama, Peru
6	6	HSBC	United Kingdom	12 203	Brazil, Argentina, Panama, Chile
7	10	Scotiabank	Canada	11 455	Mexico, Chile, Panama, El Salvador, Dominican Republic
8	11	Sudameris	France	5 337	Peru, Argentina, Panama, Colombia
9	[2]	J.P. Morgan Chase	United States	4 476	Brazil, Mexico, Chile
10	7	Lloyds TSB Group	United Kingdom	3 761	Brazil, Argentina, Colombia
		Total		250 537	

Notes: (1) Figures include subsidiaries with assets in excess of USD 250 million. The countries are ordered according to the assets of their respective subsidiaries.
(2) In 1999, JP Morgan and Chase Manhattan had not yet merged, so it is impossible to compare the position of the joint enterprise in 2003 with the ranking of the two banks when independent. In 1999, JP Morgan was ranked 21st, while Chase Manhattan was in 9th place.

Source: ECLAC (2004), *Foreign Investment in Latin America and the Caribbean*, United Nations, Santiago, Chile.

Madrid concentrates the bulk of inward foreign investment in Spain as well. The metro-region attracted 54% of all foreign direct investment (FDI) coming into Spain in 2005, with percentages that have hovered between 50% and 62% of the total since the turn of the century, with the only exception being in 2004 when it fell to 40%.[17] The size of this share becomes more relevant when seen in the context that Spain has been the 6th largest recipient of FDI among OECD member countries and a selection of emerging countries, and the 5th largest in Europe, between 2002 and 2004 (Figure 1.34). The main investors in Spain are France, the United States, the United Kingdom and Germany which together account for 60% of the stock held. FDI is fundamentally concentrated in a few sectors: manufacturing, commerce, chemicals, finance and transport and communications which account for the 61% of investment stock (Figure 1.35). From a purely regional perspective, inward FDI in Spain is mainly concentrated in two regions: Madrid and Catalonia. Since the early 1990s, Madrid's increases have been eroding the share of other regions as it attempts to emerge as the major FDI pole for Spain (Table 1.11), attracting more than 50% of the total FDI coming into Spain since the turn of the century.

Table 1.11. **Distribution of inward FDI in Spanish regions (1985-2002)**

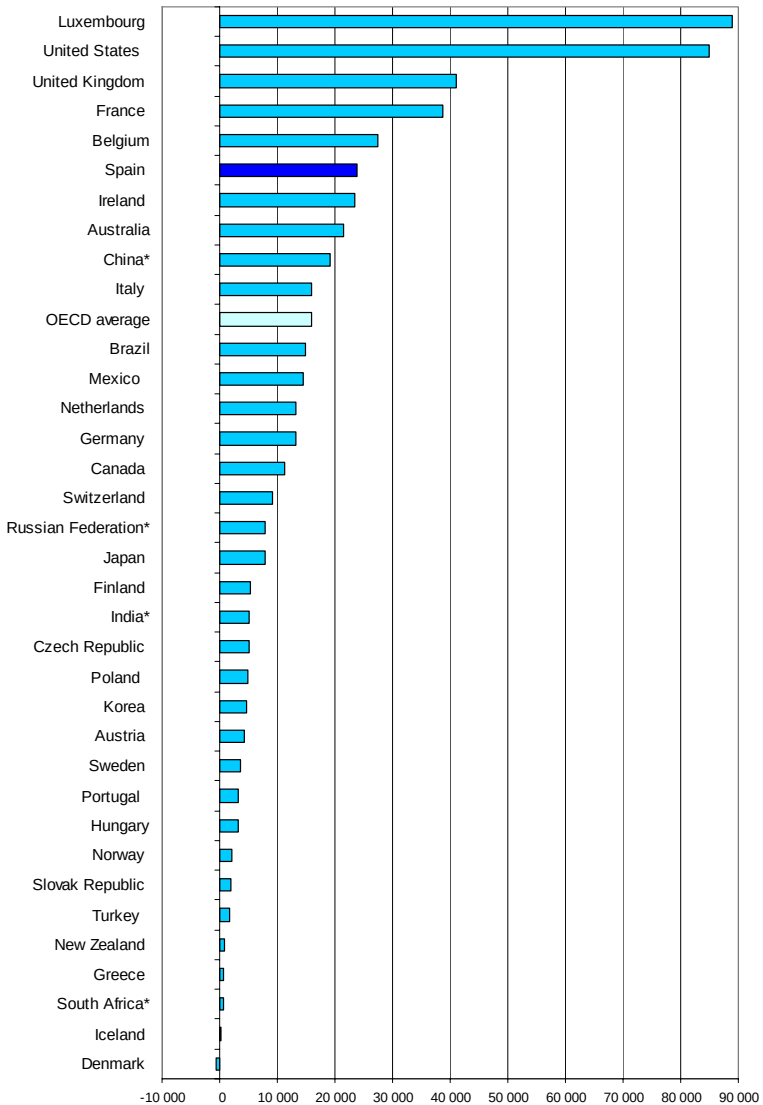
% of the total

	1985-1992	1993-1999	2000-2002
Madrid	44	54	67
Catalonia	30	25	21
Andalusia	8	3	4
Basque Country	3	5	3
C. of Valencia	3	2	2
Rest	12	11	3

Source: Diaz Cazquez, R. (2004), *Inversion extranjera directa y convergencia regional*, Working paper, University of Vigo.

Figure 1.34. **Inflows of foreign direct investment in OECD member countries and a selection of non-OECD countries**

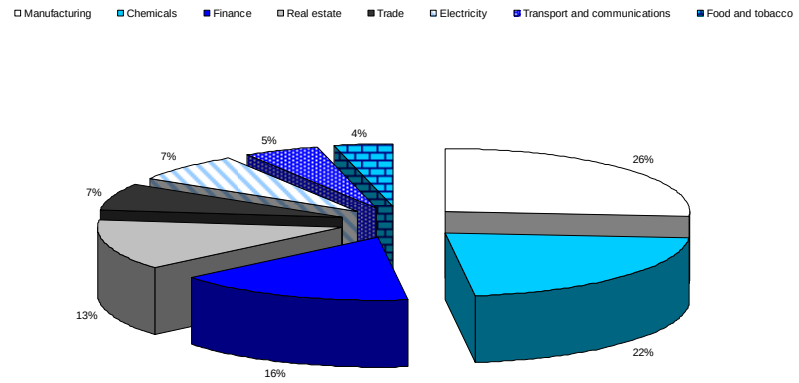
Millions of USD, average 2002-2004



Note: * countries that are not members of the OECD.

Source: OECD (2006c), *OECD Factbook 2006: Economic, Environmental and Social Statistics*, OECD Publications, Paris.

Figure 1.35. **Sectoral distribution of inward FDI in Spain (2004)**



Source: Foreign Investment Registry, Spain.

The importance of inward FDI in the economic structure of Madrid is relevant. In 2002, FDI in Madrid accounted for 22.14% of its GDP while the Spanish regional average was 5.15%. According to a survey conducted by Cushman, Wakefield, Healey and Baker in 2005, European firms consider Madrid the 7th best location to make investments in Europe (Table 1.12). This represents an improvement of ten positions in 15 years, making it the first investment location outside the thick urban network of Central Europe. This positive trend is also confirmed by the increasing attraction of foreign greenfield investment[18] – according to the *European Investment Monitor*, Madrid gained two positions, rising from 10th to 8th – in the ranking of European regions based on the number of greenfield FDIs between 2001 and 2002 (Table 1.13). There are several factors behind Madrid's ability to attract inward investments.

- First, with more than 6 million inhabitants (2006) Madrid is the largest consumer market in Spain.
- Second, Madrid offers a modern and extensive network of transport and communication infrastructure (Madrid obtained the highest mark in this category when competing with London, Paris, New York and Moscow to organise the Olympic Games in 2012) (IOC, 2005). The radial shape of the national transport infrastructure (roads and railroads) makes Madrid a primary logistic platform in Spain. Telecommunications infrastructure improvements (5 000 km of fiber optic cable and 76% of enterprises with broadband access

Table 1.12. **European location preferences of investors (1990-2005)**

Cities	Rank			Weighted score
	1990	2004	2005	2005
London	1	1	1	0.87
Paris	2	2	2	0.60
Frankfurt	3	3	3	0.33
Brussels	4	4	4	0.30
Barcelona	11	6	5	0.28
Amsterdam	5	5	6	0.24
Madrid	**17**	**7**	**7**	**0.24**
Berlin	15	9	8	0.19
Munich	12	8	9	0.18
Zurich	7	10	10	0.18
Milan	9	11	11	0.15
Dublin	-	12	12	0.14
Prague	23	13	13	0.14
Lisbon	16	16	14	0.12
Manchester	13	14	15	0.12
Düsseldorf	6	18	16	0.10
Stockholm	19	15	17	0.10
Geneva	8	17	18	0.10
Hamburg	14	19	19	0.09
Warsaw	25	20	20	0.09
Budapest	21	23	21	0.09
Glasgow	10	24	22	0.08
Vienna	20	22	23	0.07
Lyon	18	21	24	0.07
Copenhagen	-	26	25	0.06
Rome	-	25	26	0.05
Helsinki	-	28	27	0.04
Moscow	24	27	28	0.03
Oslo	-	30	29	0.03
Athens	22	29	30	0.03

Notes: (1) Base: 501. (2) In 1990, only 25 cities were included in the survey.

Source: Cushman, Wakefield, Healey and Baker (2005).

compared to the European average of 65%) place Madrid 11th in the ranking of telecommunications quality of the *European Cities Monitor 2005* (20th position in 2002) (see *www.fco.gov.uk /Files/kfile/European_Cities_Monitor_2005_ FINAL.pdf*).

- Third, Madrid has a well-qualified and relatively inexpensive labour force. The Madrid Metro-region ranks 8th among the 78 OECD metro-regions for its share of population of 15 years and more with a tertiary education (Figure 1.36). This makes Madrid 2nd in Europe only following London, and preceding New York, Paris, Berlin, and Rome. Moreover, labour costs in Spain are lower than the European

average (Figure 1.37). In contrast to the overall Spanish trend, in 2006 Madrid witnessed a reduction in the increase of labour costs, contributing to price stability. Moreover, expected reduction in the corporate income tax from 35% to 25% will put Spain among the European countries with lowest corporate taxes. Finally, the cost of living in Madrid is relatively low compared to other metropolitan regions (Table 1.14).

- Last, Madrid has an abundant supply of office and commercial space. The large supply of commercial space is helping to keep office and commercial space prices low. For instance office rent prices are lower than in other metropolitan regions (Table 1.15). Moreover, Madrid provides economic operators with conference spaces and exhibition centres which place the Spanish capital city among the top ten worldwide places for international conference destinations according to ICCA (International Congress and Convention Association) during the last ten years (see *www.iccaworld.com*).

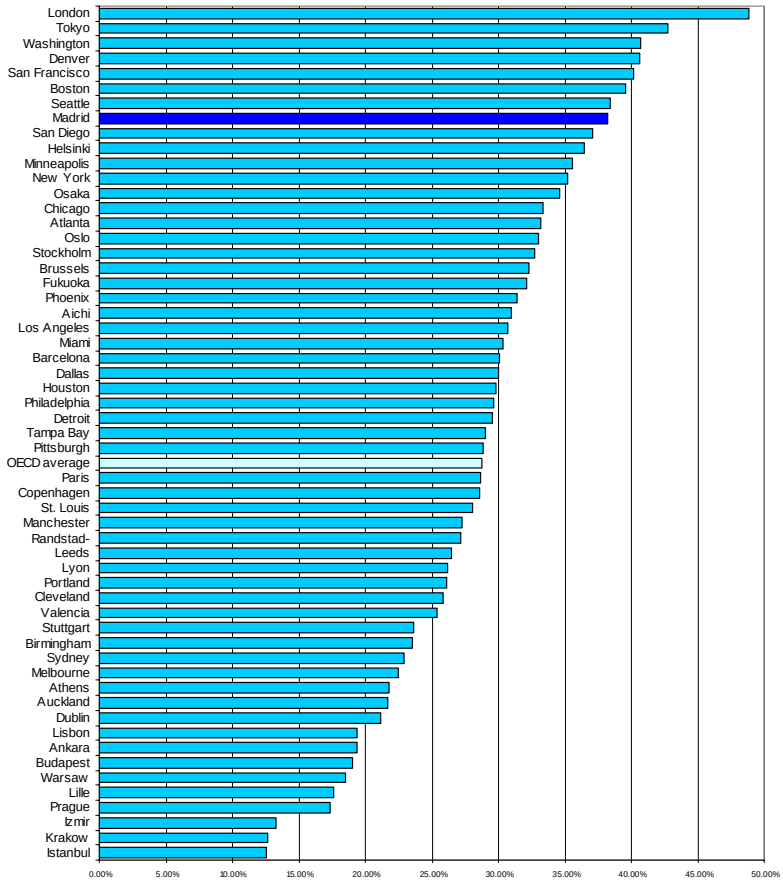
Table 1.13. **European regional ranking based on the number of greenfield foreign investment projects**

	Projects 2002	Rank 2002	Projects 2001	Rank 2001	Rank change
Greater London	125	1	94	1	=
Paris	64	2	61	3	+1
Catalonia	61	3	86	2	–1
Rhone-Alpes	41	4	19	21	+17
Stockholm	36	5	56	4	–1
Moscow	36	6	32	5	–1
Provence-Alpes cote d'Azur	31	7	26	11	+4
Madrid	29	8	29	10	+2
Budapest	27	9	23	15	+6
North Holland	26	10	24	13	+3
Severocesky	26	11	13	32	+22
Bavaria	2	12	30	7	–5
Antwerpen	22	13	20	18	+5
Hessen	22	14	32	5	–8
Alsace	20	15	30	7	–8
Istanbul	20	16	6	78	+63
Lithuania	20	17	17	24	+9
Berlin	19	18	15	29	+11
Vienna	19	19	24	13	–5
Bucharest	18	20	12	37	+17

Source: Ernst & Young (2003), "European Investment Monitor", report, Ernst & Young, London.

Figure 1.36. **Share of population of 15 years and more with tertiary education**

Sample of 56 metro-regions (2004)



Note: OECD average refers to the average of OECD metro-regions.

Figure 1.37. **Annual gross labour costs before taxes (2005)**

USD using PPP exchange rates

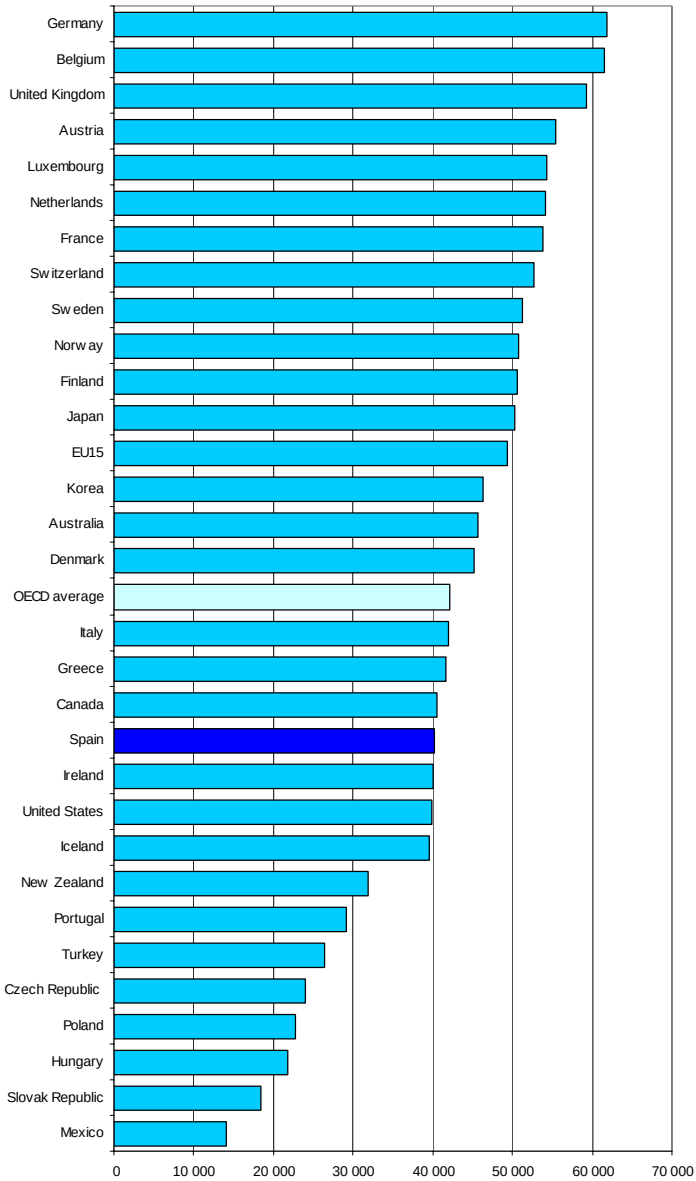


Table 1.14. **Cost of living in selected European capitals**

New York = 100

City	Index, 2004
London	119.0
Dublin	96.9
Oslo	96.2
Paris	94.8
Rome	90.5
Amsterdam	88.1
Berlin	85.7
Madrid	79.6

Source: Mercer Human Resource Consulting.

Table 1.15. **Office rent prices, 2005**

EUR/m^2

Place	Price
London (West End)	1 593
London (City)	1 062
Paris	799
Dublin	724
Milan	544
Frankfurt	567
Madrid	472

Source: CBRE – Global Markets Rents.

1.5 Madrid's economic structure

Sectoral composition of the local economy

The Madrid Metro-region has become a large service hub while reducing its specialisation in manufacturing. The service sector alone, which includes a number of knowledge intensive activities, generated 77% of the regional gross value added (GVA) and employed 78% of the total workforce in 2005. In the same year, the percentage of GVA contributed by manufacturing and construction was 11% and 10% respectively.[19] This specialisation has been increasing slightly over time. Between 2000 and 2004, the service sector and especially the construction sector have increased in importance both in terms of employment and contribution to the regional GVA, while manufacturing experienced a loss of more than 16 000 jobs (INE – Spanish National Institute of Statistics).

Although deindustrialisation is a common issue among many OECD metro-regions, in Madrid the decline of manufacturing is concentrated in high-tech activities, while medium-high and medium-low tech activities show a certain degree of dynamism. Between 2000 and 2005, high-technology manufacturing's contribution to the regional GVA has been falling from EUR 2 208 to 1 927 million, reducing its total contribution from 2.2% to 1.3% (the negative trend is due largely to the decline in electronics).[20] Over the same period, medium-high technology manufacturing has been increasing its contribution to regional GVA from EUR 4 404 to 5 363 million, yet it has reduced its share from 4.4% to 3.7%. Conversely, knowledge intensive services have increased their contribution to the regional GVA from EUR 36 000 to 52 608 million, thus increasing their percentage from 35.8% to 36.6% of the total (Tables 1.16 and 1.17).

Table 1.16. **Contribution to the regional GAV – sectoral decomposition according to the level of technology**

Thousand of EUR – Current prices base 2000

Technology/Industry	2000	2001	2002	2003	2004	2005
KNOWLEDGE INTENSIVE	**42 615 092**	**47 083 766**	**50 325 222**	**53 036 837**	**56 204 526**	**59 900 028**
Manufactures high technology	**2 208 731**	**2 219 868**	**1 841 844**	**1 818 054**	**1 867 309**	**1 927 131**
DL Office, accounting and computing machinery	2 208 731	2 219 868	1 841 844	1 818 054	1 867 309	1 927 131
Manufactures medium-high technology	**4 404 749**	**4 697 612**	**4 810 909**	**5 060 304**	**5 197 399**	**5 363 905**
DG Chemicals	1 853 350	2 091 597	1 953 297	2 073 309	2 129 480	2 197 700
DK Machinery and equipment	790 311	872 104	1 034 846	1 041 926	1 070 154	1 104 438
DM Motor vehicles	1 761 088	1 733 911	1 822 766	1 945 069	1 997 765	2 061 766
Knowledge intensive services	**36 001 612**	**40 166 286**	**43 672 469**	**46 158 479**	**49 139 818**	**52 608 992**
II Transport and communications	10 963 804	11 811 541	12 799 683	13 606 556	14 485 392	15 508 033
JJ Finance and insurance	6 788 740	8 092 114	8 642 761	8 756 149	9 321 702	9 979 795
KK Business services	10 282 209	11 575 331	12 943 297	13 540 236	14 414 789	15 432 444
MM Education	3 859 373	4 295 583	4 586 163	4 927 241	5 245 488	5 615 809
NN Health	4 107 486	4 391 717	4 700 565	5 328 297	5 672 447	6 072 911
NON-KNOWLEDGE INTENSIVE	**58 055 342**	**62 591 085**	**67 237 807**	**72 046 916**	**77 195 977**	**83 709 067**
Manufactures medium-low technology	**2 718 981**	**2 823 198**	**3 116 794**	**3 157 597**	**3 242 226**	**3 353 686**
CA+CB+DF Extractives	157 723	171 088	206 509	213 403	218 267	232 851
DH Rubber and plastics products	432 217	463 365	509 138	481 148	494 183	510 015
DI Other non-metallic mineral products	643 157	677 199	679 018	722 490	742 064	765 837
DJ Basic metals and fabricated metal products	1 485 884	1 511 546	1 722 129	1 740 556	1 787 712	1 844 983

Table 1.16. **Contribution to the regional GAV – sectoral decomposition according to the level of technology** (*cont.*)

Technology/Industry	2000	2001	2002	2003	2004	2005
Manufactures low technology	**5 025 314**	**5 260 899**	**5 398 428**	**5 509 421**	**5 658 684**	**5 839 967**
DA Food products, beverages and tobacco	1 046 775	1 114 971	1 234 416	1 232 733	1 266 131	1 306 693
DB+DC Textiles, textile products, leather and footwear	531 645	550 535	511 211	500 785	514 352	530 830
DD Wood	147 468	160 307	150 991	160 789	165 145	170 436
DE Pulp, paper, paper products, printing and publishing	2 720 960	2 793 498	2 919 809	2 981 090	3 061 855	3 159 945
DN Manufacturing, n.e.c.; Recycling	578 466	641 588	582 001	634 024	651 201	672 063
Non-knowledge intensive services	**40 829 425**	**43 818 676**	**46 782 516**	**49 759 320**	**52 973 234**	**56 713 041**
GG Retail and repair	11 607 694	12 572 017	13 025 036	13 669 015	14 551 886	15 579 220
HH Hotels and restaurants	6 765 918	7 177 369	7 611 547	8 107 753	8 631 426	9 240 788
KK Real state	9 621 561	10 440 931	11 665 294	12 817 918	13 645 817	14 609 185
LL Administration, defence and s.sec.	7 085 147	7 513 897	7 832 273	8 128 783	8 653 815	9 264 757
OO Other services	4 229 086	4 541 285	4 984 296	5 271 280	5 611 748	6 007 926
PP Private households with employment persons	1 520 019	1 573 177	1 664 070	1 764 571	1 878 543	2 011 165
Other activities	**9 481 622**	**10 688 312**	**11 940 069**	**13 620 578**	**15 321 832**	**17 802 373**
AA+BB Agriculture, hunting and Forestry. Fishing	285 702	258 670	288 839	294 151	288 422	305 891
EE Electricity, gas and water supply	1 815 640	1 960 421	1 972 650	2 258 191	2 309 664	2 463 991
FF Construction	7 380 280	8 469 221	9 678 580	11 068 236	12 723 746	15 032 491
TOTAL	**100 670 434**	**109 674 851**	**117 563 029**	**125 083 753**	**133 400 503**	**143 609 095**

Note: Data for 2004 and 2005 have been partially estimated due to the absence of information in some sub-sectors.

Source: INE – Spanish National Institute of Statistics. Data arranged according to the methodology proposed by OECD/STI in 2003 (OECD [2003], *Science, Technology and Industry Scoreboard*, OECD Publications, Paris).

Table 1.17. **Contribution to regional employment – sectoral decomposition according to the level of technology**

Percentage of total employment

Technology/Industry	2000	2001	2002	2003	2004	2005
	(%)					
KNOWLEDGE INTENSIVE	**42.3**	**42.9**	**42.8**	**42.4**	**42.1**	**41.7**
Manufactures high technology	**2.2**	**2.0**	**1.6**	**1.5**	**1.4**	**1.3**
DL Office, accounting and computing machinery	2.2	2.0	1.6	1.5	1.4	1.3
Manufactures medium-high technology	**4.4**	**4.3**	**4.1**	**4.0**	**3.9**	**3.7**
DG Chemicals	1.8	1.9	1.7	1.7	1.6	1.5
DK Machinery and equipment	0.8	0.8	0.9	0.8	0.8	0.8
DM Motor vehicles	1.7	1.6	1.6	1.6	1.5	1.4

Table 1.17. **Contribution to regional employment – sectoral decomposition according to the level of technology** (*cont.*)

Technology/Industry	2000	2001	2002	2003	2004	2005
	(%)					
Knowledge-intensive services	**35.8**	**36.6**	**37.1**	**36.9**	**36.8**	**36.6**
II Transport and communications	10.9	10.8	10.9	10.9	10.9	10.8
JJ Finance and insurance	6.7	7.4	7.4	7.0	7.0	6.9
KK Business services	10.2	10.6	11.0	10.8	10.8	10.7
MM Education	3.8	3.9	3.9	3.9	3.9	3.9
NN Health	4.1	4.0	4.0	4.3	4.3	4.2
NON-KNOWLEDGE INTENSIVE	**57.7**	**57.1**	**57.2**	**57.6**	**57.9**	**58.3**
Manufactures medium-low technology	**2.7**	**2.6**	**2.7**	**2.5**	**2.4**	**2.3**
CA+CB+DF Extractives	0.2	0.2	0.2	0.2	0.2	0.2
DH Rubber and plastics products	0.4	0.4	0.4	0.4	0.4	0.4
DI Other non-metallic mineral products	0.6	0.6	0.6	0.6	0.6	0.5
DJ Basic metals and fabricated metal products	1.5	1.4	1.5	1.4	1.3	1.3
Manufactures low technology	**5.0**	**4.8**	**4.6**	**4.4**	**4.2**	**4.1**
DA Food products, beverages and tobacco	1.0	1.0	1.1	1.0	0.9	0.9
DB+DC Textiles, textile products, leather and footwear	0.5	0.5	0.4	0.4	0.4	0.4
DD Wood	0.1	0.1	0.1	0.1	0.1	0.1
DE Pulp, paper, paper products, printing and publishing	2.7	2.5	2.5	2.4	2.3	2.2
DN Manufacturing, n.e.c.; Recycling	0.6	0.6	0.5	0.5	0.5	0.5
Non-knowledge-intensive services	**40.6**	**40.0**	**39.8**	**39.8**	**39.7**	**39.5**
GG Retail and repair	11.5	11.5	11.1	10.9	10.9	10.8
HH Hotels and restaurants	6.7	6.5	6.5	6.5	6.5	6.4
KK Real state	9.6	9.5	9.9	10.2	10.2	10.2
LL Administration, defence and social sec.	7.0	6.9	6.7	6.5	6.5	6.5
OO Other services	4.2	4.1	4.2	4.2	4.2	4.2
PP Private households with employment persons	1.5	1.4	1.4	1.4	1.4	1.4
Other activities	**9.4**	**9.7**	**10.2**	**10.9**	**11.5**	**12.4**
AA+BB Agriculture, hunting and Forestry. Fishing	0.3	0.2	0.2	0.2	0.2	0.2
EE Electricity, gas and water supply	1.8	1.8	1.7	1.8	1.7	1.7
FF Construction	7.3	7.7	8.2	8.8	9.5	10.5
TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

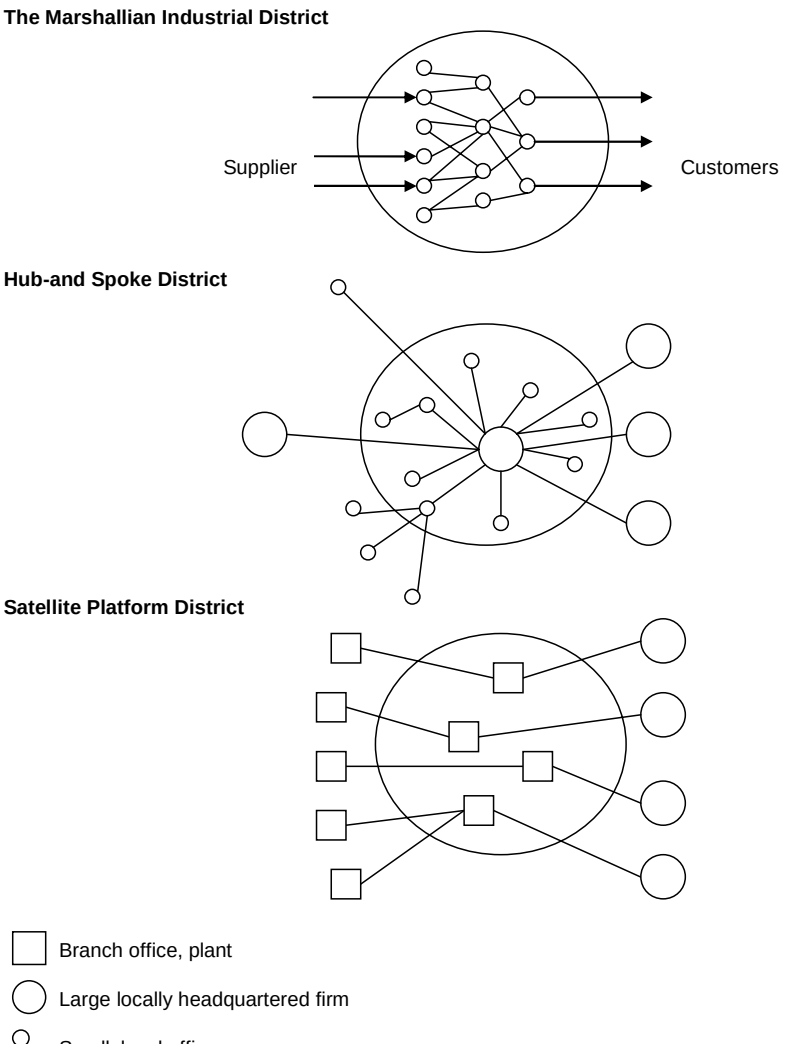
Note: Data for 2004 and 2005 have been partially estimated due to the absence of information in some sub-sectors.

Source: INE – Spanish National Institute of Statistics. Data arranged according to the methodology proposed by OECD/STI in 2003 (OECD [2003], *Science, Technology and Industry Scoreboard*, OECD Publications, Paris).

Main regional clusters

As most metropolitan areas, Madrid has some specialisation in productive activities or industrial clusters that tend to be have a spatial pattern of concentration. A particular feature in Madrid is that the regional clusters are not characterised by local interactions among a series of small- and medium-sized enterprises as is common in many other OECD metro-regions. Rather Madrid, like Seattle, is more of a *hub and spoke economy* (Markusen, *et al*., 1999) (Figure 1.38).[21] It is characterised by the important presence of a series of medium-large enterprises (with more than 250 workers) with interfaces far beyond the local territory, which account for 37% of regional employment (Community of Madrid, Regional Institute of Statistics). Although the *hub and spoke model* can only be looked upon as a stylised representation of a particular regional economy, some observations should be made regarding its applicability to the economy of Madrid. First, the Madrid economy has an important concentration of organisations with an international focus (for instance, UNWTO), and headquarters or regional offices.[22] A second characteristic of the Madrid economy that resembles the hub and spoke model is the relative absence of strong intra-urban and territorial links between the small- and medium-sized firms, on the one hand, and the larger enterprises. They do not seem to be connected through market relations of contracting and subcontracting, or by means of tacit norms and conventions aimed at establishing co-operation among these firms. Third, as illustrated in a Madrid Institute of Development study (IMADE, 2004), in addition to the presence of a dense concentration of larger enterprise headquarters, and the relative weak territorial articulation between SME and these larger firms (with a few exceptions) the socio-economic fabric of SME in Madrid is relatively weak and disarticulated from the broader tendencies of managerial and productive restructuring that are taking place in the main hubs of the Madrid economy. Based on a recent 2005/06 survey undertaken on SMEs,[23] the same study reveals that SMEs in Madrid will face enormous challenges as the Spanish economy becomes further exposed to international standards of competitiveness and of the speed of technological upgrading, and therefore should broaden and intensify their strategies towards internationalisation and managerial modernisation (IMADE, 2006a).

Figure 1.38. **Types of districts**



Source: Markusen, A., Y. S. Lee and S. Di Giovanna (eds.) (1999), *Second Tier Cities: Rapid Growth Beyond the Metropolis*, University of Minnesota Press, Minneapolis, London.

The financial cluster

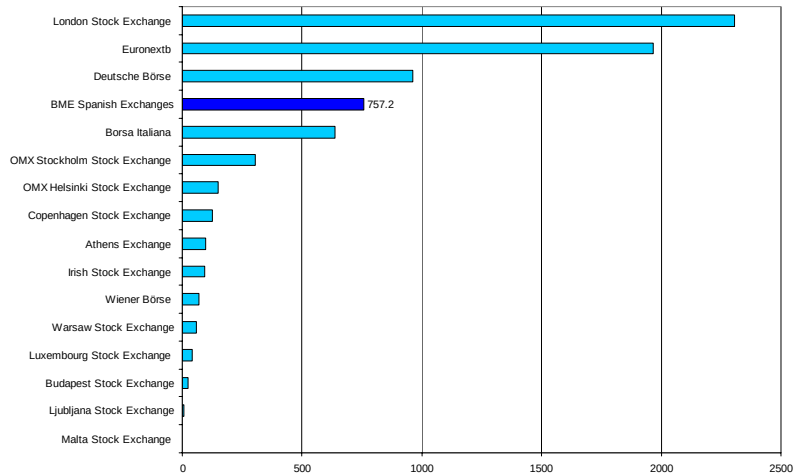
Madrid is the financial capital of Spain and its financial services sector has recently undergone a rapid process of internationalisation. Madrid is home to an important financial marketplace and stock exchange (*Bolsa de Madrid*), which now ranks 4th in Europe, just after London, Paris and Frankfurt (Figure 1.39). It is also in a relevant position at the global scale, in which, according to the network connectivity indexes built by the Globalization and World Cities Network (GaWC), Madrid appears in 8th position in the international banking connectivity ranking (Table 1.18).[24] When the long-term evolution of European financial centres is considered, Madrid has only recently acquired such a relevant international position, as, prior to 2000, the city did not appear in any of the top positions in the rankings of world financial centres elaborated by the GaWC for the entire 20th century (Table 1.19).

Competition in the finance sector is fierce which creates an incentive for Madrid to find market niches. The considerable distance within the leader metropolitan regions (especially London), could be a hint of the existence of strong centripetal forces (or a lock-in dynamic) concentrating the whole sector in a few given regions across the globe. In Madrid there are some 91 000 financial intermediary jobs which compose 3% of the overall local workforce. Comparatively, in Paris-Île-de-France there are 274 000 finance jobs (6% of the local workforce); in London 326 000 finance professionals (8% of local workforce); and in Frankfurt 73 000 (16% of local workforce) (CEBR, 2006). Madrid wholesale finance alone may be worth EUR 2.6 billion, which makes up 27% of the total finance sector in the city.[25] Over a quarter (26%) of Spain's wholesale finance activity is located in Madrid, yet this share appears low when compared to the other three locations used as benchmarks, particularly given Madrid's population and economic size. London concentrates 77% of national wholesale finance, Frankfurt 25%, while 90% of France's output related to wholesale finance is produced by Paris-Île-de-France (CEBR, 2006). London is by far Europe's largest cluster of wholesale finance jobs, while Frankfurt is the most specialised city (Figure 1.40). The equity market, international banking, and the bond market are the largest employers within Madrid wholesale finance. Such specialisation of the labour market appears also in London (at a greater scale though): nearly half of wholesale jobs are in international banking and equities. In Paris-Île-de-France and Frankfurt, the largest employer is the bond market (in relative terms, the domestic bond market in both clusters is larger than London's). Fund management is relatively more important for Frankfurt than for the other clusters, while Paris-Île-de-France has roughly as many employees in investment banking as in London. The vast majority

of derivatives and foreign exchange jobs in these four clusters are in London (Figure 1.41).

Figure 1.39. **Domestic stock market capitalisations (equities) (2005)**

Billions of EUR



Source: CEBR (2006), *The Importance of Wholesale Financial Services to the EU Economy*, City of London.

Table 1.18. **Global and banking network connectivity**

2002

	Banking network connectivity	
City	Rank	Score
London	1	1
New York	2	0.984
Tokyo	3	0.943
Hong Kong	4	0.854
Singapore	5	0.804
Paris	6	0.789
Frankfurt	7	0.698
Madrid	**8**	**0.686**

Source: Taylor, Peter J. (2004), *World City Network: A Global Urban Analysis*, Routledge, London, p 99.

Table 1.19. **Time evolution of the European financial centres ranking**

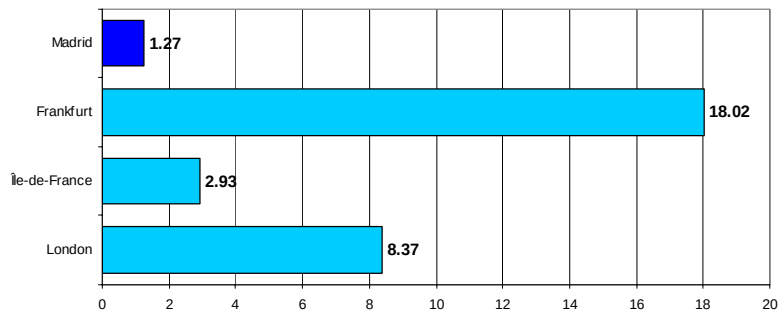
In brackets is the city international position

1900	1920	1940	1960	1980	2000
London (1)	London (1)	London (1)	London (1)	London (1)	London (1)
Paris (3)	Paris (3)	Paris (3)	Paris (3)	Paris (3)	Paris (5)
Berlin (5)	Berlin (4)	Berlin (4)		Frankfurt (4)	Frankfurt (6)
Frankfurt (9)	Amsterdam (9)	Amsterdam (5)		Hamburg (6)	Madrid (7)
Amsterdam (10)	Moscow (10)	Milan (6)		Zurich (9)	
		Hamburg (8)			

Source: Globalization and World Cities Network (GaWC) – *www.lboro.ac.uk/gawc/index.html*.

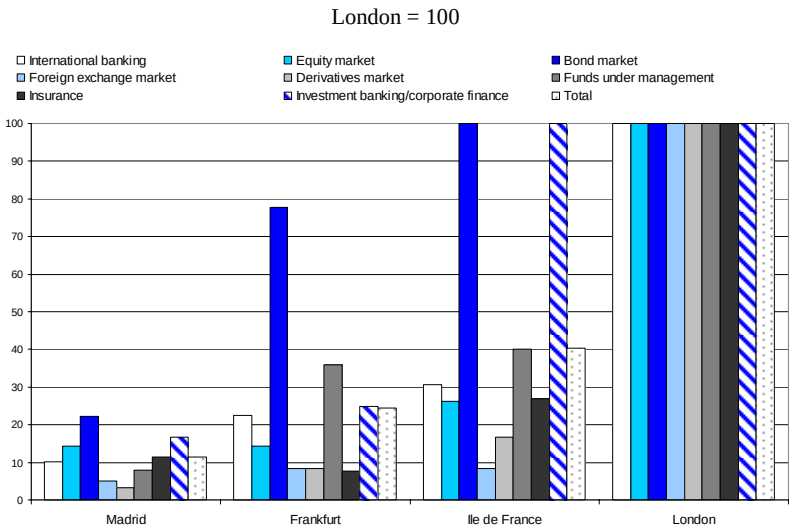
Figure 1.40. **Location quotients of the financial clusters compared to the EU average**

2005



Source: Elaboration on CEBR (2006), *The Importance of Wholesale Financial Services to the EU Economy*, City of London.

Figure 1.41. **Estimates of job numbers in each financial market* (2005)**



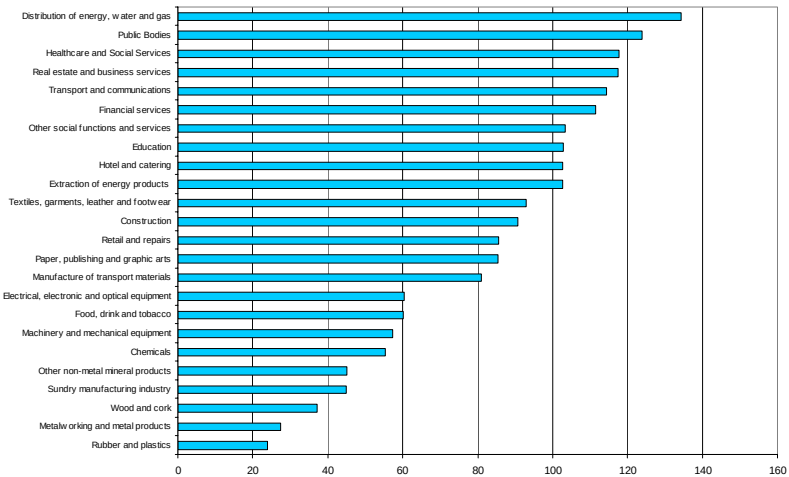
Note: * Excluding Central banking.

Source: Elaboration on CEBR (2006), *The Importance of Wholesale Financial Services to the EU Economy*, City of London.

The City of Madrid concentrates the bulk of banking and financial activities within the metropolitan region. The financial sector is ranked 6th in terms of share of local employees within the City of Madrid (Figure 1.42). The localisation of the financial cluster in the inner city is a common pattern among OECD metropolitan regions. Moreover, to support the process of spatial concentration of the financial firms, Madrid has undergone a project aimed at realising a financial district (CTBA – Cuatro Torres Business Area) within a large area in the northern neighbourhood of the City of Madrid – formerly owned by the world-renowned Real Madrid local football team. It is undeniable that successful flagship developments linked to the attempt to concentrate knowledge intense activities, such as the financial sector, have produced remarkable achievements within metro-regions. For example, Canary Wharf in the London Docklands, together with other deregulatory changes in the financial and stock market, contributed considerably to the strengthening of London's status as a world-class financial centre.[26] However, it has been noted that private developers, especially international developers, are not particularly interested in developments in cities at the

lower end of the scale of the urban hierarchy, such as regional and provincial centres (Ward, 2002). This shows that projects are very much dependant on the economic potential of the project location or of the city where they are located, a potential that Madrid has started to exploit.

Figure 1.42. **Specialisation of the City of Madrid in terms of employment***



Note: City of Madrid/Madrid Metro-region * 100.

Source: City of Madrid, Directory of Local Units of Economic Activity, 2004.

The logistics cluster

Thanks to the large endowment of transportation infrastructure, the Madrid metropolitan region has become an important logistics hub. The sector has witnessed an annual growth rate of 5% in the last decade, and on average represents 10% of regional GDP. Madrid receives 60% of the international goods arriving in Spain, and 33% of the national flow. Of the total goods, 49.1% go to other parts of the Iberian Peninsula (including Portugal). In terms of employment, 5.7% of the labour force in Madrid is in the transport sector while the national average is 4.6%. Madrid is the central node of the radial structure of the road and rail networks (standard and high

speed train), thus it is well connected with the three principal distribution areas of Spain: the Cantabric area (Basque Country) with connections to the north of Europe; the Mediterranean area (Catalonia and Valencia), which connects it with Asia through maritime routes; and the southern ports (Algeciras and Cadiz) which connect with the African continent and the naval routes passing through the strait of Gibraltar. Moreover, Madrid hosts the main airport in Spain (Madrid-Barajas airport). The combination of these factors makes Madrid an important international distribution hub for south-western Europe and northern Africa.

Besides the endowment of transportation infrastructure, another comparative advantage underpinning Madrid's logistics is the availability of land within the metro-region. Overall Madrid has 7.2 million m^2 for warehousing, transport and logistics businesses, all of which are distributed among nine specialised logistics platforms. Four logistics infrastructures stand above the rest. These are:

- Madrid-Barajas Airport Freight Centre Barajas: 40 hectares with a capacity of 750 000 tons per year and an expansion project of 12 hectares. After the expansion it will become the first integrated logistic park inside an airport.
- Puerto Seco (The Dry Dock). It is an infrastructure that offers the same services as a maritime port, with an overall extension of 120 000 m^2 it connects the four principal maritime ports of Spain (Valencia, Bilbao, Barcelona and Algeciras) through the railway network.
- International Transport Centre of Madrid. With 110 firms in transport and logistics established in this infrastructure.
- Mercamadrid. The largest physical wholesale market for food in Spain, the second largest in Europe and the largest fish market in the world after Tokyo. It has more than 600 businesses and has a daily flux of over 15 000 vehicles. The enlargement of Mercamadrid facilities will provide an additional 450 000 new square metres.

Concerning the localisation of the logistics centres within the metro-region, they are generally placed in the outskirts of the urban core. These centres include:

- The east area. The main logistics zone within the region accounting for 65% of the total sector. It contains the largest number of logistics infrastructure (Coslada Transport Centre, Madrid Dry Dock, Barajas Logistic Zone and the International Logistic Centre, among others). Businesses located in this area belong to the distribution and

transport sectors, including international mail companies, and logistics centres of companies, such as Aitena, DHL, TNT, UPS, Salvesen, Logista, Leroy Merlin and SGEL.

- The south and south-eastern zone is the second area of importance. Its logistic infrastructures include the Transport Centre of Madrid and Mercamadrid. Some of the businesses established in this area are: Mercadona, Seur, Transcamer, UMD and Gefco.

- The north area is the least developed area because of its physical development constraints (the presence of the Montes del Prado Natural Park and its proximity to the Guadarrama mountain range). The main enterprises located in this area are Bridgestone, Fiege, Ivestronica and Johnson & Johnson.

The aerospace cluster

The Madrid aerospace cluster is home to many different activities related to the aerospace supply chain. Madrid concentrates more than the 60% of the national turnover and employment of the Spanish aerospace industry (EUR 2 400 million and 15 000 jobs in 2003), and 3.3% of the overall European aerospace business (EUR 2.5 billion out of a total of EUR 75 billion in 2003). The aerospace cluster of Madrid is vertically integrated and organised into "tiers". The first tier is comprised of two tractor firms, EADS-CASA and Airbus-España, which assemble and sell the final product. The second tier is made up of specialised suppliers: contractors that are specialised in engineering and R&D activities.[27] The third tier is mainly comprised of manufacturing SMEs. The City of Madrid and its outskirts concentrate the bulk of aerospace firms (final and phase), most specifically in: (*i*) Tres Cantos; (*ii*) Getafe, Parla, and Mostoles, which have the most largest concentration of firms; and (*iii*) close to Barajas airport, in the Henares Corridor (Figure 1.43) (IDR, 2005).

Despite the availability of a large pool of skilled workers and the presence of a world-class airport (all factors underpinning the competitiveness of the regional cluster), Madrid faces fierce international competition. Among Madrid's main competitors are Toulouse and Seattle, headquarters of the two leading aerospace companies (Box 1.1). Industry success tends to rely more strongly on government support for corporate R&D (to generate rapid technological progress), than on the local industrial tradition. This makes it difficult to assess Madrid's comparative advantage, though a recent survey (IDR, 2005) indicated the aerospace industry identifies the central government (50%) and the business associations (43%) as key actors.[28] Moreover, 25% of the local firms consider the role of the

regional government as being very important, a view also shared by the overall aerospace industry.[29] The persistent increase of R&D costs has been the major centrifugal force for the aircraft global decentralisation, with production delocalising to low labour cost countries. Knowledge is codified and face-to-face interactions play a limited role in sharing and spreading knowledge (Storper and Venables, 2004). Accordingly, the supply chain can be widely geographically dispersed. This is also possible because transportation cost of components is negligible relative to overall aircraft costs and demand (the market) is not geographically bounded. The result of this combination of centripetal and centrifugal forces applied at the same time is the actual shape of the global production framework of the aerospace sector, which is scattered throughout Western Europe and North America, suggesting that intellectual spillovers are not as important at the local base, as is the case in other industry clusters (Niosi and Zhegu, 2005). In other words, it is not clear whether clustering has some positive influence in industry performance or not (Beaudry, 2001; Lublinski, 2003). For Madrid to exploit its existing potential in aeronautics it would require a fine tuning strategy aimed at promoting local specialisation in a market niche where global lock-in dynamics are still weak, for instance in material engineering.

Box 1.1. **The aerospace clusters of Toulouse and Seattle**

The aerospace market is a highly concentrated one, with three companies (Boeing, Airbus, and Bombardier) dominating the entire world market. Specifically, Boeing and Airbus are the two leaders in the production of large civil aircraft (more than 200 seats). Their headquarters are also the two most important aerospace clusters in the world: Seattle and Toulouse.

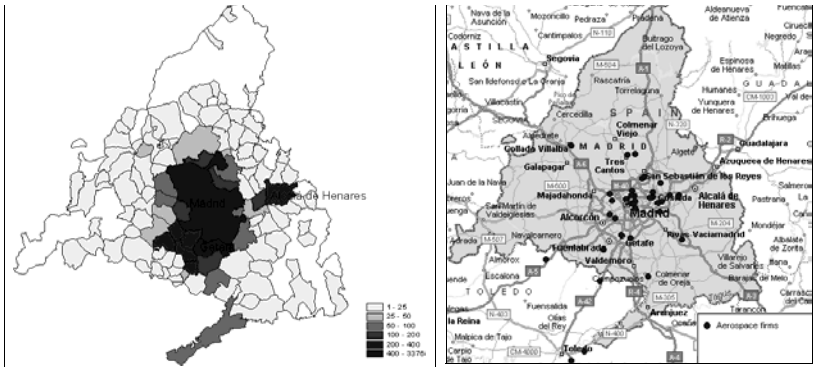
Seattle (WA, United States) is home to Boeing, the world's largest producer of both military and civil aircraft, and the largest aerospace company in the world. Boeing started producing aircraft in 1917 and has dominated the large commercial aircraft industry for over 50 years, from World War II to the end of the 20th century. Seattle is the main location of Boeing's commercial airplane division (60 000 employees – 75% of the total – in 2001), the other one being Long Beach (CA). Boeing is somewhat different from other prime contractors, in that for decades it internalised most of its main structural parts. One indication of the vertical integration of Boeing is the high percentage of aerospace employees in its two major locations. In each case, Boeing represents over 80%. In fact, Boeing has probably produced less international (as well as inter-regional and regional) spillovers than the other major aerospace producers. Recently this has changed due to the 2001 crisis which forced Boeing to accelerate its vertical disintegration and to look for foreign partners and foreign locations in order to increase market penetration, as well as to reduce design and production costs.

Box 1.1. **The aerospace clusters of Toulouse and Seattle** (*cont.*)

Toulouse (southern France) is home to Airbus Industries, a European consortium founded in 1969 with a Franco-German lead, and later British and Spanish participation. Toulouse is the main, but not the only, assembly location for Airbus; the second is Hamburg, Germany. Today, Airbus has become the world's largest producer of commercial aircraft. In 2000, it produced 311 planes in Toulouse. Airbus assembles six different models of aircraft with parts and components coming from 1 500 contractors located in 30 countries. The largest single provider is the United States with over 800 suppliers located in 40 states. Over the years, Toulouse has become a major aerospace cluster, with hundreds of firms. These include ATR, the Franco-Italian manufacturer of turboprops, which produced 22 turboprops in 2000. Other firms present in the region are Turbomeca (turbines), Messier-Dowty (landing gear for 30 airframes both civil and military, including Airbus) and EADS Socata, the French member of the European consortium. EADS produces small aircraft and structures for Airbus in the region. Toulouse has attracted other aerospace producers not necessarily linked with civil aircraft, such as Matra and Alcatel (satellite telecommunications).

Source: Niosi, J. and M. Zhegu (2005), "Aerospace Clusters: Local or Glocal Knowledge Spillovers?", *Industry and Innovation*, Vol. 12, No. 1, pp. 1-25.

Figure 1.43. **Localisation of the aerospace industry**



Source: INE – Spanish National Institute of Statistics.

The creative cluster

With almost 200 000 workers (15.4% of Spain in the same sector), creative activities form another important industrial cluster in the Madrid Metro-region.[30] Dividing these creative industries in traditional and non-traditional (Lazzeretti and Capone, 2006), the former employs 128 000 workers, and the remaining 72 000 jobs are in the latter.[31] Creative industries account for 8.5% of total employment in the Madrid Metro-region: 5.3% in traditional creative industries and 3.2% in non-traditional creative industries. This puts the Madrid Metro-region in the lead as the most specialised region in creative industries, traditional and non-traditional, in Spain (Table 1.20). The editing and publishing industry has the lion's share of the regional creative industries. The Madrid Metro-region is home to some 2 500 firms (22% of the Spanish editing and publishing sector), involving 24 000 workers within the region (27% of the national employment figure for the sector). The bulk of the local firms (more than 1 400) are publishing houses (32.6% of the national total) and their turnover amounts to EUR 4.23 billion (59.7% of the national total). Many large publishing houses belong to foreign groups, demonstrating Madrid's attractiveness in this field. The creative cluster is localised in the very centre of the metro-region (Figure 1.44). The City of Madrid alone concentrates close to 60% of the regional employment in the industry (122 000 jobs). A high concentration of workers in the creative industry can also be observed in some other neighbourhood municipalities, localised in the urban outskirts, such as Alcorcón (5 800 jobs and 2.8%), Móstoles (5 800 jobs and 2.8%), Leganés (4 700 jobs and 2.3%), Getafe (4 200 jobs and 2.1%). Nevertheless, the actual type of the interaction between creative industries and territories is not well known.

The presence of specialised schools training local workers and the fact that Spanish-language products have a potential market of more than 500 million people, are the main comparative advantages of the Madrid-based creative industries. Regarding the schools, various levels and types of "creative" training can be detected in Madrid. A distinction can be made between formal training and refreshment courses. In terms of formal training, besides the Madrid Institute of Fine Arts (*Escula de Bellas Artes*) and the Architecture School, there exist state-funded schools (Islas Filipinas and La Paloma), those funded by the regional government (Puerta Bonita), and private institutions (Salesianos, Lasalle and Tajamar). Professional courses are organised in schools such as Salesianos and Tajamar. The potential for Spanish-language products is wide, with Spanish spoken across the Americas, Europe, Asia and Africa as the official language of more than 20 countries, and non-official, though frequently used in other countries (*e.g.*, in the United States, 25% of the population will speak Spanish

by 2050 according to UNESCO). This economic, social, and political potential represents an opportunity that Madrid is well positioned to exploit.

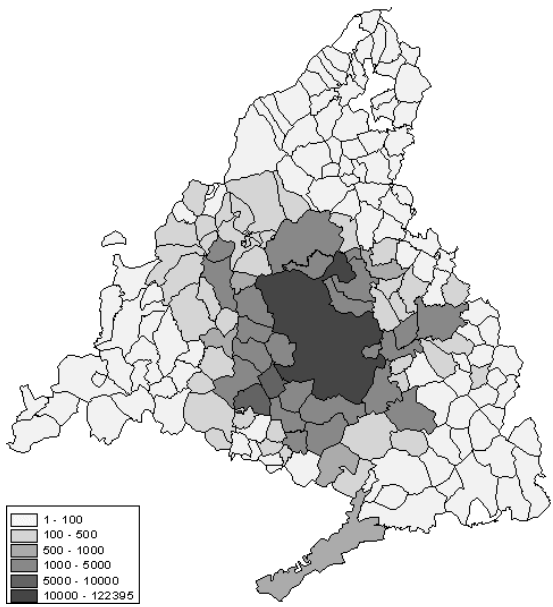
Table 1.20. **Distribution of the creative industry across Spanish regions**

Employment

	Total jobs			Percentage of the regional employment (%)		
	Traditional	Non-traditional	Total creative	Traditional	Non-traditional	Total creative
Madrid	**128 429**	**78 299**	**206 728**	**5.3**	**3.2**	**8.5**
Cataluña	112 446	48 212	160 658	4.0	1.7	5.7
País Vasco	28 590	12 741	41 331	3.3	1.5	4.8
Spain	**457 864**	**215 499**	**673 363**	**2.8**	**1.3**	**4.1**
Navarra	7 396	1 907	9 303	3.1	0.8	3.8
Aragón	10 108	4 789	14 897	2.0	1.0	3.0
Valencia	36 896	14 303	51 199	2.2	0.8	3.0
Balearic Islands	7 814	3 223	11 037	2.1	0.9	3.0
La Rioja	2 590	891	3 481	2.2	0.8	3.0
Asturias	7 694	3 250	10 944	2.0	0.8	2.9
Castilla y León	16 846	7 043	23 889	1.8	0.8	2.6
Cantabria	3 699	1 668	5 367	1.8	0.8	2.6
Galicia	20 010	6 646	26 656	1.9	0.6	2.6
Canarias	12 506	5 168	17 674	1.8	0.7	2.6
Andalucía	41 428	18 338	59 766	1.7	0.7	2.4
Castilla-La Mancha	9 475	4 283	13 758	1.5	0.7	2.1
Murcia	7 263	2 888	10 151	1.5	0.6	2.1
Extremadura	4 196	1 709	5 905	1.2	0.5	1.7
Melilla	228	77	305	1.1	0.4	1.5
Ceuta	250	64	314	1.1	0.3	1.4

Source: Elaboration on INE (Spanish National Institute of Statistics) – Census 2001.

Figure 1.44. **Location of jobs in creative industries within the Madrid Metro-region**



Source: Elaboration on INE (Spanish National Institute of Statistics) – Census 2001.

The life science cluster

Madrid has the largest concentration of life science industry in Spain: 32% of firms, 61% of national turnover, 50% of national employment, and 31% of biomedical and health science publications. The R&D expenditure in this field in regional academia adds up to EUR 400 million, equivalent to the 79% of the Spanish private investment in biotechnology companies. Life science is a multi-faceted industry that includes a number of private and public organisations (Table 1.21). The most important segment of the life science cluster is pharmaceuticals. Madrid is home to 26.3% of the pharmaceutical companies in Spain, 35% of the total employees and 45.54% of all laboratories. Spanish subsidiaries of multinational (the so-called *Big Pharma*), alone generate 70% of the turnover, 60% of exports, and 50% of

the private R&D expenditure in pharmaceuticals (despite having their main research centres located elsewhere). Therefore, despite the concentration of firms, Madrid is more a large final consumer market than a region specialised in pharmaceuticals.

The Madrid life science cluster is not as competitive at the international level as at the national level though it is gaining importance. However, the sector has grown, albeit from a reduced base, by 350% in the last four years and is starting to become a relevant international player in R&D, spin-offs, and research and collaboration. Spain ranked 4th in Europe in biotechnology-related activities from 2000 to 2003 according to Genoma España (Ministry of Health, Science and Technology, Spain). At the national level, the high competition among regions in the biotechnology field makes it harder and harder to achieve a high regional specialisation in such an advanced sector. Spain has not promoted the concentration of this sector in a given region, and biotechnology policies are left up to the regional initiative instead of being organised and led by the central government, as is often the case in the development of this sector in others countries. Furthermore, the Madrid Metro-region lacks a structure for agents, institutions and knowledge base which are all critical to achieving results in a highly technical and scientific innovative sector (Alonso, Cendejas, Encinar and Muñoz, 2006).

Although life science entities are located in many different areas within the Madrid Metro-region, the most important concentrations are in the City of Madrid and in the north-eastern area of the region. The City of Madrid brings together the bulk of research centres and the largest company headquarters. Private research centres and the productive plants are located in the north-eastern area of the metro-region (*i.e.*, the municipalities of Tres Cantos, Colmenar Viejo, Alcobendas, Alcalá, and the so-called Henares corridor, close to Barajas airport and a number of logistics centres). Minor concentrations are to the south (the municipality of Leganés) where mainly low value added activities are located.

Table 1.21. **Main organisations within the Madrid life science cluster**

Universities	Autonomous University of Madrid (biotechnology, molecular biology and biomedicine) Universidad Complutense de Madrid (genomics and proteomics) University of Alcalá Polytechnic University of Madrid
Research Centres	Severo Ochoa Molecular Biology Centre Alberto Sols Biomedical Research Institute Ramón y Cajal Institute of Neurobiology Institute of Pharmacology and Toxicology Institute of Industrial Fermentations National Cardiovascular Research Centre IMIDRA (the Spanish National Cancer Research Centre) INIA (the Astrobiology Centre).
Hospitals	"12 de Octubre" University Hospital San Carlos Clinical Hospital "Gregorio Marañón" General University Hospital La Paz University Hospital La Princesa University Hospital Ramón y Cajal University Hospital
Large bio-tech and pharmaceuticals companies	Agrenvec – Bioalma – Biotecnologías Aplicadas – Bionostra – Biotherapix – Biotools – B&M Labs – Cellerix – CircaGen – Coretherapix – Genómica – GlaxoSmithKline – Genetrix – Ingenasa – Integromics – Neuropharma – Pharmamar – Plant Bioproducts – Zeltia Group – ZF Biolabs The multinational *big pharmas*: MSD, Lilly, Roche, Serono
Corporate associations	The Spanish Biocompanies Association (ASEBIO) The Association of Biotechnology Companies of the Region of Madrid (BIOMADRID)

Source: Elaboration on Genoma Spain.

Other non-clustered productive specialisations

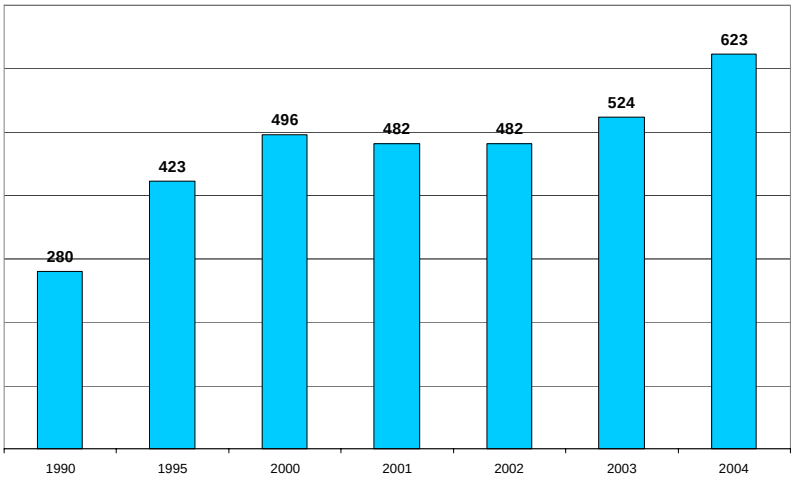
Tourism

With a capacity to host 65 000 visitors per night, Madrid is one of the most attractive destinations in Spain, only after the Mediterranean regions of Catalonia and Andalusia. Such a competitive advantage comes from the local endowment of cultural and natural amenities as well as from the economic role of Madrid, which also attracts business visitors. From a European perspective, Madrid is also one of the most popular tourism destinations, ranking 4th in 2004 only behind London, Paris and Rome, and ahead of cities, such as Barcelona, Berlin and Amsterdam (UNWTO, 2005). Tourism is becoming one of the leading industries in the world economy. Since the end of the 1990s, international tourism receipts have more than doubled reaching USD 623 billion in worldwide totals (Figure 1.45). The general trend seems to have recovered from the slowdown of the first years

of the millennium (probably due to the "9/11" attack). Spain has a lion's share in this global market.[32] The nation ranks second both in terms of arrivals and revenues, only after, respectively, France and United States (with an average revenue of roughly USD 750 per tourist) (Table 1.22). Because of the large commercial deficit, the tourism industry is vital to the national economy, accounting for approximately 11% of gross domestic product (2004) (INE –Spanish National Institute of Statistics, Tourism Satellite Accounts).

Figure 1.45. **Overall world tourism receipts**

Billions, USD



Source: UNWTO (2005), *World Tourism Barometer*, United Nations, Madrid.

The Madrid Metro-region can match a diversified demand of tourism. Its cultural and natural amenities are abundant, and in the last decade Madrid has increased its specialisation in the niche of business tourism. Regarding cultural amenities, one of the main attractions in the capital is the so-called "gallery route", which comprises "El Prado", the "Reina Sofía" and the "Thyssen" museums; a good cultural offering with a wide range of styles and media in their collections. The local network of museums attracted more than 8 million visitors in 2003 with a consistently positive

Table 1.22. **Tourism arrivals and receipts in the world economy**

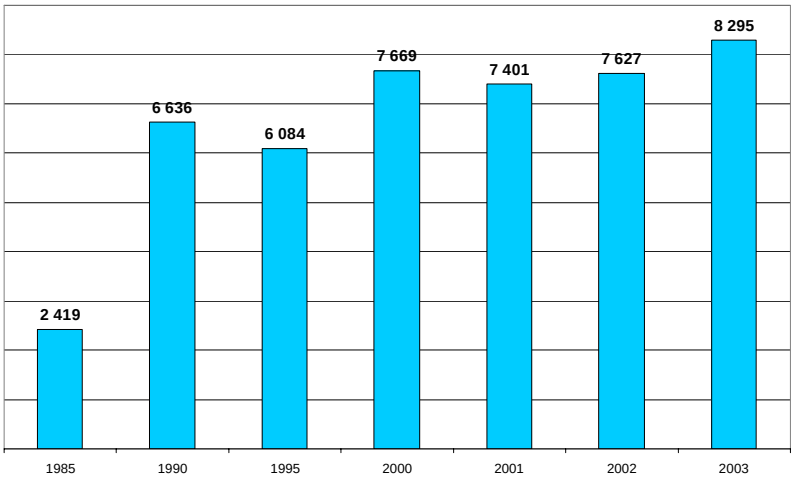
International Tourist Arrivals (million)							International Tourism Receipts (USD billion)						
				Change (%)		Share				Change (%)		Share
		2003	2004	2003/ 2002	2004/ 2003	2004		2003	2004	2003/ 2002	2004/ 2003	2004
1	France	75	75.1	–2.6	0.19.8		1 US	64.3	74.5	–3.4	15.7	12.0
2	**Spain**	**51.8**	**53.6**	**–0.9**	**3.47**		**2 Spain**	**39.6**	**45.2**	**4.4**	**3.8**	**7.3**
3	US	41.2	46.1	–5.4	11.86		3 France	36.6	40.8	–5.4	1.5	6.6
4	China	33.0	41.8	–10.4	26.75.5		4 Italy	31.2	35.7	–2.1	3.8	5.7
5	Italy	39.6	37.1	–0.5	–6.44.9		5 Germany	23.1	27.7	0.4	8.9	4.4
6	UK	24.7	27.8	2.2	12.33.6		6 UK	22.7	27.3	2.1	7.5	4.4
7	Hong Kong (China)	15.5	21.8	–6.2	40.42.9		7 China	17.4	25.7	–14.6	47.9	4.1
8	Mexico	18.7	20.6	–5.1	10.52.7		8 Turkey	13.2	15.9	10.5	14.3	2.6
9	Germany	18.4	20.1	2.4	9.52.6		9 Austria	14.0	15.4	3.8	0.4	2.5
10	Austria	19.1	19.4	2.5	1.52.5		10 Australia	10.3	13.0	0.8	10.7	2.1

Source: UNWTO (2005), *World Tourism Barometer*, United Nations, Madrid.

trend (Figure 1.46). Moreover, the region of Madrid is home to three World Heritage Sites (UNESCO) and has a good endowment of sport infrastructure.[33] Madrid also has a very lively nightlife which attracts young tourists from all over Europe. Regarding natural amenities, the City of Madrid has the highest percentage of trees per inhabitant of any capital in Europe. Large parks characterise Madrid. There are green areas situated both in the City of Madrid and in the surrounding territories of the Madrid Metro-region, which are strictly protected. The largest green area is the "Monte del Prado", within the boundaries of the City of Madrid, which covers 14 500 hectares. Lastly, Madrid has become a major destination for business conferences and expositions. It holds more than 3 000 business meetings per year, which are attended by over 4 million people a year. In 1998 the city received the top ranking from the ICCA and has remained in the top ten ever since. The infrastructure is composed of two exhibitions centres with approximately 250 000 m^2 for exhibitions and two conference centres. Around 180 companies located in the region are specialised in the organisation of events and business tourism.

Figure 1.46. **Museum visitors in the Madrid Metro-region per year**

Thousands of people



Source: Municipality of Madrid.

Building and construction

The building and construction sector has contributed to the recent boom both of the Spanish and Madrid economies. In 2005, the sector represented 8.8% of the gross value added of the region's economy, with more than 300 000 registered construction workers in the region and 150 000 in the City of Madrid alone. In 2004 these numbers denoted a growth rate of 8.7% in the region and 7.1% in the City of Madrid. Part of this recent boost was due to the 2005 process of regularisation of migrants, many of whom were already working prior to 2005 in the sector.[34] In the first nine months of 2005, more than 73% of the 42 000 new jobs in the sector were taken by foreign migrants, raising the participation of foreigners to 24% of the total workforce.

Madrid is home to a number of large and deeply specialised construction companies competing on the international market. Once a non-tradable sector, construction has become a globalised market in which a number of large companies compete in selling their products and their services. The development of the construction sector in Madrid has been related fundamentally to two factors. First is the significant expansion of building and construction activities not just in Madrid, but also in the rest of Spain.

The expansion of the new building stock and of rehabilitation of buildings in Madrid and elsewhere in Spain during the recent building boom has been accompanied by huge public investment (by local, regional and the national administrations and the EU) in transport and other forms of infrastructure. The sustained rise in property prices experienced by Spain since the late 1990s has also contributed to attracting investment into the sector. The second factor is that, in addition to the SMEs that dominate the sector, Madrid is home to a number of large construction firms that have a large share in the Spanish market and are able to compete internationally. Large firms originated through processes of internal restructuring, and mergers and acquisitions of foreign firms.[35] According to the 2006 McGraw-Hill Engineering News Record (ENR) ranking of top global contractors, Spain had six construction firms among the top 50 global contractors. All six firms have their headquarters in Madrid. No other city in the world, with the exception of Tokyo-Yokohama, with eight, had such a high concentration of construction firms among the top 50.

1.6. Challenges ahead

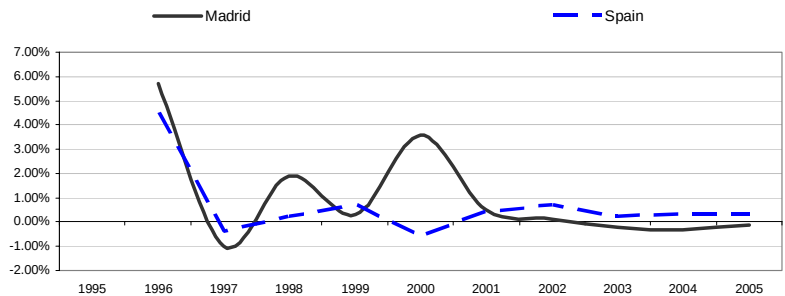
Increasing productivity

Increasing labour productivity in Madrid will be a key challenge to secure its competitiveness and upgrade its economic base. As previously mentioned, Madrid has a relatively low level of labour productivity in comparison to the leading OECD metropolitan areas (18% less than the average of the 78 OECD metropolitan regions in the metropolitan database in 2002). While, the interpretation of such data should be evaluated carefully due to the reasons mentioned previously (including the regularisation of a large number of immigrants in 2001), Madrid has still been under-performing in labour productivity growth since 2001 compared to the national average (Figure 1.47). The relatively low productivity level is a national issue: from 1998-2002, the average increase of labour productivity within the OECD was at 2.12% against only 0.8% in Spain (OECD, 2007b). Factors such as the relative decline of the high-tech manufacturing and a high creation of jobs characterised by impermanence and the low returns to education or experience should be addressed to increase the productivity level in Spain, and in Madrid (OECD, 2006b).

The shrinking contribution of high-tech manufacturing has partly contributed to Madrid's relatively low productivity. As assessed above, between 2000 and 2005, high-technology manufacturing contribution to the regional GVA has been falling from EUR 2 208 million to EUR 1 927 million, reducing its total contribution from 2.2% to 1.3%

Figure 1.47. **Annual productivity growth (per worker)**

Deflated values, 1995-2005



Source: INE – Spanish National Institute of Statistics).

(INE – Spanish National Institute of Statistics). A main reason for this trend is linked with the low level of R&D. As will be demonstrated below, the level of R&D expenditures is higher in the Madrid region than the national average; yet it remains relatively low as compared to other metro-regions, reflecting a national problem of low R&D investment. Despite improvements in recent years and the most generous R&D tax break system in the OECD,[36] Spain is still close to the bottom of R&D rankings with a spending-to-GDP ratio of just 1.1 %, against an EU average of 2% and 2.8% in the United States (2004). New EU member states, which have much lower per capita GDP than Spain, are close to Spain at 0.84%. Almost half of spending (48%) is carried out by the public sector (universities and government institutions), meaning that 52% of spending comes from the private sector. This is low considering that many EU countries' private spending accounts for 65% of total spending while it is 70% in the United States. Moreover, despite the aforementioned increased importance of knowledge-intensive services (which has increased productivity over the last decades, primarily because of the uptake of ICT)[37] within the regional economy, a large part of the new jobs has been created in community, social and personal services, all activities in which labour productivity was low.

The dual labour market of the Madrid Metro-region may also have affected labour productivity. The Madrid Metro-region, like the rest of Spain, has a dual labour market shared between highly protected permanent workers and people engaged in fixed-short term contracts (Figure 1.48). Fixed short-term contracts were introduced in Spain in 1984 to reduce the negative impact of the high protection of workers with open-end contracts,

which in Spain is one of the highest in the OECD (Figure 1.49). Although the reforms have promoted the creation of many new jobs, the excessive use of fixed term contracts (currently accounting for about a third of all employees in Spain, and some 28% in Madrid (INE – Spanish National Institute of Statistics), compared to an OECD average of 13%). Legislation which came into force in mid-2006 introduced, among other things, some restrictions to the successive use of temporary contracts as well as temporary incentives for the conversion of temporary contracts to permanent ones. This legislation has lead to a modest decline in the proportion of workers on temporary contracts and may have caused an imbalance in the labour market reinforcing the traditional *insider-outsider mechanism* and promoting the creation of *low-skilled employment*.

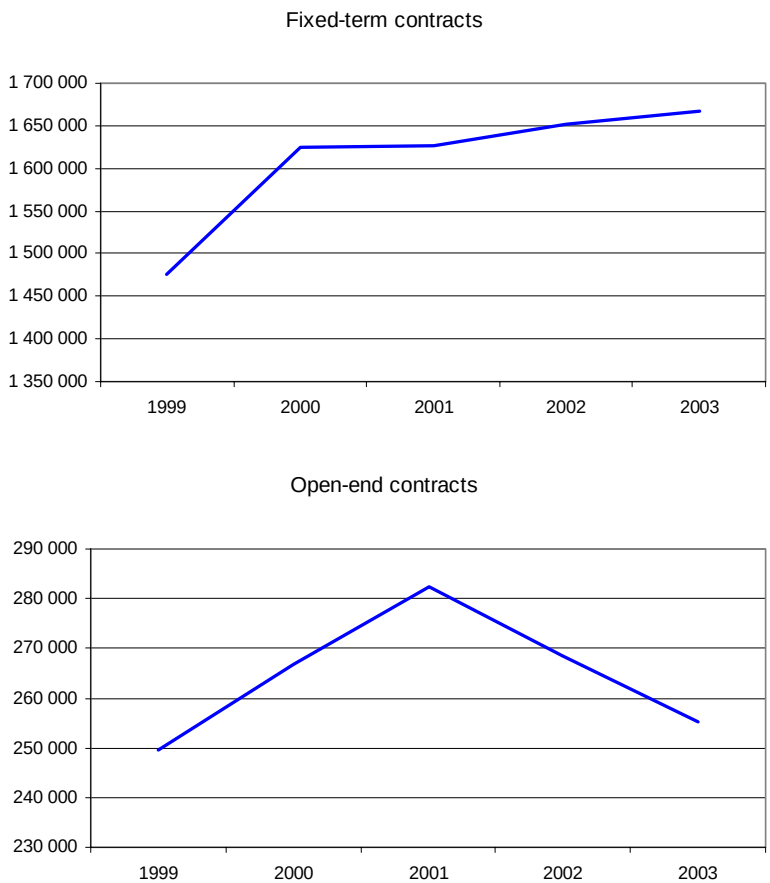
- The introduction of fixed-term contracts has reinforced the traditional insider-outsider mechanism associated with strict *employment protection legislation* (EPL) by adding a sort of "third group" of workers (temporary workers), which raises the effective protection of permanent workers. Accordingly, the latter enjoy job stability beyond the protection given by firing costs, since temporary workers are the subject of employment adjustments at the margin in case of a negative business cycle.[38] In such a situation permanent workers could have low incentives to redline their job performance. In addition, workers with fixed-term contracts might lower their work efforts if they know that their contract will not be renewed. The final effect is probably a reduction of the overall productivity of labour (Dolado, *et al*., 2002). Although temporary contracts should only be used for a limited duration (they can be renewed at most three times to a maximum of two years), they are widely used beyond the legal limit (OECD, 2005a).

- The over-use of short-term contracts has contributed to the creation of low skilled employment, especially in the service sector and in construction, which has been absorbing the bulk of non-EU workers in Spain, as well as in Madrid: a phenomenon that is likely to have affected labour productivity.[39] Moreover, many of these jobs are on the frontier between the informal and the formal economy. Therefore, the lower growth rate of GDP compared to that of the employment rate between 1998 and 2002 may be partially explained by the regularisation of these workers, who had contributed to the local economy but were not taken into account when labour productivity was calculated because they participated in the informal sector. Finally, although the high responsiveness of the labour market to the business cycle is positive from many viewpoints, in case of a long negative business-cycle, many of the

workers with low productivity could lose their employment, causing a growth of the informal economy (especially in the case of foreign workers), or a general decrease in regional wealth due to a reduction of the local activity rate.

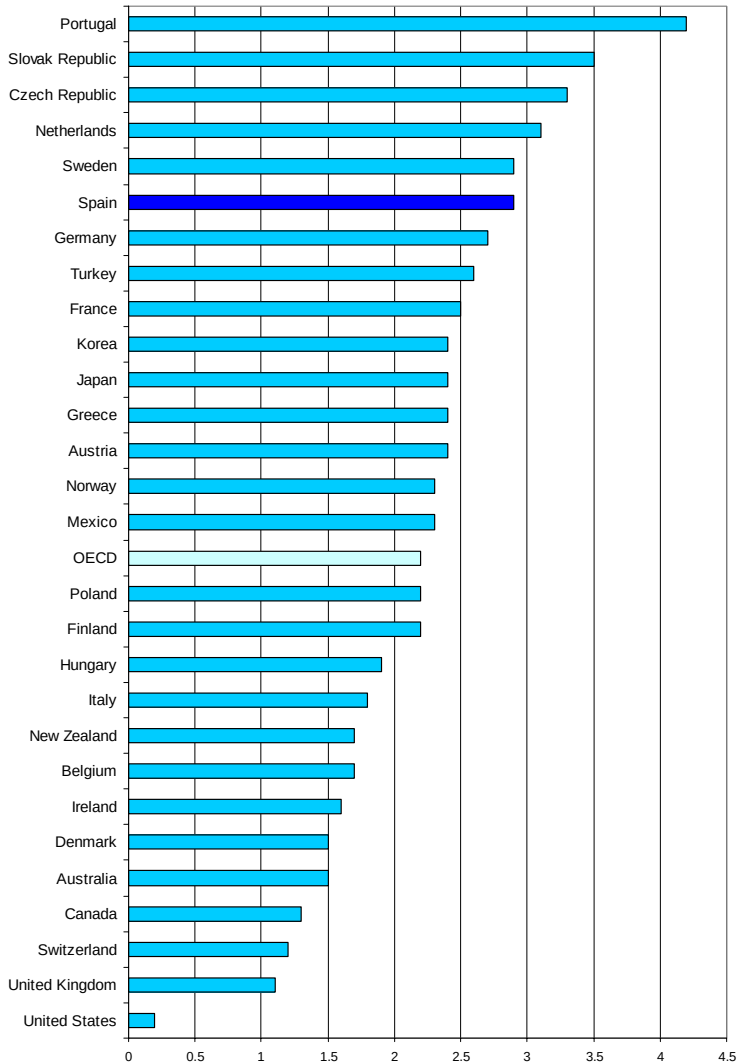
Figure 1.48. **Evolution of the contracts by type in Madrid**

1999-2003



Source: INEM – Spanish National Institute for Employment.

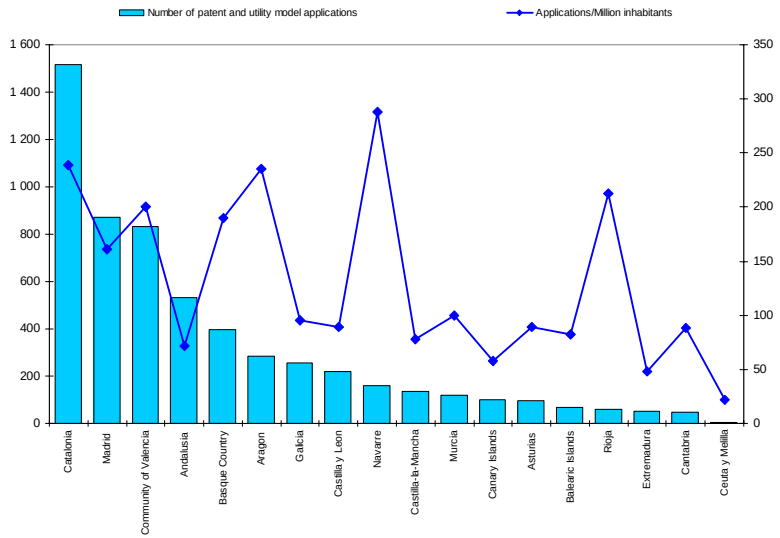
Figure 1.49. **Index of overall strictness of protection in the national labour market***



Note: * The overall indicator takes into account other variables, like procedural barriers, notice periods for dismissal and difficulty of dismissals. Scores can range from 0 to 6 with higher values representing stricter legislation.

Source: OECD (2005a), *OECD Economic Surveys: Spain*, OECD Publications, Paris.

Figure 1.50. **Number of patent and utility model applications in a selection of Spanish regions (2005)**



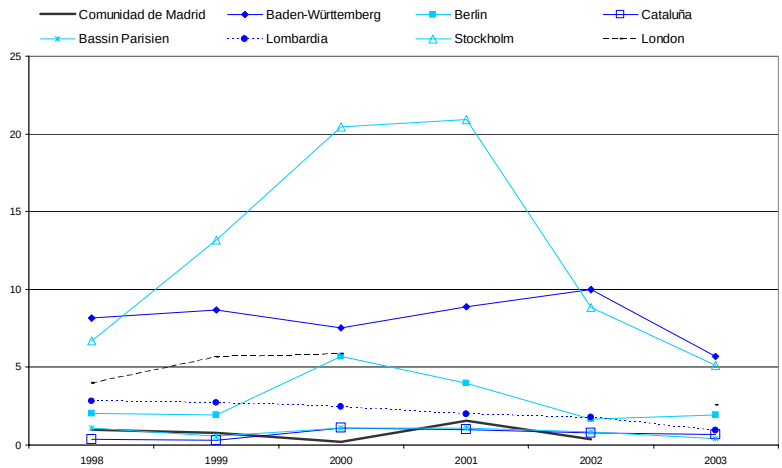
Source: Ministerio de Industria, Turismo y Comercio (Ministry of Industry, Tourism and Trade) (2006) Avance de estatisticas de propriedad industrial (summary of industrial property statistics).

Increasing innovation

The Community of Madrid produces less innovation compared to other leading European OECD metropolitan areas. On the national scale, approximately 30.5% of private R&D expenditure and 26.8% of the total public R&D expenditure were concentrated in the Madrid Metro-region in 2005. In the same year, 1.82% of the regional GDP was invested in R&D activities, *i.e.*, above the Spanish average of 1.13%.[40] Moreover, Madrid is home to 30% of all researchers in Spain, many belonging to public bodies (46 centres operated by the Higher Counsel for Scientific Research). Moreover, looking at output data on innovation activity the panorama is somewhat different, with Madrid contributing below its economic weight and significance in measures such as patents, utility model applications, and research output.[41] In 2005 Madrid was ranked second – behind Catalonia – at the national level in terms of patent and utility model applications (Figure 1.50). The picture is even worse when these data are normalised to population size, with the Madrid Metro-region producing only slightly more patent applications than the national average, ranking behind other regions such as Aragon, the Community of Valencia, Navarre, Basque Country,

Figure 1.51. **Patents applications in ICT consumer electronics**

Applications per million inhabitants



Source: Eurostat.

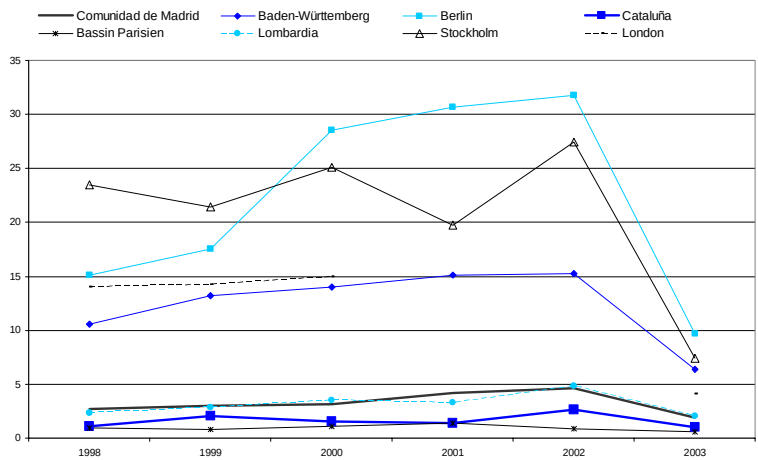
Rioja, and Catalonia. At the European level, taking into account ICT and biotechnology, two sectors in which innovation capacity is a competitive advantage itself, the number of patent applications in Spanish metro-regions is among the lowest compared to a selected sample of seven leading European metro-regions (Figures 1.51 and 1.52). Finally, at the international level, looking at the World Knowledge Competitiveness Index in 2004, Madrid appears in neither the ranking of the 50 most knowledge-competitive regions, nor in the 50 most knowledge-intensive regions of the world. Improving the local capacity to innovate is likely to have a broader impact at the national level, since these sectors have a "cross-sectoral" effect and can fertilise the average labour productivity.

Such limited effectiveness of regional R&D expenditures in generating innovation may be explained by a number of different factors that makes the environment less conducive to innovation, including the following:

- The overall education framework is of high quality, though there are some weaknesses. The Madrid Metro-region enjoys a dense system of universities and hosts three of the 20 best internationally recognised business schools (*Financial Times*, 2006 rankings, see *http://rankings.ft.com/rankings/mba/rankings.html*). Though there are no international comparisons in the form of test results, perhaps

Figure 1.52. **Patents applications in biotechnology**

Applications per million inhabitants



Source: Eurostat.

necessary considering Madrid's universities, on the whole, provide education to a large number of students in large classrooms, with a high student/staff ratio in most disciplines.[42] Survey information shows that Spanish higher education curricula does not correspond well to labour market needs, with a low weight on practical skills such as the use of computers, oral communication and planning skills, ability to solve practical problems and ability to work under pressure (COTEC, 2004). As the last *OECD Economic Survey on Spain* (OECD, 2007a) highlights, student mobility across universities in Spain is low, in part because of the low level of specialisation across them and the lack of discrimination in quality by the system and by employers, all of which discourage mobility. In addition, the external control of the selection system for professors has left a lot to be desired, resulting in problems of endogamy, whereby jobs primarily went to internal candidates. The recent modification of the selection system towards the implementation of a habilitation system before vacancies are filled by university departments has, in some cases, resulted in a decline in the number of vacancies, as university departments fear that they may not be able to place their own candidates (OECD, 2005a). More recently (2007), another national reform of the university framework took place (*Ley Organica de la Universidad*). The reform deals with three issues. First of all, it gives universities greater autonomy in defining teaching programmes and in recruiting professors. Of

course, this increased autonomy will be coupled with a strengthening of the monitoring and assessment of the quality of the university system. Second, to enhance linkages with the private sector, professors will be allowed to take a voluntary leave of absence for a five-year maximum period to develop more applied projects in firms. Universities and public research centres will also be able to create joint research institutes with businesses in order to forge closer links and facilitate personnel exchanges. Third, and last, the reform creates a sectoral commission including both representatives of the Ministry of Education and of the autonomous communities to better co-ordinate university management. Students will also participate more formally in the university organisation.

- Second, researchers in the public sector have traditionally had low incentives to increase their production, or to keep on working in the region or in the country. Most researchers, in science related sectors are concentrated in the Spanish public sector, though researchers in private firms earn between 20-30% more than researchers in university and public sector labs (ASEBIO, 2006). This is particularly relevant because there are legal restraints on the transfer of researchers and knowledge from the public to private sector, namely severe restrictions which impede the appropriate management of the innovation system. Technology-based firms generally operate in Spain within a very rigid legal framework. Legislation regarding intellectual property and the jurisdiction on biotechnology-based elements also adversely affects the integration of researchers' results. Legal restrictions condition the labour framework and discourage or even prevent the collaboration of highly qualified researchers working in different research centres, universities and companies, thus limiting the development of co-operation networks. It is worth noting that the aforementioned reform to the framework law on universities does include some measures to better integrate research activities with the private market. For example, it will be easier for faculty to take a leave and work in a firm. Another limitation is the fact that scientists that become entrepreneurs can only hold 10% of the stock capital if they wish to continue collaborating with their original department or centre (Ullastres, 2004). The situation is even worse for young scientists. Work conditions for young researchers during and after their post-graduate studies are far from optimal, as salaries are low and sometimes they have no access to some social security benefits. Researchers trained abroad often have difficulties in finding a job in Spain as the selection process of personnel in some universities suffers from endogamy, although a number of special programmes

to facilitate their return have recently been implemented (OECD, 2005a).

- Lastly, in Spain, like in many OECD member countries, linkages between public research institutions and private business, which are another sign of a dynamic business R&D environment, are not well exploited. This is in part due to a managerial culture of firms that is reluctant to embark on R&D projects. In this respect, programmes that foster the participation of public researchers in private firms are useful to increase the absorption of R&D and new technologies by firms, but their current budget allocation is quite small. Business-funded research in universities and public R&D centres is rare, and only 36% of Spanish companies consider co-operation as part of their innovative strategy, against 48% in the European Union (OECD, 2006b).

Improving and promoting a more equitable spatial development

Promoting regional accessibility and housing

Although Madrid has shown a great capacity to improve its international and regional accessibility, its transportation infrastructure is being challenged by the congestion resulting from the recent fast urbanisation process and rapid urban sprawl. In spite of significant efforts to improve transport accessibility in the region, the Madrid Metro-region still has a *mononuclear* and *radial shape.* The bulk of the administrative functions and a large part of the economic activities remain localised in the very centre of the region (City of Madrid), which is home to the largest labour market of the metro-region. On average, the overall regional population made 8.4 million trips per day in 2004; this was 38% more than the average value in 1996. Because of the urban sprawl, the largest improvement is concentrated in the use of private cars in which the total number in the metro-region has been increasing by 5.3% between 1996 and 2004. Traffic congestion has been soaring in the last decade and this is in spite of the good endowment of public transportation facilities characterising the City of Madrid and its outskirts. According to the European Metropolitan Transport Authorities (EMTA) the City of Madrid has the second highest percentage of users of public transport just after Paris and behind other metropolitan areas like Barcelona, London, and Frankfurt (Figure 1.53). The fact is that many commuters come from the ring belt of the metropolitan region. The demand for public transportation is dispersed and placed in locations distant from the core of the metro-region, making private transportation a rational choice for commuters.[43] Moreover, because of its centrality within the radial national transportation framework, Madrid also attracts the "in transit" traffic originating in other Spanish regions. Addressing this issue will be a

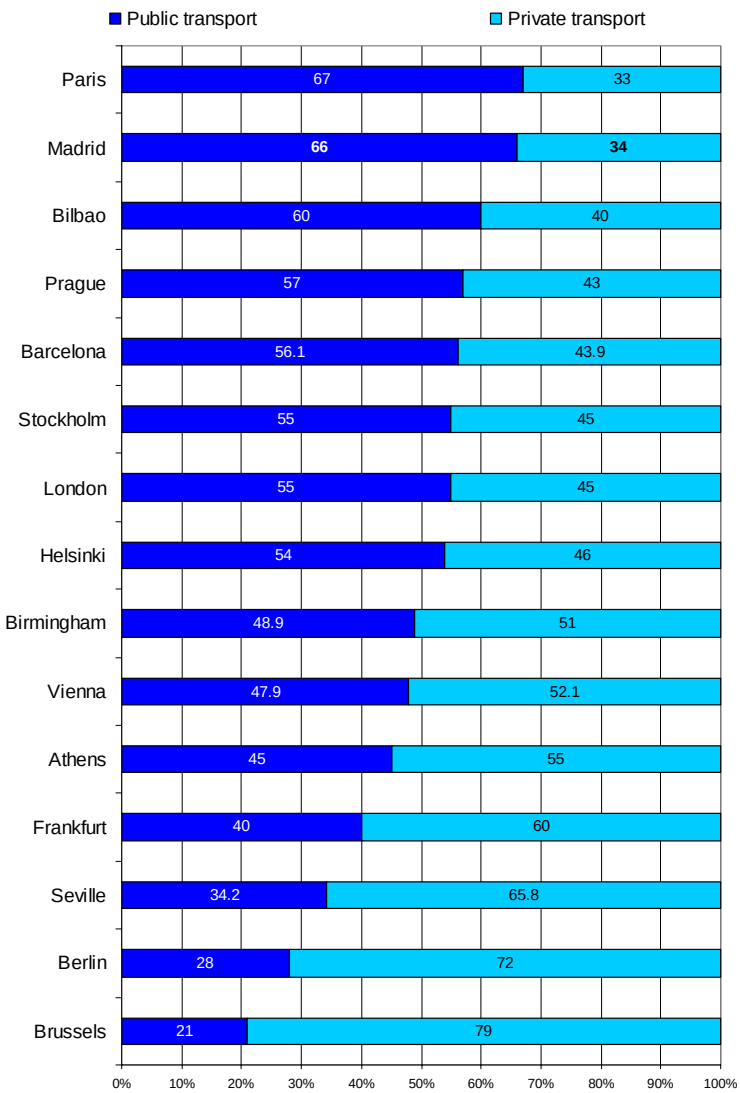
key challenge for Madrid in the future to maintain its level of attractiveness and its potential to position itself as a leading logistics platform.

Madrid is increasingly facing pressures on its housing market, which has led to significant and consistent price increases, in spite of a large production of dwellings.[44] The net result of this trend of rising prices is worrying for Madrid, particularly from the point of view of access to affordable housing for the most vulnerable segments of the city, but also for its capacity to attract foreign students and skills. For instance, about 22% of Madrid's 20-34 year olds still live with their parents (Strasser, 2005), as housing represent almost 40% of annual household expenditures in Madrid (Table 1.23). In addition, the increasing flow of immigrants is also likely to face growing pressure in terms of housing affordability. From a systemic point of view, in addition to the detrimental effects of housing escalation on the general level of prices and the competitive position of the overall Spanish economy, in the worst case scenario it might mean that a gradually overheating economy of Madrid might face bottlenecks in attracting labour supply in light of the pressing constraints in its land and housing markets. This is all the more worrying in light of the fact that many young people and immigrants will also enter the labour market through temporary contracts, implying a vulnerable position to negotiate long-term mortgages. There are two main reasons behind this escalation of real estate prices:

- First of all, the Spanish housing system has traditionally been excessively dependent on owner occupied housing, while the rental sector covers only a marginal part of demand (Table 1.24). The low supply of private rentals in Spain is mainly due to (*i*) low rent levels that are insufficient to offset the apparent associated costs (damage, unpaid rent, etc.) and (*ii*) obstructive or outdated regulatory obstacles.[45] Such conditions encourage owners to keep their property unoccupied. Therefore, the paradox is that, despite general increases in housing prices in Spain, and more particularly in Madrid, this is accompanied by large numbers of empty units. Spain's capital is one of the cities with the highest rates of vacant dwellings in Europe. The City of Madrid had 24.4% empty conventional dwellings per total number of dwellings during the period 1999-2003 while figures for Milan and London were 5% and 2.5% respectively (Eurostat, Urban audit, see *www.urbanaudit.org /DataAccessed.aspx*).
- Second, escalation in housing prices has been induced by the (regressive) tax deductions which are a part of the prevailing mortgage system that has introduced additional pressure on the market from the demand side and relatively low interest rates (Figure 1.54).

Figure 1.53. **Percentage of public transport and private motor vehicle trips**

Municipal districts



Source: European Metropolitan Transport Authorities (EMTA), 2005.

Table 1.23. **Yearly householders' expenditure**

	1999	2000	2001	2002	2003
Average yearly individual expenditure (EUR)	6 812.29	7 889.00	8 159.90	8 429.35	8 929.32
Average yearly household expenditure (EUR)	21 631.69	24 449.15	24 713.57	25 094.14	26 534.95
Index of individual expenditure	113.3	123.1	118.8	117.7	119.0
Structure of the expenditure (%)					
Housing and heating	38.1	35.0	36.3	37.5	39.2
Food drink, and tobacco	15.2	16.6	16.8	17.4	16.9
Transport	10.7	11.1	10.2	8.9	8.4
Hotel and restaurants	8.8	9.7	9	7.9	8.6
Clothing and shoes	6.8	6.8	6.4	6.2	5.6
Entertainment and culture	5.8	6.2	5.8	6.4	5.7
Furniture and furnishings	3.9	4.2	4.6	4.3	4.3
Communication	2.1	1.8	2	2.3	2.4
Health care	2.2	1.7	1.8	1.9	1.9
Education	1.7	1.5	1.5	1.7	1.6
Others	5.0	5.2	5.5	5.6	5.4

Source: Community of Madrid – Regional Institute of Statistics.

Table 1.24. **Households by Spanish regions and tenancy regime of the main dwelling**

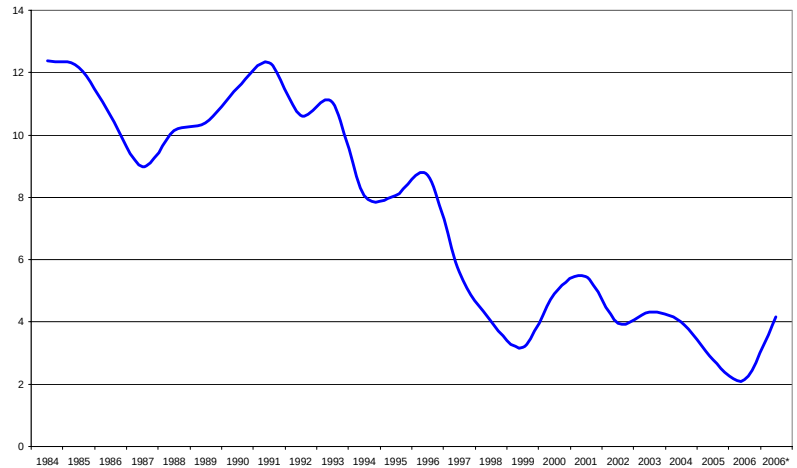
Unit: total number of households (thousands) and horizontal percentages

	Property	Rent at market prices	Rent below the market price	Free of charge
Spain	**82.0**	**7.7**	**3.8**	**6.5**
Andalusia	80.6	4.5	5.1	9.8
Aragon	83.4	6.8	2.4	7.3
Asturias	82.6	7.1	4.0	6.3
Balearic Islands	73.9	17.9	4.9	3.3
Canaries	70.3	11.4	5.7	12.6
Cantabria	84.5	5.0	1.9	8.6
Castilla y León	87.4	4.8	2.4	5.5
Castilla-La Mancha	86.7	5.0	1.0	7.4
Catalonia	79.3	11.8	4.6	4.3
Com. of Valencia	84.8	6.4	2.1	6.7
Extremadura	80.3	6.3	3.6	9.9
Galicia	84.1	5.8	2.0	8.1
Madrid	**82.4**	**9.6**	**5.3**	**2.8**
Murcia	78.8	8.9	2.2	10.1
Navarre	88.0	7.2	2.0	2.8
Basque country	88.5	4.5	3.2	3.9
Rioja	82.3	8.0	2.5	7.3
Ceuta and Melilla	58.7	12.9	16.3	12.1

Source: INE (Spanish National Institute of Statistics) 2004 Living Conditions Survey.

Figure. 1.54. **Mortgage market reference rates – rates at issue (mortgage certificate)**

% – as of January of each year



Note: * as of December 2006.

Source: Banco de España (Bank of Spain).

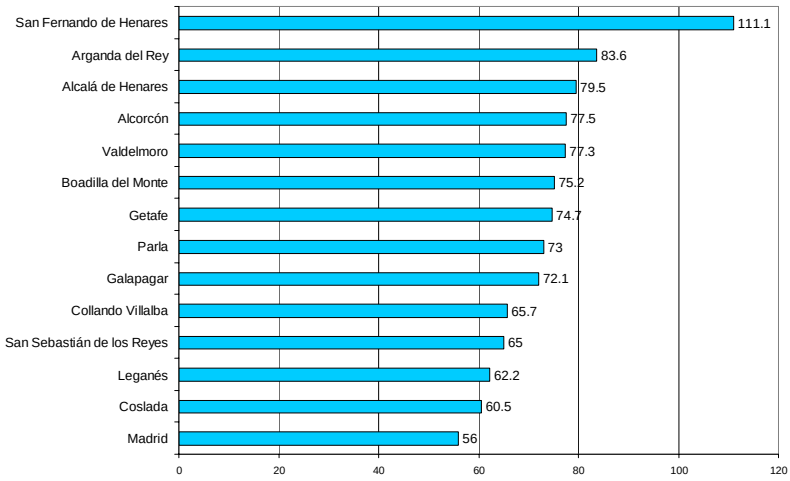
Integrating immigrants

Immigration has been one of the regional driving forces, yet like many other OECD metropolitan regions, Madrid might face some problems related to the large influx of migrants. Therefore measures should be taken to avoid what has been the common trend in large OECD metro-regions, *i.e.*, the strong spatial concentration of migrants in the poorest areas. Over 16% of the local population is foreign born, mostly non-EU workers. The number of foreign population in the Madrid region has increased from 282 870 people in 2000 to 446 893 in 2002 (a 162 023 difference of foreign inhabitants in just two years). According to a recent survey (Garcìa Ballesteros and Sanz Berzal, 2004) the majority of immigrants (56.4% of the sample) consider Madrid their final destination. Although recent quantitative data are not available, the dramatic influx of immigrants might have increased disparities within the Madrid Metro-region in recent years. For instance, the municipalities with the highest increase in foreign inhabitants are all concentrated in the south-east and in the south of

the region, the poorest and most densely populated areas of Madrid (Figure 1.55). Conversely, the higher concentration of income per capita is located in the north-western area of the Madrid Metro-region, in the sector with considerable recent urban growth. The north-western area of the metro-region is largely typified by its high social level, youthfulness, recent demographic dynamism and low-density residential nature. Therefore, whilst Madrid is often quoted as having so far managed to avoid wide spatial disparities and a limited trend of ethic concentrations in some neighbourhoods, there is a natural gentrification tendency in the region in which affluent people are leaving the centre and the south of the region to go to live in the most attractive suburbs of the Madrid Metro-region. The increasing spatial/income disparities due to the influx of migrants has inverted a positive trend started at the end of the 1970s in which the income distribution was becoming more egalitarian.[46]

Figure 1.55. **Madrid Metro-region municipalities with the highest increase of foreign population (%)**

2000-2002



Source: Garcìa-Ballesteros, A. and B. Sanz-Berzal (2004), *Immigración y Sistema Productivo en la Comunidad de Madrid* (Immigration and the Productive Framework of the Community of Madrid), Comunidad de Madrid.

Notes

1. The unit of analysis used depends on the availability of data and the objective of the analysis. For instance, for international comparison, and most of the socio-economic trends, the unit of analysis will systematically be the Madrid Metro-region whilst particular focus will be put on the City of Madrid for its role as an advanced services centre within the metro-region and in Spain.

2. For Spain, the Territorial Level 3 is consistent with the provinces or, as for Madrid, with the Community of Madrid.

3. Data are for 2002.

4. The Community of Madrid is the number one destination for Spanish students studying outside their city of residence (8.37% of the national total).

5. Constant prices 1995.

6. The Madrid Metro-region is considered to be consistent with the Community of Madrid. This is not verified for other Spanish metropolitan areas such as Valencia or Barcelona (where Catalonia is both demographically and geographically larger [4.9 million and 6.5 million inhabitants respectively in 2002]).

7. It is worth noting that the more complex an indicator is, the more it is exposed to subjectivity. Furthermore, another source of difference among rankings is the territorial scale at which comparison is carried out. Choosing the city boundaries or a larger territory closer to the urban functional area of the city deeply influences the findings.

8. Friedmann divides the world into three parts: "core countries", "semi-periphery countries" and "periphery countries". World cities are only found in the core and semi-periphery countries. Thus a large portion of the globe is excluded in world city formation (and the world economy). In Friedmann's (1986) formulation, a two-tier system is proposed. All but two primary world cities are located in core countries. There are three distinct sub-systems: an Asian sub-system centred on the Tokyo-Singapore axis, an American subsystem based on the primary core cities

of New York, Chicago and Los Angeles, and a West Europe sub-system focused on London, Paris and the Rhine Valley (see Friedmann, 1986).

9. The OECD uses GDP per capita as one of the indicators of regional competitiveness but recognises that it is not a perfect one (OECD, 2006a). See the Annex of this publication for a full explanation of the way in which such an indicator is built.

10. Another factor that is likely to explain Madrid's labour productivity figures is that most new jobs have been created in the service sector, rather than in industry (industrial employment has contracted as a share of total employment). Productivity in the service sector tends to be lower than in industry, especially if services are not knowledge intensive, as is the case in Madrid, and measuring productivity in most non-market-oriented sectors is notoriously difficult.

11. International trade tends to be more important for countries that are small (in terms of size or population) and surrounded by neighbouring countries with open trade regimes, than for large, relatively self-sufficient countries or those that are geographically isolated and thus penalised by high transport costs. Other factors also play a role and help explain differences in trade-to-GDP ratios across countries, such as history, culture, trade policy, the structure of the economy (especially the weight of non-tradable services in GDP), re-exports and the presence of multinational firms, which leads to more intra-firm trade.

12. The operational launch of "Greater Barajas", in January 2006, has provided the airport with two new runways (18L/36R and 15L/33R) and two new terminals (T4 and a satellite building), which means it can now handle a maximum of 70 million passengers per year. The number of passengers has doubled over the last 15 years, rising to more than 40 million in 2005.

13. This is the High Speed Line Madrid – Zaragoza – Lleida (to be extended to Barcelona and the French border). Although the line began operation in 2003 with a system allowing maximum speeds of 200 km/h, it will be able to reach 300 km/h with the introduction of the EMRTS Communications system. In any case, this new line, 55.4 km of which runs through the Community of Madrid, reduces journey times and increase travel options to Zaragoza and Lleida, providing 37% more capacity than the "conventional line" to Zaragoza, and 238% more to Lleida. GIF, the state rail infrastructure company, has budgeted EUR 32 million for this line for 2003 for signalling and communications work, and for the refurbishment of Atocha station.

14. In 1999 Spanish FDI to Latin America reached 4.9% of national GDP compared with the 1.8% to Europe. The wave of large Spanish investment

in Latin America finished in 2001, mainly because of the Argentinean crisis.

15. Banco Bilbao Vizcaya Argentaria's headquarter is still in Bilbao, while all the other functions have been moved to Madrid.

16. It is worth noting that the percentage of national FDI in Madrid is positively influenced by the fact that the Spanish capital is home to the headquarters of many foreign companies with activities in Spain.

17. The low trend in 2004 is probably due to the terrorist attacks to commuter trains that left more than 190 people dead.

18. Greenfield investments include real creation of new investments, co-locations and expansions of existing foreign investments and therefore exclude other forms of FDI such as mergers and acquisitions, joint ventures and license agreements.

19. Gross value added is the difference between output and *intermediate consumption* for any given sector/industry. That is the difference between the value of goods and services produced and the cost of raw materials and other inputs which are used in production.

20. The electronics sector is the most stunning example of the decline of high-tech manufacturing within the Madrid Metro-region. The sector was characterised by the presence of several small- and medium-sized spinoff firms that had relatively intense interactions with larger enterprises, specifically the case in Madrid with the telecommunications sector. During the 1980s this dense network of subcontracting and outsourcing relations even stimulated a modest research and development effort in the sector that was concentrated within the central territorial economy of Madrid (See Suarez-Villa and Rama, 1996). However, its limited competitiveness, and lack of tradition in international markets, combined with the increasing exposure to foreign rival firms, all lead to a dramatic downsizing and reduction of employment.

21. The rise of hub and spoke economies is due to the global process of fragmentation and subcontracting that is taking place in specific production chains. The local territory of a particular city may be considered an important hub/platform for some entrepreneurial functions of larger enterprises, and in that way might be linked to territories of other cities. Moreover, the vertically integrated model is increasingly being replaced by a segmented and more fragmented production chain, whereby specific activities and managerial functions, such as manufacturing, distribution, research and development, marketing and finance, are located.

22. The World Tourism Organization and the Latin American Capital Cities Organisation are based in Madrid. On top of concentrating the

headquarters and main offices of a large proportion of Spain's leading firms, more than 3 500 foreign companies have established their Spanish, Iberian, European or Mediterranean offices in Madrid. Some of the companies that have set up regional decision centres in Madrid are Altran, BP, BT, IBM, Pemex, Software AG and Thyssen Krupp. Moreover, some of the enterprises that have installed an R&D centre in Madrid Metro-region including: Boeing, BT Ignite, BP Solar, Janssen-Cilag, Lucent and Motorola. Finally, there are more than 25 centres which are responsible for the areas of finance (60%), human resources (36%) and ICT (24%). This concentration of finance activities comes from Madrid's attempt to develop itself as an international finance centre. Some examples of enterprises with RSS in Madrid are: Cigna, Deloitte & Touche, DaimlerChrysler, Ericsson and IBM.

23. Using a sample of 764 establishments from a universe of over 427 000 enterprises.

24. The international banking connectivity ranking is based on the international banking connectivity index which measures the importance of agents (firms) located in a given city in the banking sector on the global scale. This index is computed for a universe of 315 cities across the world and 100 global service firms. For a more detailed explanation of the index see also: Globalization and World Cities – Study Group & Network, *www.lboro.ac.uk/gawc/index.html*.

25. Wholesale banking activities are: establishments primarily engaged in accepting time deposits, making loans (mortgage, real estate, commercial, industrial, and consumer), and investing in high-grade securities. Savings and loan associations, savings banks, and commercial banks are also included in this industry.

26. Madrid's private agents are promoting the specialisation of some areas in finance, though on a smaller scale than London. For instance, the Santander Bank has built a big financial city in Boadilla del Monte, where they have located all their functional services for their worldwide activity. This Financial City – *Ciudad Financiera* – is located less than 20 km from Madrid's centre, in a large real estate project.

27. The main contractors specialised in engineering and R&D activities are Hexcel Composite, CESA, Gamesa Aeronáutica, SENER/Bóreas, CRISA, AICSA y ICSA.

28. The business associations are ATECMA (Spanish Society of Aeronautic Engineers), and the Chamber of Commerce of Madrid.

29. The same research explains that in Andalucía, around 72% of the aerospace cluster identifies the regional government as the most important agent for its development.

30. The creative cluster has been defined following the definition in Hall (2000).

31. According to Lazzeretti and Capone (2006), the creative industries can be divided into traditional and non-traditional. The former includes: music, film and video; architecture and engineering studios; and film, video and performing arts. The latter refers to: R&D in architecture, graphic design and fashion; software and computer services; and advertising.

32. It is worth noting that Spain, in spite of the strong euro and of the tragic events of 11 March in Madrid, saw tourist arrivals grow by more than 3% in 2005.

33. The Madrid Metro-region has a total of 18 241 sports centres among which 20 are golf courses. Moreover, the City of Madrid is home to two important football teams: the famous "Real Madrid" and the "Atletico Madrid".

34. In the Madrid Metro-region, non-EU workers are employed mainly in construction and proximity services.

35. The restructuring of the sector that allowed the emergence of such a regional specialisation of truly global firms in Madrid started in the early 1990s and was founded on a favourable regulatory framework and on the emergence of a competitive financial sector. The fact that most large construction firms in Madrid were already relatively specialised since their foundation also contributed to the growth of firms that were not necessarily competing for the same national contracts. Finally, the need to diversify in what is traditionally a very volatile sector also acted to spur the rounds of mergers and acquisitions. Today, Madrid's large building and construction firms are competitive on a global scale, bidding for and winning numerous projects around the world and with an increasing diversification of activities, which may help them to fend off any potential downturn in their core business in the Spanish market.

36. In Spain R&D tax breaks includes: (*i*) a full write-off for R&D-related investment in fixed assets; (*ii*) deductions for R&D-related spending (30%); (*iii*) deductions on incremental spending (50% of spending above the average of the previous two years); and (*iv*) an additional 20% on researchers' wages. However, these incentives are not used much. Only 15% of companies which innovate benefit from the tax breaks (COTEC, 2004).

37. Most service innovations are not technical and involve small and incremental changes in processes and procedures which do not require significant amounts of R&D. Traditional measurements of R&D such as patents do not capture these non-technical innovations very effectively. Regulatory reform, increased exposure of service activities to

international competition, the growing tradability of services and higher levels of investment and application of ICT are contributing to an increase of productivity in some service sectors such as financial services, communication and public administration services

38. This could justify the insurgence of high wage inflation, despite high unemployment (Bentolilla, *et al*., 1994).

39. The sectors which saw a larger number of fixed-term contracts in 2003 in the Madrid Metro-region were "other business activities" (36.23%), "recreational, cultural and sporting activities" (14.16%), and "construction" (13.21%) and hotels and restaurants (8%). Regarding occupational contracts, elementary plant workers in manufacturing (9.75%), administrative occupations (9.68%), elementary storage workers (7.37%) and sales occupations in retail (6.07%) were the most hired occupations in 2003.

40. Elaborations on the basis of INE (Spanish National Institute of Statistics).

41. A utility model is a registered right which gives its owner exclusive protection for an invention, similar to a patent. In general, an invention must be new, involve an inventive step, and lend itself to industrial application to be protected by a utility model. The level of inventiveness required is generally lower than that for a patent. Also, utility models may be granted without examination to establish that these conditions have been met. This means that protection could be obtained more quickly and at less cost than with a patent, but on the other hand it would have less legal certainty and the term of protection is usually shorter than for a patent.

42. Only two out of 14 Madrid-based universities (242 756 students in attendance representing 16% of the national total) are included among the 100 First European of the *Academy Ranking of World Universities* elaborated by Shanghai Jiao Tong University.

43. The subway is the most effective public transportation facility, yet its competitiveness with private transportation decreases sharply if the trip time exceeds one hour.

44. The large production of new dwellings is a national phenomenon. More than 490 000 new properties were produced in Spain in 2004, a higher number than in Germany, France and Italy combined, and an increase of 17% when compared to 2003 (La Caixa, 2005).

45. In order to protect the sitting tenants against rent increases, the Spanish government decided to freeze all rents between 1946 and 1964. This stimulated many landlords to sell their dwellings. As far as this is concerned, the strong rental protection also played an important role. In case of non-payment, eviction procedures generally took many years.

Consequently, homeowners became more and more reluctant to rent their vacant dwellings, and landlords cut back on their investments in maintenance and renovation. Even though the Spanish rent regulation was considerably liberalised after 1964, the Spanish government has not yet been able to reverse this trend. This is probably due to the fact that tenant rental protection is still rather high; also today the eviction of non-paying tenants requires long judicial procedures (Circulo de Empresarios, 2005, see *www.circulodeempresarios.org/index.php/circulo/sala_prensa/noticias/el_circulo_pide_voluntad_politica_y_acuerdo_para_resolver_el_problema_de_la_vivienda_en_espana*). And since non-paying tenants might occur more frequently in Spain than in many other countries (*Diario El Mundo*, 26 February 2004), there has emerged a culture in which letting a dwelling is equated with asking for problems. Consequently, many Spanish homeowners are very reluctant to let their vacant dwellings (Hoekstra and Vakili Zad, 2006).

46. Some riots involving immigrants from Latin America in the southern area of the metro-region (the Municipality of Alcorcón) could be the signal that the metro-region need to re-equilibrate its spatial development in order to avoid ghettoisation and the insurgency of large deprived areas within the Madrid Metro-region.

Chapter 2

Strategies and Policies for a Path of Long-Term Competitiveness

Introduction

Madrid has benefited greatly from democracy and globalisation. Once the capital city of an economically and politically isolated country, Madrid has become an important international hub. In terms of economic growth its performance has been among the best within OECD urban regions during the last decade. Madrid has been able to benefit from the overall good performance of the Spanish economy, as is reflected in the production growth figures, and in the level of almost full employment. Ongoing structural macroeconomic reforms, characterised by the streamlining of the regulatory framework, the increased exposure of product and factor markets to international competition, and prudent fiscal and monetary policies, have stimulated a gradual move towards the technological and managerial modernisation of Spanish enterprises in general, and those located in metropolitan regions in particular. In addition, as a capital city, Madrid has also benefited from a relatively large share of the total central government resources that completed regional and local governments' efforts for the improvement of urban infrastructure. In recent years the city has also been an important focal point for the increasing flows of immigration and foreign investment that are occurring in the country. This overall scenario of growth, combined with the cities' capacity to attract immigrants, new investments and firms, have created a positive environment, and a perception amongst policy makers that Madrid is competing with the main cities in Europe. Of course, such a good achievement has generated positive expectations among the local community. The goal of the development strategy implemented by the city government, for instance, is to transform Madrid into the most important metropolitan region in Europe only after Paris and London.

Despite this overall positive environment, and a set of ambitious policy measures that are under implementation by national, regional and local government, there are reasons to believe that the metropolitan economy of Madrid may be facing challenges in sustaining its present growth pattern in the event of negative shocks. At the more general level, there is evidence to believe that Madrid's successful performance over the recent years may be hiding structural deficiencies in its overall economic system, which may be highlighted more explicitly in case of a business cycle downturn. More specifically, for the coming future it will become increasingly crucial to work on the endogenous elements of its overall economic system in order to prepare the city and its metropolitan area for overall competitiveness. On its evolutionary path, the Madrid Metro-region has a number of key challenges ahead that need to be addressed to transform a long positive trend into a sustainable structural change and to rank among the leading European metro-regions. They include:

- *Pursuing a strategy to upgrade industrial mix towards higher value added activities*. Madrid has registered impressive specialisation in some productive activities, including in advanced services (*e.g.*, financial) and in some medium-high tech manufacturing activities, but relatively low labour productivity and innovation capacity have impeded further specialisation in some productive sectors such as high-tech manufacturing activities.

- *Improving integration of immigrants into the labour market*. Foreign migration's impressive contribution to population growth has increased from 4 to 13 % of the total metropolitan area in just over five years. However, this has also come with regional productivity losses due to the mismatch between training levels and skills requirements. In addition, although Madrid has so far not experienced much exclusion and spatial concentration from its migrant population, rising real estate prices and the lack of affordable housing might cause difficulties in the future.

- *Adapting urban planning to population and economic growth*. The lack of appropriate planning in the past led to uncontrolled territorial expansion which resulted in a mono-centric development pattern. Despite consistent efforts towards better co-ordination of land use policies and transport infrastructure undertaken since the mid-1980s, economic opportunities outside the core of the Madrid metropolitan region (composed of the City of Madrid, the municipalities of the southern first ring, and municipalities located in the eastern area, between the City of Madrid and the airport) still need to be further developed. Congestion costs have increased due to a dramatic rise in

private car users, despite impressive investment in transport infrastructure, especially in public transit. Rising real estate prices within the City of Madrid contributes to adding difficulties for the more vulnerable segments of the population that live in distant suburban areas. The pressing constraints in Madrid's land and housing markets, if not appropriately addressed, could also impede Madrid's capacity to attract labour supply, including high skilled workers.

In the following chapter, each of the above mentioned dimensions will be analysed successively. The conclusion part will address the need for a more collaborative framework for the elaboration and the implementation of economic development policies in light of the emerging role of local actors.

2.1. Building a dynamic knowledge-based economy

Madrid has to accelerate its shift towards a more knowledge-based metropolitan economy if it wants to reach its goal of ranking itself among the most competitive European metro-regions. The Spanish major metro-region has witnessed impressive economic growth since the mid-1990s that has contributed to a significant increase in its output per capita level (average annual growth rate of 3.7% over the period 1996-2004, *i.e.*, above the national average at 3.3%). As mentioned in Chapter 1, although Madrid's economic base has been shifting towards a modern, global advanced services economy, while manufacturing is losing its dynamism and low value-added services (construction, hotel and restaurants, community services,) now constitute a non-negligible part of the industrial mix. Crisis in electronics along with insufficient R&D expenditure have contributed to the reduced weight of high tech manufacturing. To upgrade its economic base, the Madrid Metro-region needs to implement a strategic approach aimed at three main and related objectives: (*i*) increase the productivity of the local labour force; (*ii*) raising the innovation capacity of firms; and (*iii*) better exploit the comparative advantages of promising high value added industrial clusters.

Improving labour productivity

Madrid's future competitiveness depends on its capacity to improve its average labour productivity. As highlighted in Chapter 1, in Madrid, like in the rest of Spain, labour productivity gains have been meagre, around 0.6% between 2000 and 2005, and in the last three years of the series it has actually decreased. Madrid has had a lower labour productivity level than the whole of Spain (also ranking low among OECD member countries for

this indicator).[1] Although, as explained in Chapter 1, the high number of "phase transitions" within local labour market could have generated a statistical bias for the indicator, there might be still some concern about the development patterns of the labour market. There are two main reasons behind such trends: (*i*) the over-use of short term contracts, especially for young and highly educated people, that act as an obstacle to training and innovation; and, partly connected with it; (*ii*) a significant job-educational mismatch that considerably limits the metro-region's ability to take advantage of its highly skilled regional population (Madrid ranks 8th in the OECD and 2nd in Europe out of 56 metro-regions for its share of population over 15 years old with tertiary education).

A reform of the national labour market legislation is therefore essential to raise labour productivity. As mentioned in Chapter 1, obstacles to improving labour productivity are partly linked with the large use of fixed-short term contracts for young workers. Although temporary contracts should only be used for a limited duration (they can be renewed at most three times to a maximum of two years), they are widely used beyond the legal limit. About a third of all employees are temporary workers in Spain, while in the Madrid Metro-region the percentage is 28%, both are significantly above the OECD average of 13%. The extensive use of short-term contracts is widely perceived to have a detrimental effect on innovation considering that it represents a brake in training, human resources capacity building and entrepreneurial initiative. Moreover, the indiscriminate use of fixed term contracts decreases labour productivity as it contributes to large education-skill mismatches. Empirical work has shown over-education has a significant negative effect on one's probability of being promoted in the future within the same firm (García Serrano and Malo, 2003). According to this finding, either employers do not see workers' over-education as a good signal for promotions or employees do not trust in their education because they perceive other characteristics as more important. Therefore, there is a need to pursue labour market reforms, and in particular that of the Spanish Employment Protection Legislation (EPL). In Spain, employment protection of permanent workers continues to be one of the strictest in the OECD. The exceptionally high severance payments introduce a high and uncertain cost, and deter the creation of permanent jobs, while temporary contracts are not subject to such costs (OECD, 2005a).

The local authorities can provide employers with incentives in order to reduce the use of short-term contracts for young highly educated workers. Local authorities might intervene to reduce the burden of severance payments on permanent contracts (which would imply a lower financial burden in case of firing), while, at the same time, effective and efficient *active* labour market policies could be triggered for this specific target group

(employment counselling, job search assistance, etc.). More specifically, a well-targeted and pro-active effort could be set up in partnership with the local universities and institutes of professional training in order to augment the insertion of their (almost) graduates into the labour market. These programmes could then be financed by the public sector (and thereby represent an indirect subsidy for the SMEs). If the programme is financed by the downsizing of more traditional (second best) policies, such as direct employment subsidies the budgetary impact is neutral. From the microeconomic point of view, there would also be an overall welfare gain, because the deadweight loss of direct employment subsidies is high, while the direct involvement of higher education institutes in active labour market policies would reduce both deadweight losses and structural mismatches in the demand and supply of highly qualified labour.

Increasing labour productivity in Madrid could be tackled as well by addressing the existing significant education-job mismatches (Table 2.1) (García Espejo and Ibáñez, 2006). Over-education is a characteristic of the Spanish labour market.[2] As recent research has demonstrated (García Espejo and Ibáñez, 2006), educational-skill mismatches are frequent and "chronic", they persist also after the worker's first job, especially if the worker's university degree is in social science or humanities (Table 2.2 and 2.3).[3] The recent reform of the university framework, approved in 2007 by the Parliament, is likely to have a positive impact on the issue as it will allow professors to work in the private sector for up to five years and subsequently return to teaching to transfer their experiences to their pupils. The university framework reform could be further enhanced by the creation of educational incubators, designed to strengthen links between academia and industry and improve existing job-skill mismatches. These incubators could facilitate the emergence of new and commercially viable products for the expanding and increasingly diversified educational market in Madrid, transforming it into an educational hub. Educational incubators could help to set up local and global linkages for Madrid universities, for instance, through the exploration and elaboration of international platforms for e-learning and distance learning in Spanish or English. Alternatively, incubators could follow some of Madrid business schools' best practices (analyzing the potential of a pool of large enterprises in the city) to help elaborate strategies for incorporating opportunities for continuous learning for executives.[4] Educational incubators could also perform a useful role within the non university segments, by designing and commercialising tailor-made courses for facilitating immigrant integration within the labour market and local society, access to quality and skill-appropriate vocational training material, and the improvement and modernisation of technology transfer centres, augmenting thereby their effectiveness within the Spanish society. Finally, this initiative is also likely to stimulate the (multi)media, editing and graphical industry.

Table 2.1. **Educational match in present job, according to areas of knowledge in the Madrid Metro-region (2003)**

Field of education	Relation between education and current job (1 to 5)
Law studies	2.3
Economics	2.7
Business school	3.3
Mathematics	3.4
Psychology	2.3
Philosophy	1.7
Philology	2.8
Geography and history	1.8
Biology	2.4
Physics	2.4
Chemistry	2.5
Medical school	4.4

Note: Intensity (1 to 5) of the relation between education and current job for graduated workers.

Source: García Delgado, J. L. (ed.) (2003), *Estructura Económica de Madrid*, Civitas.

Table 2.2. **Educational match in first job and in present job in Spain (2003)**

%

	First job	Present job
The job matches with worker's degree	41.6	52.0
Any university degree matches with the job	14.6	16.8
No university degree is required for the job	43.8	31.2

Source: García-Espejo, I. and M. Ibáñez (2007), "Educational-Skill Matches and Labour Achievements among Graduates in Spain", *European Sociological Review*, Vol. 22, No. 2, pp. 141-156.

Table 2.3. **Educational match in present job, according to areas of knowledge**

%

	Worker's degree	Any university degree	No university degree
Experimental studies	57.8	25.0	17.2
Technical studies	89.4	8.7	1.9
Social studies	38.0	23.0	39.0
Humanities	45.5	12.2	42.3

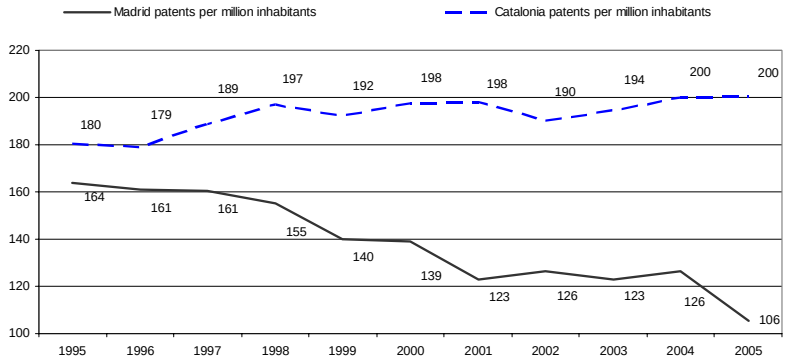
Source: García-Espejo, I. and M. Ibáñez (2006), "Educational-Skill Matches and Labour Achievements among Graduates in Spain", *European Sociological Review*, Vol. 22, No. 2, pp. 141-156.

Strengthening innovation capacity

A main obstacle for Madrid to position itself as an advanced knowledge-based economy is its low innovation capacity. Overall, research and development effort have not yet been translated into tangible economic effects for the Spanish and metropolitan economy. In spite of the concentration of the national private and public R&D expenditure in the Madrid Metro-region, the number of patent applications per inhabitant produced in the region is continuing to decrease toward the national average (Figure 2.1). In 2000 the Madrid Metro-region scored a lower ratio between R&D expenditure and patent applications than the national average. Specifically, R&D expenditure productivity was a third lower in the service sector than in manufacturing: just one patent application per 10 large service firms.[5] Such data question the effectiveness of the recently implemented innovation policies in the Madrid Metro-region. Moreover, the percentage of the regional GDP invested in R&D activities need to be increase to match the target defined by the EU Lisbon Strategy (Figure 2.2).

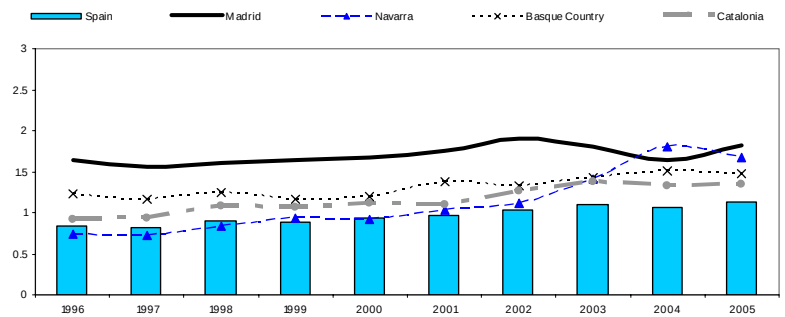
Figure 2.1. **Patents and utility models per million inhabitants in the Madrid Metro-region and in Catalonia**

Spain = 100, 1995-2005



Source: Oficina Española de Patentes y Marcas, Ministerio de Industria, Turismo y Comercio (National Bureau of Patents and Trade Marks, Ministry of Industry, Tourism and Trade, Spain), Sp@cenet (European Patent Organisation), United States Patent and Trademark Office (USPTO), and World Intellectual Property Organization (WIPO).

Figure 2.2. **Percentage of GDP invested in R&D in the most innovative Spanish regions**



Note: The EU objective for 2010 is 3% of total GDP.

Source: Elaborated from INE – Spanish National Institute of Statistics.

From a fragmented innovation policy framework…

Innovation led-policies in Madrid Metro-region originate from the three levels of government.

(*i*) *The central government* is responsible for the National Innovation Plan (*Plan Nacional de Investigación Científica, Desarrollo e Innovación Tecnológica* – PNI), which is the basic instrument for promoting and co-ordinating scientific and technical research, and is also related to the EU policy objectives. Within this framework the central government has implemented some national policies such as the *Ingenio* plan launched in 2005. This plan aims at increasing the scale of research teams and the flexibility of financing guidelines by stimulating the mobility between public sector researchers and the private sector. Moreover, between 2006 and 2010 resources amounting to EUR 1 billion have been reserved to guarantee the availability of research infrastructure. In addition, since 1995 the tax reductions and subsidised loans for research and development expenditure in firms have been among one of the most favourable in the OECD region. Finally, the newly launched *Avanz@* programme is expected to promote the diffusion of information and communication technology in firms, households and government. Substantial resources, around EUR 5.7 billion, will be available over the next five years, with co-financing from the regions ranging between -60%. Although data are not available, a large amount of these resources is likely to go to Madrid, since the region is home to 22 science-based national bodies, among which is the National Council for Scientific Research which co-ordinates another 46 research centres in many different scientific fields (Table 2.4).

(*ii*) The role of the *regional government* in science and technology policy has increased substantially in Spain, and Madrid has followed this overall trend. The Community of Madrid supports regional R&D expenditure, since 1990 mainly through the Regional Innovation Plan (*Regional de Investigación de la Comunidad de Madrid* – PRICIT).[6] This plan has had several editions: 1990-1993, 1994-1997 (extended to 1998 and 1999), 2000-2003 (extended to 2004), and 2005-2008.[7] The main public bodies destined to design and implement this policy were created between 1990 and 2002: General Direction for Research (*Dirección General de Investigación*); General Direction for Technological Innovation (*Dirección General de Innovación Tecnológica*); Regional Agency for Training and Health Studies (*Agencia de Formación, Investigación y Estudios Sanitarios de la Comunidad de Madrid*); and the Regional Foundation Madri+d (*Fundación para el Conocimiento*).

Table 2.4. **National science-based bodies in the Madrid Metro-region**

Ministry of Education and Science	Ministry of National Defence
CSIC (National Council for Scientific Research) CIEMAT (Research Centre on Energy and Environment) IEO (Spanish Institute of Oceanography) INIA (National Institute for Agriculture, and Food Research and Technology) IGME (Geo-mineralogy Technological Institute of Spain) CIDE (Educational Research and Documentation Centre)	INTA (National Institute of Aerospace Technologies) CEHIPAR (Centre for Hydrodynamic Studies) LIE (Laboratories of the Spanish Army) CIDA (Research Centre of the Spanish Navy)
Ministry of Health and Consumption	**Ministry of Public Works**
CNIO (National Cancer Research Centre) CNIC (National Centre for Cardiovascular Research) ISC III (Carlos III Health Institute)	DEDEX (Civil Engineering Research Agency) IGN (National Geographic Institute)
Ministry of Industry, Tourism and Trade	**Ministry of Economy and Finance**
IDAE (Institute for the Energy Diversification and Saving) CEM (Spanish Centre of Metrology)	IEF (Research Centre of Spanish Public Finance)
Ministry of Justice	**Ministry of the Presidency**
CEJ (Centre for Economic Justice)	CEPCO (Centre of Political and Constitutional Studies) CIS (Research Centre of Sociology)
Ministry of Labour	**Ministry of the Environment**
INSHT (National Institute for Safety and Hygiene at Work)	INM (National Institute of Meteorology)

- The PRICIT I was developed between 1990 and 1993, and had a budget up to EUR 18.8 million (EUR 4.7 million per year). The main objectives of the plan were to structure and consolidate the science and technology system of the Madrid region, and to boost research in strategic areas.[8] The main importance of the plan was to establish for the first time the basis for a regional innovation strategy preceding the imminent transfer of such competences from the central government to the regional community. The impact of the first PRICIT was narrowed by the limited amount of resources assigned to the plan, below the 0.5% of the total expenditure in science and technology in the Madrid Metro-region at that time.

- The PRICIT II covered the period 1994-1997, and was extended to 1998-1999. The total budget was EUR 99.6 million (53.5 to start, then an additional 46.1 due to the extension). Besides enhancing the regional science and technology framework, the PRICIT aimed to

create employment in knowledge-intensive sectors, improve competitiveness in the business sector, promote import substitution, and improve quality of life within the Madrid Metro-region. The results of the PRICIT II were particularly well viewed with regard to the effect of the plan on the amount of the regional R&D expenditure (1.5% of the total figures). Nevertheless, the actual impact of the plan on the innovation capacity was low since the "innovative intensity" (patents per capita) was steady in this period, as figures started to converge with Spain (Figure 2.1).

- The PRICIT III was implemented between 2000 and 2003, and was extended to 2004. The total budget was EUR 157 million (an average of 28 million per year between 2000 and 2003, and 45 million in 2004). University research in the field of biomedicine (life science) absorbed the bulk of the R&D investment (Figure 2.3). The plan was based on the Green Book of Innovation (EU), the National Innovation Plan 2000-2003, and the EU's 5th Research Framework Programme. The main targets of the plan were: creating employment, improving regional competitiveness, improving the internationalisation of the regional economy, and promoting knowledge amongst the local population. As for the previous plans, PRICIT III had a positive final evaluation, in spite of its reduced share of regional R&D expenditure (below 1.9% of the total) and the low performance of some output indicators such as patent applications per capita and labour productivity, which decreased dramatically.

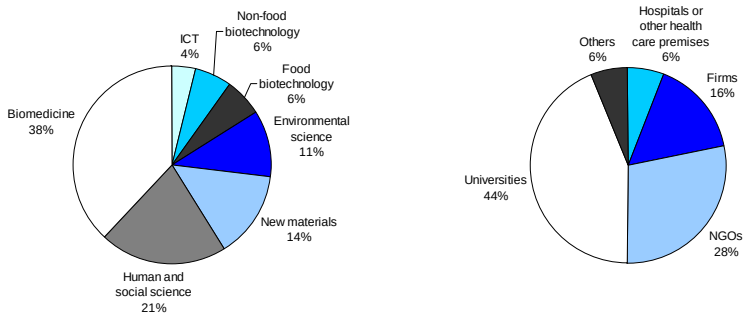
- Last, PRICIT IV (2005-2008), with an initial budget of EUR 225 million (EUR 56.2 million per year) was inspired by the EU Lisbon Strategy and the EU's 6th Research Framework Programme. The plan aims at transforming scientific research and technological innovation as a keystone of the regional productive framework. The plan aims at placing Madrid into the world network of knowledge regions. The IV PRICIT centres on seven areas: creating and attracting human capital, supporting research groups, promoting R&D expenditure and infrastructure, fostering co-operation with the private sector, promoting co-operation with neighbouring regions, transmitting the values of the science to the society, and monitoring and evaluating the plan. The IV PRICIT budget accounts for less than 2% of the regional R&D expenditures. Therefore, it seems to be insufficient to increase the R&D expenditure to 3% as fixed by the Lisbon Strategy.

Table 2.5. **Evolution of PRICIT within the Madrid Metropolitan Area**

	I PRICIT (1990-1993)	II PRICIT (1994-1997)	III PRICIT (2000-2003)	IV PRICIT (2005-2008)
Budget	EUR 18.8 million	EUR 99.6 million	EUR 157 million	EUR 225 million
Budget (by year)	EUR 4.7 million	EUR 16.6 million	EUR 31.4 million	EUR 56.2 million
Referents		White Book of the Scientific Policy (Comunidad de Madrid)	Green Book of Innovation (UE)	Lisbon Strategy (UE)
Objectives	1. Structuring and consolidating the S&T system of the CM 2. Fostering research in strategic areas	1. Structuring and consolidating the S&T system of the CM 2. Fostering research of quality	1. Research of quality 2. Innovation processes: technology centres 3. Social promotion of science 4. Tuning with the UE policy	– Quality of the regional system of R&D – Elevate Madrid to become a competitive place in the world network of knowledge regions
Main issues		1. Create employment 2. Improve competitiveness in the business sector 3. Import substitution 4. Social and economic development 5. Improve quality of life	1. Create employment 2. Improve territorial competitiveness 3. Internationalisation 4. Promotion of the culture in the society	1. Creation, attraction and use of human capital 2. Support to research groups 3. R&D infrastructures 4. Fostering co-operation and R&D in the business sector 5. Inter-regional co-operation with neighbourhood regions 6. Transmitting the values of the science to the society 7. Management, monitoring and evaluation of the plan
Incidence on R&D expenditure	– Initial figures place Madrid in an acceptable position regarding other UE countries.	– No important impacts appreciated in the period 1995-1999. – Patents (total and per capita) are steady (no positive or negative trend). Convergence with Spain.	– Positive although reduced impacts on R&D. – Other regions show similar or larger impacts. – Productivity growth rate reduces dramatically. – Patent per capita reduces. Convergence with Spain.	– No data.

Source: Elaborated from I, II, III and IV PRICIT evaluations (Community of Madrid).

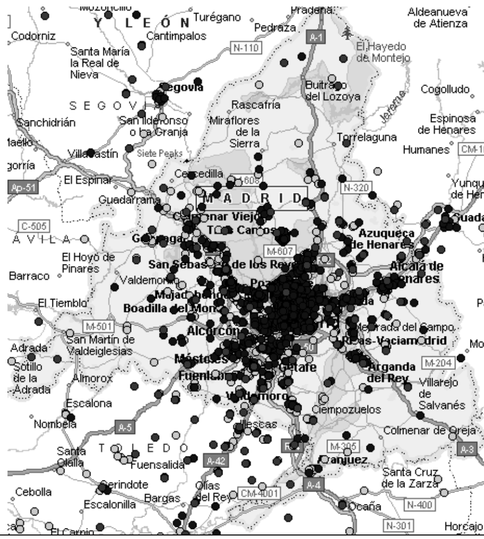
Figure 2.3. **Distribution of the grants of the III PRICIT**



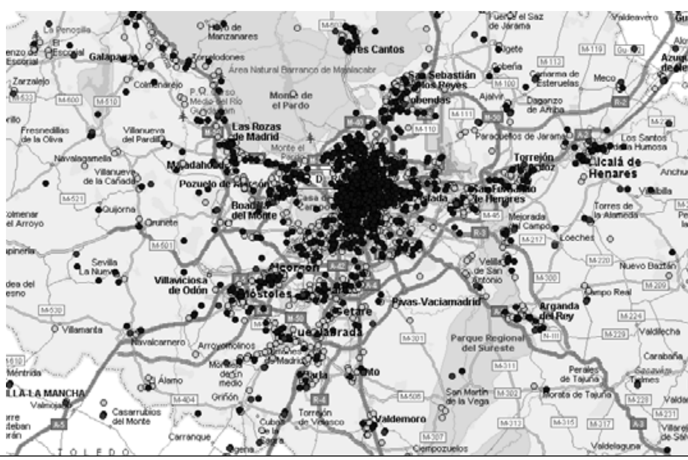
Source: Community of Madrid – Evaluation of the III PRICIT.

As observed in other OECD metropolitan regions, the innovation-led strategy implemented by the regional government also aims at enhancing territorial contiguity of knowledge intensive firms by promoting their location in science parks or technology poles. Looking at the localisation of knowledge intensive activities (firms) within the Madrid Metro-region, one can see that besides a thick localisation in the core of the region (due to the effect of urbanisation economies), there is a high density of knowledge intensive firms also in the urban outskirts, and especially along the *Corredor del Henares* and in the northern area (Figure 2.4). Such a spontaneous formation of clusters has been enhanced by regional policy. Although into the Madrid Community's White Book of Industrial Policy there is no reference to a "cluster" of equivalent figures (Comunidad de Madrid, 2004c), the development of industrial clusters is one of the tools of PRICIT IV. The cluster policy is implemented by the Madrid Institute for Development (IMADE), part of the Economic and Technological Innovation Department of the regional government[9] that has been promoting the network of science and technology parks in the region (Figure 2.5). At the moment, there are four parks under development, involving substantial areas. The development of these parks is undertaken through real estate consortiums involving private business, the partner local governments and the regional government that owns the land. In conjunction with other infrastructure programmes aimed at the improvement of Madrid's economy competitiveness, such as the Madrid logistical platform and the industrial parks, the regional government's interventions total around EUR 400 million and 6 million m^2 (IMADE, 2006c).

Figure 2.4. **Distribution of innovation activities in the Madrid Metro-region**

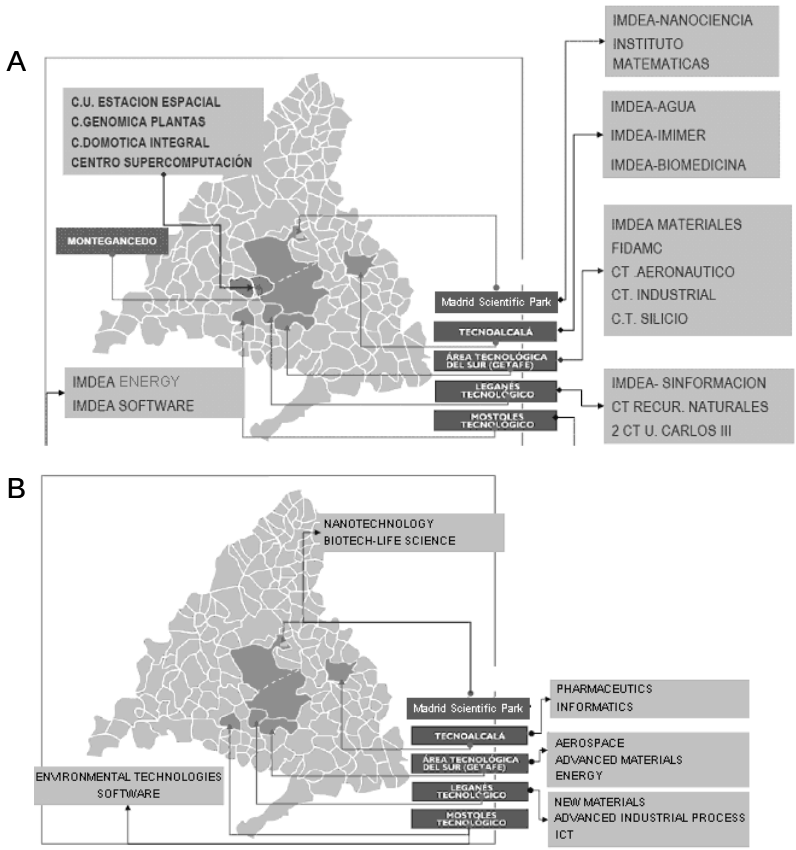


Detail



Source: Boix Domènech, R. (2006), "Economía del conocimiento, tecnología y territorio en España", CDTI and UAB, mimeo.

Figure 2.5. **Scientific parks (A) and technology clusters (B) within the Madrid Metro-region**



Source: Comunidad de Madrid (2006), *La red de Parques científico tecnológicos de la Comunidad de Madrid*.

The regional cluster policy of Science Parks and Technological Poles is focussed on three "key" industries: Aerospace, Biotechnology and ICT. The Aerospace Sector Plan (2005-2007) promotes the creation of a Scientific-Technologic Park in Madrid's southern area (*Área Technólgica del Sur*), centred in Getafe (Table 2.6) with an investment of EUR 34 million and the provision of some 250 000 m^2. In this park, the CM has promoted the

creation of a research foundation for new materials (*Fundación para la Investigación, Desarrollo y Aplicación de Materiales Compuestos*). The CM will also participate (25% of the overall investment) with EADS (The European Aeronautic Defence and Space Company with 50%) and the Ministry of Industry (25%) to create a centre for new materials (FIDAMC) that will be located in the park. Concerning life science/biotechnology, the Regional Government has been promoting the Madrid Scientific Park and Tecnoalcalá (Table 2.6). Among others, the incentives provided by CM within the park aim at promoting the creation of spin-off firms, the expansion of mature business, and the creation of multi-disciplinary research projects. ICT companies are clustered in the parks of Leganés and Tecnoalcalá (Table 2.6). In this respect the regional policy is less specific and there are no incentives dedicated to firms active in such industries.

Table 2.6. **Science parks articulates by IMADE (Community of Madrid)**

	Total surface (m^2)	Investment (millions of EUR)	Location	Main partners	Main sectors
Tecnoalcalà	180 644		University of Alcalà	100% Owned by IMADE. Collaboration of the Alcalà University	Chemical – Pharmaceutical – Life Science – ICT
Leganés	1 284 088		Leganés Municipality	IMADE – Leganés Municipality – Carlos III University	Mixed uses (Science, Industry, Commerce)
Área Technógica del Sur	232 346		Municipality of Getafe	IMADE – Municipality of Getafe	Aerospace – Material Engineering - Energy
Technological Park of Mostolés	670 536		Municipality of Mostolés	IMADE – Municipality of Mostolés	Mixed uses (High-tech companies)

Source: IMADE (Instituto Madrileño de Desarrollo) (2004), Memoria IMADE 2004, *www.madrid.org/cs/Satellite?blobtable=MungoBlobs&blobcol=urldata&blobkey=id&blobheadervalue1=filename%3DMemoria+IMADE+2004.pdf&blobwhere=1119126729950&blobheadername1=Content-Disposition&ssbinary=true&blobheader=application%2Fpdf*.

(*iii*) Though it has little experience or tradition in the area, the City of Madrid has recently undertaken a more active role in technology and innovation policy. The main focus is on information and communication technology, in an attempt to catalyse positive spin-off effects within Madrid's broader society, and to spread the knowledge and industrial trajectory into other segments, such as electronics. Specifically, there is a proposal for the implementation of a Science and Technology park in the Villaverde district (Madrid Scientific Park), also concentrating in the ICT sector. One particularly promising initiative in this area is the Madrid on Line Forum aimed at developing the information society through a more participative approach. The Forum initially grew out of a partnership between the municipality of Madrid and an association of telecom engineers, tasked to evaluate the ICT implications of its 2003-2008 initiatives. The methodology of the forum is a participatory elaboration for a diagnosis, and subsequent articulation of open-ended recommendations for strategies to advance the information society in Madrid. In a local planning environment such as the one in Madrid, which traditionally has not stimulated participatory multi-stakeholder decision making, this tendency represents a welcome shift towards more forward looking strategic planning techniques that stimulate information sharing and collective visioning. Moreover, the involvement of local government in the specific thematic area of ICT is likely to be beneficial in terms of positive spin-off for the efficiency and effectiveness in its service delivery (e-governance, responsiveness to citizen demands, enabling effective community involvement, etc.), while also building on, and reinforcing Madrid´s technical know how in sectors such as electronics and telecommunications. Finally, the initiative is also in line with the recently launched national *Avanz@* programme, which is focussed on disseminating ICT in Spanish society.

Overall, Madrid stakeholders have become increasingly aware of the importance of science, technology and innovation, and as a result explicit participatory policies have been set in motion at the local and regional level. Moreover, policy makers at all levels seem to be very conscious of what is at stake. For example, PRICIT IV aptly noted that a higher priority should be put on attracting research talent, elaborating larger research programmes in collaboration with the private sector, and structuring mechanisms aimed at better management, monitoring and evaluation of programmes. Finally, the City of Madrid's relatively impressive network of public and private universities, research institutions, university hospitals and laboratories should also be highlighted, as potential partners and beneficiaries of the series of investments in science parks and technological poles. Nevertheless, despite stronger public sector activism in the Madrid region, the innovation policy framework is characterised by a number of weaknesses.

(*i*) First, there is high fragmentation of programmes and funds. For instance, despite the advances of national programmes, resources are fragmented into many smaller grants, which fail to leverage opportunities to form larger, more competitive research alliances that join the best talents. This fragmentation may pose a real threat if the recent (in principle positive) tendency towards decentralisation of R&D policies is not accompanied with general and flexible guidelines that provide incentives for the formation of research teams composed of businesses, universities and research institutes, which have quality indicators, an appropriate scale, and the capacity to generate and disseminate technological modernisation and innovation. The fragmentation of the regional innovation system in Madrid is such that science based institutions in Madrid seems to have an "Image of Limited Good" (Foster, 1973). They accept the resources to be shared by a high number of participants, because they believe this to be the optimal solution. The distribution of the funds among many different institutions and sectors reduces the effectiveness of the investment, and limits the opportunity to support those sectors in which the region has an actual competitive advantage. Moreover, the impact on SMEs of tax deductions and subsidised loans for R&D has, for several reasons, been rather modest. First, the regulatory burden of the system has been cumbersome, while the system of loans has created obstacles for the creation of partnership and economies of scale among companies (that were also not willing to share data on financial matters).

(*ii*) Moreover, there is a lack of vertical co-ordination between public actors in framing and managing the regional innovation strategy. This lack of co-ordination is particularly prominent between the central and the regional governments. For instance, it is not clear how an increasing part of regional spending on technology policies will be co-ordinated within a new strategic national framework on Science, Technology and Innovation. Along the same lines, but to a lesser extent, a lack of vertical co-ordination can be detected between the regional and local government. While the region has been able to set up science and technology parks with surrounding municipalities such as Getafe, Mostolés and Leganés, the City of Madrid and the regional government have struggled to articulate and co-ordinate the location and operational details of the Madrid Scientific Park.

(*iii*) The lack of co-ordination in the system has resulted in the obvious duplication and reduction of scale of policy initiatives, and seems to have lowered the impact of programmes on the business sectors, specifically for SMEs. Firms, particularly SMEs, have not been able to promote a significant process of technological modernisation and innovation, and their efforts to interact with universities and research centres have been quite low. For instance, according to OECD data, more than 80% of Spanish firms

have never contacted a university to collaborate on a research project, and between 2001 and 2004 only 4% of innovative firms co-operated with universities (OECD, 2006b). As previously mentioned, the majority of the research and development efforts that occur in medium/high-tech segments of the economy, like aerospace and biotech occurs, have not been done by the larger Madrid-based firms. Moreover, the innovative capacity of SME is negligible. Madrid's relatively large contribution to overall Spanish R&D, as was previously mentioned, is not in fact a particularly positive indicator, as Spanish R&D efforts are lacking behind its competitors (1.1% of GDP, versus 2.0% in the EU and 2.8% in the United States). Along the same lines, empirical and theoretical studies on the innovation profile of regions have confirmed the notion that the presence of universities, large R&D centres and research infrastructure by no means automatically translates into innovation-prone regional societies. In order to establish the decisive link between innovation and technological modernisation of enterprises, the presence of entrepreneurship is an essential driving force, which, in the case of Madrid, has not yet been tapped to its full potential.

(*iv*) The Madrid Metro-region's regional innovation system risks to be strongly challenged because of the low involvement of local universities and their relative isolation from the local economy. Despite Spanish universities' considerable public recognition, they are relatively inward oriented institutions operating according to relatively rigid guidelines. Spanish universities will have to start operating on a more flexible and market oriented basis in order to compete with the ongoing process of internationalisation of academic institutions. For instance, only 1.2% of the first and second-level students in the Madrid universities are international students. Likewise, there is widespread disagreement within the academic community whether Spanish universities should insert themselves into the Bologna process, an effort to facilitate the international recognition of diplomas from European universities. Although Spanish policy makers' moves are overall encouraging in terms of the modernisation and internationalisation of academia, the existing regulatory framework guiding the institutions only provides a modest incentive for the university to be more outward-facing. For example, the existing criteria for faculty promotion do not reward interaction with the private sector, but rather are heavily biased toward traditional incentives (publication in scientific magazines). Likewise, the regulatory framework does not stimulate researchers to set up partnerships with private enterprise, under-utilising the potential for spin-offs associated with university-business linkages. In addition, mechanisms for grant allocations are also biased against the stimulation of competition for talent: researchers are generally limited to working on one government funded project. Moreover, civil service researchers have a low contract status, and as such their remuneration is not

competitive. There is no aggressive system of incentives that might change this relatively introverted university culture. The accumulated effect of these negative incentives has resulted in a university system that, by and large, is unable to live up to expectations.

…towards a well-performing regional innovation system

In this context, public policy makers might consider developing a policy strategy for a regional innovation system through softer mechanisms that will facilitate the creation and dissemination of knowledge and innovation within the economy. Considering that most universities and businesses are not yet prepared to interact in ways that create the strategic research alliances that fuel global innovation hubs, the science parks risk to generate only real estate opportunities and (subsidised) logistical and transportation infrastructure for enterprises. More specifically, Madrid policy makers should include measures that build soft relational capital among the existing stakeholders in the innovation system, in addition to hard, infrastructural programmes. For example, international best practices on managing the linkages between university and business show the growing importance of streamlining the regulatory framework conditions that surround the interface between university and enterprise, creating incentives for university professors to interact with the private sector. Moreover, the importance of building up relational capital among businesses, entrepreneurs, researchers and governments has created a scenario in which an increasingly strategic role is being played by networked, wall-less institutions that are conducive to promoting territorial pooling of qualified labour, and thereby stimulating local innovation hubs that are inserted into the global economy.[10]

Efforts should be made to reform local universities so they become more connected to the local economy, and act as poles of excellence. While the Madrid region has a dense network of public and private universities, the region risks being bypassed as an innovation hub in the global economy unless the reform regarding universities is accelerated and deepened. This becomes even clearer when we recall the previous analysis on the structural features of the Madrid economy (Chapter 1). According to that analysis, one of the main characteristics of Madrid's hub and spoke economy of Madrid is the presence of headquarters or regional offices of (multinational) corporations, which presently concentrate, or in the near future have the potential to concentrate, several enterprise functions connecting the territory of Madrid with other cities. For example, some of the R&D functions could potentially be clustered in Madrid. However, the potential to establish regional hubs in Madrid that connect to other territories in segments such as aerospace, information and communication technology, producer services, finance and biotechnology, is closely related to the region's capacity to

strengthen and internationalise a rather inward oriented local university network. Madrid could well be inspired by other OECD regions to define a new regional innovation system that will facilitate the flow of knowledge along the entire production framework and avoid collusion behaviours among the regional science-based bodies (Box 2.1).

Box 2.1. **Successful examples of regional innovation systems in OECD member countries**

Knowledge infrastructure, notably research institutes, and higher education institutions are the main pillars of regional innovation systems (RIS). In addition to the institutions, knowledge bases, communication channels and mechanisms for learning and sharing of knowledge are crucial to high functioning innovation systems. As several case studies show, it is a relatively common idea to put universities at the heart of regional strategies (*e.g.*, North East England, Overijssel/Netherlands, Busan/Korea or Jyväskylä/Finland). In several countries, however, the number of universities equipped with liaison offices or centres of entrepreneurship is still limited (*e.g.*, only a quarter of universities house a commercial service department in France). These departments are often understaffed, endowed with modest budgets (*e.g.*, Denmark, Norway, Spain or Italy) and place too much emphasis on obtaining patents and too little into exploiting them through licensing agreements. A number of good practices have nevertheless emerged in Europe and the United States. Most higher education institutions (HEI) with some type of research activities have created or reorganised industrial relationship offices. The MIT Industrial Liaison Office, for instance, is one of the best-known models of linkages between universities and companies.

By paying a membership fee, companies have unlimited access to specialised information services and seminar series, a monthly newsletter that includes details of ongoing research and outlines new inventions, the directory of MIT research activity organised by area of expertise to make it easier to track down with specific interest, faculty visits and expert meetings for companies that often result in consultancy or research sponsorship. The programme is particularly attractive to companies because it is managed by a panel of industrial liaison officers (ILO), each responsible for serving the unique interests and needs of a focused portfolio of companies.

While these offices usually do not differentiate between regional firms and others, some HEI are starting to clearly identify their activities with state or regional firms. Innovative models are emerging. For example in the United States, Purdue University (Indiana) has established "innovation commons" within its campus: Discovery Park. This structure is aimed at identifying technologies with special promise for commercialisation in the state. The university has also completed its regional strategy by creating an Office of Engagement and the Centre for Regional Development to manage the resources

Box 2.1. **Successful examples of regional innovation systems in OECD member countries** (*cont.*)

assigned to regional involvement. In line with the growing commercial awareness on campuses, universities are increasingly hiring executives and entrepreneurs from the commercial world to lead their institutes. This is mainly the case in the United States but this is also starting to emerge in Europe. In Finland, research service units have been created to assist researchers in planning IPR (intellectual property rights) and providing other commercial services. Many universities are also employing development managers (*e.g.*, Jyväskylä). They are also in need of highly professional personnel to identify client firms and deliver transfer of technology, licensing or consulting services.

Finally, with regard to the incubation and production of university spin-offs, while some universities have been highly successful (for example, Twente University, Cambridge/UK or Grenoble/France) and notably in the United States (see above), there are very few spin-offs in a majority of HEI, and the chairs of entrepreneurship are very dispersed, not exceeding 100 in Europe compared to 400 in the United States.

The region's recent initiative aimed at the creation of nine Research Institutes for Advanced Studies is a promising step in the right direction. The institutes, which are expected to be operating on a pilot basis from next year onward, are aimed at creating research teams of excellence with participation from internationally renowned researchers in nine different areas Madrid has identified for developing dynamic knowledge bases (applied mathematics, energy, material engineering, chemical science, humanities, etc.). The partnerships are created on a competitive tender basis, while the organisational structure of the institutes will be more flexible, functioning as a foundation with a board of trustees that also allows international participation. According to the co-ordination of the programme, its main aims are to reduce red tape within the university system, introduce more performance-oriented criteria for evaluating university activities, and stimulate knowledge and innovation alliances among university and private enterprise. Although it is of course still too early to evaluate an initiative like this, the replication of similar programmes is likely to stimulate a change in culture and organisational structure within universities.

A specific approach towards SMEs is required given the characteristics of the Madrid metropolitan economy. As mentioned in Chapter 1, Madrid has a hub and spoke economy that instead of having a pattern of interactions

among a series of small and medium-sized enterprises is characterised by the important presence of a series of large enterprises that have interfaces far beyond the local territory. The connection between SMEs and these larger firms within the Madrid's territory is rather weak, and the socio-economic fabric of SMEs in Madrid is disarticulated from the broader tendencies of managerial and productive restructuring that are taking place in the main hubs of the Madrid economy (Box 2.2). In this context, instead of implementing generic policies towards strengthening the role of SMEs, it might be more effective to frame local and regional development policies around strengthening specific enterprise functions within the territory of Madrid, targeting the ongoing process of global economic restructuring of larger companies. More specifically, there are ongoing efforts within multinational enterprises to implement strategies aimed at reducing risks and transaction costs. In several cases this has triggered the fragmentation of specific business functions like marketing, production, business services and finance, and their subsequent clustering in different but inter-connected territories, all inserted within the overall strategy of the larger (multinational) company. In that sense, the strategic agenda for local and regional economic development policy in Madrid becomes one of building and sustaining territorial advantages for specific enterprise functions within broader processes of global economic restructuring. For the particular case of Madrid, both banking, and the biotech and life sciences segments deserve further attention.

Enhancing competition in sheltered sectors would contribute to boosting the productivity and innovation performance of firms. Among the causes of the low labour productivity and poor innovation capacity of firms in Madrid is the fact that some non-manufacturing sectors are underexposed to international competition. In spite of progress in macroeconomic policy reform, Spanish firms in some sectors still operate within a relatively sheltered environment (OECD, 2006b). For instance, according to the OECD International Regulation database, product market regulation in retail distribution and business services is more restrictive than the OECD average (Figures 2.6 and 2.7). Limited competition in those sectors has contributed to increased reliance on domestic demand as the main driver of growth, increasing disparity in the performance of the exposed and sheltered sectors.[11] In the case of Madrid, for instance, this is reflected in the relatively low awareness of SMEs on the limits and potentialities of globalisation. A process of opening up would force SMEs to modernise and update their working methods, and to start incorporating themselves into a broader market. Along with the need for a national reform, a possible solution at the local level would be to enhance attractiveness for foreign firms active in sectors in which regulatory barriers are more intense: retail

distribution and business services. Meanwhile, the opening of the markets could be accompanied and complemented with targeted policies that support SME with their adaptation process into the international market (information sharing, specific consultancy for the elaboration of business plans for internationalisation or technological innovation, venture capital, etc.). More particularly, SMEs tend to have asymmetric information on international market opportunities, specifically considering their lack of scale and experience in international trading and investment. Moreover, there are indicators that SMEs specifically lack skills required for the elaboration of business plans for entering new markets, or for introducing new processes and products.[12]

Box 2.2. **The challenges of SMEs in Madrid**

The Madrid Institute for Development is part of a broader programme to both inform the SME of their main programmes and projects, and to detect SME developmental needs. It undertook a study to profile SMEs in the regional economy of Madrid, interviewing 764 enterprises with less than 20 employees from a universe of over 427 000, approximately one-third of them already more than 10 years old. The objective of this programme was to move toward an early warning system that would provide indicators on SMEs facing challenges in modernisation (IMADE, 2005/06). Although it only captured a specific moment in time, the results of the study were not promising.

For example, half of the establishments declared not to have done any form of strategic planning, and also did not have a general business plan, while a third of the establishments did not have a yearly updated budget. Within their general procurement policies, 30% of the firms did not look for lower prices, while the majority of the SMEs were only focused on procurement within Spain.

The research also confirmed a relatively sheltered and inward oriented profile of the SMEs in Madrid. Only 27% of enterprises were in the business of exporting, of which 88% did so directly to the EU. Sixty-seven per cent of the SME did not try to launch efforts aimed at setting up, or increasing the penetration of export markets. Almost 30% of SMEs were not looking for sharper and better conditions than those presently offered by their suppliers. Of those firms that did actively look for better suppliers, 75% was only screening the domestic market. A remarkable result was that only 32% of the enterprises mentioned international competition as a possible threat, a clear indication of the lack of awareness of the strategic positioning of firms in the international marketplace. Activities related with the co-ordination of sales and marketing were most frequently internally organised, indicating low levels of subcontracting.

Box 2.2. **The challenges of SMEs in Madrid** (*cont.*)

The research confirmed the need of SMEs to make more advances in the area of managerial modernisation. Eighty per cent of SMEs did not possess any kind of quality certification. Regarding marketing and sales policies, half of the establishments used traditional methods like visits, while only 39.75% were using websites. Only 15.45% were implementing specific forms of e-commerce, while 44% did not have any type of electronic programme for managing its client relations. The research showed a surprising lack of knowledge on the available sources of financing for SME, and a certain conservatism in using sources such as business angels and informal sources of finance: almost 80% was not aware of the existence, and 57% would not be making use of these instruments if provided.

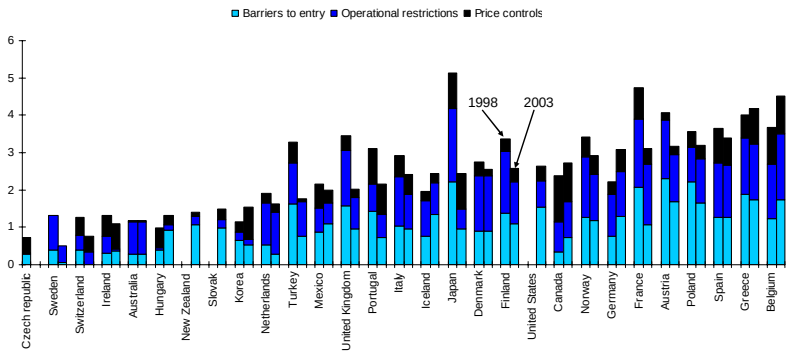
Regarding financial management as such, the study also showed severe mismatches between short-term assets and liabilities. For example, more than 38% of firms declared to have receivables of up to three months, while over 50% of them pay suppliers within one month. At the same time, 34% did not have a specific routine for monitoring client payment behaviour, while more than 70% considered lagging payments not to be a problem.

There are several indications of a weak level of product innovation. While more than 70% of the establishments declared to implement some form of innovation, at the same time, 57% declared that there were no investments in R&D. Only 25% considered the institutional support to R&D to be helpful, a strong indicator of the insufficient outreach of the prevailing technological policies into this segment. Finally, only 8% of the establishments declared forming strategic alliances in order to implement investments in R&D. This overall low evaluation of R&D policies by SMEs is reinforced when compared with the relatively high appreciation of business support services, more specifically those aimed at the provision of information and capacity building aimed at managerial modernisation. For example, in the case of support for the elaboration of strategic and business plans, more than 70% declared high levels of appreciation for these services.

Source: IMADE (Instituto Madrileño de Desarrollo) (2004), Memoria IMADE 2004, *www.madrid.org/cs/Satellite?blobtable=MungoBlobs&blobcol=urldata&blobkey=id&blobheadervalue1=filename%3DMemoria+IMADE+2004.pdf&blobwhere=1119126729950&blobheadername1=Content-Disposition&ssbinary=true&blobheader=application%2Fpdf.*

Figure 2.6. **Anti-competitive regulations in retail distribution**

Scale is 0-6 from least to most restrictive of competition



Source: OECD International regulation database and Conway, P. and G. Nicoletti (2006), *Product Market Regulation in the Non-Manufacturing Sectors of OECD Countries: Measurement and Highlights*, OECD Economics Department Working Papers No. 530.

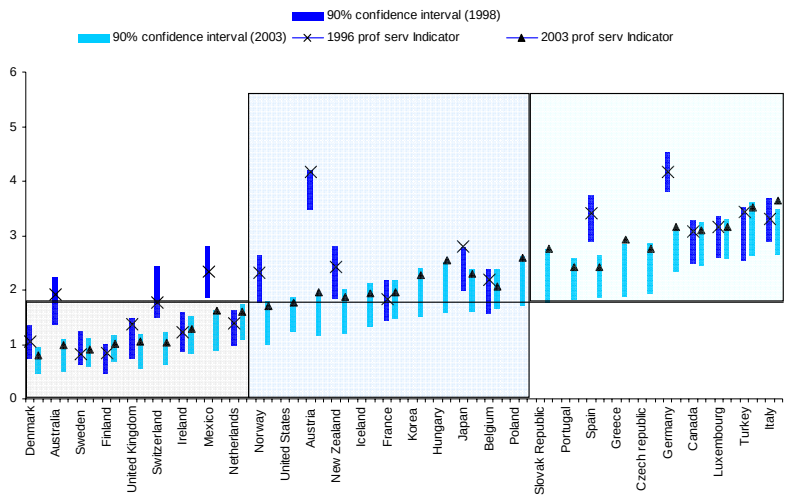
Betting on key strategic sectors

A main challenge for Madrid in pursuing its goal of becoming one of the most competitive metropolitan areas in Europe is to make the best of its current dynamism by increasing its specialisation in high-value added activities. Advanced services have increased their contribution to the regional output but Madrid's specialisation in high-tech manufacturing activities needs to be further boosted, particularly in light of the decline in the electronics sector. The structural feature of the metropolitan economy shows interesting and promising medium and high-tech specialisations in biotech and pharmaceutical sector as well as electronics and aerospace. The role of Madrid as a financial and banking hub within Spain, and amongst its international trading and investment partners, could be further exploited as well. In this context, it is important to further link policy efforts towards innovation and technology with the development of the strategic sectors of the metropolitan economy.

Madrid's ambition to develop into a major ***biotech*** hub should be carefully evaluated in light of a lock-in dynamic that has concentrated the research and development functions of this sector into a few major hubs around the world. The Madrid regional government, more specifically

Figure 2.7. **Confidence intervals for the professional services indicators, 1996 and 2003***

Scale is 0-6 from least to most restrictive



Note: *The confidence intervals are calculated using stochastic weights on the low-level indicators to generate a distribution of indicators for each country. The 90% confidence intervals are calculated from this distribution under the assumption of normality. To aid comparison, countries with a relatively low (high) indicator value in 2003 are sorted by the lower and upper bounds of the confidence interval.

Source: OECD International regulation database and Conway, P. and G. Nicoletti (2006), *Product Market Regulation in the Non-Manufacturing Sectors of OECD Countries: Measurement and Highlights*, OECD Economics Department Working Papers No. 530.

through its Regional Ministry for Economy and Technological Innovation, in partnership with the association of biotechnology companies, is keen to promote Madrid as a bio-cluster of excellence. According to data from the regional government, Madrid now has about 400 companies that generate 24 000 jobs (composed of pharmaceutical enterprises, biomedical and medical equipment companies, research centres, etc.). A network of hospitals, universities, specific biomedical research institutes and clinical trials complements this concentration of activities. The government wants to boost the biotech sector, among others by stimulating the creation of new knowledge oriented entrepreneurial activity. For example, it is directly involved in the operation and maintenance of three science and technology

parks (*i.e.*, Parque Tecnologico de Madrid, Parque Cientifico de Madrid and Tecnoalcalá), while three new ones are being planned. Within several of these parks, specific areas are being reserved for the biotech sector.[13] In addition, in 2005, the regional government also injected EUR 25 million in a largely publicly held venture capital enterprise (*Capital Riesgo de la Región de Madrid*).

It is however quite unlikely that the Madrid cluster will reach, at least in the short run, the first tier global research and development network of the big multinational pharmaceutical companies. As has been well documented by Zeller (2004), 92% of the research and development expenditures of pharmaceutical multinational enterprises (MNE) are concentrated in the United States, Japan, Germany, France, Great Britain, Switzerland, Italy and Sweden. Likewise, the geographical distribution of new active substances (NAS) follows a similar pattern. Between 1996 and 2000, 81 of these substances were invented in the United States, 31 in Japan, 22 in the United Kingdom, 21 in Germany, and 13 in Switzerland. Within this overall scenario, multinational enterprises are operating within an oligopolistic market structure with their competitors. They try to internalise as quickly as possible the benefits, while, aiming to reduce the commercial risks and costs associated with research, development and innovation through partnerships with national and regional governments, research laboratories, universities and biotechnology firms. Research and development strategies of the Swiss multinational Novartis in California and Boston (United States) are a paradigmatic illustration of the microeconomic dynamics of the "Pharmatech Spiderweb Economy" (Box 2.3). Due to the low degree of internationalisation and market orientation of the Spanish universities, low entrepreneurship, and weak product innovation within the pharmaceutical companies in Spain, it is highly unlikely that Madrid will be a major global biotech player, at least in the short run. Initially, it might be more effective to enable and support the incipient Madrid network of research institutes, universities and small biotech firms. This will allow these institutions to set up international networking, international research alliances and allow connections to be established with main international biotech hubs. In this sense, the recently launched Research Institutes for Advanced Studies are a step in the right direction, since they explicitly bring in funding mechanisms aimed at results-based, excellence-oriented international research networks, opening up a rather inward oriented Spanish university and research culture to a more flexible organisational framework. In a subsequent phase, this might then lead to an increased attractiveness and visibility of Madrid as a potential hub within the broader strategies of multinational pharmaceutical companies.

Box 2.3. **The research and development strategies of the Pharmatech Spider Web Economy**

In the beginning of the 1990s, the pharmaceutical sector was facing a drop in the number of new active substances (an indicator of substantial product innovation). While in the 1960s yearly averages were around 86, the number has consistently dropped to a mere 40 in the last few years. At the same time, the segment was increasingly characterised in terms of its longer development times and higher R&D costs, while, the life span and the first mover advantage, which created a certain exclusivity of the market, had also been systematically reduced. Finally, in most countries the industry has been facing increasing market competition from generic drugs and pressures to contain healthcare costs. Within this scenario, the research and development strategy of large MNE became an essential instrument for competitiveness. The way in which several Swiss multinational firms created linkages between their headquarters and regional innovation hubs (mainly in the United States) is a good illustration of how globally active MNEs have tried to overcome problems of spatial separation, and to reduce entrepreneurial risks and transaction cost associated with research and development.

The strategy of the Swiss company Novartis in the San Diego/La Jolla area in California was emblematic. In a way, during the 1990s Novartis succeeded in creating an innovation hub within this area, which was embedded in a series of strategic research and knowledge alliances with biotech firms, universities and research institutes. Through this hub, the company was able to dilute and externalise R&D costs among its partners, and internalise within the company, as quickly as possible, the innovations that were produced. Within this geography of talent, specific mention should be made of the partnerships between NOVARTIS, the Scripps Research Institute (TSRI) and the Genomics Institute (GNF). The GNF was set up as a relatively independent foundation from NOVARTIS. The Institute was free to develop projects, and then either to pass them on to NOVARTIS (in case they offered a concrete perspective for viable product innovation), or to biotechnology firms that then would further develop good ideas or prototypes into projects. In relation to the workings of a normal university, or in accordance to standard academic procedures, the Institute had more flexibility to operate according to priorities that were established by a small group of persons that was directly linked to NOVARTIS. There were also close inter-personal links and labour pooling effects between the NOVARTIS, GNF and TSRI, which was reflected in the possibility of dual appointments, a mechanism which proved to be crucial in attracting high level talent and creating academic respectability. Likewise, the staff from TSRI produced more than 2 000 papers, which could be first reviewed by Novartis before being published. The company also had the priority rights to file patents. This alliance strengthened know-how, and also shaped the research portfolio of the firm. The incentives for setting up venture capital and biotech firms proved to be instrumental for NOVARTIS in monitoring and scanning innovations in the sector, and to reduce the risks

Box 2.3. **The research and development strategies of the Pharmatech Spider Web Economy** (*cont.*)

associated with technology development. For example, the Novartis Venture Fund (created in 2000, with USD 100 million in seed capital), and, more recently, BioVenture Fund (2002), all moved to San Diego. This transatlantic flow of investment, research and development, and innovation also lead to spin offs in terms of additional business creation.

In summary, the R&D strategy of NOVARTIS in the sense of linking innovation hubs into its overall company strategy has been compared by its president to the image of a piano player, who puts the individual keys (actors of the innovation hubs) of the piano together in order to play a harmonious music.

Source: Based on Zeller, C. (2002), "Project Teams as a Means of Restructuring Research and Development in the Pharmaceutical Industry", *Regional Studies*, 36:3. pp. 275-289.

The ***banking and financial sectors*** also deserve additional attention. As mentioned in Chapter 1, the financial services sector in Madrid has recently undergone a rapid process of internationalisation. This has led to surprising growth in the stock exchange and financial marketplace behind places such as London, Paris and Frankfurt. With the exception of some interventions aimed at creating real estate opportunities for firms created by the city government, a more elaborated strategy to support the potential of this sector could be developed. The recent city council's initiative to create a multi-sectoral platform in the financial cluster, involving a wide range of actors (private banks, markets, national regulators) and creating strategic alliances between Madrid and the world's largest financial capitals, is a good step in this direction. It will be crucial for Madrid to improve the general view on the main strengths and weaknesses of the financial cluster to better position itself in the global marketplace. In particular, there is a need for a specific analysis of the threats and opportunities in Latin America, and of other financial competitors. The Madrid financial platform has no doubt performed an important role in providing leverage to Spanish firms entering foreign markets, specifically in Latin America in sectors such as telecommunications, banking and energy. The role of Madrid as a connecting hub between the financial markets and stock exchanges in Europe and Latin American could also be further explored. The potential brought about by a higher degree of inter-dependence between the Spanish and Latin economies, which is expected to increase in the next few years, could be tapped by the financial hub in Madrid, linking the European and Latin American trade and investment flows. In a way, this process could bear similarity to the role played by Miami, which since the 1960s, has been connecting the US and Latin American markets through its array of

professional business, trading and producer services. The first wave of trading and *entrepôt* investments in that city was triggered by the Cuban immigration in the 1960s. Moreover, from the 1980s onwards, the process of global economic restructuring of business services, together with the democratisation and liberalisation of the Latin American continent, have all stimulated the further growth of a dense network of more complex and diversified producer and business services that link the US and the Latin region (Box 2.4). Finally, the impressive recent growth of Madrid's financial centre will likely require further strengthening of business support functions in terms of legal and accounting services, information technology, communication and marketing, and others, which will require introducing more competition in this area. The deepening and widening of Spain's economic internationalisation process is likely to have a positive impact on the country's financial sector, particularly in Madrid.[14] Consequently, this will imply a need to further strengthen the network of local banking and business services that will be connected within the broader international flows of finance, goods and services in and out of Madrid.

Box 2.4. **The Miami connection**

Since 1970 the City of Miami has shown remarkable growth in its complex business services. This is particularly striking given that unlike many other global city regions, until recently it did not have a tradition in the administration, management and control of producer services operations.

The immigration of middle and high income Cubans in 1959, just after the Castro revolution, gave rise to a cluster of trading and *entrepôt* functions with the Latin and Caribbean region concentrated in Miami. This Cuban "connection" was subsequently followed by a gradual democratisation and opening up of the Latin American continent itself to trade and investment flows from Europe, the United States and Asia. For instance, total foreign direct investment into Latin America grew from a yearly average of USD 6.1 billion, in 1984-87, to USD 28.7 billion in 1994, and nearly doubled to USD 56 billion in 1997. The increasing volume and complexity of the business services between Latin America and the rest of the world required a new set of professional services that was not being provided by the Cuban enclave (lawyers, accountants, financial consultants, credit rating specialists, engineers, marketing, communication and telecommunications experts, etc.), which were increasingly being provided by the regional service cluster in Miami. Moreover, a growing number of US, European and Asian corporations established regional offices in Miami. For instance, GM relocated its regional office for the Latin America region from São Paulo to Miami. In a relatively short period of time, *i.e.*, from 1970 to the 1990s, the employment structure of the city changed from an orientation towards domestic

Box 2.4. **The Miami connection** (*cont.*)

tourism and retail, to finance and advanced producer services; employment in these services doubled in the 1970-1990 period, and in the beginning of the 1990s amounted to more than 20% of total private sector employment (Sassen, 2000).

The immigration of Cubans was an important initial driver behind Miami entering into the international trade and investment flows, but represents an incomplete explanation for the relatively spectacular growth of producer services in the city. While the initial Cuban immigration in the 1960s was important in setting up an international trading *entrepôt* with simple banking services in the city, the liberalisation of the trade and investment climate in the Latin American region was conducive in triggering a second, more complex cluster of international business services in Miami The Cuban enclave has been important in establishing a bilingual, internationally oriented business elite, but in light of its strategic location between the US and the Latin American region, and the opening up of the Latin American region, the city has also been inserted as a platform within the broader globalisation strategies of corporations by transforming itself into a regional global city, performing the role of a specialised and more complex producer services hub between Latin America and the international economy.

Source: Based on Sassen, S., (2006, updated 3rd ed.), *Cities in a World Economy*, Pine Forge Press.

The ***electronics*** sector has undergone a major crisis. During the predominance of a more sheltered Spanish market, specifically before the 1980s, the electronics sector was an important cluster in Madrid. During this period, the sector was characterised by the presence of several small- and medium-sized spin-off firms that had relatively intense interactions with larger enterprises, *i.e.*, in Madrid this was most true with the telecommunications sector. At some point during the 1980s, this dense network of subcontracting and outsourcing relations even seemed to have stimulated a modest research and development effort in the sector that was concentrated within the central territorial economy of Madrid (Suarez-Villa and Rama, 1996). However, its limited competitiveness, and lack of tradition in international markets, combined with the increasing exposure to foreign rival firms, all lead to dramatic downsizing and reduction of employment. In a way, the case can be seen as a clear limit to more traditional industrial policies in a rapidly changing scenario of internationalisation (Box 2.5). Nowadays, even considering the fact that companies like Telefónica are global players, electronics in Madrid has been performing a relatively marginal role. Madrid retains a certain technical know how and tradition in electronics, but the rapid exposure to the international market has reduced the number of SMEs (Box 2.5).[15] The

residual technological capabilities and know-how might be strategic for the success of complementary initiatives, making use of the previous learning trajectory of Madrid. More specifically:

- The role of ICT within the municipal strategy of transforming Madrid into an informational hub.
- The potential for creating "Educational or Learning Incubators". These incubators could be instrumental in reducing educational mismatches, support the universities and professional training institutes in their strategy towards internationalisation and, finally, in setting up educational programmes targeted at the inflow of international migration. Thus, educational Incubators may facilitate the building and commercialisation of platforms for distance learning, continuous learning for executives, new technological instruments for learning, etc.
- Strengthening the locally supplied services for the aerospace hub. Most of these services belong to the third or fourth tier of the overall production chain, and require electronic systems and sub-systems, starting systems, etc.

Box 2.5. **The rise and restructuring of Madrid electronics**

The consolidation of Madrid as an industrial centre of electronics did not occur until the late 1960s, when it was home to almost all of the telecommunications equipment manufacturers in Spain. In addition, it had a significant industrial base in related sectors, such as defence, electro-medical equipment and electronic components manufacturing. In the initial stages of the sector, by allowing an ITT-owned subsidiary to become the sole provider of equipment, the Spanish state practically renounced its control over telecommunications equipment manufacturing. This was a different scenario from what happened in other European countries, where, right from the start, the state either developed, or had a controlling stake in the telecommunications manufacturing monopolies. In this sense, the Spanish state effectively guaranteed a monopoly to ITT, giving up any role in equipment manufacturing.

This situation changed considerably by the early 1970s, however, with the creation of the government-owned telecommunications manufacturer INTELSA (*Industrias de Telecomunicacion SA*), which obtained manufacturing licenses from Sweden's Ericsson and other foreign firms. It also started to acquire other domestic and government-owned producers in electronics and in related activities. In line with the experiences of other European countries, the Spanish government therefore sought to play a greater role in the telecommunications

Box 2.5. **The rise and restructuring of Madrid electronics** (*cont.*)

field, establishing INTELSA as the "national champion" in equipment manufacturing. Thus, by the middle and late 1970s, INTELSA and its parent company, the national telecommunications service monopoly CTNE (*Compania Telefonica Nacional de Espana*, also known as *Telefonica*), and the government-owned industrial holding trust INI (*Instituto Nacional de Industria*), came to control a considerably more powerful and diversified manufacturing infrastructure than that of the Standard Electrica SA group.

By the mid-1970s, the electronics industry was the largest manufacturing sector, and also one of the largest employers in Madrid, with as many as 40 000 workers, even surpassing several important service sectors, such as printing and publishing. As a relatively sheltered market, the large producers played a strategic role in articulating a high-technology industrial complex with a significant presence of SMEs during this period, a finding that was also supported by other studies.

However, the end of the 1970s marked the beginning of a period of severe restructuring and crisis. In a way, Madrid failed to enter the digital era. During the 1980s, larger enterprises started downsizing operations, while a significant number of smaller start-ups firms, mainly located in the city centre and set up by previous skilled employees, were appearing. As a consequence, an incipient number of subcontracting relations between the larger and smaller firms arose, frequently concentrated on such activities as product design and marketing, and in some cases even activities related to R&D.

It should be noted that these subcontracting relationships with the smaller firms provided a opportunity for reduced costs and risk, and must have helped some of the domestic producers stave off competition from imports and foreign-owned firms. This became particularly urgent as important barriers began to be dismantled in the late 1980s, and Western European products and foreign investments poured into Spain. Nevertheless, the networks of SME were characterised by a high dependence on self-financing, and a relatively low degree of internationalisation and penetration into export markets. The increased exposure of the sector to international competition lead to a new phase, characterised by intense downsizing and employment losses.

The net result of these successive cycles of industry wide (defensive) productive restructuring at can be illustrated by the number of employees in the industry; while performing at its peak level of 40 000 in the mid-1970s, employment levels were reduced to 26 000 in 1991. At present, according to the data of the Municipal Observatory of the City of Madrid, employment in the electronics industry was around 7 500 in 2006.

Source: Suarez-Villa, L. and R. Rama (1996), "Outsourcing, R&D and the Pattern of Intra-metropolitan Location: The Electronics Industries of Madrid (Spain)", *Urban Studies*, Vol. 33, No. 7, 1155(43).

Although the ***aerospace*** segment had a modest presence in the Madrid economy, the region has a certain tradition in this sector that involves long-run fixed costs and tends to be "sticky". The global restructuring of the industry has lead to a relatively hierarchical pattern of commercial and subcontracting relationships that involve only a part – evidently the most competitive one – of locally concentrated suppliers. In addition, research and development expenditures are mostly being implemented outside Madrid, while the associated knowledge spillovers of these investments occur mainly at the level of the overall production chain (*i.e.*, global). Moreover, these spillovers largely involve codified knowledge, and are linked to market transactions of components, parts and sub-assemblies. While local spillovers in aerospace do occur, they are less important and are specifically related to the fourth tier of the overall production chain. Finally, patenting in the sector is quite rare, in light of the fact that the firms prefer other ways to shelter strategic information from imitators. The rise of strong competition from newly emerging markets such as Asia and Latin America will be challenging this cluster in the Madrid economy. Although the aerospace segment is rather small in the Madrid economy, and knowledge spillovers tend to be global, it is fundamental to position this knowledge intensive cluster within the overall international scenario of productive restructuring, with an important role for local research institutes and universities. The case of the company EMBRAER in the state of São Paulo is a remarkable example of a gradual build-up of competitive strength in airplane manufacturing in an emerging market economy. Here public authorities created a consistent framework for technological capacity building, dynamic learning, innovation and knowledge diffusion that contributed in augmenting the local knowledge spin-offs of aerospace for the regional economy (Box 2.6). The international experience with policies in the aerospace cluster suggests that there could be several roles for the Madrid policy makers:

- Bringing the network of teaching, research and training institutes more closely to the direct needs of the aerospace hub, both inside and outside the direct scope of science parks. There are specific niches in areas such as material engineering, where opportunities could be developed collectively. This would also imply the densification of close inter-personal networks between captains of industry, and members of the research and academic community. Moreover, these networks would serve to set up an *early warning system* that captures the main trends, threats and opportunities for the Madrid aerospace hub. This early warning system should include direct participation of the main stakeholders from industry, government and the research community, and would broaden the scope of the existing Economic Observatory.

- Increase the participation of the local teaching, research and training network into the global knowledge spill-over by enabling and supporting high risk strategic research partnerships. This could be done through specific research grants, co-ordinated by the regional government (*e.g.*, focusing specific mechanisms and sectors of interest for the aerospace hub within the Research Institutes for Advanced Studies).

- Implement a territorial diagnosis of the third and fourth tier services of the aerospace hub (electronics systems, hydraulics, electronic power sources), most of which are supplied locally (that is, in Madrid). On the basis of a clear view of the strengths and weaknesses of this cluster, develop specific initiatives in order to increase the competitiveness of this segment, and to facilitate its penetration into the overall hub (projects aimed at the development of competences in areas such as software, electronic systems and sub-systems, electronic parts of sub-components, etc.) As mentioned, although the electronics sector has been facing a process of downsizing and restructuring, substantial technological know-how and capacity has indeed been built up within the Madrid economy over the last few decades.

In light of the technical competences of the region, one could suggest that Madrid invest in some promising sectors like software, electronics systems and sub-systems, electronic parts and sub-components. However, a more detailed analysis would be necessary for more tailored suggestions.

Box 2.6. **Competitive aerospace clusters in emerging markets: the development of EMBRAER in São Paulo State**

The City of São José dos Campos is located within the metropolitan regions of São Paulo (distance of 90 km) and Rio de Janeiro (360 km). It is the headquarter location of the Brazilian aircraft manufacturer EMBRAER, nowadays is considered one of the more competitive enterprises in the sector. In 2003, the company is reported to have more than 12 000 employees, with subsidiaries in Australia, the United States, France, China and Singapore.

The EMBRAER complex in São José dos Campos went through three distinct phases. The first period, from the 1940s through the beginning of the 1980s, is characterised by the creation of technological know-how and engineering capacity. In 1969, as part of the security policy of the Brazilian military government, it set up the EMBRAER state enterprise. The location was chosen in

Box 2.6. **Competitive aerospace clusters in emerging markets: the development of EMBRAER in São Paulo State** (*cont.*)

light of its lower land and congestion cost, the available infrastructure and its proximity to the excellent universities in the São Paulo region. Already in the 1940s and 1950s the Brazilian government had implemented a series of investments in training, research and development and testing, which has resulted in the creation of several centres of excellence such as CTA (*Centro de Tecnologia para a Aeronautica*), the ITA (with technical assistance from the MIT) and INPE (*Instituto Nacional de Pesquisas Espaciais*). This strong local network of academic excellence received the financial and political support from the military to attract the best talents in the country in order to design and manufacture commercial and military aircraft, and to build up technical capability in the sector.

The second phase, from the 1980s until 1994, is characterised by a declining international market for defence orders, notably from the Middle Eastern market, and a strongly adverse macroeconomic trend in Latin America (marked by the debt crisis). The period also revealed a systematic weakness in terms of the company's overdependence on defence and government contracts, and a relatively rigid administrative structure as a state run company. In 1994, facing debt of USD 334 million and at the brink of bankruptcy, the decision to privatise the company and to diversify towards smaller regional commercial aircraft (nowadays around 80% of the value added) was an important turning point.

Nowadays, the company is considered as one of the main players in the industry. The EMBRAER case in São José dos Campos shows the importance of combining initial infant industry policies, thereby reaping economies of scale within a relatively closed economy, with a subsequent aggressive search for international strategic alliances (both in production, and in research and development). Moreover, since its initial stages, the production and commercial skills of EMBRAER have benefited from a particularly strong network of local academic institutions of national excellence that were mobilised for continuous capacity building, training and applied research.

2.2. Integrating immigrants

Madrid has been rapidly transforming itself into a net immigration region, a relatively new phenomenon. During the early post war period, attracting workers and migration to Madrid was basically a result of internal flows from the poorer regions of the country to the stronger economic centres such as Madrid, Barcelona and Valencia. Since the end of the 1990s, however, there has been a shift in this trend as, Spain has become a net receiver of foreign immigrants and one of the continent's principal

destinations for non-EU immigrants. According to the Spanish National Institute of Statistics (INE), the total number of immigrants may have reached more than four million people (4 144 166, 1 January 2007). A bulk of this recent foreign migration trend has happened in Madrid. The number of foreigners in the City of Madrid increased from about 234 000 to 550 800 between 2001 and 2007. In 2007, migrants are more than 17% of the total population of the Madrid Metro-region (almost double the national rate of 9.3%). While previous immigration came from North Africa (specifically countries like Morocco), the bulk of the current immigrants come from Latin American (more than 320 000). Thus, just like other large metropolitan areas in the world, Madrid now enters a new stage in its development trajectory, according to which it has the challenge to creatively and continuously reinvent its local society on the basis of the potential of this inflow of new cultures, lifestyles and socio-economic forces.

Spain's response to the challenge of integrating immigrant labour has largely taken the form of successive "regularisation" procedures. In 1985, 1991, 1996, 2000, 2001 and 2005, foreign nationals residing illegally on Spanish territory were granted a residence permit if certain specified conditions were met. Together, the first five of these operations have regularised a total of around 400 000 migrants (over one-half of whom were processed in the 2001 operation alone), 2005 was marked by the regularisation of over 560 000 foreign workers. Applications for the last regularisation procedure, which had to be filed by employers (except for domestic workers), had to contain a job offer guaranteeing a job for the equivalent of a minimum of six months full-time employment (three months in agriculture).[16] They had to meet the job requirements and to have had no police record for at least five years. Some 84% of the applications filed were approved. The sectors concerned are in fact those that employ the largest number of foreigners: domestic services, construction, catering, commerce and agriculture.[17] As a result, the foreign population increased by more than 30% (some 2.6 million foreigners were living in Spain legally at the end of 2005, to which must be added the EU nationals that have not bothered to apply for a residence permit) (OECD 2006b). The number of foreigners registered in municipal registers rose by nearly 50% between 2003 and 2004, for a total of 646 000 newly registered foreigners, with or without a valid residence permit.[18] Since 1993, these "larger-scale" operations have alternated and at times overlapped with indirect regularisation procedures called *cupo* (or *contingente de trabajadores*) which allows specific sectors to access 25 000-30 000 immigrants of certain nationalities on an annual basis – by giving them one-year residence and work permits (see CEPS, *www.ceps.be/Article.php?article_id=408*).

Spanish migration policy is now focused on two key aspects: the fight against undocumented immigration and the integration of immigrants legally residing in the country.[19] To implement this policy, controls are carried out both when immigrants enter the country and when they take up residence. Carriers are now responsible for verifying the legality of the documents shown to them under pain of sanctions. Moreover, they have to inform the authorities of any unused return tickets. Lastly, municipalities are required to keep their registers up to date so as to ensure that their data are consistent with residence permit data. In May 2005, the government decided to appropriate EUR 120 million to the Fund for the Integration of Immigrants (FIDI). The Council of Ministers approved the following allocation of funds: 60% for "reception and integration" and 40% for the "improvement of the education level". The criteria for allocating funds between the regions and municipalities are as follows: the number of immigrants registered, the number of workers contributing to social security, and the number of foreign minors enrolled in school.

At the city level, the policy makers have based their present immigration policy framework on the concept of co-existence through several stages. The influx of foreign immigrants to Madrid, which after the early 1990s became significant, can be divided into four periods:

- During the first period, between 1993 and 1996, immigration was dealt with reactively, by mediating conflicts associated with large and concentrated gatherings of immigration in public spaces such as squares.[20]

- In the second period, between 1996 and 1999, it had become evident that immigration was not an *ad hoc* phenomenon, and had to be dealt with through participatory structures. This increased awareness on the growth of immigration led to the creation of a new institutional mechanism, *i.e.*, the so-called "cultural social mediation service", which was aimed at providing a service of professional mediation between the social services available, on one hand, and the immigration population, on the other hand. At that time, the city also initiated a more intense exchange and policy dialogue with countries that had a more established track record dealing with international migration.

- During the third period between 1999 and 2003, advancement in the institutionalisation of policies at the national level resulted in a new national law that regularised the status of immigrants, and guaranteed their right of inclusion to the public health and educational systems. This also meant that the municipal health services, which, until then, had been dealing with emergency

assistance, could go back to its original mission of prevention. Simultaneously, the municipality created a specific budget item and organisational structure in order to streamline and standardise service delivery for foreigners.

- Finally in the fourth period, between 2003 and 2006, the city administration has made further advances in its policy stance towards immigration, both from the conceptual point of view and through strengthening its operational capacity. It has elaborated the concept of co-existence, which means an active, mutually reinforcing and inter-dependent flow of interactions between the recipient society and the newcomers. This means that, through cross cultural acceptance, continuous participation and collective learning processes, cities and local communities are being actively transformed through their interaction with trans-national immigration. The city administration has been able to work out this concept through its recent Plan on Social Co-Existence and Cross-Cultural Acceptance. The main pillars of the plan are based on mainstreaming and standardising the service provision for immigrants, while taking into account and benefiting from the diversity, complexity and multi-dimensionality associated with social co-existence. The plan has several elements, such as information gathering, adaptation of service delivery mechanism to diversity, capacity building and institutional strengthening of municipal staff, employment generation, increasing cross-cultural understanding and particular interventions targeted at problem neighbourhoods.

Although major advances has been made in consolidating a policy framework for immigration, many challenges remain that, if not worked upon adequately, may generate obstacles to further growth of the Madrid economy in the future.

(*i*) First, the important productivity losses for the Madrid economy that occur due to the mismatches between training levels and skills requirements are partly linked with the slow, or non-recognition of foreign credentials. This factor also leads to several other challenges downstream; in particular under-employment, job churn and bitterness and frustration at being rejected from employment for which the person is ostensibly qualified. Data tends to show that Highly Qualified Persons (HQP) tend not to find work in their disciplines, or at least not right away; they tend to earn significantly less than their Spanish-born neighbours in the same discipline, and they tend to be either underemployed in "ethnic enterprises" or in low-skilled, low-paying construction or domestic-help jobs, or unemployed altogether. While, as mentioned by the *OECD Survey on Spain* (OECD, 2006b), this is

a structural weakness for the overall Spanish economy, the case is particularly worrisome regarding immigrants in Madrid. For example, while only 19% of immigrants had a relatively low training level, the participation of immigrants in low skilled jobs was 92% (García Ballesteros and Sanz Berzal, 2004). On the other extreme of the labour market, while 40% of the newcomers had received relatively high levels of training, immigrants held only 1% of the jobs that required a high level of qualification. This suggests that the local programmes aimed at labour intermediation for immigrants are disconnected from the (largely) national and international procedures that streamline the recognition of diplomas for foreigners in Spain. Meanwhile, it is crucial as well that clear, transparent and quicker procedures can be articulated between the local, the regional and the national level for the recognition of diplomas in order to facilitate the integration of the qualified immigrant labour pool into the Madrid economy.

(*ii*) Second, a distinct but related issue is the integration of "second-generation immigrants", that is the Spanish citizens who happen to be the sons and daughters of immigrants – from Morocco, for example. Attracting a high skilled labour force for the higher value-added segment of the metropolitan economy should not overlook the necessity to make better use of existing untapped human capital resources represented by this segment of the population. Much has been written on the recent challenges the French and British faced and are still facing regarding the alienation felt by their immigrant populations. It is important to underscore that many of the alienated protesters in the riots outside Paris and in communities like Manchester and Leeds were native-born and had accents indistinguishable from their neighbours born to parents whose ancestors were also born in Britain and France. Government strategies aimed at integrating immigrants, and the structures that might be set up to optimise this integration, need to take into account the systemic barriers Spanish citizens who are offspring of immigrants to Spain may also be facing.

(*iii*) A third major immigration challenge is related to the increasing pressures on the real estate markets that exclude the economically weaker segments of immigrants and the spatial polarisation this trend is producing. As will be developed below, rent control and regulatory rigidities have tended to reduce the available supply of rental units on the market, penalising the most vulnerable segment of the population. However, it should be noted that there are an increasing number of multi-sectoral and networked approaches underway for upgrading neighbourhoods that have high concentrations of immigrants. These promising approaches frequently involve national, regional and local governments and a series of NGOs (Box 2.7). Nevertheless, the scale of these best practices is actually still quite small. As some of the lessons learned of these experiences show, the

work requires a high degree of co-ordination, both among public and private organisations, to facilitate sectoral integration of service delivery (income and employment generation, health, education, housing, etc). However, the co-existence approach towards immigrants still has to be connected with the broader policies that directly influence the daily life of immigrants. More generally, avoiding the creation of ghettoes (in which immigrants are concentrated) within the Madrid Metro-region should be at the top of the agenda of local authorities. As mentioned in Chapter 1, the problem in Madrid remains considerably limited as compared to many other metro-regions in the United States, France or the United Kingdom. However, the timing is important to avoid being trapped into expensive, and maybe irreversible, choices. Problems are often far more difficult and expensive to resolve after they have developed than when they could have been prevented. Ghettoes of poor housing are almost impossible to eradicate once they have developed without massive disruption to people's lives that causes new problems (OECD, 2006a).

A comprehensive and multi-sectoral approach towards immigration requires inter-governmental collaboration. The Spanish central government controls several levers affecting the settlement of newcomers to Madrid, including articulating the national strategic policy framework for Spain in this area and how it proposes to implement this framework in the context of its relations with the European Union on this and other related issues (including safety and security). The regional administration controls many other issues, including employment, training and education programming. The Municipality of Madrid and the municipal administrations surrounding the city are involved in many immigration related issues such as housing and infrastructure programming. All levels of government operating in the Madrid metropolitan region contribute to the efficient and effective mapping of the region's labour-market requirements against the skill sets available in the regional labour pool, including immigrants. From the neighbourhood leadership and the municipal authorities, to the regional government and central administration, all contribute to the development and implementation of these governance structures. This will have a determining impact not only on the economic prosperity of the region but on its cohesion, its sense of itself, and ultimately its liveability and attractiveness. An interesting example of such inter-governmental co-operation for immigration integration can be found in Toronto, Canada where three levels of governments signed a Tripartite Memorandum of Understanding on Immigration Settlement (Box 2.8).

Box 2.7. **The pro-housing programme and social inclusion of immigrants in the Madrid Metro-region**

Pro-housing was initially developed as a programme oriented towards the more vulnerable groups of the metropolitan area, such as drug addicts, ex-convicts, economic immigrants, young families without family support, one-parent families and other families at risk. In 1997, the initiative was extended towards other vulnerable segments and was transformed in the "Program of Support to Integration through Housing of Collectives with Difficulties". It was characterised as a programme that tried to integrate excluded groups through the provision of affordable and integrated housing services. It did so through the intermediation between the poorer groups and the private investors, frequently by means of guarantees on rent payment and continuous monitoring of potential risks situation. The programme proved a success, considering the relative low defaults rates on rent payments. From 1993-1998, some 1 035 contracts were signed, contributing to a temporary housing solution for 3 408 people from 65 different nationalities, mostly from Latin America, Eastern Europe, North Africa and sub-Sahara.

A specific example of the new approaches that were implemented through the Pro-Housing programme was the experience in Boadilla del Monte, a small town of some 20 000 people located 15 km outside Madrid. In 1997 some 300 immigrants, largely from Morocco, were living in a shanty town in very bad conditions, without electricity, water supply and basic sanitary facilities. Most of the housing was built from wood and metal, frequently collected from the waste in the surrounding neighbourhoods. The subsequent airborne diseases in the shanty town, the unsustainable situation in the shanty town itself and the growing complaints of the neighbouring communities resulted in a broad-based intervention. The programme was driven by a partnership composed of the Boadilla del Monte Town Council (financial support), the Inter-municipal Association La Encina (co-ordination of income and employment generation activities), The Red Cross (specific emergency health services), the Diocesan Delegation of Emigration from Getafe (social support, adult education, legal advisory services) and the Pro-Housing Organisation (intermediation of rental housing). This integrated intervention succeeded in providing housing to 220 persons, eliminating a shanty town settlement with inhumane conditions, and improving the image of the inhabitants of the shanty town, and specifically so for Moroccans, in relation to the surrounding neighbourhood. Moreover, previously empty rental units were brought into the market, while the previous reluctance of property owners to rent to immigrants was reduced significantly though the successful pilot project.

Source: Based on Cabrera, P. J. (2001), *The Difficult Access to Housing in Spain*, FEANTSA (Federación Europea de Entidades Estatales que trabajan con Personas sin Hogar), Universidad Pontificia Comillas, Madrid.

Box 2.8. **Integrating immigrants – the case of Toronto, Canada**

The effective integration of immigrants within the national/regional labour market is not a challenge that is unique to Madrid or to Europe. Canada receives almost 1% of its population of 32 million people each year in immigrants. Approximately 48% of all immigrants to Canada settle in the Toronto Metro-region. This means that this metropolitan region annually integrates approximately 125 000 newcomers speaking 85 different languages. The vast majority of these people need ready access to housing, schools, day-care, transit and transportation and above all, jobs which match their skills and training. This is important not only because of the challenges associated with successfully integrating over 2% of the metropolitan population annually, but because Toronto contributes 20% to Canada's GDP and is therefore a key national economic engine and a determining factor in the country's international competitive position.

In recognition of the nature and scope of the challenges associated with successfully integrating this number of newcomers, the three orders of government delivering programming and services in greater Toronto (the governments of Canada, Ontario and Toronto) signed a Memorandum of Understanding on Immigration Settlement (MOU) in September 2006. This MOU is the first of its kind in Canada and comes from the Canada-Ontario Immigration Agreement which provides federal funding to the provincial administration for immigrant settlement needs.

The innovative nature of the tripartite MOU on immigrant settlement is first that it gives a voice to the municipal administration on issues that fall under federal responsibility (immigration policy) and provincial mandate (settlement programming) but that challenge the metropolitan area on a daily basis. Second, the MOU provides simultaneously for the institutionalisation of dialogue between the three orders of government (vertical collaboration) and among the main actors within each order of government playing on the immigrant settlement file (horizontal coherence). The bottom-line focus of the MOU is the improvement of socio-economic outcomes for immigrants in the greater Toronto region through sustained dialogue, information sharing and the integration of policies and programming that aim to enhance these outcomes.

Built into the MOU are the principles of intra-governmental horizontality, inter-governmental coherence, transparency and accountability, a focus on results and, perhaps most importantly, ensuring linkages with initiatives from other government responsibility centres having an impact on immigrants and their integration into the metropolitan economy. This is especially important because the federal and Ontario governments had signed a separate Partnership Agreement on Labour Market investments 18 months earlier. The May 2005 agreement focused on the identification of shared labour-market goals and objectives of the two orders of government and the establishment of joint

Box 2.8. **Integrating immigrants – the case of Toronto, Canada** (*cont.*)

priorities for investment in labour market integration. The first priority identified in the agreement was the labour market integration of recent immigrants; the key focus of the MOU signed 18 months later. Hence, true horizontal coherence was provided for in the 2006 MOU to ensure cross-walks with the 2005 Partnership Agreement on labour market investments.

Concretely, inter-governmental collaboration should target several objectives:

1. The first purpose of greater inter-governmental collaboration and co-ordination is to establish common objectives and outcomes over a given timeframe for immigrant settlement and economic growth. The three orders of government need to establish consensus on benchmark indicators and an accountability regime that can demonstrate progress in achieving these commonly-defined outcomes. The strategies developed to achieve these results ought to rely on pooled resources – a common tool-kit – in support of achieving the commonly-defined outcomes. In other words, the three orders of government each bring their specific programming to the table and ensure that they each complement the other in the pursuit of the commonly-defined policy objectives.[21]

2. The second objective behind these governance structures would be greater intra-governmental coherence. In any of the three orders of government active in Madrid, more than one responsibility centre focuses on immigrant settlement issues. The central government has ministries responsible for social affairs, economic development, labour, housing, infrastructure, security, and culture, to name a few. The region also has various responsibility centres whose policies and programming affect immigrant settlement and integration into Madrid's economy and society, as does the municipal administration. Therefore, a single table created by the three orders of government to pool resources to optimise the contribution of immigrants to Madrid's growth and competitiveness should necessarily enhance the coherence with which each order of government plays on these issues. There are policy and programmatic linkages between security and safety, access to housing, access to jobs and training, and credential recognition and immigration. A single governance structure that simultaneously allows for enhanced intra-governmental coherence and inter-governmental co-ordination will further socio-economic outcomes defined for immigrants under the

growth and competitiveness strategies the three orders of government will have articulated for Madrid.

3. The third, and arguably most important, objective of these new governance structures is the institutionalisation of mapping jobs to skills in Madrid's metropolitan labour market. This will be used to ensure the successful integration of immigrants into the regional economy. This tool can only be developed successfully if business and labour groups are at the table. Here again, Toronto provides an interesting example of how local stakeholders in a metropolitan area can engage in a bottom-up, community-driven initiative to map skills against labour market needs (Box 2.9). Governance mechanisms created by government in partnership with business, labour and community groups (from academia to the immigrants themselves) can be established to regularly quantify the nature and scope of the skills required to enhance the growth and competitiveness of Madrid's key industrial clusters.

Box 2.9. Mapping immigrant skills against labour market needs: the Toronto Region Immigrant Employment Council

Metropolitan Toronto accepts almost half of all newcomers to Canada. This is a huge annual intake when set against the population of the metropolitan region as a whole. In 1980, the metropolitan population hovered around 3 million people; today, it reaches over 5 million and by 2030 it is expected to top 8 million people. In other words, within 50 years, the metropolitan region will have almost tripled in size, largely due to immigrant settlement. As in most OECD countries, the endogenous birth rate has fallen below the Canadian population's replacement capacity. Immigration alone will thus sustain net labour-force growth in Canada (and Toronto) by 2016; successful immigrant integration in Toronto is therefore key to insuring the metropolitan region can sustain its contribution to Canada's GDP and its international competitive position.

At the beginning of the decade, community leaders in Toronto formed a non-government organisation called the Toronto City Summit Alliance (TCSA), comprised of business (including the city's main business group, the Toronto Board of Trade), labour, citizens' groups and community leaders. At its first conference in June 2002, the TCSA identified immigrant settlement issues, in particular systemic barriers to immigrant employment, as its top priority. The following year, the TCSA created TRIEC, the Toronto Region Immigrant Employment Council. It is important to note that this was not a government initiative, but a bottom-up community-led endeavour.

Box 2.9. **Mapping immigrant skills against labour market needs: the Toronto Region Immigrant Employment Council** (*cont.*)

TRIEC is comprised of various stakeholders affected by this issue: employers, labour, occupational regulatory bodies, post-secondary educational institutions, assessment service providers and all three orders of government. Its self-defined mandate is to increase skilled immigrants' access to value-added services (including specialised training, credential assessment services and language training), change the way stakeholders value and work with skilled immigrants, and change the way government behaves in this area to maximise inter-governmental co-ordination and coherence.

By 2006, the non-governmental organisation TRIEC had placed 380 recent immigrants in internships with over 140 Toronto Region employers, resulting in over 80% finding full-time employment in their field of expertise; matched nearly 1 100 skilled immigrants in mentoring internships with professionals who share the same occupation, with over 75% finding full-time employment after the internships; and engaged over 370 employer contacts through an Internet site created for the purpose of highlighting the positive outcomes for both the employer and the newcomer of immigrant employment.

It is important to note that this arrangement was established outside governmental parameters. The three orders of government were invited to sit on the Council, and eventually all three orders sent representatives. That said, nothing suggests that governments themselves could not create a similar kind of mechanism whose main advocacy function would be to promote the positive attributes of immigrant employment and whose main programmatic function would be to map skills to jobs in the metropolitan labour market.

4. Finally, these governance structures will have to reflect the specific circumstances of Madrid, which will certainly evolve over time. This evolution should be fuelled by public and stakeholder input. A results-based accountability regime must be implemented as an integral part of any immigrant settlement and integration strategy to ensure that common objectives and outcomes are clearly articulated and accepted by each order of government and external partner, that roles and responsibilities have been clearly established for all, and that results monitoring is done on a regular basis to identify the strategy modifications needed to achieve the desired outcomes. Participation in these structures will also have to take into account the different capacities of the various partners, in particular that of smaller, weaker municipalities in the region.

At the national level, there is a need to think about the means to reconcile the different objectives linked with immigration to ensure better

policy coherence. This is an issue across all OECD member countries. In its relations with Brussels and in its internal conversations on these issues, it is crucial for the Spanish central government to clearly define the rationale for continued immigration and to ensure its widespread acceptance both within and outside government. Because of the positive socio-economic and cultural attributes immigrants bring to Spain generally and the Madrid region in particular, the central government will have to establish policies, programmes and governance mechanisms that will enhance the attraction, retention and integration of immigrants while at the same time not compromising the arrangements that have been implemented to maximise the security and safety of Madrid and of Spain. This horizontal issue raises the question: who leads the immigration question at the central level – the ministries of immigration, the interior, labour, economic development, or social affairs? Is immigration seen as a support or a hindrance to pursuing other policy outcomes, including public security enhancement? The answer to these questions should be subject to further research and debate in the international arena.

2.3 Enhancing spatial planning: towards a more polycentric and inclusive city-region

The majority of post-war experience with land use planning in Madrid has seen a lack of a strategic perspective on metropolitan spatial development. The current shape of the Madrid Metro-region is due to successive waves of virtually uncontrolled territorial expansion stimulated by positive economic trends. For instance, since the 1960s economic growth has increased the purchasing power of less affluent segments of the population which has led to the proliferation of unorganised apartment buildings, frequently in the middle of completely unplanned areas without transportation or community infrastructure. The result has been a mono-centric development pattern segregating the relatively poorer and industrial southern part from the more affluent northeast and northern parts of the city. From the 1980s onwards, with the democratisation and decentralisation towards the regional level, efforts were undertaken to articulate a more planned urban development system, and to remedy several of the consequences of a chaotic land use development that had taken place in the previous decades. In theory, the main land use and transportation responsibilities were given to the regional and city governments. More specifically, while regional authorities were responsible for transportation and the co-ordination of land use policies, municipalities were responsible for elaborating specific land use plans, and forwarding them for final approval to the regional government. The land use plan undertaken in 1985 was not successful due to disagreements between the regional and city

government, as some of its content was specifically related to regional responsibilities.[22] In the meantime, the ongoing increase of land prices in the city centre, the rising income levels and the associated increases in demand for space, together with the improved credit facilities, all provided an environment that was conducive to a more intense urban development pattern in the outskirts of the metropolitan area.[23] As a consequence, in the second half of the 1990s, the strategy of the local government of Madrid was to expand the city and its metropolitan area through the creation and infill of 14 new low rise residential areas, mainly in the southern areas of the metropolitan region, and linking these neighbourhoods with the expanding railway network (the so-called *cercanías*). The result was a gradual spreading of economic opportunities outside the immediate City of Madrid, combined with a net increase in private mobility.

The fast urbanisation and growth, has presented Madrid with a complex and contradictory urban development scenario. Despite significant improvement linked with the development of sectoral plans, especially for transport, it still has to face the following challenges:

- Since the 1980s, impressive investment in regional transport infrastructure, particularly in public transit, has improved connectivity between the city centre and the suburban areas. However, the resulting increase in mobility has also gone hand in hand with urban sprawl and a dramatic rise in private car users. Consequently, as many OECD metro-regions, Madrid is confronted with important congestion costs.

- As many important and wealthy OECD metro-regions, Madrid has to cope with pressures on its real estate markets, especially in the city centre. However, this pattern is exacerbated in the Madrid region due some rigidities of the Spanish rental sector. This trend not only considerably reduces access to affordable housing, contributing to increased difficulties for the more vulnerable segments of the population, it is also potentially discouraging young educated people.

- These two trends have tended to limit the impact of efforts made by the regional authorities to create a more polycentric urban region. The Community of Madrid made extensive infrastructure investments in some peripheral municipalities (such as Alcobendas, Las Rozas, Pozuelo, in the north and the west, Getafe or Leganes in the south, and Torrejón de Ardoz and Coslada in the east) while some private investment (industrial and technological parks, and big commercial facilities) have been built outside the City of Madrid. These efforts and trends have taken some of the pressure off the city

centre but still remain within the immediate core of the metropolitan area. The monocentric and radial transport infrastructure system within the region also limits the potential for a more polycentric metropolitan area. These trends call for a more integrated approach to spatial planning.

New challenges of transport development

Transportation infrastructure and management has witnessed a positive development in the Madrid Metro-region. The region is widely known for the impressive increase of its railway, road and subway network (Kreukels and van Vliet, 2004). For instance, the metro network has increased an average of 6% per year, making it now double the size it was in 1984. Since 1983 the transportation and macro-infrastructure planning, and co-ordination have been under the direct influence of the regional government of Madrid. The Madrid Public Transportation Consortium is the regional body responsible for transportation, and is composed of municipal (five members), regional (five members), and central government (two members) representatives, as well as representatives from other municipalities (three members), unions (two members), the enterprise associations (two members) and society (one member). The Consortium can be considered a best practice in setting up sector-oriented, pragmatic mechanisms aimed at co-ordinating investment and pricing policies. Its main tasks are administrative co-ordination (delegated by the local governments), rate integration and modal integration. The elaboration and introduction of the system of integrated tariffs is widely documented as a successful measure in stimulating the use of public transportation. In 2006 the City of Madrid also introduced measures to promote a sustainable mobility, through the implementation of an environmental plan "Strategy for the Quality of the Air of Madrid City" that brings together different initiatives aimed to restrict private traffic, and support public transport and green transport. These gradual improvements in the transportation infrastructure connecting the central city and the outskirts, have resulted in increased mobility. More particularly, while the yearly average increase in the total number of mechanised trips in the period 1988-1996 was 0.5%, in the period 1996-2004 this number was 4.2%.

However the rapid expansion of the urban functional region is now challenging the good achievement in this field. Except for in the central area – public transportation has been consistently losing market share in relation to private vehicle use. The increase in the use of private vehicles has been more rapid than the yearly average growth of public transportation (5.0% for private vehicles versus a 3.7% increase in public transportation in the period 1996-2004). Specifically in the outskirts, the increase in market share

of the private trips has been remarkable. For example, going from the inner city belt to the outskirts, the modal split approximately changes from 30% cars – 70% public transportation to 80% cars – 20% public transportation. Despite of the impressive investments that have been undertaken by the authorities over the years, the preference for car mobility in the sprawling suburbanised population living in semi-detached housing, combined with the relatively larger concentrations of infrastructure investment and employment opportunities within the inner belts, were all important motives behind this trend. As a consequence of the sharper increase in car mobility in the metropolitan outskirts, some bottlenecks in parking space have already appeared in industrial districts such as Tres Cantos (Box 2.10). And although alternative solutions are being adopted, such as local commuter networks, specific bus services and mobility centres with tripartite participation, the scale of these initiatives is still insufficient, and most of it is occurring on a pilot basis.

Box 2.10. **The mobility campaign in Tres Cantos**

Tres Cantos is a municipality with approximately 35 000 inhabitants, located 30 km outside the City of Madrid. In 1999, considering the fact that the scarce public infrastructure transportation was being underused – at the time the estimate was that some 70% of the labour force came to work by car, while only 21% used the available bus services – the municipality elaborated an initiative to revert this trend. Together with the local industrial association and the Regional Transportation Consortium, it planned a pilot project to increase the utilisation of the available infrastructure. The first and crucial stage, actually launched in 2000, three months before the beginning of the project, was a large scale dissemination programme through the use of the outdoors, posters and an information centre. Secondly, pilot bus services were set up that connected the railway (*cercanías*) and the Madrid underline with the industrial district. This pilot service was also accompanied with special rush-hour services and temporary bonuses in order to increase the attractiveness of public transportation.

The result of the pilot project was quite effective. Private car use was reduced by 27%. Seventy-six per cent of the persons involved and interviewed declared that it was their first time they used the public transport for this trip, and that they would continue to do so, in case of continuation of the project. It was estimated that some 50 cars/day were taken out of circulation. The pilot project was eventually extended, at which time a private company took over the initial bus lines, showing also the profitability of the initiative.

Source: Penelope Project – Good Practice Database, 2002, *www.managenergy.net/products/R55.htm.*

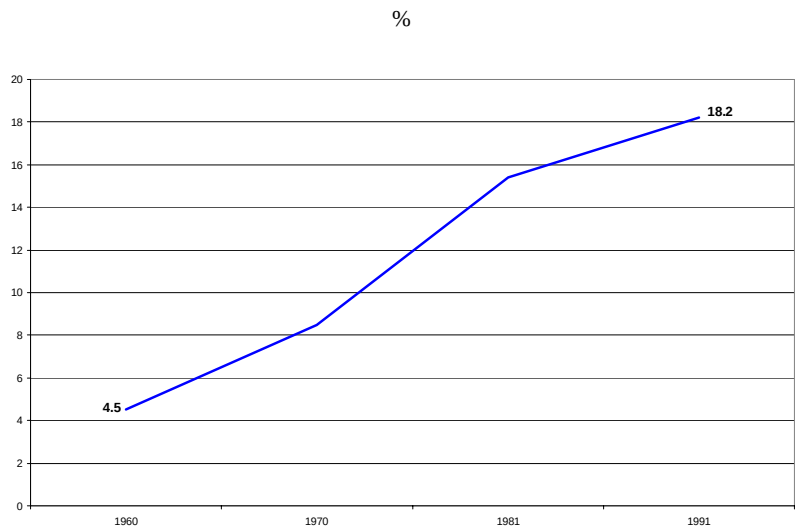
Actions initiated by regional transportation planners involving large companies in financing the creation of public transportation facilities are a step in the right direction. Particularly, two recent examples of more pro-active approaches should be mentioned. First, the outward lying industrial districts have been gradually transforming from the typical blue-collar Fordist scenes into urban landscapes where also an increasing number of white-collar offices buildings are being mixed with industrial uses. As a consequence, densities have gone up, and an increasing number of office companies have approached the regional transportation consortium to ask for new investments in bus networks. In response the Transportation Consortium within the "Public Transport Plan for Economic Activity Areas" is currently elaborating a survey with 15 larger companies in order to have a more complete diagnosis of the possible links between socially responsible policies implemented by firms and mobility strategies. One of the hypotheses of the research is that the majority of these enterprises are already implementing initiatives regarding their employees, and are therefore willing to pool resources with the public sector aimed at the mobility of their workers. This would lead to maximising the effectiveness of otherwise scattered private or public projects. A second example refers to a trend to capture what can be called the increase of the land values associated with incremental development and urbanisation. Thus, the regional transportation authority and the developer enter into a negotiation as to the extra marginal cost that will have to be shared by the project proposed. This was the case for *Telefónica*, which was involved in the financing of a metro station close to its large, recently created, industrial settlement located on the border of the Madrid municipality.

Housing: a main obstacle for a city's attractiveness and social cohesion

Madrid's housing sector has been suffering from an escalation in real estate prices, boosted by rigidities in national regulation. There are several reasons behind this escalation of real estate prices. First, the Spanish housing finance system has traditionally, and in an excessive manner, depended on owner occupied housing. The rental sector has been shrinking consistently since the 1960s. Since that period, the rental sector has suffered from rent control and regulatory rigidities that have tended to reduce the available supply of rental units on the market. Although the legislation has become more flexible, and rents have been gradually liberalised, the older housing units are still facing the effect of these controls. Thus, the paradox is that – despite general increases in housing prices in Spain, and more particularly in Madrid – this is accompanied with large numbers of empty units. For instance, Madrid City Council data estimates that around

178 000 units are empty, 12.9% of the available units (INE, 2001).[24] Escalation in housing prices has also been induced by the relatively low interest rates and the (regressive) tax deductions that are a part of the prevailing mortgage system, which has introduced additional pressure on the market from the demand side (Chapter 1).[25] A growing percentage of middle class Spaniards are buying second homes (Figure 2.8).

Figure 2.8. **Spaniards buying second residences (1960-1991)**



Source: INE (Spanish National Institute of Statistics) and Pareja Eastaway, M. and I. San Martin (1999), "General Trends in Financing Social Housing in Spain", *Urban Studies*, Vol. 36, No. 4, pp. 699-714.

The net result of this trend of rising prices is worrying for Madrid, particularly from the point of competitiveness and attractiveness, calling for measures from both national and local authorities. From the systemic point of view, there are detrimental effects of housing escalation on the general level of prices and the competitive position of the overall Spanish economy. However in the worst case scenario it might also lead to gradually overheating the economy of Madrid, creating bottlenecks in attracting the labour supply with constraints in its land and housing markets. This is all the

more worrying in light of the fact that many young people and immigrants will also enter the labour market through temporary contracts, implying a vulnerable position to negotiate long term mortgages. Currently, the lack of affordable housing is such that about 22% of Madrid's 20-30 year olds still live with their parents. The increasing flow of immigrants is also likely to increase pressure on housing affordability. Relieving the rental market would require that national authorities gradually do away with the tax subsidies for purchasing a main residence that act as disincentives to renting, moderating demand pressures. Furthermore, on the supply side, improved legal security of relations between owners and tenants would help to ensure that more effective use is made of the housing stock (OECD, 2007a). Meanwhile, as noted in the last *OECD Economic Survey of Spain*, the local planning standards should be made more flexible, and a new set of regulations for developable land should also be reconsidered, as in practice these rules end up giving a perverse financial incentive for local governments to also retain land from the market and keep prices high.

There are clear signs, however, that the policy makers are committed to increase the housing stocks. At the national level, the Housing Plan (2005-2008) promotes the rental housing and regeneration of the residential urban structure through Comprehensive Restoration Areas. The City of Madrid through the department for urbanism, housing and infrastructure has elaborated an ambitious plan for revitalising and upgrading of the city's housing stock for the period 2003-08. The target is to provide an additional 40 000 housing units, with a special emphasis on the revitalisation of public space and the housing conditions of the more vulnerable groups in the expanded city area. More specifically, 9 900 houses will be renovated through Special Rehabilitation Zones, which provide more flexible approval procedures and additional financial incentives for the rehabilitation of the older housing stock in the expanded city centre.[26] In addition, a special Municipal Rental Company was created to facilitate the connection between the supply and demand of rental housing, specifically for young people. Also, some 20 000 units were to be restored through specific incentives to the private owners of housing units.

The Lavapiés redevelopment area is a good example of the limits and potentials of such an approach regarding housing and revitalisation in the older city centre (Box 2.11). Although some of the individual projects were quite successful, particularly those that were more narrowly focused on the physical upgrading of deteriorated backyard housing and the renovation of housing units, the programme was not successful in leveraging the overall living conditions of the district. Other evaluation studies also confirmed the need for further integration between physical and socio-economic dimensions of the programme, to include more participation of the affected

communities, and to make the building and renovation standards more flexible, in order to reduce the cost of interventions.[27]

Box 2.11. **Lavapiés redevelopment area**

Lavapiés was originally a Jewish neighbourhood created in the 12th century outside the city limits, but which during the subsequent growth stages of the 17th century was encompassed within the city limits. The industrial revolution and the population growth led to a deterioration and densification of the living conditions of the area, with substantial creation of so-called backyard housing. Today, the neighbourhood is facing the typical challenges of other inner city areas in Madrid, such as deteriorated living conditions in substandard housing, a lack of infrastructure and public space, increasing poverty and an ageing population. More recently, immigration has also added to the complexities of districts. In 1997, the area, which has some 35 hectares and 20 000 inhabitants, was declared a special zone, and a refurbishing programme was created in partnership with the European Union, and the regional and city governments. The first phase of the programme – 1997-2003 – was successful in implementing specific projects, such as the renovation of the public market, the implementation of a theatre and the renovation of squares and other public spaces. Nevertheless, only 32% of the targets for upgrading and renovating housing stock were met, despite the substantial financial support (60% of costs) that was made available for the interventions. The somewhat disappointing results were fuelled by the poor socio-economic conditions of target groups, lack of flexibility in applying the standards and norms for deteriorated backyard housing renovation, and co-ordination problems involving many different actors. Nevertheless, a second project stage was initiated among the implementing partners of the programme, which involved an investment budget of EUR 40 million for a larger area (70 hectares, incorporating some 75 000 persons) during the period 2003-06, and to be financed among the national, regional and local governments. Moreover, the private sector was also expected to contribute EUR 15 million. The extension of the programme also enlarged the possibility for financial support (increasing from 60% to 75% of project cost), and aimed at linking physical policies with socio-economic integration of the neighbourhoods.

While the above-mentioned municipal housing plan is indeed a step in the right direction, a spatial policy to provide the more vulnerable segments of regional population with affordable housing is still lacking. In light of the escalating housing prices and the prevalence of temporary labour contracts for newcomers and immigrants, owner-occupied housing rentals can be an effective instrument in reaching these target groups. In this sense, the Municipal Rental Company, created with the specific role to facilitate the

connection between the supply and demand of rental housing for young people, has been relatively slow in hitting its 2003-2008 targets. Consequently, it will have to speed up its operations substantially in order to grow its modest portfolio of 1 325 units, managed from May 2003 to June 2006, to achieve the 6 000 units under management the Rental Agency is expected to reach by 2008. Likewise, interventions in the aforementioned Special Rehabilitation Zones, which are expected to have a net benefit for the more socio-economically vulnerable communities living in these areas (including a third phase for the Lavapiés area), were projected to total 3 900 interventions for the period 2005-2008, yet through January 2007 the city has been able to implement only 299 interventions. At the same time, however, most of the implementation progress has been made in the stimulation of private rehabilitation (17 500 versus a target of 20 000 for 2008). However, compared to rental units, or the provision of subsidised improved housing units in the Special Rehabilitation Zones, it is less clear what has been the impact of this additional flow of private housing in terms of improving access for the poorer communities.

As part as a competitiveness strategy to attract skills and talents, local and regional authorities should devote specific attention to housing availability for students and researchers. For instance, Madrid could develop an adapted housing park for this particular group through two types of actions. Specific regulations could be included in the urban plan to reserve land opportunities or to renew the 3 000 vacant and old buildings on the market or available in the city, to transform them into condominiums for students and research centres. The city could also explore the possibility of selling land to developers at the "*euro symbolique*", asking them, in exchange, for building affordable housing units and rent them in priority to students and researchers.[28]

The need for more integrated urban planning

The fast growing urbanisation trend in Madrid and the recent economic opportunities call for better urban planning. A central issue is that the interaction between the municipal and regional levels in relation to land use planning is largely one of *ex post* approval/rejection of municipal land use proposals. This scenario opens a series of potential *ad hoc* conflicts between the local and the regional spheres, while strategic norms and orientation from the region, which may *ex ante* guide the local government in the process of plan elaborating, is missing. At best, the co-ordination of land use based decisions either happens in specific sectors where horizontal and vertical co-ordination are well established rules of metropolitan governance (as in the case of transportation planning), or is the result of informal mechanisms of co-ordination among the departments due to the high-

technical level of the planners involved. Moreover, dealing with transport bottlenecks and housing shortages must also be addressed through multi-sectoral measures. So far, the lack of a proper land planning has been offset by the remarkable capacity to produce and manage public transportation facilities. Yet Madrid's recent territorial expansion has reinforced the mono-centric pattern of urban development leading to gentrification, urban sprawl, transport congestion and higher use of private cars. Efforts should be put forth to further exploit economic opportunities outside the immediate City of Madrid and its outskirts. In that sense, the clusters strategy should be better linked with land use, transport and housing development to seek a more inclusive and polycentric pattern of urban development.

A first step to accomplish this goal could be to replicate the successful model of regional governance in the transportation sector to specific themes related to land use planning. As aforementioned, one of the key factors of the success behind the transportation consortium was its autonomy, also driven by the awareness of the political stakeholders (municipalities, City of Madrid, community, national government) that is was important to delegate project elaboration and implementation to a technical body. This general policy environment, combined with the high technical level of its staff, has resulted in a project-oriented efficient institution for co-ordinating the expansion of the metropolitan infrastructure network. Considering the bottlenecks in land use planning, the time is ripe to create complementary, voluntary and consensus driven institutions to deal with the urgent challenge of providing more collective efficiency in metropolitan land-use planning. For instance, if political consensus among stakeholders could be articulated, the industrial municipalities in the south, the City of Madrid and the regional government could take the lead in organising a specific Land Development Consortium responsible for land planning and delivery within the overall guidelines of a sustainable and smart growth concept, linking land use, transportation, environment and local economic development. In a second stage, the different stakeholders within this more technically oriented Consortium would increasingly consolidate experience in sharing information and develop inter-municipal projects of mutual interest, which would then serve to replicate the experience to a larger scale. In a way, the participatory learning-by-doing process, driven by the concrete formatting and implementation of projects, would gradually deal with the traditional lack of a metropolitan perspective on integrated land use development.

Conclusion: organising actors for implementing a competitiveness policy

As other OECD cities and metropolitan areas, Madrid has become a main player in the international scene. In light of their comparative advantage in effective and participatory delivering of urban services, cities and regions have been developing and implementing strategies for income and employment generation. More specifically, since the 1970s democratisation, liberalisation of regulatory frameworks, and the opening up of national economies, cities and metropolitan areas have all been directly faced with the challenges of productive restructuring. As a consequence, mayors and other local stakeholders (business associations, labour unions, NGOs, universities, etc.) have been quite active in the elaboration and implementation of creative responses to deal with the threats and opportunities created by globalisation. Madrid has been no exception to this general tendency of taking a more pro-active stance towards economic development, competitiveness and employment generation. In the Spanish context, as will be discussed in Chapter 3, the democratisation of Spain and the decentralisation of government powers has resulted in a three-tiered or quasi-federal system with central, regional and local governments. In practice, the main powers and responsibilities were shifted to the level of the so-called Communities, or regional governments. In the case of Madrid, its functional area more or less coincides with the present regional government, which, to some extent, has facilitated the delivery of some functional services. The Community of Madrid has incorporated the profile of a relatively strong metropolitan government, while the municipalities, at least until recently, were playing a relatively smaller role. This scenario changed in 2003 with the election of the new mayor of Madrid (the former President of the Community) who has also engaged Madrid into a more pro-active stance supported by the ongoing process of further decentralisation to the local level within the Spanish administrative system in general, and for Madrid in particular.

At the regional level, the main institutional player is the Madrid Institute for Development (IMADE), which is part of the Department for Economic Development and Innovation. The Institute was created in the aforementioned context of decentralisation of (economic development) policies. For example, at the end of the 1980s, when the Spanish regions were spending some 35% of the national budget, with approximately 85% of the resources allocated to industrial promotion. From the beginning IMADE has initiated a corporatist approach towards development policy within the Madrid region, trying to involve the labour unions and the main business associations, such as the Entrepreneurial Confederation of Madrid, but it

could not face the challenges of productive restructuring. Presently, and according to its recent strategic plans and guidelines, IMADE has become more active in basically three areas, *i.e.*, science and technology policy, establishing a logistics platform for the metropolitan area, and, finally, the provision of land and infrastructure for business parks. In the development of science and technology, IMADE is co-ordinating the implementation of the science and technology parks that are to stimulate the development of medium and high technology sectors. Nevertheless, and as was argued previously, the success of these parks will depend on a series of structural measures aimed at gradually improving the systemic and dynamic linkages among stakeholders in the regional innovation system, and more particularly among the different layers of governments (national, regional and local), between the universities and the private sector and, finally, between the innovation system in Madrid and some of the international actors (multinational firms, international researchers and professors, etc.). In the area of logistics, IMADE (a regional government body) and "*Madrid Emprende*" (a city government body) are developing a project called "*Madrid Plataforma Logística*", to articulate a series of flagship projects such as a Dry-port (connecting Madrid through the railway system to the main Spanish ports) and an Integrated Transport Centre in the city of Coslada. However, although these programmes are quite ambitious, and are also frequently backed up by substantial public funds, a broader strategic perspective on the real strengths and weaknesses of Madrid as an international logistical hub seems to be lacking (Box 2.12). In other words, there is not yet a clear vision, backed up with diagnosis on the main trends in the transportation and trade sectors, on whether and how the logistical and institutional infrastructure of the city might be able to connect Madrid with the international economy. And, related to that, it is not clear how the present activities, and the proposed new development projects, will contribute to the implementation of an eventually commonly shared vision.

Box 2.12. **Madrid as a logistic hub: the need for a broader strategic perspective**

"Logistic Platform of Madrid" was created in 2005 by the regional government and the Madrid City Government, in partnership with the employer's confederation, the state ports, the Municipality of Coslada, some logistical enterprises and the Public Transportation Centres of Madrid and Coslada. The main mission of the "Logistic Platform" is to perform the role of a strategic broker between public and private actors in order to strengthen the performance

Box 2.12. **Madrid as a logistic hub: the need for a broader strategic perspective** (*cont.*)

of the logistic sector in the metropolitan area. The main objective of the Platform is to foster a strategic planning process, to improve information gathering through studies and research, and to prepare intermediate specific proposals and projects for the sector. Moreover, the Platform is involved in capacity building and marketing strategies. Presently, some main investment projects are being implemented within the logistic sector. An example is the Coslada Transportation and Distribution Centre (composed of more than 1 million m^2, distributed between warehousing and servicing areas, business premises and offices, roads and public spaces). The Centre is being managed by the regional government (51%), the City of Coslada (10%) and the Chamber of Commerce of Madrid (39%), and is currently being extended by another 100 000 m^2. The Madrid Dryport project, located next to the Coslada Transportation Centre, is another example. The initiative, a partnership between the Spanish Ministry of Public Works, the regional and local governments and the ports of Algeciras, Barcelona, Bilbao and Valencia, is improving Madrid's connection with these major Spanish ports through the implementation of a railway network. It is envisaged that the Dryport will feature as an important platform of inter-modality following the main trends in the European market.

Despite this promising initiative, the Madrid Metro-region lacks a detailed strategic analysis which takes into account international and national traffic. On the basis of these future projections, policy makers could dispose of more robust scenarios, which could then serve to mobilise more intense support from the private sector for the implementation of logistical strategies for Madrid. Such strategic studies should also consider the moves of other second-tier competing cities such as Milan and Amsterdam. There are a number of uncertainties that surround the logistical strategy of Madrid and which derive from this lack of a strategic perspective on the sector. For example, it can be claimed that, within Spain, and despite the major investments that have been undertaken, the City of Madrid is still rather geographically isolated. The Dryport project, for example, should be seen in light of this relative disconnection from the countries' main port network. Similarly, and although the Barajas airport has made substantial progress in profiling itself as a major hub within Europe, in terms of its cargo it is still well below the performance of major hubs such as Amsterdam. Moreover, there are no specific studies on how the ongoing process of restructuring and de-regulation within the global and regional airline markets will affect the position of major and secondary hubs in Europe. In addition, in order to have a more precise diagnosis of Madrid in terms of its potential as a logistical hub it would be important for policy makers to have a more precise analysis of the most likely spatial and sectoral impacts of the future increased exposure of the Spanish economy to international competition.

More recently, the municipal administration of Madrid has also been actively working on the institutional and technical basis for economic development policy at the city level. In a remarkably short period of time, the city government has created programmes in areas that comprise land and infrastructure provision (*e.g.*, through the creation of supply in districts such as Fuencarral and Moncloa and the redevelopment of existing areas such as Villaverde and Usera) and activities related to the promotion of Science, Technology and Innovation (*e.g.*, the Madrid Scientific Park) and the promotion of the city as a logistic hub through its involvement in the earlier mentioned "Madrid Plataforma Logística" programme, that is implemented in partnership with the regional government and the business associations, among other stakeholders. Madrid has also been more active in business development through the recently created development Agency "*Madrid Emprende*". This development agency, which was created in 2005 as a direct response to the absence of any structure for economic development planning at the local level, is responsible for the articulation and provision of services aimed at strengthening the existing network of firms, and to attract new ones. Among other activities, it is involved in support during the creation and the first stages in the life cycle of new enterprises, for example through incubators. While one incubator for social enterprises is being operated, a new one is being planned for the fashion sector in the historical Villa de Vallecas district. The incubator is also part of a more recent broader strategy to transform Madrid into a fashion city. The development agency has an important role in the information gathering and dissemination aimed at facilitating decision-making processes of economic stakeholders. It has created important advances in this area, such as the creation of the Economic Observatory, which provides municipalities with information and technical support and has triggered the publication of important and continuously updated detailed studies on the structure of the Madrid economy. It has also developed a portal and a website containing information on the main municipal programmes, and electronic versions of the economic bulletins that are produced by the Observatory.[29] Madrid could probably be inspired Paris' experience in business promotion through firm incubators that led to the creation of a large number of firms (Box 2.13).

The most impressive action of the city government has been the development of a territorial branding strategy. It was launched, together with strategic partners such as the Chamber of Commerce, CEIM (the Madrid Industrialist's Union), and the club Real Madrid, the Internationalisation Programme, to raise more awareness amongst national and international investors that Madrid has been going through a rapid process of positive change, which has substantially improved its investment climate. Among

Box 2.13. **A successful business creation municipal programme in Paris**

During the 1990s the City of Paris had been suffering from low firm creation/job creation rates. Since 2001, to invert this trend, and to maintain Paris' competitiveness as a first-class business location, the city government has been implementing a (re)development project. Besides creating a stock of locations in the very centre of the city to attract company headquarters, this project, called "business-path", is a multi-stage intervention that promotes entrepreneurship and employment. Firms are provided with tailored services and facilities according to their needs at each stage of their development, from creation to introduction to market.

The first stage of the "business-path" project is to provide entrepreneurs with the possibility of developing their business idea within one of the city's firm incubators. Each firm is provided with a location of 200 to 400 m^2 and with a support staff of around three people. The annual cost of each staff person is around EUR 300 000. Firm incubators in Paris cover a total surface of 32 000 m^2 and are specialised in knowledge intense industries (ICT, biotechnology, industrial design, specialised art crafts, etc.). An example is the "bio-park", located in the 13th district of Paris, which is an 18 000 m^2 site devoted to promoting entrepreneurship in the biotech sector.

The second stage begins once the business idea has been developed, usually two to five years into the firm's life. The new firms are relocated into "industrial hostels" in which they pay a moderate rent (they can also have a loan from PIE – Paris Initiatives Enterprises). Entrepreneurs and artisans can find a location that fits their needs thanks to an online real estate service (*www.economie.paris.fr*).

The third stage of the project deals with the development of business locations either for high-tech manufacturing, or for knowledge intense services. These business locations are realised in technoparks, close to local universities or research centres. The aim of this intervention is to provide successful firms with adequate locations and to promote knowledge spillovers in the city.

The outcome of the policy is that almost 150 000 firms were created between 2001 and 2006 in Paris. This means that the firm birth rate is much higher than the demographic growth (five new firms for one new inhabitant along the period). Each year firm incubators are home to 1 000 new firms trying to develop their business idea. The percentage of firms reaching the second stage is 80%. Given the success of the project, the city government wants to accelerate the trend doubling its efforts in 2015.

other results, the internationalisation programme has led to the creation of a specific logo for the City of Madrid, and the development of targeting campaigns to promote the city as a centre for tourism, foreign direct

investment and logistical activities. Moreover, the programme has produced specific and targeted campaigns to capture new markets and tourists, such as the ones launched for Japan and China, while other similar campaigns are being planned for India and the United States. Finally, the most important action of the city government has been to promote Madrid in the international arena with its recent 2012 Olympic bid.[30] Although the former city government originally submitted the Olympic bid, it was the current city government that made the event the city's top priority, considering it a powerful means to enhance the city's image (Martins and Rodríguez Alvarez, 2007). Even though Madrid was not selected to host the Olympics, the bid paid off in promoting the creation of skills in managing complex projects within the city government, and of course, it went a long way toward promoting Madrid in the international arena, competing directly with Paris and London. This positive momentum has encouraged Madrid to bid again for the 2016 Olympic Games.

Other municipalities in the Madrid Metro-region have adopted pro-active policy to promote their own local development. Densely populated municipalities such as Getafe, Leganés and Mostolés have been actively promoting local economic development strategies with involvement of the private sector and unions. It should be noted that these southern municipalities within the metropolitan region have performed an important role within the Spanish phase of Fordist industrialisation. During the 1960s, *i.e.*, the period of the Spanish economic miracle, the metropolitan area of Madrid received the bulk of internal migration and employment. More specifically, the city received around 700 000 new inhabitants in the 1960s of which the majority became concentrated in the southern suburbs of the city. The city of Getafe, for example, which in 1960 had approximately 20 000 inhabitants, had grown to more than 120 000 inhabitants in 1975. In many cases, as discussed earlier, the cities were growing without much land use planning and provision of infrastructure.[31] As a consequence, in the 1980s these cities initiated a political agenda of pressuring the regional government, which proved to be successful in mobilising local communities in favour of sufficient public infrastructure and provisions for the Southern belt.[32] In the 1980s, the Director of the Planning Office of the Regional Government, when referring to the southern industrial belt, had deliberately used the term "the city of the south", as a way of expressing the industrial and political identity of this part of the metropolitan region. In the 1980s, as part of a broader process of restructuring the Spanish economy, this Fordist production complex in the southern part of the metropolitan region was dramatically affected by growing unemployment and transfers of industrial plants out of the region. This triggered a reaction in policy makers. The city of Getafe, which had labelled itself as the capital city of the south, was an example of this pro-active stance. In 1989 it created a mixed Local

Economic Development Agency for the city, composed of local government and several enterprises. The so-called GETAFE Initiatives is active in the field of infrastructure provision, support to SME (consultancy, training, entrepreneurship, cluster formation) and infrastructure for business development (telecentres, support infrastructure for export). The agency also has a small portfolio of projects that are being supported by the European Community. An interesting example is a European grant aimed at the formation of a Latin-European network of entrepreneurship, based on the exchange of best practices with local economic development policies between Getafe and Latin American regions.[33] While some of the initiatives of the metropolitan municipalities, such as the incubators in Leganes and Mostóles, are being co-ordinated and supported by the regional government, in such cities as Getafe there seems to be little direct involvement of the regional or local government.

The creation of an independent economic innovation agency active in the Madrid Metro-region might stand as an option to improve the effectiveness of local policies. In such areas as science, technology and innovation, a certain co-ordination of programme activities is crucial in order to guarantee a strategic view over the sector, and the necessary scale of initiatives. The more pro-active role of the City of Madrid and of other major municipalities of the Madrid Metro-region, a logical consequence of the decentralisation process at the local level, requires further co-ordination to avoid overlapping and duplication of programmes and projects, and to guarantee a strategic view over the sector and the necessary scale of initiatives. For example, the number of incubators, science and technology parks, and information systems seems relatively exaggerated. On the other hand, a number of very interesting and promising initiatives are going on at the municipal level, such as the entrepreneurial drive behind Getafe Initiatives, the mobilising potential of the Madrid Forum on the Information Society, that are promoted by the city government, and the surprising dynamism of the recently established Development Agency of Madrid (*Madrid Emprende*) cannot be put in a rigid centralising institutional framework dominated by the Regional Government through the IMADE agency. Perhaps an interesting scenario would be to give incentives on the development of flexible, programme oriented "territorial pacts" among implementing agencies (be it regional or local), which may be implemented by a relatively independent and more technically-oriented economic development agency with participation from the main stakeholders. For good practices of such an approach can be found in Madrid: its Public Transportation Consortium, as discussed above, is a clear example of such a pragmatic approach of management that was delegated to a technical/functional agency by its partner stakeholders (state, regional and a series of municipalities).

In practice, the creation of some sort of Regional Development Agency with a role of "*primus inter pares*" for the Community of Madrid would have to strike a refined balance between leadership and capacity to co-ordinate at the regional level, on the one hand, and legitimacy and participatory stakeholder management, on the other hand. Moreover, its responsibilities would have to be defined in broad enough terms in order to avoid unproductive impasses with local governments in case of serious conflicts. In that respect, and even considering the differences between the German Federal system and the Spanish institutional structure, the case of the Association of the Stuttgart Region (Verband Region Stuttgart – VRS), created in 1994 by the state parliament of Baden-Wurttemberg is an interesting illustration of how the German institutional setting was able to strike a delicate balance between efficiency, effectiveness and voice (participation) in building metropolitan governance (Box 2.14). The VRS was created in direct response to the serious threats that were posed to the metropolitan and state economy by the international scenario of productive restructuring, and by the relatively rapid increase in unemployment figures during the 1990s. The Stuttgart Development Agency shows the importance of mechanisms for information sharing and intense dialogue among the stakeholders, which facilitated the elaboration of a broader metropolitan strategic framework for economic development and spatial planning (which is missing in Madrid). Nevertheless, having wide-ranging responsibilities, technical capacity and (political) legitimacy, the agency was also able to enforce decision making in cases of intense conflicts (for example in land use decisions that would spill-over to neighbouring cities).

Box 2.14. **New forms of governance in the Stuttgart Metro-region**

The metropolitan region of Stuttgart is part of the state of Baden-Württemberg, located in south-western Germany. The region is well known for its competitiveness and competencies in sectors such as car manufacturing, mechanical and electrical engineering, and machine-building. During the 1990s, however, the region underwent an intense process of restructuring, which led to substantial employment losses. Unemployment rates increased from 3.1% in 1990 to 7% in 1998, while Stuttgart itself lost 35 645 manufacturing jobs in the period 1990-97 (*i.e.*, 27.7% of the total number of industrial jobs in the city.) This negative crisis scenario triggered political awareness of the need to create a more coherent and co-ordinated regional strategy within the Metropolitan area.

As a direct response to the severe impact of productive restructuring in the metropolitan economy, the state parliament passed "the law concerning the

Box 2.14. **New forms of governance in the Stuttgart Metro-region** (*cont.*)

improvement of co-operation in the Stuttgart region". Following this, the individual stakeholder-municipalities were brought together in the so-called Association of the Stuttgart Region, with wide ranging responsibilities for regional planning, transportation, waste disposal, economic development and job training, locational marketing and promotion of international trade and tourism. Unlike other associations in Baden-Würtemberg where the parliament elects members, the VRS is composed of members that are directly elected by the population, which also improves its legitimacy.

The main stakeholders of the VRS started negotiation for the creation of a Regional Development Agency, which was to integrate local economic development and spatial planning. In 1995 the development agency was constituted as a public private partnership with participation from municipalities, enterprises, chambers of commerce, trade unions and various associations. It was quite successful and active in industrial inter-local area development, which involved mediating several conflicts among municipalities, and broader economic policies, such as technology and innovation, regional job training, territorial marketing and trade promotion, among other tasks.

According to Salet, *et al*., (2003), one of the ingredients of its success was the networked and participatory approach of the agency, making sure that the necessary planning information and all the relevant local actors would be involved in the decision-making process. Nevertheless, the mediating efforts of the VRS and the Regional Agency, and its compromise with building and consolidating networks and partnerships, could not be mistaken with its final responsibility for the overall co-ordination and guidance of economic and spatial planning. For instance, in case of non-compliance of inter-municipal land use zoning, the development agency had the possibility to apply specific sanctions. In practice, however, and in light of the participatory and co-ordinating role it was playing, it was seldom necessary to apply these direct sanctions.

Source: Salet, W., A. Thornley and A. Kreukels (eds.) (2003), *Metropolitan Governance and Spatial Planning*, Spon Press, London and New York.

A Regional Economic Observatory could provide the agency with scientific advice for the content of economic development policies. The Observatory should focus on the correction of market failures in the Madrid economy, more particularly imperfect mechanisms for information collection and processing, and deficiencies in its regional innovation and learning system. In relation to information sharing and decision making, it should be stressed that the Observatories that were set up by the City of Madrid are already providing an enormous amount of useful data and policy

research. In theory, the idea of an Economic Observatory is promising, since it provides useful information for public and private decision makers that otherwise would not be provided in an optimal quantity through free-market processes. Nevertheless, an explicit effort should be made to produce more sectoral studies on the main tendencies in segments of relevance for the Madrid economy. For example, it could be argued that more information should be collected on global productive restructuring in such sectors as aerospace, finance, biotech and logistics, and the main threats and opportunities that can be derived from the tendencies in these sectors for the Madrid economy. These broader sectoral studies could be used as concrete raw material in setting up a direct dialogue with the larger companies and the regional and headquarter offices that are located in Madrid. The recently created Industrial Observatory by the Madrid City Council will produce sectoral studies on strategic clusters, which could provide a model to follow in this field.[34]

Establishing such a strategic and permanent dialogue with the larger enterprises could also lead to a better diagnosis of the main strengths and weaknesses for specific enterprise functions and business/producers services in Madrid. In other words, and along the lines of our discussion in the previous section, such an enlarged Economic Observatory would greatly facilitate the task of setting up a more effective and targeted policy for SMEs (possibly those linked to larger firms), which is also linked to the productive dynamics and restructuring of the larger hub and spokes economies present in Madrid. Moreover, the sectoral studies could be maintained and continuously updated with the aid of the local stakeholders, and would form the basis of so-called "early warning" systems for the economy of Madrid. Such a system would potentially give pro-active signs to sectors that are likely to be facing challenges in terms of declining competitiveness. This methodology has the potential to identify specific potential niches in the existing Business Support System for SMEs (credit, venture capital, creating an entrepreneurial environment, mismatches in education, production chain linkages, mechanism for strategic planning, etc), and would also provide important policy information. Finally, an enlarged role for the Economic Observatory would be to open concrete perspectives for setting up territorial strategic alliances along local, regional and national government, aimed at the revitalisation of specific sectors where local action alone would be insufficient. As previously mentioned, some of the main segments in Madrid could benefit from a broader based, territorially embedded network of stakeholders, which shares a common vision for the transformation of the metropolitan area in addition to local city government support. In a sense, the information provided and articulated through the Economic Observatory would be strategic in structuring these horizontal, vertical and international networks of relations.

In practice, the more general tendencies regarding employment, production and sectoral dynamics in the metropolitan area should be gathered by an Observatory operated and maintained by the regional government. The more local data that take into account the specific territorial pattern of productive restructuring in the City of Madrid, should be the responsibility of the existing Observatory that is maintained by the municipal administration. As mentioned, the municipal Observatory should have the flexibility to elaborate and provide tailor made sectoral studies that are of interest for specific firms. These studies, ideally elaborated with active participation of the local networks of universities, should be co-financed by the firms that are interested. Thus, in the medium run, the Madrid Observatory would then have a portfolio that combines general purpose information on the Madrid economy (financed through its own budget), and specific tailor made information that would be charged or financed by potential clients.[35]

Notes

1. Spain, exactly as Madrid, has been attracting a large number of immigrants and has a booming dynamic in low productive sectors such as construction and some other activities related to the service sector. Therefore, comparing regional performance with national performance is very useful to "control" for some statistical biases that can come from the techniques used to calculate regional labour productivity.

2. We use the term over-educated to refer to individuals who occupy jobs which require a lower level of education than what they have achieved.

3. Exceptions are in highly specialised fields such as Medicine and Mathematics.

4. It should be stressed that Madrid business schools are among the notable exception to the rule of a low degree of internationalisation and market-oriented attitude. Three of the Spanish business schools (ESADE, IESE and IE) are among the 15 top schools in the world, as evaluated in 2006 by a *Wall Street Journal* survey.

5. Approximation to the Regional Innovation System of the Community of Madrid – IV PRICIT 2005-2008.

6. The Madrid Metro-region's innovation policy dates back to the second part of the 18th century, well before the creation of the CM, through the creation of the first scientific cluster in the City of Madrid, composed of the *Gabinete de Maquinas*, the *Academia de Ciencias* and the *Real Gabinete de Historia Natural*. Although the modernisation of Madrid was important in the later years of the 19th century, the initial years of the 20th century were decisive with the installation of chemical and transport industry (especially aeronautics with the *Centro de Ensayos de Aeronáutica*, the *Aerodrome of Cuatro Vientos*, and later the *Instituto Nacional de Técnica Aeronautica*), the nationalisation of the telephony network and the fabrication of telecommunications materials in Arganzuela and the creation of scientific centres of research. After the Spanish Civil War (1936-1939) the National Institute of Industry (INI) strengthened the capabilities of Madrid in aeronautics and composites. In the 1970s the provision of new industrial parks and public intervention fostered the growth of high added value industrial branches, such as

pharmaceuticals, and electric and electronic materials in the Madrid Metro-region. It is notable that all of these interventions are related to central government policy. After the Constitution of 1978 and the re-apparition of the regions as Communities (*Comunidades*), the central government started the process of transference of competences to the regions. However, in the 1980s the innovation policy continued to be designed by the central government.

7. These plans have been partially co-financed by the central government and the EU.

8. When this plan started, the statistics on science and technology placed Madrid in an acceptable (even good) position regarding other EU regions.

9. The Madrid Institute for Development (IMADE) is part of the Regional Ministry of Economy and Technological Innovation. The Institute was created in the context of the aforementioned process of decentralisation of (economic development) policies. Initially (1980s-1990s) insufficiently supported and under-appreciated by the regional government, IMADE proved to be a relatively passive actor during an intense period of restructuring in the Spanish and Madrid economy. Presently, and according to its recent strategic plans and guidelines, IMADE is active in three main areas, advocating for science and technology policy, establishing a logistics platform for the metropolitan area, and providing land and infrastructure for business parks. In the development of science and technology, IMADE is co-ordinating the implementation of a series of science and technology parks for stimulating the development of medium and high technology sectors. In the area of logistics, IMADE, in co-operation with the City of Madrid, is in the process of articulating the "*Madrid Plataforma Logística*", a series of flagship projects such as a Dryport (connecting Madrid through the railway system to the main Spanish ports) and an Integrated Transport Centre in the city of Coslada.

10. There are some important experiences in which "wall-less institutes" have generated and supported knowledge based regional economies and innovation hubs. For example, within the region of San Diego, the close partnership between NOVARTIS, TSRI and the Genomics was essential in creating labour pooling and innovation in biotechnology. Concerning Brazilian aerospace, this was clearly the case through the close partnerships between the EMBRAER, the Centre for Aeronautic Technology (CTA), the National Institute for Space Research (INPE) and the Technological Institute for Aeronautics (ITA). In all these cases separate organisations formed a dense set of interpersonal relationships through joint teaching, research, exchange of staff, and joint testing and development of engineering.

11. Enhanced competition would also help to lower inflation, which is at least partly due to the sheltered sectors (Löpez Salido, *et al*., 2005). In these sectors, higher mark-ups are observed, thus influencing inflation, which, in fact, has been consistently higher in Spain than in the Euro area. The persistent inflation differential has hurt the international competitiveness of Spanish firms, hurting net exports and increasing the current account deficit, especially in regions that are highly specialised in non-manufacturing sectors such as Madrid (Chapter 1).

12. There are some examples of local policies that enhance competition. One is that of in St. Etienne (France), which used to have a production system based on large firms acting in coal, steel and textile. Large industries have left, while the remaining SMEs are mainly acting in machine building, engineering and, to a lesser extent, in textile. Initially, a lot of money was wasted aimed at trying to maintain some of the larger industries within St. Etienne. In the later stage, however, the more significant role of economic development policies transformed towards what Tirmarche and Le Galès (2004) have labelled as the provision and articulation of CCGs (Competitive Collective Goods) for SMEs, such as information and training for obtaining new norms and certificates, research and development, organisation of events, finance for research on new markets, etc. An example of this is "MECCAPOLE" which has proven successful through an initiative that has succeeded in connecting public research centers, local governments and 140 SMEs in the area of engineering while aimed at triggering the above mentioned CCGs (Crouch, Le Galès, Trigilia and Voelzkow, 2004).

13. For example, biotechnology, biomedicine and health sciences in general are direct priorities within the *Parque Cientifico de Madrid.*

14. The data for Spain and Madrid also show that the internationalisation of FDI has advanced more rapidly than trade flows. The need to accelerate the opening up of Spanish sheltered sector is also mentioned in OECD (2006b).

15. A first step in the right direction to restore the importance of Madrid in ICT could be the new project launched by the City of Madrid, Telefónica and Madrid Polytechnic University (UPM). The project aims at involving more than 9 000 enterprises and 130 000 workers. The project affects both the north and the south of the city. Concerning the north, in the "Las Tablas" district, an R&D centre will be built close to the Telefónica headquarters. This project aims to enhance intellectual spillovers within the city and to act as a firm incubator promoting university spin off firms. Regarding the south, in the district of Villaverde, a technology transfer centre will be created to spread new technologies amongst SMEs and citizens.

16. By spring 2005, employers had to be registered with the social security regime in their sector and employees with their municipality at least since 8 August 2004.

17. In line with the distribution observed for recent flows, three-quarters of applicants were European nationals and South Americans. One-third of applications concerned domestic service jobs (with one or more employer).

18. In Spain, unlike other countries, it is not necessary to hold a resident permit in order to register in a municipality.

19. The current policy is based on the Royal Decree of December 2004, derived from the European Directive 2001/51/CE.

20. In that sense, the conflicts between the resident Spanish population and the Dominican communities that gathered around the Aravaca square represented an emblematic example of the lack of experience with immigration, and the increasing tensions that existed at that time between an upper middle class neighbourhood and the Dominican community groups (Nieto and Franzé, 1996).

21. For example, the following questions arise when defining the business cluster strategy over a given period: What are the employment needs for this period? What skills will be required? How many skilled immigrants are required? What credentials do they need? If they have them, what is needed to ensure that their credentials are accepted in Spain, if acquired abroad? What are their housing requirements, their schooling requirements and their language training requirements? How best to pool programming resources to optimize their successful integration into Madrid's economic and social fabric?

22. Even the author of the plan recognised that its failure was due to the fact that it should have been designed and implemented at the metropolitan or regional level. See Bruquetas Callejo, *et al.* (2001).

23. Presently, as has been an international tendency in other metropolitan areas, Madrid's inner city is inhabited by older retired middle income households, mixed with recent flows of immigrants that have come to the city.

24. Along the same lines: "The problem of housing in Spain is one of access, not of construction or market supply, since experts in Spain affirm that there are 2 million empty houses and the need for the next eight years is estimated at 800 000 homes". In Cabrera (2001), when citing a speech of the Secretary General for the Area of Housing, Architecture and Urban Planning of the Ministry of Public Works in 1997.

25. See Cabrera (2001), since the higher the price, the more advantageous the tax rebate. This author also estimates that 90% of the Spanish housing budget is being absorbed by these subsidies. The latest *OECD Economic Survey of Spain* (OECD, 2007a) also recommends elimination of the system of tax rebates, and substitutes it for active measures to increase the transparency and the security of the rental market.

26. Before 2002, these zones were called Preferential Rehabilitation Zones.

27. In Strasser (2005), a brief evaluation of the programme is undertaken. According to this author, a *rehabilitación integrada* must include construction and historical aspects, and account for the social, functional and educational needs of the population. In a way, the renovation of a district can be compared to the making of a *paella* that needs many ingredients. An integrated perspective, improved co-ordination between the authorities and more community participation were all considered important programme challenges.

28. The city of Paris has been implementing the "*euro symbolique*" selling strategy to promote the development of some real estate projects within the municipality. For instance, to promote the creation of new university campuses within Paris, the city government has sold some land to the central government at the symbolic price of one euro. The city government has also sold emphyteutic leases for some building to local NGOs at the symbolic price of EUR 100 to promote social housing.

29. "*Promoción Madrid*" is another noteworthy experience implemented within the framework of the city government's development strategy. "*Promoción Madrid*" is a municipal body, entirely owned by the city government, devoted to the promotion of the city in fields such as tourism, economy, cultural business, etc. (see *www.promocionmadrid.com*).

30. The IOC's report placed Madrid well ahead of London or Paris on items such as transportation facilities. In the final result, Madrid was second, really close to the first, Paris, and ahead of London or New York. IOC, *Report of the IOC Evaluation Commission for the Games of the XXX Olympiad in 2012*.

31. "The developer built hundreds of thousand of flats in compact groups in the middle of the Castillian plains, leaving empty spaces of several kilometres between clusters of blocks in order to raise the value of the land in between, which they also owned. They only built housing, no amenities, no paved streets, no lighting, little sewage, little water and poor transport." (Castells, 1983, p. 20)

32. A clear example of this articulation was the investments that were undertaken in the Metrosur network to Getafe.

33. For example, in the first year several workshops and training activities were held in Chile.

34. The Industrial Observatory will allow local institutions and agents to control the tendency and evolution of the local industrial fabric. The Industrial Observatory is part of the Strategy for the Promotion of the Industrial Sector, elaborated by the city government in collaboration with local key stakeholders among which the local council for development and employment in the City of Madrid (*Consejo Local por el Desarrollo y el Empleo de la Ciudad de Madrid*) and the National Council of Geography and Economy (*Instituto de Economía y Geografía del Consejo Superior de Investigaciones Científicas*) which will provide the observatory with economic research support.

35. At the end of the 1990s the state of São Paulo attempted to structure a similar set of complementary relations between the institutions responsible for information gathering at the state and sub-metropolitan level. The SEADE agency is responsible for the elaboration of general studies on the economic restructuring within the state of São Paulo, collecting and providing general sectoral data on such variables as employment, production, and management and innovation. In 1998, the Regional Development Agency of the so-called ABC region, a subset of seven municipalities in the south-eastern part of metropolitan São Paulo, was founded. In addition to territorial marketing and small and medium-sized enterprise development, one of the missions of this Agency was to advance the creation of a dynamic information system. Thus, on the basis of what the state agency SEADE had been doing, the Regional Development Agency started to complement the available studies, which had largely focussed on the state of São Paulo, with more detailed research on the ABC region itself. For example, studies were undertaken on subcontracting relations, the availability and quality of specific business producer services (accounting, finance, logistics, etc.), the sources of innovation (internal or external to the firm) and the dissemination of specific management techniques such as quality certification, just in time management, investment in information technology, etc. Although more recently this information gathering has suffered some discontinuity, it has been highly appreciated by local stakeholders from the private and public sector. The more specific studies undertaken by the Regional Development Agency were co-financed by its members of the Board (local government, unions, private enterprise associations, universities).

Chapter 3

Innovative Governance for a Competitive Metro-Region

Introduction

Madrid's success has been linked with its institutional resources since the end of Franco's dictatorship. Before the first democratic elections in 1979, the central government controlled the activities of municipalities and appointed the mayors. With the creation of autonomous communities (1979-1983) and the democratisation of local governments in 1979, a more organised and pro-active approach towards the development of the region has accomplished in Spain. In Madrid, a specific case where the region fits approximately within the functional area, the regional government has managed to play the role of a metropolitan government with strong legitimacy and resources. This is not the case in many OECD metro-regions that lack a metropolitan governance framework. Empowered with strong financial, political and legislative competencies, the region has created a very good infrastructure and delivered a number of policies that have contributed to Madrid's recent economic success. This model has been praised by many scholars and made the envy of many other stakeholders in metropolitan areas that are confronted with the lack of a strong and legitimised metropolitan structure.

Today Madrid's governance is at a turning point. It has to adapt to a context with new opportunities and challenges, both internal and external. On the internal side, the metro-region has to face new demands raised by the recent rapid economic and population growth, the high immigration influx, and the associated increasing strain on transport infrastructure, on housing as well as on other public and social services. On the external side, Madrid needs to foster innovation, attract skills and talent, and find niche markets on the international marketplace. Delivering a wide range of policies while developing a strategic market vision to sustain and increase Madrid's future

competitiveness will necessitate some innovative adaptations of its governance framework, including:

- *Pursuing decentralisation for more efficient public policies.* After the creation of the autonomous communities in 1983, and in line with trends in OECD member countries and the EU Charter for local autonomy, Spain is experiencing a new wave of decentralisation towards local governments. The process is being performed through a complex legal framework based on negotiations between the different levels of governments. In Madrid, the process is advancing slowly.

- *Improving inter-governmental co-ordination to avoid duplication and foster synergy*. The governance system in Madrid is evolving in a manner that suggests some institutional dualism or competition between the two layers of governments, in particular in the field of economic development. If not tackled appropriately, such a trend could create potential duplication of functions and reduce the effectiveness of public policies. Synergies among actors and integration of policies are also lacking in the area of strategic planning.

- *Backing up the urban strategy with the participation of non-public actors*. The City of Madrid is emerging as an important public actor with increasing leadership. Administrative reforms are conducted within the city administration, and a process of deconcentration towards districts is being implanted aimed at increasing the efficiency of local public service delivery. Yet, although the city has been increasingly successful in involving business elites and other local stakeholders, the participation of the civil society to back up the urban strategy and deal with neighbourhood levels still needs to be further developed.

This chapter will address these three main governance challenges. It will start with a description of the Spanish institutional and fiscal framework and assess the situation of Madrid within the national context in light of the ongoing process of decentralisation towards municipalities. The second section will discuss the state of multi-level governance, including the advantages and the challenges of the current model of metropolitan governance, as well as existing instruments for vertical collaboration. The trends and challenges in improving the urban governance system through further participation of the civil society and the modernisation of the administration are discussed in the third section. The chapter will conclude on the innovation needed in Madrid's governance to ensure a better

integration of policies among layers of government, and a less fragmented approach to urban development.

3.1. Institutional and fiscal challenges in the Madrid-region

Madrid in the Spanish administrative framework

Institutional framework and allocation of responsibilities in Spain

Spain is a unitary country with a highly decentralised political system with two tiers of sub-national governments: the regional and the local governments, the latter being composed of provinces and municipalities. Although often referred as a federal system, Article Two of the Spanish Constitution of 1978 declares the sovereignty and the unity of the Spanish state, and "recognises and guarantees the right to self-government of the nationalities and regions of which it is composed". Moreover, the structure of government is not hierarchical: the central government deals directly with the regional level and local governments. Yet, the distribution of functions and the system of governance come very close to those of a federal state (Moreno, 2001). Regional governments, called "Communities" have their own legislature and executives, and possess state-like competences. While the Constitution recognises the "territories'" right to become autonomous communities, effective implementation requires regions to take the initiative, they must first draft a statement of autonomy, which must subsequently be passed by the national parliament.

This institutional model is both flexible and characterised by some asymmetry. It is flexible in that, as is stated by the Constitution, the regional government (in accordance with the national Parliament) can change its own statute. The only constraint is that regions must select one of the options offered in the Constitution. In this context of institutional flexibility, in 1992 the two major political parties (the Spanish Workers' Socialist Party [PSOE] and the Democratic Centre Union [UCD]) agreed to select a coherent model of decentralisation called the *Pactos autonomicos de 1981*. The autonomous system was fostered in a second phase through the autonomous agreements of 1992 subscribed to by the PSOE and the Popular Party. The sub-national governance in Spain is also characterised by asymmetry. First, there is a special regime for two of the 17 regions, the Basque Country and Navarre. This regime is called the "foral" or the "charter" regime. Under this regime these two regions have more responsibilities than the other regions and operate under a fiscal framework that is completely different from the other regions, and that gives them more fiscal autonomy. Second, the devolution of responsibilities over the last decades has been asymmetrical. Originally,

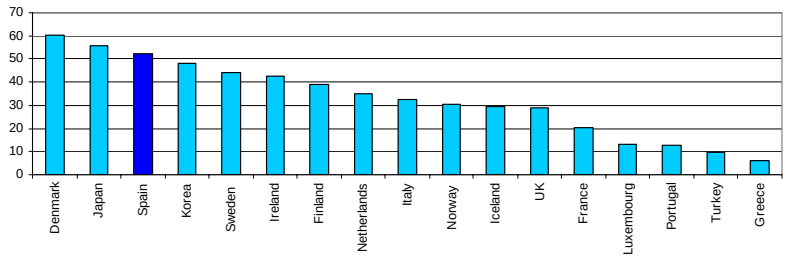
responsibilities in health and education were assigned only to a few Autonomous Communities, the so-called "high speed communities". The other Autonomous Communities, the "low speed communities" continued to have a low level of devolved responsibilities. After the first implementation of the Spanish constitution and the establishment of a more "asymmetric federalism" than currently exists (based on differentiated power among the autonomous communities), a second step was realised in the 1990s. In 1992 the national implementation of the above mentioned political agreement allowed for the decision to give the 13 existing autonomous communities the same powers as the previously "privileged" four (Cataluña, Galicia, Pais Vasco and Andalucia). This process ended in 1999 when Spain passed from an asymmetric to the current symmetric federalism (Rodriguez Alvarez, 2002).

In comparison with other unitary countries in the OECD, regional governments in Spain are stronger than local level governments. Over the last decade the regional government level in Spain has become increasingly more important, with more responsibilities and expenditures delegated to this level. Autonomous Communities now represent more than 50% of general government employment. Regional governments have complete autonomy in some fields, but share responsibilities with the central government in other fields. Local government responsibilities and budgets, however, have remained relatively constant (Figure 3.1). Autonomous Communities have many freedoms in fields such as regional public works, infrastructure and transport, but share responsibilities in education and health with the central government. Autonomous Communities are responsible for delivery of these services, but the central government typically provides minimum standards when it comes to service provision and access. Local governments are responsible for services such as water and sewerage, parks and street lightning. Larger municipalities have more responsibilities. Small local governments form co-operative arrangements known as "*mancomunidades*"; they operate as special districts across several local governments in the provision of water services, garbage collection, tourism and social services. Provinces also take over functions that small municipalities are not able to deliver.

The Madrid Metro-region: a two-tier sub-national government system

Contrary to other regions in Spain, the territorial administration system in the Madrid Metro-region is composed of only two tiers: the Community of Madrid (CM), whose extension corresponds more or less to the functional urban region of Madrid,[1] and then the 179 municipalities. When Spain decided to create the Community of Madrid in 1982, there was a debate on the need to create a specific region, since the area did not have any

Figure 3.1. **Sub-national expenditures (% of total government spending in 2003)**



special identity (as it was the case for the Catalonia and the Basque Country). One option was that the area would belong to the Community of Castilla-La Mancha and Madrid could be a federal district. Finally, the decision was to create the Community of Madrid, and following a constitutional amendment, the already existing provincial council was absorbed into the Community to avoid duplication and overlap of institutions, and provincial responsibilities were taken over by the regional government (Table 3.1).

Within the Madrid Metro-region, the city is an important political and economic actor, yet with the same institutional power as any other Spanish municipality. The city's current set of functions and competences is the product of a long-standing process of institutional and administrative decentralisation started with the Constitution of 1978. This process has largely benefited the autonomous communities rather than municipal governments. In spite of a strong and historically well-rooted identity, the City of Madrid has not had the institutional power corresponding to its share of regional population (53% in 2004) or to its economic importance (64% of regional GDP). Today the City of Madrid can count on two kinds of competences provided by the law. On one side there are the exclusive ones, on the other side the competences that are shared with other institutional levels, particularly the state and the Community of Madrid (Table 3.2). Considering the urban morphology and problems in governing, the strength of Madrid's municipal competences is to be assessed within the framework of the multi-level institutional arrangement. In particular its functions in the field of economic development are shared with other territorial institutions, thus making vertical co-ordination crucial for Madrid's governance. Within this complex institutional framework, the City of Madrid has adopted a more pro-active role within the field of its competencies, a trend observable in many other OECD cities, working to develop into entrepreneurial cities that can effectively compete on the global scale.

Table 3.1. **Exclusive and shared competences of the Community of Madrid**

Exclusive competences	Shared (with the State) competences
• Spatial planning • Housing • Industry, agriculture and livestock • Fishing and hunting • Public works, railroads, highways, transportation • Navigation, sports, small airports facilities • Water, hydraulic channels and irrigated land • Mountain areas • Power distribution • Planning of the regional economy • Advertising, fairs and markets • Promotion of economic development • Promotion of tourism • Archives, libraries, museums, newspapers libraries, music, theatre and dance schools • Historical, artistic, palatial, archaeological and scientific heritage • Promotion of culture, scientific and technical research • Craftsmanship • Sports and leisure • Promotion of social groups needing special attention, protection, rehabilitation and reintegration centres • Protection of underage people and promotion of youth • Promotion of equality • Mutual companies and mutual insurance companies • Foundations • Co-ordination of local policies • Gambling, casinos • Public shows • Regional meteorological forecasts • Establishment and suppression of municipalities • Organisation of the Community's institutions • Special administrative procedures	• Education • Health, hygiene, and co-ordination of hospitals • Environmental protection and fishery, agriculture and hunting ecosystems • Management of health assistance and of social services supplied by the social security system • Protection of customers • Mountains and forests • Mines and power supply • Pharmaceutical regime and plants • Local regime • Autonomous Community's juridical regime, responsibility of the administration and of civil servants, contracts and administrative concessions • Public law ruled associations of economic and professional interests • Other associations • Press, radio, television and other media of social communication • Banking and insurance • Implementation functions for international fairs, pharmaceutical products, intellectual and industrial property, commodities transportation within the CM's territory

Table 3.2. **Exclusive and shared competences of the City of Madrid**

Exclusive competences	Shared competences
• Traffic and urban mobility • Fire and civil protection • Parks and gardens • Street paving and maintenance • Slaughter houses and food markets • Cemeteries • Public lighting systems • Street cleaning • Waste removal and treating, sewage systems • Food control • Public libraries • Sports facilities • Water supply is normally a local competence, but in the case of Madrid it is managed by a regional public agency that has been transferred by the central government to the Community of Madrid	• Urban security • Promotion and management of houses (housing policy) • Historical and arts heritage • Environment • Customer care • Participation in primary health care • Funeral services • Social services and social reintegration • Public transportation • Social and cultural activities and facilities • Leisure and tourism • Public schools and compulsory education • International co-operation • Civil matrimony • Promotion of social equality • Employment and job training • Promotion of economic development • Spatial planning: draft planning produced by the municipality should be submitted for final approval from the regional government

The organisational framework of the City of Madrid generally coincides with a parliamentary government system. The only difference with a pure parliamentary system is that the Mayor of Madrid, like all mayors in Spain, is also President of the Local Council (*Pleno*) which gives substantial power to the mayor and functions like a semi presidential system. In accordance with this system, the local council is in charge of strategic decisions. More precisely, the local council adopts the fundamental political decisions including regulatory power, approval of budgets, town planning regulations, the adoption of general strategic decisions, etc. It also maintains political control over the executive branch, comprised of the Mayor and the Governing Board (*Junta de Gobierno* which is appointed by the mayor), which is in charge of local public policies, including both the executive and administrative functions.

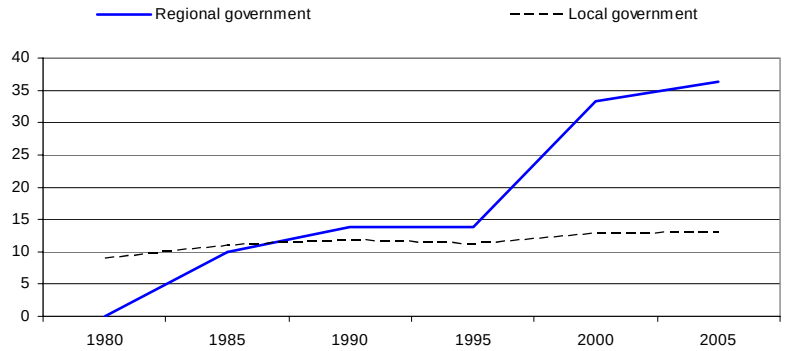
An important feature of the City of Madrid's institutional arrangement is its system of territorial decentralisation based on 21 Districts (*Distritos*). Some of them were previously autonomous cities and lost their autonomy

due to annexation into Madrid during the 1940s and 1950s. They may have administrative functions, delegated by the mayor or the governing council, in the fields of mobility and transportation, public works, urban parks, environment, licenses and permissions, urban planning, health and consumption, trade, social services, culture, education, youth policy, security, administrative sanctions and wedding licenses. In 2003 the districts managed 8% of the city's budget, and in 2007 they had 12% of the pie (more than EUR 500 million). The districts have a specific political structure, which is not based on full direct electoral representation. The District Governing Council (*Junta Municipal del Distrito*) is composed of elected councillors – appointed proportionally based on the political representation within the city assembly – and representatives of the population (*Vocales vecinos*), appointed by the mayor at the request of political groups with representation in the municipal assembly. The District Chairman (*Concejal Presidente*) is not elected by the district population but is appointed by the mayor from the Municipal Assembly Council Members, as is the district administrator who is chosen among public officials.

Local finance and urban challenges

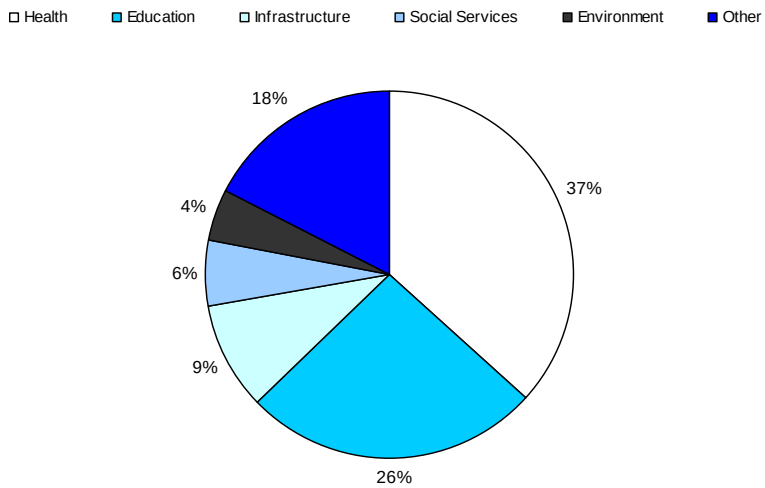
Spain's highly decentralised approach to territorial administration is also reflected in the concentration of sub-national expenditures managed by the regional governments. Although a unitary country, Spain has a high share of sub-national expenditure even when compared to federal countries like Germany, Austria and Belgium. This has been the result of two decades of decentralisation, mainly benefiting regional governments (Figure 3.2). As mentioned earlier, Autonomous Communities were responsible for 36.4% of total government spending in 2005 while the local governments were only allocated 13%. Most of the decentralised functions have been delegated to the Autonomous Communities while local government expenditures have remained relatively stable over recent years. The most important expenditure items for Autonomous Communities are health and education, with 91% of all government expenditures on health and 89% of the education expenditures in 2004 made by regional governments (Lopéz-Laborda and Monasterio, 2006). In the Madrid Metro-region, more than half of the Autonomous Community's budget is spent on these items: 37% for health services and 26% for education in 2006. Relatively minor expenditure items are infrastructure and environment (Figure 3.3).

Figure 3.2. **Sub-national expenditures (as % of total government spending)**



Source: Based on information in López-Laborda, J. and C. Monasterio (2006), "Regional Decentralization in Spain: Vertical Imbalances and Revenue Assignments", *International Studies Program Working Paper Series*, No. 06-10, Georgia State University.

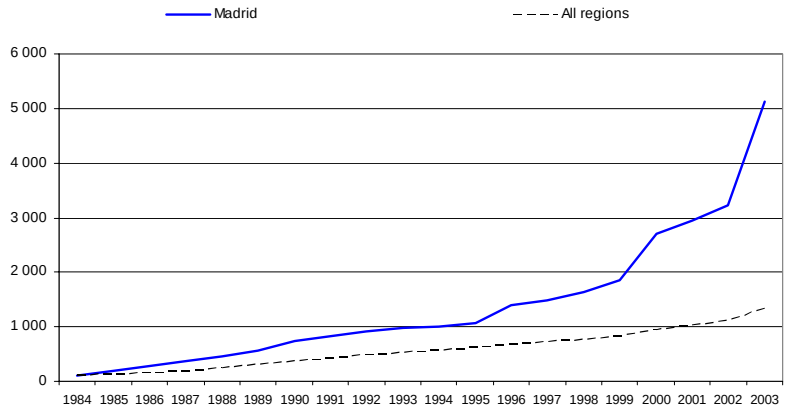
Figure 3.3. **Expenditures of the Community of Madrid (EUR millions, 2006)**



Source: Ministry of Economy, Spain, 2007.

Madrid's regional expenditures have increased much faster over the recent decades than have Spanish regions on average, with a spectacular increase in the 2000s (Figure 3.4). Much of the expenditure growth rate in Madrid can be explained by the fact that it used to be a "low level" Community with a small share of devolved responsibilities. As low level and high level Communities converged during the 2000s when most of the healthcare expenditures were devolved, the expenditures of low level Communities such as Madrid grew faster than those of the high level Communities. The increase in decentralised expenditures for the Autonomous Community is nevertheless remarkable: from 1986 to 1995 expenditures increased tenfold; from 1995 to 2005 expenditures increased again five times.

Figure 3.4. **Trends in regional expenditures in Spain and in Madrid (1984-2003)**



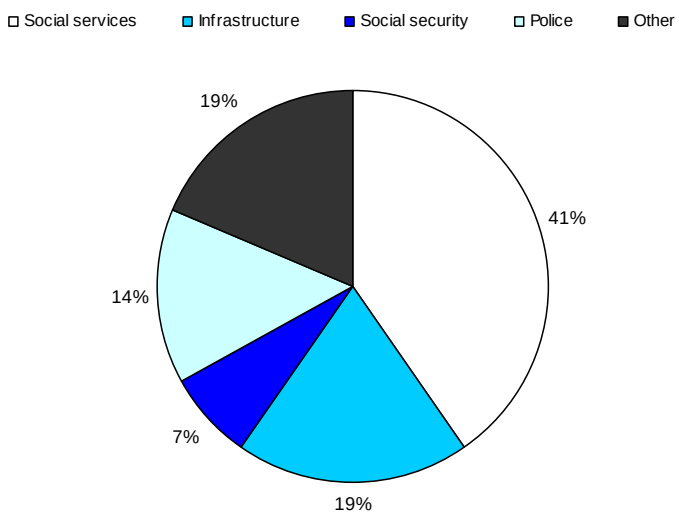
Note: Index: expenditure level in 1984 is 100.

Source: Based on information by the Ministry of the Economy, 2007.

At the local level, the main share of the municipalities' budget is dedicated to social services, and to a lesser extent to infrastructure and police. The most important expenditures of local government are housing and communal services, and environmental protection (the local governments spending within these fields is respectively 72% and 68%). As

compared with other municipalities in the region of Madrid, the City of Madrid is spending more on infrastructure and police (Figure 3.5). Infrastructure makes up 19% of the expenditures of the City of Madrid; only 15% in the other municipalities. Police expenditures represent 14% of Madrid's budget, versus 10% in the other municipalities.

Figure 3.5. **Expenditures of the City of Madrid (EUR millions, 2005)**

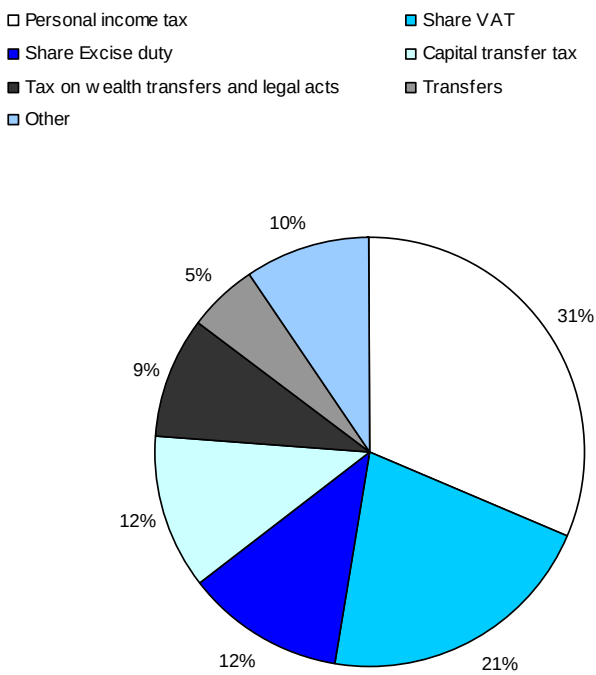


Source: Ministry of the Economy, 2007.

The lion's share of the Community of Madrid's revenues comes from taxes, conversely to other Spanish regions that receive the majority through transfers. A distinction needs to be made between own taxes and tax revenues that are shared from the central government. When autonomous communities can set tax rates and establish tax credits, these revenue sources are considered their own taxes, even if the tax base is shared with the central government. This is the case with personal income tax, the most important revenue source for autonomous communities. Other regional taxes are the capital transfer tax and the tax on wealth transfer and legal acts, as well as several smaller regional taxes. The most important taxes shared with

the central government are the VAT and excise duties. Transfers play a relatively marginal role within the budget of the Community of Madrid, providing only 5% of total revenues (Figure 3.6). In contrast the average Community relies on transfers for 45% of its revenues.

Figure 3.6. **Community of Madrid revenue sources (EUR millions, 2005)**



Source: Ministry of the Economy, 2007.

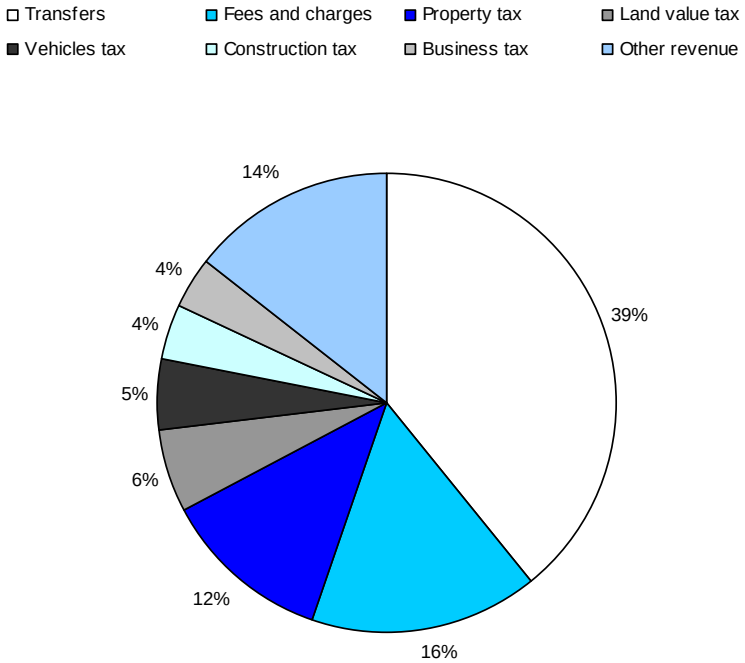
Personal income tax revenues are the most important revenue source for the Community of Madrid. The tax base is shared with the central government, with 67% of income tax revenues allocated to the central level and 33% allocated to each autonomous community. As regional governments may increase or reduce the rates of this regional share, it has to

be considered an own tax resource. The rate schedule however has to be progressive with the same number of brackets as in the central government's income tax. Regional governments may also establish their own tax credits. Many regional governments have changed tax credits though none have modified the tax rate schedule. Besides the aforementioned taxes (and those ceded by the central government, such as the personal income tax, capital transfer tax and the tax on wealth transfers and legal acts, regional governments can introduce their own taxes and surcharges. Regional governments have so far only introduced a few new regional taxes, namely environmental and gaming taxes.

The Madrid region does not receive any equalisation transfer from the central government. The main transfer to regional governments is an equalisation transfer from the "sufficiency fund". This grant is based on the difference between expenditure needs for this region and the fiscal capacity of the region. For each ceded tax the central government calculates a standard yield that each regional government could obtain by making the same tax effort as the average of the other regions. When this aggregate standard yield is less than the region's expenditure needs, the system provides an equalisation grant to cover the difference between expenditure needs and fiscal capacity. For relatively richer autonomous communities where the standard tax yield exceeds expenditure needs, the grant is negative. This means that the autonomous communities transfer an amount to the central government. This is the case for the Balearic Islands and Madrid. Although the Community of Madrid does not receive an equalisation transfer from the sufficiency fund, it does receive capital transfers from the central government.

As far as the City of Madrid is concerned, an important part of its revenues come from transfers from the central government. This revenue source accounts for 39% of city revenues (Figure 3.7). Slightly less important are local tax revenues: around 31% of city revenues. Municipalities in Spain have five local taxes. Three taxes are compulsory and are levied by all municipalities: property tax, the business tax and the vehicles tax. Two other local taxes are optional: the tax on construction and the tax on land value increase in urban areas. Like in many Spanish municipalities, the property tax is the most substantial local tax: it generates 12% of the municipal revenue, see Box 3.1). The land value tax is more important in Madrid than in other Spanish municipalities, whereas here the construction tax and the vehicles tax bring in relatively fewer revenues. Compared with many OECD member countries, a relatively large share of municipal revenues comes from fees and charges: around 16% of the revenues in Madrid.

Figure 3.7. **Municipality of Madrid revenue sources (EUR millions, 2003)**



Source: Utrilla de la Hoz, A. (2006), *Revisión Metodológica y Actualización del Trabajo Sobre Costes de Centralidad, Capitalidad y Suplencia del Ayuntamiento de Madrid*, Ayuntamiento de Madrid.

Box 3.1. **Revenue sources for Spanish municipalities**

With respect to the most important revenue source, transfers, two regimes exist: one for large and one for small municipalities. Large municipalities are municipalities with more than 75 000 inhabitants; small municipalities have fewer than 75 000 inhabitants. For large municipalities, the general grant consists of two parts: a tax share of central government taxes and a grant from the Complementary Fund. For large municipalities, there is a connection between its grant revenues and the economic activity in the area. The tax shares are specific percentages from central government taxes: 1.6875% of the personal income tax, 1.7897% of the VAT and 2.0454% of excise taxes. The tax share of the personal income tax is based on the net tax liability of the population.

Box 3.1. **Revenue sources for Spanish municipalities** (*cont.*)

The tax share of the other two taxes is more indirectly distributed: firstly, it is related to the share of consumption of the Autonomous Community to which the municipality belongs; secondly, it depends on the population of that municipality as share of the total regional population. In this way, municipalities get their share of the tax income that is generated in the region. The second component of the grant for large municipalities, the Complementary Fund, is calculated as the difference between the grant they received previously and the tax share discussed above.

For small municipalities, there is no direct link between the grant and tax revenues generated in the region. Instead, there is a general central government grant that is used to distribute tax revenues on the basis of three criteria: expenditure needs, fiscal capacity and tax effort. Expenditure needs have a very strong weight (namely 75%) in the distribution formula, and are expressed by the number of inhabitants. The more inhabitants a municipality has, the higher they will be weighted: municipalities with fewer than 5 000 inhabitants have a coefficient of 1, and those with between 50 000 and 75 000 inhabitants have a coefficient of 1.4. The second criterion, tax capacity, has a weight of 12.5%. The third criterion is tax effort, also with a weight of 12.5%.

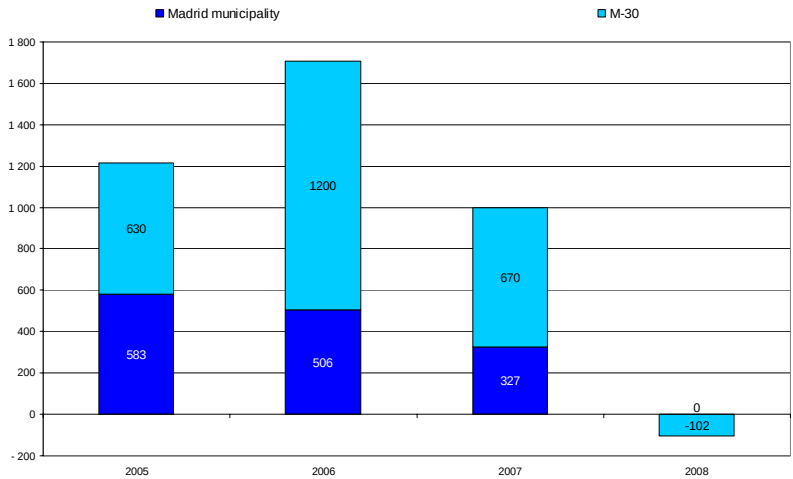
The most important local tax is the property tax: it represents one-third of the total local tax revenues in Spain. Municipalities are free to set tax rates within a range of maximum and minimum rates, as is the case with all the other tax rates. The property tax is levied on the administratively assessed gross value of immovable property. The valuation of property and updating of property values is a central government responsibility. Property values are updated once every ten years. In the meantime, the share of the property value that serves as the tax base is raised every year, but this growth rate is often not equal to the actual property value increases. Local governments are free to introduce certain property tax relief, for example for large families. The local business tax uses economic activity as its tax base. There is some controversy over not using sales or corporate income as the tax base. As such, the tax does not take into account taxable capacity and has no relation to the income or profits of the firm that is taxed. In a 2002 reform, the business tax was limited to firms with an annual turnover higher than EUR 1 million, which exempted about 90% of the firms that previously paid the business tax.

The City of Madrid has resorted to debt financing mainly to finance important investment infrastructure projects. The general budget has doubled over the last five-year period, topping EUR 5.1 billion in 2006 (from EUR 2.6 billion in 2003). This increase was largely obtained through debt financing that followed the "golden rule"[2] in that the city used resources collected on capital markets to finance infrastructure investments. The new debt is overwhelmingly aimed at special-purpose financing of the

M-30 ring-road while the growth in the debt stock is aimed at other budget purposes constantly decrease from 2005 (Figure 3.8). Official figures project debt growth to reach zero in 2008. In 2006, capital investment in the City of Madrid accounted for 31% of the budget, (compared with 27.5% in Rome), mostly funded through debt resources and unconditioned national transfers channelled to the general budget.[3]

Figure 3.8. **Debt stock variation in the City of Madrid**

Millions of EUR



Source: City of Madrid.

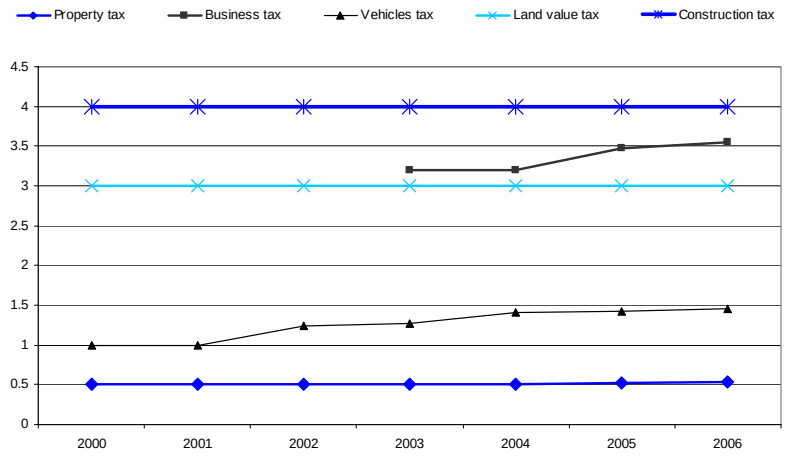
This review of the sub-national government financial system above does not highlight major problems for the Madrid Metro-region, but adjustments that might be needed to face emerging challenges. The local finance framework along with strong involvement from the central government in investments implemented in the metro-region have allowed the regional and the local governments to provide and develop efficient public services and capital investments. However, rising demands linked with population and economic growth, as well as new challenges like immigration and transport strain, could put further strain on the public finance of local and regional governments. Like in many other large cities, bureaucrats in the city

administration complain about a possible mismatch between public service levels and financing that seems evident in the service sectors of public safety, urban mobility, and social and welfare services.[4] Policy makers advance that whilst Madrid municipality is home to 3.3 million inhabitants, the city hosts more than 5 million people every day, mostly commuters from within and outside the city, which places an additional burden on demand for public services. Although it is difficult to provide evidence to support the existence of such a mismatch, in this present context, a number of challenges could be addressed.

(*i*) The first challenge is for the regional and local level to make better use of their fiscal autonomy. Regional and local governments in Spain enjoy considerable fiscal autonomy when compared to many other OECD member countries. They have a substantial amount and a comparably large variety of tax resources at their disposal. They can decide on tax rates within certain boundaries and on exemptions of sub-national taxes. Nevertheless, there are clear indications that not much use is being made of this autonomy. As previously mentioned, regional governments do not use their possibility to change rates of ceded taxes. All Autonomous Communities, with the exception of the Canary Islands, use the standard rate of 7% for the capital transfer tax and 1% for the tax on wealth transfers and legal acts.[5] Also the Community of Madrid has not changed its tax rates. Although regions have the possibility to create their own taxes, not much use has been made of this possibility, except for environmental and gaming taxes. Although local levels use more of their fiscal autonomy, the impact in practice is limited. This can be illustrated by the development of tax rates in the Municipality of Madrid over the last six years. Only the tax rates of the vehicles tax and the business tax changed noticeably. The property tax rate has witnessed only a marginal change over the course of six years, whereas the rates of the land value tax and the construction tax remained unchanged over this period (Figure 3.9).

The Municipality of Madrid has been particularly reluctant in using its local tax base. A comparison of the property tax rates over the last six years of the six largest cities in Spain shows that Madrid, together with Seville, has the most inflexible property tax rates (Figure 3.10). All the other cities are more active in using the property tax as a financial instrument. Zaragoza and Valencia have increased their tax rates, Barcelona has decreased its rates and Malaga did both and remains at about the same level after six years. What is equally remarkable is that none of the six cities has reached the maximum tax rate of 1.3%. Madrid stays rather close to the minimum rate of 0.4% and has the lowest property tax rate of the six largest cities in

Figure 3.9. **Tax rates in the Municipality of Madrid over 2000-2006**

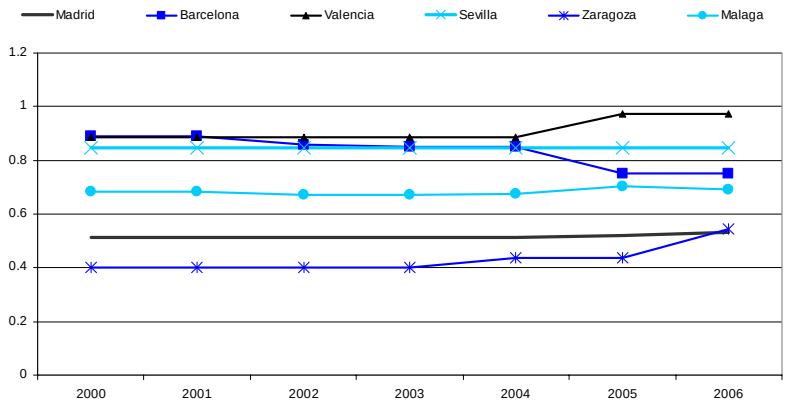


Note: For the sake of visibility the rate of the land value tax has been divided by 10 and the level of the vehicles tax rate in 2000 has been set at index 1.00 in 2000.

Source: Data available at *www.meh.es*.

Spain. This seems to suggest that Madrid has an untapped potential of own taxresources that could be used to cover additional expenses if needed. If Madrid would use the same property tax rate as applied in Barcelona, it could raise an additional EUR 133 million per year in revenues; if Madrid would apply the maximally allowed property tax rate of 1.3%, it could increase its current budget by 17%. As is the case with most of the local taxes, property taxes are highly visible. This high visibility could stimulate public discussions over the need for increasing public expenditures by jointly discussing the tax rate increases that would be required. This could thus lead to more responsiveness of local expenditures to local preferences and thus to more efficiency. As such, financing expenditures through own city taxes may be preferable to increasing the city's tax share of central tax revenues.

Figure 3.10. **Property tax rates of the six largest cities in Spain over 2000-2006**



Source: Data available at *www.meh.es*.

The under-used potential of local tax revenue could to some extent be explained by structural elements of the different local taxes. The local business tax is controversial because it is levied exclusively on companies with more than EUR 1 million in turnover, without any clear justification or economic rationale for this limitation. The vehicle tax has relatively high compliance and administration costs, and both the construction tax and the land value tax have rather unstable revenue streams. The most substantial drawbacks are however connected to the local property tax. An important drawback of the local property tax is that the property that serves as a tax base is only valuated every ten years. The most recent property value taken into account is the one from 2002; the next update of property values will not take place until 2012. Though there is a phased-in transition to a new property tax base; a complete update to the property value established in 2002 only takes effect in 2012. Although this provides for a smooth transition from one valuation period to another, it has consequences for municipalities that face property price developments that deviate substantially from the average. This has been the case in Madrid where property prices over the last five years have increased faster than the average in Spain.

Due to the delay in updating these developments in the tax base, the revenue capacity of Madrid seems lower than it actually is. As previously mentioned, Madrid has still considerable room to increase its property tax rates, so it is not actually harmed by this feature of the property tax system, nevertheless it is sensible to do more regular updates of the property tax base. In this context, the central government may consider modernising local taxation to increase its effectiveness. Several OECD member countries have moved to a system where property tax bases are updated every year or second year. A similar system could be adopted in Spain. Currently *cadastral* management is done by the central government and several local governments have pleaded for decentralisation of this responsibility. There seem to be limited advantages for decentralisation, though faster updating of property values might require a systemic change that would likely be implemented more uniformly by the central government.

The City of Madrid is seeking options for further steady local revenue growth. As stressed before, the municipal revenue system is not structured to incorporate the fiscal impact of economic expansion: while revenue streams at the national and regional levels (through tax-sharing agreements) are growing thanks to economic growth, this is not occurring with the transfers that nourish part of the city's finances. One option advanced by the city administration is to increase tax-sharing agreements with the central government, (which could be financed by a simultaneous reduction in unconditioned national transfers, *e.g.*, also via VAT). The notion that the city does not benefit enough financially from the economic growth it generates is a phenomenon that can be found in several large cities in OECD member countries. From the perspective of a city, it is understandable that it wants to keep part of the tax revenues that it helps to bring in through its contributions to economic growth. There is no evidence that economic growth in itself would call for more functions, responsibilities or spending needs for the city. In most OECD countries the case for the reverse is more often made, on the basis on an assessment of the spending needs that could change according to economic growth. A disadvantage of replacing grants with tax-sharing agreements is that it makes the city's revenue sources more volatile, and can have negative effects in the event of a downward economic cycle. Another option for making the property tax more cycle-sensitive, is enacting market-driven adjustments in property values more frequently to impact the taxpayer's due-amount more rapidly. Although this reform is likely to be politically sensitive and would require a transitory period before if could be put in effect, more regularly updating property values could make sense.

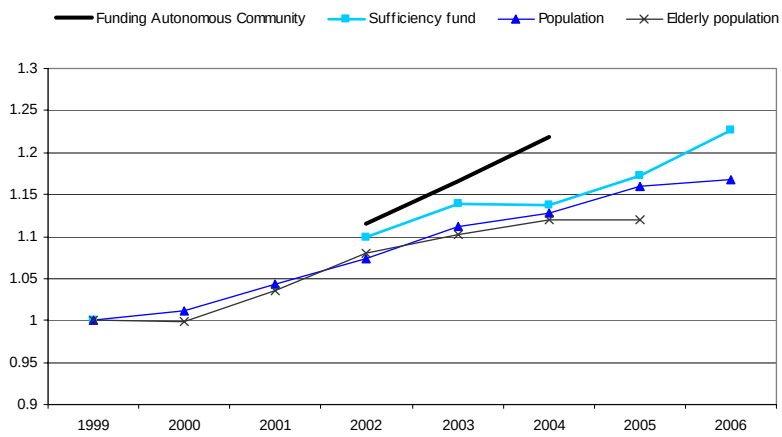
(*ii*) A second challenge for Madrid is linked with the fiscal equalisation system. As it is unclear which additional costs the City of Madrid (and other large Spanish cities) is implicitly being compensated for by the equalisation scheme. Here the central government might want to consider being more transparent on the cost differences with the Spanish cities that are supposed to be compensated by the equalisation scheme. Fiscal equalisation takes place both at the regional and the local level, via the allocation of the general grant. The consequences for Madrid in both systems are not the same. The Community of Madrid is one of the few communities to pay into the system instead of receiving funds. By contrast, the Municipality of Madrid receives more transfers than the average municipality in Spain, as there is a bias in the equalisation system towards compensation of the expenditure needs of big cities as will be further detailed below.

The Community of Madrid does not receive an equalisation transfer, but has to pay one to the central government. The grant to regional governments is determined by two elements: a calculation of expenditure needs and an estimation of the fiscal capacity of the region. When the so-called standard tax yield of the region (the revenues a region can obtain by making the same kind of tax effort) is lower than the expenditure needs, the system provides a grant to cover the difference between expenditure needs and tax capacity. The indicators used for calculating expenditure needs consist mainly of population criteria, either the regional population (that determines for example 94% of the expenditure needs in providing "other services", or a partial definition of the population – such as the population over 65 years that has a weight of 100% in determining expenditure needs in social services. In the case of Madrid, the standard tax yield exceeds the expenditure needs, so that it faces a negative transfer.

Although the system does not take differences in regional population growth into account, it is not disadvantageous to the Community of Madrid. The calculation of expenditure needs is not updated every year, but the calculation in the base year (1999) is taken as a basis upon which a growth index is applied. This index expresses the growth of central government tax bases that are equivalent to the taxes ceded to the regions, such as the personal income tax. Although the population growth in the Community of Madrid over the last years has been fast, it has not been faster than the growth index of the aforementioned taxes or the overall funding provided to the Community of Madrid as a whole (Figure 3.11). Seen from this perspective the Community of Madrid did not seem to have actually been compensated for more than its expenditure needs. There are some indications that the charter regime raises equity concerns for the regions under the common regime. An equal level of tax effort will provide charter regime regions with higher revenues while both types of regions have

similar expenditure obligations (López-Laborda and Monasterio, 2006). Or put differently: common regime regions will have to levy higher tax rates to be able to provide the same level of services. This system is made possible by the contribution of richer regions such as Madrid. At the same time, the economic weight of the two charter regime regions is rather limited so that the extent of inequity is ultimately rather limited within the framework of the whole system.

Figure 3.11. **Growth of funding sufficiency, fund and population growth in the Community of Madrid (1999-2006)**

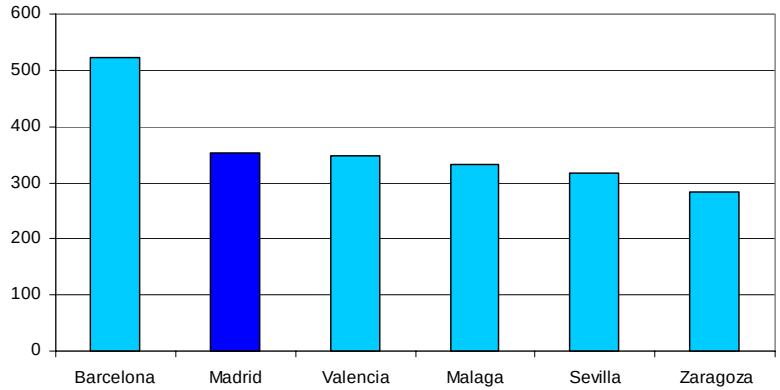


Note: The growth of the sufficiency fund is in real terms, so deflated for price developments. The sufficiency fund was in effect from 2002, using 1999 as a base year. The starting level of the sufficiency fund in the table thus represents the growth of the ITE over the period 1999-2002. The ITE growth over 2005 and 2006 are provisory.

Source: Data on Funding of the Community of Madrid, ITE and sufficiency fund available at *www.meh.es*, data on population available at *www.ine.es*.

The equalisation system seems relatively generous to the Municipality of Madrid. As previously mentioned, large municipalities get their grant from the central government based on two elements: a share of certain central government taxes and a complement to ensure that these municipalities get the same transfer as before. This system is not very transparent in that, contrary to the earlier system, it does not provide allocation criteria making it more difficult to evaluate whether the grant is sufficient to cover the expenditure needs of Madrid. It is however clear that the Municipality of Madrid's grant per capita is higher than the average municipality in Spain; of the large cities in Spain only Barcelona receives a grant that is higher (Figure 3.12). The current financing system for large municipalities is still linked to the previous funding system, as it guarantees that the total grant will not be lower than the previous grant. In the previous funding system, the main allocation criterion (determining 75% of the allocation) was the number of inhabitants, with higher weights for higher population. Here the first 5 000 inhabitants had a weight of 1, the inhabitants from 5 001 to 10 000 a weight of 1.15; and several weights were connected with more inhabitants, up to a 2.80 maximum for 500 000 inhabitants or above. One might wonder whether this system was an appropriate expression of expenditure needs of different municipalities as there might be different elements that work in different directions. A report commissioned by the City of Madrid found that being the capital it has to cover extra costs that are not always covered by the extra revenue sources that are connected to the city (Utrilla de la Hoz, 2006). On the other hand, it is generally recognised that there are economies of scale for several local public services and that these scale effects are more or less exhausted around 30 000 inhabitants. In the current system it is assumed that on the whole large cities have higher expenditure needs than medium-sized or smaller municipalities – and thus should be funded accordingly by transfer income. As the transfer system does not provide objective and transparent criteria for the potential expenditure needs that the extra transfers are supposed to cover, it is difficult to judge to what extent additional expenditure needs for large cities in Spain are not already taken into account. As the current equalisation system for local governments continues to have a pro-large city bias, the least that the central government could do to make the equalisation more transparent is to identify the extent to which expenditure differ between municipalities. Concretely this means that more transparency justification should be provided given on why the City of Madrid (and some of the other large cities like Barcelona) should receive such a relatively high amount of equalisation grants and to what extent the costs of being a capital are already incorporated in the current transfer system.

Figure 3.12. **Grants per capita in the six largest Spanish cities, 2006 (EUR per inhabitant)**



Source: Data available at *www.meh.es*.

Madrid and the new ongoing stage of decentralisation in Spain

Spain is now undergoing a new stage of decentralisation towards local governments. After the creation of the "state of the autonomies" during the 1990s, the Spanish institutional framework is now experiencing the implementation of the "***local pact***" (*Pacto local*).[6] The local pact is an institutional initiative strengthening the role of local governments with respect to both the state and the autonomous communities through the transfers of competencies and financial resources. The idea of the local pact was launched in 1993 during the FEMP's (Spanish Federation of Municipalities and Provinces) assembly (Angoitia Grijalba, 2003), so it was strongly backed by local governments. The "local pact" is a rather complex and long-lasting process of institutional change, which implies actions that must be carried out mostly at the regional level, because of the limited power of the central state to transfer functions from the regional government to the local government. Thus, the state enhanced the weight of municipalities and mayors, but not the distribution of competences among the different territorial levels of government, so that the requests coming from the municipalities mostly concerning powers belonging to the autonomous communities, which the state could not transfer to them (Rodriguez Alvarez, 2002). As such, to accomplish this transfer, agreements

and political bargaining between the autonomous communities and their local governments are needed.

In Madrid, the implementation of the "local pact" is still in the making. In 2003, the regional government approved a regional law that defines principles and procedures for decentralising regional functions to local governments through an institutional and administrative process to define and approve the "local pact". Such principles and procedures are based on joint committees for negotiating the transfer of competencies demanded by municipalities. A mixed commission focused on the City of Madrid was established in 2005 (*Comision Mixta de Coordinación de Competencias*) to host the inter-institutional dialogue and technical negotiation. So far negotiations have addressed the objective of decentralising competences from the CM to the City of Madrid in sectors where institutional functions are shared between the two institutions and several sectoral groups (with six to nine members) to identify and develop technical proposals (Table 3.3). These sectors will certainly include all neighbourhood services and many social and health services, and will also concern education. On a more general level, four years after the first steps were taken, the local pact process has not undergone significant advancement.

Table 3.3. **Institutional functions shared between CM and Madrid's city government**

Functions for which Law 3/2003 of the Community of Madrid permits decentralisation in municipalities
• Civil protection
• Consumption
• Education
• Employment
• Environment
• Gender policy
• Health
• Historical heritage
• Housing
• Social services
• Spatial planning
• Sports
• Tourism
• Transportation
• Youth policies

The City of Madrid also has two national laws aimed at introducing new modes of governance by modernising municipal organisation and the operations of public services. Passed between 2003-2006, the two laws outline the political and administrative structures for reforming the City of Madrid. The first law passed in 2003 entitled "The Local Government Modernisation Act" is often referred to as the Law for Big Cities (*Ley de Grandes Ciudades*) as it provides rules and guidelines for municipalities with populations larger than a pre-determined threshold.[7] In particular it provides a new internal arrangement, under which the responsibilities and power of government executives are strengthened (Rodriguez Alvarez, 2005; Salvador Crespo, 2006). While politically and institutionally relevant for the institutional and administrative issues that must be governed within big cities, the law had limited operational impact for the decentralisation processes, and did not address issues related to inter-governmental finance.[8] Moreover, a special law for Madrid as a capital city entitled the "Act on Capital Status and Special Regime of Madrid" (*Ley de Capitalidad y de regimen especial de Madrid*) was passed by the Spanish Parliament in 2006.[9] The need for a different regime for the capital city (*i.e.*, an *ad hoc* law to be passed by the National Parliament to regulate the relationships between the state and the region, and the local institutions and the internal institutional model of the City of Madrid) was mentioned in the CM's statute of autonomy (*Ley Organica* 3/1983 of 25 February). However, such a law was approved only 23 years later. The act reinforces the existing competences and stipulates some minor decentralisation functions from the central government and the CM to the city level such as mobility, public safety and security, and infrastructure. The law also regulates important aspects concerning the inter-administrative relations between the state, the CM and the City of Madrid, as well as the city's political and administrative organisation.

The Local Pact and other previously mentioned laws provide an opportunity for building a constructive dialogue among the different layers of governments. For instance, the law regarding capital status provides some functional indications for inter-governmental co-operation. In particular, it addresses vertical co-operation and joint decision making for large infrastructure investments. For this purpose, a new Commission, the inter-governmental "Capital Status Inter-Administrative Commission" (*Comisión Interadministrativa de Capitalidad*) was created bringing together representatives from the state, the region and the city. The Commission is charged to deal with fields linked to the capital status (provided by the Act on Capital Status), and specifically with security issues (critical if Madrid is hosting international events and needing to co-ordinate with the city's local police force). As the law's preamble states, "the Act specifies matters falling within the competence of this Commission, although it leaves the possibility

open for the three institutions which comprise it to extend the scope of their collaboration and consensus in the future in aspects relating to capital status. An open model of collaboration is thus established enabling the Commission to adapt its functions to new demands and facilitate suitable responses to the complex requirements of the city". The Act on the Capital Status also provides for participation with local authorities regarding management of state functions or infrastructures, such as Madrid's airport (currently entirely owned and run by the state) and the state railway agency (RENFE).

Thus far the decentralisation process has been inadequate in establishing financing arrangements with municipalities. Within the implementation of the local pact, the committees currently negotiating the transfers of competences have paid insufficient attention to the financial implications of the new functional distribution of responsibilities over service delivery. City officials describe this process as a two-step sequence: first, the analysis and negotiation will focus on the redistribution of public tasks, competencies and functions; only once a preliminary agreement is reached in these issues, then the technical dialogue will consider the changes in the CM's and city's budgets (on both the expenditure and revenue sides) needed to implement the functional reform. This sequential process is likely to undermine the "local pact" opportunity of producing concrete results. Indeed, financial considerations are not only inter-twined with the viability of decisions taken on functional decentralisation, but are a crucial aspect that must be taken into account. In the same vein, the Local Government Modernisation Act (Law for Big Cities) and the Special Law for the Capital City do not provide concrete measures on regional and municipal financing. Overall, while legislative and institutional trends have increased the formal entitlements of local governments, insufficient attention to ways to finance these entitlements risks to hinder further devolution.

3.2. Inter-governmental relationships

Conversely to many other OECD metropolitan areas, horizontal co-ordination throughout the metropolitan area is a minor issue as the Autonomous Community plays the *de facto* role of a metropolitan authority. In most other OECD metro-regions, the functional area does not correspond to existing local or regional governmental boundaries. This institutional fragmentation raises a number of challenges notably a complex policy environment in which area-wide consensus is difficult to reach on medium and long-term goals for environmental quality, economic development and competitiveness, social and spatial disparities, equitable public finance and public service quality across the urban region. Different approaches have been attempted across OECD member countries, ranging from radical

solutions of establishing new authorities at the functional level, either by interposing an additional layer of government (*e.g.*, London, Stuttgart, Portland) or by expanding the boundaries of existing cities (amalgamations in Montreal, Toronto, Busan and Istanbul) to various forms of collaboration among existing authorities, either through the formation of specialised agencies or inter-municipal bodies (sectoral or multi-sectoral), or contracts among different authorities to work together and informal co-operation agreements (OECD, 2006a). Madrid went through several institutional experiences in the past, like amalgamation of municipalities in the 1950s and the creation of a Metropolitan Authority in 1964 (abolished later with the creation of the Autonomous Community). The current pattern of regional government in Madrid, whose boundaries more or less fit with the functional urban region, has somehow replaced a formal metropolitan government. This model is on many levels the most accomplished metropolitan government model in Europe. It is also the strongest, compared with Region Île-de-France (of Paris), which also plays the *de facto* role of a metropolitan government, or with London, Stuttgart or Portland.

To date the metropolitan governance system in Madrid has created the right conditions for effective policy making. Thanks to its strong competencies and the concentration of political resources, the CM has allowed for the progressive development of a neo-corporatist system of governance based on strong linkages with social and economic forces, especially with trade unions and businesses associations. The pillars of this regional-centred neo-corporatist system include a number of organisations that have traditionally been regionally based. They include the Chamber of Commerce of Madrid (*Cámara de Commercio e Industria de Madrid*, CCIM), the local industrialist union (*Confederacion Empresarial Independiente de Madrid*, CEIM), and the two biggest trade unions organisations: the *Comisiones Obreras* (CCOO) and the *Unión General de Trabajadores* (UGT). These four organisations are formally represented in the main agencies, and consult to the regional government. For instance, the CEIM and the two trade unions are members of the Economic and Social Council (*Consejo Económico y Social*), which is the CM's main institutional consulting body.[10] Moreover, the Chamber of Commerce (CCIM) which is comprised of all the Madrid based firms (also part of the most important Spanish firm association: the *Confederacion Española de Organizaciones Empresariales*, CEOE) takes part in several Councils of Administration, and assemblies of public bodies at the regional level. This fabric of relationships between the CM, the trade unions, and the organisations of the employers, has provided a solid base for a sound metropolitan policy framework (Lefèvre, 2004). Within this context, the regional government has played the role of facilitator, promoting the common interests among all actors, relying on public private partnerships to finance its main development projects and

to conduct a number of sectoral policies such as transport and water (Tomás, 2002).[11]

While the regionally-based neo-corporatist system of governance has been successful for co-ordinating relationships with local stakeholders, especially between the political elites and the business community, it has not so much involved local authorities. In many cases, some of the aforementioned policies were imposed upon local councils (Martins and Rodriguez Alvarez, 2007). So far this has been facilitated by the weak municipal power, but the "second wave of decentralisation" aimed at strengthening local governments (through the different laws mentioned above) now puts into question such state-centred neo-corporatism. This is particularly the case for the City of Madrid which has been more active in recent years, emerging as an entrepreneurial city, a trend observable in many other OECD cities. Since 2003, with the election of the new mayor and the new stream for decentralisation towards municipalities, the City of Madrid has engaged itself in radical changes in city administration and developed a pro-growth strategy carrying out innovative actions in the field of internationalisation and business development (see next section). In a way, the Municipality of Madrid seems to be developing the same neo-corporatism system at its lower territorial level.

The evolution of the governance system in the Madrid region with the rising role of local governments calls for new co-operation arrangements and synergies. The implementation at the city level of the meso-corporatist system is a normal and positive trend but it will be important to avoid competition amongst the different government tiers to regulate the mediation of interests that would lead to zero-sum games. In Madrid, like in most metro-regions, there are some conflicting tensions between the two tiers often due to shared competencies (economic development) or the insufficient involvement of other parties in the governing process (spatial planning).

(*i*) In the field of *economic development*, there are examples of areas of overlap that call for co-operation mechanisms. As developed in Chapter 2, at both the regional and city level there are institutions and bodies whose mission is to promote economic development. At the regional level, the two main institutions are the Madrid Institute for Economic Development (IMADE), and the Madri+d Foundation, the first focussing on firm creation, development and innovation, the latter promoting innovation and technology transfer through a network of public and private research institutions and regional business associations. At the local level, the economic development agency, Madrid Emprende, is also involved local entrepreneurship, SMEs development and technology transfers through parks. There are few to no linkages between these bodies, and a similar

disconnect between the Regional Plan for Scientific Research and Technological Innovation, and the City Pro-Growth Strategy.

(*ii*) In *spatial planning*, the lack of formal participation of local actors in regional planning misses the opportunity of creating a shared strategic vision linking spatial and economic development. The 1997 *Regional Plan of Territorial Strategy* aimed at transforming Madrid into an urban continuum with green areas linking different districts and with a grid of highways connecting the core with the rest of the metropolitan region, especially with the south and south west, the most densely populated areas. Nevertheless, this plan cannot be considered such a strategic plan, as it lacked a long-term vision for the physical development of the metropolitan region, referring only to sectoral strategies in fields such as transportation, housing, and infrastructure (Lefèvre, 2004). The fact that all city planning decisions are subject to the control and supervision of the CM provides Madrid's governance system with a legal framework that prevents formal disagreement, but does not provide for the institutional basis for a sufficient shared strategic vision of territorial development to be put into action.

Madrid's governance might be further challenged by a greater demand for co-ordination between the three administrative levels with the rising involvement of the central government. Although the role of central government in urban development policies has been limited as it currently falls under regional competences, there has traditionally been more central state involvement in Madrid's development as it is the seat of the national administration and a wide range of institutions and national public agencies (Tomás, 2002). As previously stated, the national government has been more active in recent years by using its statutory power in administrative structure design to enact and promote a number of laws strengthening the role of local governments, particularly those of large cities. The central government also intervenes in urban regions through its sectoral policies, mainly housing, infrastructure and transport policy, and environment and water management (van den Berg, *et al*., 2004). In general, Madrid has benefited from several investments from the central government particularly in large transport infrastructure. The (National) Transport Infrastructure Plan (*Plan de Infraestructuras del Transporte*) for 2000-2007, with a EUR 104 806 million (values of 1999) budgeted investment, is aimed at created greater capacity by configuring an integrated road and railway network, with Madrid at the centre of the development. As observed in many other unitary OECD member countries, as well as in federal countries like Switzerland and Canada where urban development is under the responsibilities of the counties/provinces, the central government is paying increasing attention toward dealing with city challenges and sustaining their competitiveness. An illustration of such trend is the Spanish government's

commitment toward the development of a co-ordinated and consensual urban policy with its proposal to establish a conference of big cities (*Conferencia de Grandes Ciudades*), and an "Observatory", involving the biggest municipalities. It should however be mentioned that this Observatory was created in 2003 and has not so far been implemented.

The Community of Madrid's institutional system also provides Madrid's public actors with a flexible repertoire of instruments for inter-governmental co-operation. They may consist of "heavy" or "light" mechanisms: ranging from organisational structures, such as *ad hoc* bodies, to procedures. The different juridical forms related to "heavy" and "light" mechanisms are:

- Co-ordination: Instruments for co-ordination often include procedural arrangements:
  - CM access to information about the actions of each municipality;
  - Reciprocal participation in the production of decisions at the regional and local level, such as municipal participation in the CM's decision making, provided by law (even if the CM retains the power of approving municipal urban plans);
  - Sectoral plans and programmes at the regional level, provided by the law and approved by the CM, after hearings with the municipalities (as is the case with the Autonomous Community special planning decision);
  - Joint committees for single purposes, (these specific committees have been created for implementing the local pact, and not for jointly managing administrative functions).
- Top-down assistance (especially from the CM to the smaller municipalities) which includes: judicial assistance (production of norms and trials in courts); production of technical studies and projects; and training courses for municipal civil servants.
- Collaboration between different levels: mostly referring to the CM's role in the resolving disagreements between municipalities.
- Co-operation for service management in the field of social services.
- Specific contractual agreements. Contractual agreements in the field of public services includes both procedural and structural arrangements: investment plans and programmes; grants (to small municipalities); agreements and contracts; and establishment of consortiums.

Among this range of instruments, the contractual agreements (*convenios*) are the most frequent form of co-operation. In the Madrid Metro-region, contractual agreements exist not only between the state and the Autonomous communities, but also between the CM and city government and between the city and the central government. The main type of agreement used is the "*Convenio de Colaboración*", a contract that specifies each party's duties in developing a concrete activity or programme (OECD, 2006b). This instrument is very flexible, as it may either imply only reciprocal duties and commitments, or establishing a decision-making body. In Madrid, the CM and the Municipality of Madrid made agreements through which the former can use the land of the latter to implement actions and interventions in various fields, such as building primary schools and facilities for the elderly. There are also bilateral agreements aimed at establishing Co-operation Funds (*Fondos de cooperacion*) to promote social services and Primary Social Attention Funds, to integrate immigrants, and to create employment (in this case, through an agreement, the "City's Agency for Employment" which the CM funds for actions in the field of employment policy). An example of an agreement between the city government and the central government is the "Barajas Plan". This is an agreement for the Barajas airport, an infrastructure project about which location, extent and physical organisation, forms and modes of access have been bargained between the City of Madrid and the central government. Specific agreements were also signed between the regional and the local governments during the Olympic bidding initiative regarding the construction of sports facilities.[12]

The Madrid-region also has experience establishing *ad hoc* inter-governmental bodies. The most significant one is that the Regional Transport Consortium (*Consorcio Regional de Transportes de Madrid*, CRTM*)* in charge of regional transportation. This body is often cited as a best practice in multi-level co-ordination within the Madrid Metro-region. The CRTM provides the transportation/infrastructure policy for an effective framework of governance facilitating co-operation among a large number of actors. This body manages the entire urban passenger transport system within the Madrid region, covering and co-ordinating several modes of local transportation, such as municipal bus routes, the underground railway and local train services of the National Rail Network. The CM, the City of Madrid, the other municipalities in the region, the central government, the state railway agency (RENFE), and trade unions and employer associations are all part of the CRTM's board. The CRTM has great autonomy with respect to the regional government, in both the decision-making process and in implementing policies. The CRTM's successes have further legitimated the Consortium. The *Canal de Isabel II* is another good practice of inter-governmental relations. The Canal, differs

from the CRTM in legal structure (it is a public company rather than a consortium), provides the urban region with services of water channelling, depuration and supplying water. Established in 1851, since 1984 the Canal is under the auspices of the Autonomous Community.

Mancomunidades are another heavy instrument for facilitating voluntary co-operation among Spanish municipalities. Through *Mancomunidades* municipalities can jointly provide collective services and perform actions for economic development. Their success (on a national scale, there were 67 in 1975, 374 in 1990, and 937 in 2004) is due to their flexible organisation (regulated by a regional law), and the ease through which they can incorporate new objectives. Moreover, there are no barriers regulating the entrance or exit of municipalities into *Mancomunidades* (Figueras, *et al*., 2005). Though the CM partly finances and has legislative power over *Mancomunidades*, their influence is relatively low because of a complex bureaucratic process (Salvador Crespo, 2006). In the Madrid Metro-region there are about 50 *Mancomunidades*, above the average for Spanish regions. In 2004, 156 out of 179 municipalities within the Madrid Metro-region (87.6%) were taking part in *Mancomunidades*. It is important to note that the Municipality of Madrid is not part of this kind of "horizontal" inter-governmental co-operation.

The existing system of national sectoral conferences (a light mechanism, given that they do not produce any new institutions) is a less suitable instrument than it was in the past for fully co-ordinating policies to address Madrid's specific problems. Established in 1992 to plan and co-ordinate actions of the state and the autonomous communities (for example, the *Plan concertado de servicios sociales*), these commissions only involve the local governments in some specific cases. In most cases the Madrid city government, like other local governments, are not allowed to directly take part in commissions, and are only involved through its role as the representative of the National Association of Spanish municipalities.

3.3. From urban government to urban governance

The rising role of local actors: increasing leadership and modernisation

In Madrid as in other cities, institutional and political forces are expanding the role of cities in national governance. Whereas the Franco regime left little room for political power at the city level, the transition to democracy in the late 1970s introduced democratisation in local political life as well as the elections of local governments. The decentralisation processes

have gone hand in hand with the growing power of executive and mayors, together with the reduced role of elected assemblies and political parties.[13] Meanwhile, increasing convergence amongst national politics (centre-left and centre-right governments), particularly in the field of economic development ("growth and sustainability"), has made it easier to exercise local leadership even in changing political circumstances, as the shift in urban policy orientation was not dramatic.[14] In this context, the role of personalised political leadership in big cities is more important today than it was in the past. In Madrid, the increasing leadership of the city is exemplified with the current mayor who often deals directly with other government tiers, national or super-national (Martins and Rodriguez Alvarez, 2007).

The most stunning example of the increased importance of the City of Madrid's leadership is its internationalisation policy. As mentioned in Chapter 2, in 2003 the City of Madrid's government implemented a pro-growth international strategy aimed at strengthening the city's competitiveness in the global economy, specifically positioning itself as the most competitive city in Europe just behind Paris and London.[15] One of the pillars of the internationalisation strategy was the Olympic bid, which the current mayor made the city's top priority. Attempts at aggregating local stakeholders (especially local business and trade unions) both in the Olympic bid and in the definition of a broader internationalisation strategy have led municipal administrative commissions, and particularly the one related to the international dimensions, to completely reorganise.

The city government has also engaged in a modernisation of its administrative organisation. The current separation between the political and the administration functions is prompting the implementation of new public management principles in Madrid. This shift is supported by both the central government, with the act on capital status of 2006, and the current city government, which has adopted an important policy for innovation addressing both organisational capacity and the improvement of relationships between the municipal authority and citizens. Several initiatives coherent with these new principles are presently being carried out. For instance, the Services Charter (*Carta de Servicios*) is an example of efforts to improve public services and make them more responsive to users.[16] The Charter seeks to add consumer rights to citizen's rights and introduce a system of performance assessment based on indicators measuring customer satisfaction and the effectiveness of the budget management. The implementation of this initiative is undergoing a monitoring and internal evaluation process.[17] Another example of organisational innovation is that of "electronic administration". This project uses ICT technologies to enhance communication between citizens and the

city government, and to provide administrators with updated sources of information. The most important project launched by the city was an "integrated system for economic, financial and human resources management" aimed at introducing the new public management principles. The implementation of such an ambitious plan for innovation was met with hurdles typical to big and highly institutionalised administrative organisations, such as resistance to innovation from some employees, importance of previous organisational routines, etc. These obstacles were managed quite well, through renewed forms of collective bargaining, such that the modernisation experience of the local administration in Madrid can be considered positive overall.

Enhancing participation of the civil society

Once very weak, the involvement of private actors in city policies and decision making has started to develop. The institutional strengthening of the executive has encouraged the development of a neo-corporatist system at the city level, following the model that had been developed at the regional level.[18] However, there are at least two related challenges constraining such a project. First, in order to transform this initial system of relationships between public, private and social actors into an effective "mediation arena", the City of Madrid's government should be provided with stronger competencies, especially in the policy fields affected by the implementation of the "local pact" (see above). Second, it has been difficult for the city government to develop these institutional functions since both employer organisations and trade unions are structured on a regional basis and not on an urban one. A possible solution is to include in the neo-corporatism system all those subjects that do not have access to the regional arena because they are neither represented by employer organisations nor by trade unions. In other words, the wider existing fabric of the urban civil society, a primary source of political and social resources, could finally be involved in a city-based growth coalition led by the city government. Such a growth coalition might be able to face some of the new challenges the city is facing such as the risk of reduced social cohesion due to increasing spatial-social-economic inequalities among local populations.

A limitation of Madrid's governance has traditionally been the weak level of citizen participation at the regional and local levels. The aforementioned neo-corporatist setting is a rather "closed" system of horizontal governance. Within it the social actors that are not represented by the major organisations of civil society (such as employers' organisations and trade unions) are at risk of being excluded from policy making, resulting in the system lacking some important resources. Given the distribution of political power between the two institutional layers, this could also produce

a greater feeling of exclusion in a part of Madrid's urban civil society, which could make both the CM and the City of Madrid's corporatist systems less effective in providing political actions with consensus. Moreover, the results achieved so far in taming or preventing social conflict of an industrial kind could be difficult to replicate in the presence of new sources of social tensions. Becoming more of a "global city" may also result in Madrid becoming more socially polarised and consequently need a more integrated development strategy, able to take into account not only the imperatives of growth, but also the concerns of social cohesion. Such a policy needs to be built upon a larger network of actors, including not only representatives of the employers and of the trade unions, but also the wider existing fabric of urban civil society.

The City of Madrid's recent efforts towards increasing citizen participation go in the right direction. Implemented in 2004 as part of the city administration's modernisation programme, this policy aims at achieving two main results. First, enhanced citizen participation is being explored as a better way to govern the deep transformations in town planning and in economic development that have affected Madrid in recent years. Second, wider participation could prevent or help control social conflicts that may arise in the urban area; "participation appears in this new step as a fundamental tool to give solution to problems related to the practice of governing, which also makes it easier for decisions to be made, encouraging consensus and reducing conflict" (City of Madrid, 2004). Participatory practices within the City of Madrid are integrated in a rather homogeneous and formalised policy: the "General Regulation on Citizen Participation" (*Reglamento Organico de Participation Ciudadana*). This instrument is managed by the Economic Department of the Municipality of Madrid (*Area de Gobierno de Economia y Participacion Ciudadana*), whose competences are economic development and citizen participation. The "Regulation on Citizen Participation" has two main goals:

1. Enhancing feedback between the administration and citizens by creating a space in which citizens can criticise all city development decisions and projects. The actual tool to enhance communication between the local administration and citizens are the "offices for information and listening to citizens". These offices aim to support citizens' right to be informed about the management of municipal services. The regulation sets up norms for institutional bodies at all levels regarding the transparency of public documents and meetings. Finally, the regulation recognises the right to pose questions to the administration and to get an answer, through any possible communication tool.

2. Promoting citizens' participation in the government's policy making. Implemented at the district (neighbourhood) level, the regulation states "all inhabitants have the right to intervene directly or through their associations in the management of public affairs at the municipal level through participation in different municipal bodies". Meetings of the districts' bodies are public and, depending on the issue in the order of business, citizens can be invited to intervene. Citizens and their associations can also submit proposals to the district authorities. To enhance the participation of associations, a civil record book of associations and citizenship bodies has been established. Associations active in promoting "the public municipal and social interest for Madrid's citizenship" are provided with funds and training courses. These associations have, among other rights and supports, the possibility to use the City of Madrid's and Districts' office space and logistics tools. Citizens' associations participate in the decision-making process through some specific bodies, including several types of consultative bodies, and e-democracy tools (Box 3.2).

Box 3.2. **Main bodies for citizens' participation in the City of Madrid's decision-making process**

The most important level is the ***Central Council*** (*Consejo Director)*, defined by the regulation as "a consultative body in the City of Madrid, whose main goal is to offer a space for strategic debate about the management of public initiatives for the city". Members of the council are the Mayor and the other main local political actors, employer association, professional associations, trade unions, selected citizens' associations, universities, and the main research centres in Madrid. The Central Council is the formal place of Madrid's aforementioned neo-corporatist system.

At a lower level the regulation establishes the ***Neighbourhood Councils*** (*Consejos de Distrito*), led by the president of the district government. Their members come from the local political parties, selected local associations (selected through an electoral process involving all the associations), and at least four citizen representatives, chosen through a randomly among all inhabitants. The Neighbourhood Councils have a consultative role concerning all the policies implemented by the districts. Among the tasks of these councils is to "work as common and permanent forum of public debate in the circle of the district for the development of participation process of Agenda 21".*

Box 3.2. **Main bodies for citizens' participation in the City of Madrid's decision-making process** (*cont.*)

The regulation establishes five ***Sectoral Councils*** (*Consejos Sectoriales*). These are defined as "consultative instruments of participation, which formalise the participation of citizens and of their associations in specific fields and issues of municipal interest". Members of these councils are institutional representatives, together with the recognised associations acting in the same field as the Council. Sectoral councils operate in (*i*) international decentralised co-operation; (*ii*) gender policies; (*iii*) consumption policies; (*iv*) policies for the elderly; and (*v*) policies for voluntary work, dialogue and cohabitation.

The last and important instrument of participation that Madrid has recently experimented with is "***e-democracy***". In 2005, the City of Madrid decided to test the acceptance of information technology instruments by submitting to citizens three questions with multiple answers. The citizens were asked to answer the questions online using their own PC or from one of the 21 PCs installed in different neighbourhoods of the city. The experiment was then repeated in the district of Hortaleza, using an online questionnaire to collect citizen opinions concerning the proposal to lock up a public park at night for security reasons. These initiatives have been implemented in partnership with Hewlett-Packard (HP). Besides these experiments, the municipality has been organising the conference "net.es", an annual meeting focusing on the application of information technologies in the non-public sector. In 2006, "net.es" focused on "social participation and democracy through new technologies in information and communication". Zaragoza University has assessed these initiatives in some of the largest European cities to create an "e-democracy score" through an enquiry ranking of different indicators. The City of Madrid ranks twelfth (out of 35), preceded only by Barcelona among the Spanish cities, thanks to the "high number of services offered online, usually in an interactive way, but with the rise of information service (simple interaction, one way)" (Torres, *et al*., 2005).

* Districts are increasing their political and economical importance within the City of Madrid. To give an example, in 2006 the 22 district of Madrid received an overall transfer of EUR 500 million from the city government the 12% of the total budget.

A main positive element of Madrid's model of citizen participation is the presence of general regulation. The City of Madrid uses the "Regulation on Citizen Participation" to carry out its participation policy. The presence of a general regulation concerning this issue makes the Spanish capital city a singular case within European cities, where in general city government strategy in this field is lacking. Moreover, despite the existence of participative practices focussing on specific issues, under the initiative of the Sectoral Councils (*Consejos Sectoriales*), Madrid's citizen participation policy is inter-sectoral. It is not linked to individual political or institutional initiatives. In general, it is important to note that the high level of

institutionalisation of the participative practices shelters them against the risks of political changes.

The openness of common citizen participation however needs to be further improved. The composition of the Central Council and of the Neighbourhood Councils is limited to a small number of members who are considered to be fully representative of Madrid's citizens and associations. This means that many groups of common citizens have no alternative ways to take part in public affairs, other than the ordinary tools of representative democracy. Therefore, the existing participatory method needs to be improved to enlarge the number and typology of involved actors and to spread participatory practices into new policy sectors. For instance, involving immigrant associations and representatives into the city's decision-making process could enhance immigrant social integration. Other examples are urban renewal and innovation policies. Experiences with transportation policy may be an internal benchmark, especially regarding the practice of "mobility panels" for trade unions and employers to discuss the enhancement of public transportation facilities. Even remaining within the current institutional regulation, the existing participatory methods could be improved and further tested in order to enlarge the number and typology of actors involved and to spread participatory practices – for example the technique of consultation on the special plans for additional investments in six districts – into new policy sectors as well as into the remaining neighbourhoods. The more these kinds of practices are encouraged and supported with adequate financial resources, the more they can be effective, not only as means to better the outputs and outcomes of the urban policy making, but also as instruments for enhancing citizenship and social cohesion. Finally, innovations concerning the governance framework itself may undergo consultation of non-institutional actors. For example, the CM and the City of Madrid's joint commissions established that the "local pact" could consult with social and economic actors, either through the social and economic council at the regional level, the *Consejo Director* of the City of Madrid, or through direct hearings. The already experimented procedures of consultation in the upward phase of Madrid's city spatial planning decision making could also provide a helpful benchmark.

A participative practice should also demonstrate influence by having an impact on decisions regarding some policies or actions of the city government. This does not happen in Madrid, where all the institutionalised participative practices have a consultative nature and do not bind the decisions of any local government's body. Conversely, in many participation experiences in Europe it is possible to observe a more resolute "transfer of sovereignty" to citizens. As is the case of "participatory budgeting" developed in Brazil and then implemented also in some

European cities, which allows citizens to decide how to use part of the financial resources available for investments within the local government's budget. This kind of practice has not only been carried out in small cities, but also in big cities, and even at a neighbourhood level, as was the case in Rome (D'Albergo, 2005).

The municipal decentralisation issue

A step ahead toward further municipal decentralisation at districts level would be to go toward an enhanced model of citizen participation. Nowadays the structure of the districts facilitates the participation of citizens and their associations, which can be represented in the *Consejos de districto* (whilst only the biggest organisations are members of the *Consejo Director* of the municipality). Yet, further development of decentralisation of the City of Madrid could be an important ingredient for strengthening this original model of citizens' participation. The Districts, which according to the Act 22/2006 have the task of "supporting and developing citizen participation in managing municipal statements", manage 12% of the whole city's budget. Governing innovation processes and above all pursuing social cohesion in the City of Madrid needs to be an integrated strategy, and public interventions need to be territorially articulated and managed to make the best of political and cognitive resources coming from the dimension of proximity. In this respect, further development of participatory practices could be grounded in enhanced political and administrative bases. In particular, the existing complex institutional and organisational arrangements of citizen participation within the districts (*Pleno*, *Consejos Territoriales*) could be provided with more concrete competences (and therefore with actual stakes) if they had a more important role in the making of urban policies, especially in fields such as proximity services and infrastructures. An interesting pilot experience is that of the execution of infrastructure projects in seven districts (construction of social centres, sports facilities renovation of infrastructures, creation of parks, cultural centres, etc, for EUR 411 million) whose projects were negotiated with the citizens' associations of each district. An example of how a role can be played by the city administration to promote and co-ordinate the neighbourhood level administrations within a capital city comes from Rome's experience with the Municipal Support Framework (Box 3.3).

Box 3.3. **The City Support Framework in Rome**

The City Support Framework (*Quadro Cittadino di Sostegno*, QCS) is a programme aimed at supporting the planning and implementation capabilities of the neighbourhood level administrations ("*Municipi*", which are comparable with Madrid's Districts) in Rome. It was launched in 2004 as an inter-institutional programme involving the Province of Rome and the Regional government of Latium, initially funded with EUR 10.5 million. Therefore the programme takes the metropolitan dimension (a territory larger than the Municipality of Rome) as the relevant territorial reference. The aim is to avoid phenomena of social exclusion in the outskirts of Rome.

The City Support Framework aims also at elaborating a general model for city development, taking into account the city's current decentralisation process and the need for improving the effectiveness of the policies in the field of economic development. Within this context the goal of the City Support Framework is to improve inter-institutional co-operation as a "tool for development" and also to promote learning processes in the interested institutional organisations.

The process of decentralisation that has been brought about in Rome, making the Italian capital one of the most decentralised cities in Europe, has also elevated the major need for integrating different public interventions within a coherent frame. This was addressed through a model resembling the EU Commission's Support Framework. In the context of the City Support Framework programme, in 2004 the "*Municipi*" of Rome presented 70 projects within the five main thematic lines of action proposed by the programme:

- 21 projects on the "socio-educational" line
- 14 projects on the "territory" line
- 11 projects on the "culture and sport" line
- 18 projects on the "environment" line
- 6 projects on the "local development" line

The City Support Framework identifies a general aim and some more specific dimensions of intervention for each thematic line, which represent the context within which the "*Municipi*" are requested to submit projects and can obtain funds. The City Support Framework is lead through a co-operative arrangement of the relationships among the main involved institutional actors: the "*Municipi*", the City Hall, the Province and the Region. In order to establish an accountable and effective management system, it has been run by four main bodies: a steering committee, four leading committees, five lines' evaluation committees and

Box 3.3. **The City Support Framework in Rome** (*cont.*)

groups specialised for any single issue in charge of providing statistical data and economic analysis. The system is also composed of an operative co-ordination body and of a technical assistance structure.

The steering committee has the general responsibility of the programme and provides the institutional and political co-ordination for the programme. It is composed of the *Municipi* presidents (elected by people), the city councillors in charge of budget for the city of Rome, the Province and the Region, respectively.

Each of the four leading committees is in charge of a macro-area that gathers the "*Municipi*" of Rome and the surrounding municipalities. The leading committees are composed of representatives of the *Municipi* and of technical staff that are shared between the city government, and who define the procedures and provide the instruments for the evaluation of the projects developed within the City Support Framework.

Conclusion: which innovations for effective governance?

Madrid's situation does not require another institutional reform but the upkeep of the existing governance mechanism, along with some innovative solutions. The current governance framework has provided the Madrid Metro-region with many of the institutional resources that are needed to decide and effectively implement public policies on both the central city and the regional scales (Lefèvre, 2004). The virtual absence of social conflict, the general capability to bring about the conditions for the regional development, corroborate a general hypothesis according to which so far governance arrangements have been a source of few problems. The current institutional model based on the prevailing role of the CM and on the important (but to a lesser extent) role of the Madrid city government (*Ayuntamiento de Madrid*) seems to have been the key governance-factor for the success that the urban region as a whole has exhibited until now, making it possible for aspirations to further development and improvement to enter the political agenda. Thus, Madrid's governance does not need vast and deep reforms.

Adaptations and improvements of the governance mechanism have to cope with the external and internal changes the Madrid Metro-region is facing. The increasing value of the built environment and the (unexpected) large influx of population are changing the structure of the metropolitan region. Although Madrid presents a low level of inequality and a high endowment of social capital, the current processes of social and

demographic change might affect the current equilibrium. Immigrants are bringing about new social demands that address, for instance, the housing sector, social services, and education. The allocation of competences and some difficulties between the different institutions render difficult the implementation of cross-sectoral policies. This can be seen between spatial planning and economic development/innovation policies.

The emerging role of local actors, and in particular the City of Madrid which concentrates more than half of the regional population, calls for a better clarification of competencies and a smooth implementation of the decentralisation process. Nowadays, Madrid's governance can count on a well working framework of national regulation, as well as a well-rooted – even if historically young – legacy of concrete democratic and functional practices. Madrid has shared with the other Spanish cities the benefits coming from the stream of institutional reforms that has been carried forward by the democratisation and decentralisation process. This process started with the Constitution of 1978 and has continued with the subsequent acts on local and regional government and the more recent "local pact". The local pact represents the central government's policy aiming to transfer functions and powers from the central and the regional authorities to the municipalities. The devolution of powers to local governments is one of the issues topping the political agenda of the central government. The announcement of a forthcoming act affecting local government is proof that the central government is committed to the continual renewal of the territorial institutional framework. This would reinforce the City of Madrid in policy areas where it is weak in terms of institutional functions and resources. However, the problem here is that this should be done without reproducing or creating new zero-sum games between the regional and the city government. The implementation process of the "local pact"[19] and the Act on Capital Status provide regional and local political actors with open "windows of opportunity" that might spur the incremental changes that need normative decisions. In other words, it may be convenient to take these two institutional windows as opportunities to better define the general role of each institutional layer.

Arrangements for making inter-governmental co-operation easier are also needed, especially in the fields where competences are shared. The normative approach (based on constitutional and institutional reforms) used during the last 30 years to change the Madrid governance mechanism, is no longer sufficient for addressing Madrid's new needs. The decentralisation process is an opportunity to establish new places and procedures for dialogue and mediation between the two levels, both of a policy (sectorial) and of transversal (strategic) kind. The challenge is to create a flexible and pro-active governance mechanism that is only partially structural and legal,

i.e., arrangements, though perhaps more complex than the ones carried out through legal norms (contracts). In particular, arrangements may need to be flexible (to cope with different policy problems) and to involve a larger number of local actors. Specifically, the interplay between the formal (the legal framework) and the informal (the kinds of practices that mostly concern relationships among actors) dimensions of governance are likely to play a key role in the progression of local governance innovation.

As previously mentioned, there are several different ways to cope with this problem. Beyond structural arrangements, inter-governmental co-operation can be induced through procedural mechanisms. For instance, the City of Madrid (and the other municipalities in the metropolitan region) could be more involved in the CM decision-making process with more or less formalised places and procedures for dialogue and mediation between the two levels. Madrid's governance framework and concrete experiences have produced good practices, which may be used as "internal" benchmarks. Effective arrangements in Madrid within a specific sector of administration and policy making should be used as benchmarks in "innovation-through-learning" processes. For instance, the experiences of co-operation that are based on technical and administrative professionals' cultures and skills should be fully exploited. The different existing forms of agreement between institutional levels are another good example. The CRTM's autonomy – the consortium for transport – can be a benchmark for joint vertical decision making and implementation as well. This is due to a virtuous circle within which autonomy and delegated power together with technical agreement, help to overcome possible political divisions and make it possible to perform well.

Better integration of actors and policies is particularly needed in the field of strategic planning, as experiences in many other metropolitan areas demonstrate this brings about the most difficult challenges. In a complex territorial system like Madrid, carrying out an effective strategy of urban development needs both "vertical" (between different territorial levels institutions) and "horizontal" (among different sectoral policies) integration. To avoid or limit the effects of spatial and social polarisation arising from each municipality trying to foster its own urban growth and to achieve balanced metropolitan territory, it is necessary to inter-twine the spatial planning processes with other policy processes, such as transportation, mobility, economic growth, taxation, R&D, education, innovation, at every territorial level. So far this level of integration has been difficult to reach, partially due to the lack of institutional instruments, especially for inter-governmental co-operation. This is why the latent dualism affecting Madrid's governance could undermine its development potential. The regional government needs to strive beyond reinforcing its guidelines for

co-ordination toward creating a Master Plan, through a well functioning strategic planning process that should embody a multi-stakeholder collective vision based on consultations and joint decision involving a wide range of actors at both the regional and the city level. In this respect, the recent experience of the Strategic Master Plan in the region of Île-de-France could provide an interesting illustration (Box 3.4).

Box 3.4. **The New Regional Master Plan in Paris Île-de-France region: a participatory planning approach**

The Île-de-France regional council recently approved, on 15 February 2007, the draft development plan (SDRIF, or *project de schéma directeur*). The plan, which was drawn up after intensive, joint consultations with the government, completely changes both the content of and approach to planning in the capital region. It has not yet been through the entire formal procedure, but it is possible to identify some areas where progress has been achieved.

The SDRIF breaks with the previous 1994 development plan's approach, which was drawn up solely by the government and was adopted despite the misgivings expressed by the majority of territorial authorities at the time. The new SDRIF is thus an important stage in the process of decentralisation in Île-de-France, giving the region the capacity to exert more influence on town and country planning. The French town planning code gives the SDRIF an atypical role in that it is one of the few regional-level town planning documents to take precedence over local-level town planning documents (territorial coherence guidelines and local town planning plans), the latter having to comply with its recommendations, in an accounting report, failing which they have to be revised. The Regional Spatial Planning and Territorial Development Schemes (SRADT, or *Schémas Régionaux d'Aménagement et de Dévelopemment du Territoire*), as found in the other regions, have no prescriptive importance, serving only to guide regional action. This is characteristic of the SDRIF, giving it particular strength and showing the government's value in the procedure, particularly in guaranteeing compliance with the principle that no authority shall have control over another. Local town planning (it should be noted that the region has 1 300 municipalities) and territorial coherence plans are, in the final analysis, very tightly controlled in Île-de-France, but with real concern for subsidiarity: the SDRIF can only be involved with regional issues.

This prompted intensive consultations, benefiting the SDRIF through interactions and "voluntary" sharing of its objectives with the actors charged with implementing the change, and improving its legal scope – *i.e.*, where the previous development plan was not very successful. So the whole process involved three sessions of four thematic workshops (200 people each), two sessions of 14 territorial workshops (150 people each), and four restitution forums (1 000 people

Box 3.4. **The New Regional Master Plan in Paris Île-de-France region: a participatory planning approach** (*cont.*)

each). A citizenship conference, an inter-regional conference, an inter-municipal conference, two conferences with the association of mayors, and also an Internet site with all the different versions of the scheme also played their role; several thousand requests for changes were received, all of them considered, though not all were ultimately implemented.

The new SDRIF also departs from the previous development plan in terms of content. It promotes densification and public transport versus the previous, which promoted urban spread and the road network. These bold options – bold in that they have not been well accepted locally – are to be found in its rules and in its overall outline. Paris and the surrounding urban area is the focus of all the attention. The target is to increase the urban density to respond to the need to contain urban sprawl and climate change, and to the increased price of fossil energy sources (which affects automobile mobility). Improving inter-linkages within the rail transport network, will give the immediate and more distant suburbs the accessibility currently only available in inner Paris, and will foster densification of housing and concentrated job locations. This will allow for some urban pressure, without opening up the floodgates to peri-urbanisation.

Source: produced by Vincent Fouchier, Executive Director, Île-de France Urban Planning Institute (IAURIF) in charge of the New Regional Master Plan (SDRIF) and Vice-Chair (and French Delegate) of the OECD Working Party on Urban regions.

The main aim of governance innovation should be to facilitate the building of multi-stakeholder coalitions with larger civil society involvement. At the city level, there is a sort of "policy generating idea" that implies not only a sum of initiatives (such as promoting the potential of Madrid abroad through a branding policy or the Olympic bid), but a more complex commitment to face opportunities and risks coming from the global and European environment through a strategic project for Madrid. To be formulated and implemented, such a project needs several ingredients, some of them implying a slight adjustment in the current governance mechanism. Some of the most important aspects to be improved in the field of local governance are already on Madrid institutions' agendas and the ongoing processes of institutional and organisational innovation are in fact based on an assessment of governance weakness and strength. Thus, the main recommendations reflect the ways to further improve the integration among sectoral policies and to further enhance the participation of citizens in public life.

Notes

1. The territorial correspondence between the functional metropolitan area and the CM is not complete. Madrid's metropolitan government should be considered slightly "underbounded", as the functional area partially includes the neighbouring provinces of Toledo and Guadalajara and some of the rural *comarcas* where some Madrid residents have second homes (Rodriguez Alvarez, 2002).

2. An increase in capital investment expenditure in both relative and absolute terms, and a decrease in current expenditure at least in relative terms are other clues of the "good-health" of the local finance.

3. Relative to capital investment financing, the City of Madrid currently appears to be only a marginal recipient of European, national and regional funding. For example, according to city officials, the Regional Programme of Investment and Services (*Programa Regional de Inversiones y Servicios de Madrid* – PRISMA, EUR 300 million for 2006-2007) managed by the CM is mostly channelled to other municipalities in the region. Also, while the European ERDF and ESF regulations (unlike in 2000-2006) now allow investment in Madrid's relatively richer municipal area, the city government has only negotiated with the CM (the management authority for EU funds) for capital investments of EUR 40 million (for transport investment), out of a total availability ranging somewhere between EUR 700 and EUR 1 000 million for 2007-2013. In other words, external grant funding for capital investment is largely directed toward other municipalities in the region, but the city does not appear to focus its demands on an increased participation from these sources.

4. As analysed and measured in the city-sponsored study on "the additional financial impact of substitution, centrality and of the capital-status: the cost impact on the city's finances", three different factors induce a rise in expenditures sustained by the administration, but that are not taken in consideration in the transfers' formula or in tax-sharing agreements. According to this study, for example, the substitution costs in public services (among which, *e.g.*, social services, employment services) amounted to approximately EUR 52 million in 2005, impacting nine budget lines that altogether equal 13% of the total expenditure budget.

The study also underscores that the University of Barcelona estimates the total of the *gastos improprios* (overheads) to be around 30% of the city's general budget (between EUR 1.5 and 2 billion).

5. The two special Autonomous Communities of Navarre and the Basque Country are also exceptions.

6. The Local Pact is based on the vertical subsidiarity principle affirmed by the 1985 European Charter of Local Autonomy (Art. 4.3)

7. The Local Government Modernisation Act (57/2003, 16 December) added a new title (No. X) to the fundamental principles of local administration in Spain (law of 1985), concerning the regime for the organisation of "highly populous towns", *i.e.*, big cities. Through this law the functional and organisational uniformity of the Spanish local governments was broken and three great issues of local government in Spain were ruled: governability was to be strengthened for the executive at the expense of the elected assembly (*Pleno*), the introduction of new management principles, based on a clear distinction of responsibilities between the political and administrative actors and a new balance between the instruments of representative and participatory democracy. On one hand the law was an answer to the requests of the lobby of the seven Spanish biggest cities, which had asked for it since the early 1990s (Rodriguez Alvarez, 2005, p. 20). On the other hand, the law itself is an example of the bipartisan political agreements that have characterised the norms for establishing the Spanish territorial institutional framework.

8. Application of the law in Madrid was executed in 2004-2005 through a new regulatory scheme for the city passed by the City Assembly: Organic Regulatory Scheme for the City Assembly, Government and Administration, Citizen Participation, the Districts, the Statutes of the Public Organisations and Companies, delegation of competences in the districts, etc.

9. This was not the first legislative intervention providing a special legal regime for the City of Madrid. In the 1940s a number of laws that ruled the territory (annexation of 12 previously autonomous municipalities) and some administrative functions were passed, to centralise responsibility, within which local issues would be decided at the national level. The national government was then delegated by the Act of 7 November 1957 (emending the 1955 Local Government Act) to pass a law of its own containing a special organisational and financial regime for Madrid and Barcelona. This meant a break with the characteristic uniformity of the Spanish local government. The resulting decree (11 July 1963, No. 1674), which was subsequently amended in 1980, established the 18 *Juntas Municipales de Distrito*, whose territorial boundaries did not correspond to those of the former autonomous municipalities before the annexation.

However specifically regarding the capital city status, the decree of 1963 only gave the Municipality of Madrid an honorific prominence and no special function or grants (Merloni, 1986, p. 122).

10. The Economic and Social Council is composed of 28 members (nine economic actors, nine trade union representatives and nine experts). The *Council's* aim is to assess the economic and social conditions of the region, and it must be consulted during the discussion of the CM's yearly budget.

11. The continuity of policies and actions was also facilitated by the fact that the same political party has been in power since 1995.

12. These kinds of agreements have been also used between the local government and the private sector.

13. In Spain the above-mentioned 2003 law on cities abolished some of the mayor's administrative and managerial responsibilities, in order to strengthen his political position (Velasco Caballero and Díez Sastre, 2005), confirmed by the 2006 Act on Capital Status.

14. In 2004 the political change that occurred in Spain does not seem to have brought about any significant change in the orientation of national policies affecting the Madrid area. In 1996 a similar political change had an affect on Madrid.

15. The issue of internationalising the City of Madrid was one of the pillars of the current mayor's electoral programme.

16. The *Cartas de Servicios* are distributed as flyers with basic access and usage procedures, quality standards, and quality indicators, *www.madrid.org/dat_norte/WEBDATMARCOS/supe/cartas_de_servicios.htm.*

17. There have been two follow-up reports of the *Cartas de Servicios*; one in December 2006 and another in March 2007. The Madrid City Hall will issue an annual global evaluation on the compliance and status of the *Cartas de Servicio.* At least every three years, there will be a citizen satisfaction opinion poll, and assessment of the impact of the particular service in the community.

18. It is worth recalling that the neo-corporatism system is based on a strict collaboration among the local government, the trade unions, and the employer organisations (Industrialist Union and the local Chamber of Commerce).

19. The process is implemented in the Madrid Metro-region through the CM's *Act for the Development of the Local Pact* (3/2003).

Annex

Identifying the determinants of regional performances

GDP per capita (in logarithms) can be written as:

$$\frac{GDP}{Population} = \frac{GDP}{Employment} + \frac{Employment}{Labour\ force} + \frac{Labour\ force}{Population}$$

GDP per capita = Productivity + Employment rate + Activity rate

Therefore, the difference in GDP per capita between a give metropolitan region and the average of all metropolitan regions is equal to:

Difference in GDP per capita = Difference in Productivity + Difference in Unemployment rates + Difference in Activity rates

Decomposition of differences in productivity

Average labour productivity in region i is equal to a weighted average of sectoral productivity:

1. $$\frac{GDP_i}{E_i} = \sum_j \frac{E_{ij}}{E_i} * \frac{GDP_{ij}}{E_{ij}}$$

where j indicates the sector.

From-the-average difference in productivity can be decomposed as:

2. $$\left(\frac{GDP_i}{E_i} - \frac{GDP}{E}\right) = \sum_j \left(\frac{E_{ij}}{E_i} - \frac{E_j}{E}\right) * \frac{GDP_j}{E_j} + \sum_j \frac{E_{ij}}{E_i} * \left(\frac{GDP_{ij}}{E_{ij}} - \frac{GDP_j}{E_j}\right)$$

The first term on the right-side of the equation measures the proportion of the difference in productivity due to regional specialisation.

Decomposition of differences in activity rates

Activity rate in region i is equal to a weighted average of activity rates by age groups:

3. $$\frac{LF_i}{P_i} = \sum_j \frac{P_{ij}}{P_i} * \frac{LF_{ij}}{P_{ij}}$$

where j indicates the age group.

From-the-average-difference in activity rates can be decomposed as:

4. $$\left(\frac{LF_i}{P_i} - \frac{LF}{P}\right) = \sum_j \left(\frac{P_{ij}}{P_i} - \frac{P_j}{P}\right) * \frac{LF_j}{P_j} + \sum_j \frac{P_{ij}}{P_i} * \left(\frac{LF_{ij}}{P_{ij}} - \frac{LF_j}{P_j}\right)$$

The first term on the right-side of the equation measures the proportion of the difference in activity rates due to the age-profile of the regional labour population.

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OECD PUBLICATIONS, 2, rue André-Pascal, 75775 PARIS CEDEX 16
PRINTED IN FRANCE
(04 2007 11 1 P) ISBN 978-92-64-03847-9 – No. 55809 2007

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ISBN 978-92-64-03847-9
04 2007 11 1 P

