# The determinants of competitiveness and its indicators for the Spanish economy

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## 1. INTRODUCTION

The globalisation of economic activity and the incorporation of new technologies require a continuous drive to adapt on the part of economic agents. It is precisely the ability of an economy to adapt, and its medium and long-term growth possibilities that the analysis of an economy's competitiveness aims to assess. However, competitiveness is an imprecise and controversial concept. Its definition and the instruments used to analyse it, have been changing over time, as new theoretical formulations have been developed.

The focus of studies of competitiveness has been shifting from the traditional emphasis on trade and its most direct determinants (exchange rates, costs and prices) towards other considerations of a more structural nature linked to productivity and its determinants, which are ultimately responsible for welfare increases in an economy.

This article analyses the competitiveness of the Spanish economy from a broad perspective that includes both approaches. This approximation is of all the more interest following entry into the euro area, because the traditional mechanisms for adjusting to external shocks have been modified, and the structural aspects of competitiveness have become more important.

The article is organised as follows: following this introduction, section two outlines the debate in recent years regarding the meaning of competitiveness and certain indicators are defined that may be used for its diagnosis in the case of the Spanish economy. Section 3 analyses recent developments in competitiveness and section 4 offers the main conclusions.

## 2. THE CONCEPT OF COMPETITIVENESS AND THE RELEVANT INDICATORS FOR MONITORING IT

Competitiveness has traditionally been defined as the ability of an economy to maintain or sustainedly increase its presence in world markets, including the domestic market. In its strict version, this definition has attracted numerous criticisms, since the underlying conception of competitiveness and international trade is of a zero-sum game, in which one country's share can only be increased at the expense of that of

FIGURE

**Competitiveness indicators**

| | Indicators of behaviour (results) | Determinants |
|---|---|---|
| **TRADITIONAL APPROACH** | Trade balance<br>Export shares on world markets<br><br>Import penetration in the domestic market | Nominal exchange rate<br>Costs, prices and relative profitability |
| **STRUCTURAL APPROACH** | GDP *per capita* and productivity | Endowment / use of productive factors: *stocks* of physical (including infrastructure), technological and human capital<br>Innovative capacity<br>Productive specialisation<br>Efficiency of market functioning<br>Characteristics of business organisation |

other countries. This may prompt excessively protectionist policies or exchange rate devaluations, which might end up reducing the real wages of the economy and overall welfare (1). This approach emphasises the role of relative costs and prices as fundamental determinants of trade and, therefore, of the competitiveness of the economy. Certain theoretical developments in the field of international trade, however, have stressed the limitations of an analysis of the competitive position based solely on the study of relative costs and prices. These developments highlight the ability of firms to compete through product differentiation and other mechanisms, and the influence of factors of a more structural nature, such as the degree of development of human and technological capital (2).

More recently, the debate has gone beyond the strict field of trade and has shifted towards considerations relating to the capacity to increase the welfare of the economy (3). The concept of competitiveness thus acquires a long-term perspective, being linked to factors that determine productive efficiency. From this viewpoint, technological progress seems to be a fundamental determinant of productivity growth in the long term. It depends not only on the research and development carried out by each country, but also on their capacity to adopt innovations made abroad, through trade and international investment flows, and the ability to ensure that their effects are

spread throughout the productive structure. In turn, these factors are closely linked to the quality of training and education, to the infrastructure endowment, to firms' organisational and managerial capacity and, in short, to the existence of a sufficiently competitive and flexible institutional environment to stimulate innovation and its diffusion throughout the economic system.

The figure above summarises the factors which are considered most important for a study of competitiveness, distinguishing between the two approaches that have just been discussed and also, for each approach, between the behavioural indicators and their ultimate determinants.

Among the indicators that approximate the international competitiveness of the economy are the trade balance, export shares and import penetration in the domestic market, while the explanatory factors include the various measures of the effective exchange rate and the deflators and costs that enable the relative profitability of exporters and producers of marketable goods to be approximated (4). In addition there are indicators relating to welfare, productivity and their determinants. The most representative variable of the welfare of the economy and, thus, of its competitiveness is GDP per capita, its breakdown into apparent labour productivity, the employment rate and population. Since ap-

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(1)   See Krugman (1994 and 1996) and Porter (1990).
(2)   See Fagerberg and Verpagen (2000).
(3)   See Krugman (1996), Porter (2002) and European Commission (2001 and 2002)

(4)   Among the studies in which a description of the characteristics and the advantages and disadvantages of these indicators is presented are Durand and Giorno (1987) and Gordo and L'Hotellerie (1993).

parent productivity is an imperfect measure of productive efficiency, total factor productivity should also be analysed, although the correct measurement of this variable is not without its difficulties either.

As regards the determinants of productivity and productive efficiency, the complexity involved in obtaining indicators that enable some of their most important aspects to be compared at the international level should be noted. For example, in the case of innovation and the quality of human capital there is no single measure enabling these concepts to be approximated quantitatively, but a broad set of indicators, each of which provides partial information on one or more of their multiple facets [investment in research and education, the incorporation of imported technology, the quality of education, etc. (5)]. In this paper, the most relevant ones have been selected, to illustrate the challenges facing the Spanish economy in these areas. Also, indicators have been included of the degree of introduction and use of information and communication technologies (ICT) in the Spanish economy, in so far as these activities have significant effects on the efficiency of the productive system as a whole (6).

As regards the degree of competition and of regulation of goods and factor markets, the available information is scant, although the OECD has recently made notable efforts to try to obtain a synthetic indicator to enable the situation to be compared across its member countries (7). Finally, there is hardly any comparable information on the strategic capacity of firms and the quality of the business environment. Only certain international organisations that compile synthetic indicators of competitiveness from a very broad perspective include among their criteria the odd indicator relating to this area (8).

Competitiveness is analysed in this paper at the aggregate level, with the focus on the behaviour of the economy as a whole and on the main productive sectors, namely manufacturing and market services. The focus on manufacturing is normal in studies in this area, given its nature as a producer of marketable goods. In this case, besides price and cost indicators, it is also relevant to consider the pattern of productive and trade specialisation within Spanish manufacturing, in order to assess its ability to adapt to changes in international demand. For this purpose, information is used on value added, exports and imports of the various productive branches, classified according to their technological intensity. This classification, with its obvious limitations, is very useful for presenting the results, since traditionally, the most technology intensive sectors include the most recently introduced products, which have more dynamic demand and greater growth potential, as well as requiring more highly skilled workers. By contrast, the low technology sectors usually have more moderate demand and make intensive use of unskilled labour (9).

As for the market services sector, as a result of its increasing importance in the composition of the value added and employment of the economy as a whole, as well as its role as a supplier of productive inputs to other industries, its behaviour is essential in determining the growth potential of the economy as a whole and the level of economic welfare. In addition, the growing internationalisation of some services activities has increased their influence in the determination of trade performance. However, this analysis is still handicapped by significant gaps in the statistical information of sufficient quality and comparability.

## 3. RECENT PERFORMANCE OF THE COMPETITIVENESS OF THE SPANISH ECONOMY

This section analyses the competitive position of the Spanish economy since the early 1990s, using certain indicators representing the different aspects mentioned in the previous section. In so far as possible, the results are compared with those for the EU or the euro area as a whole, these areas being the most relevant frame of reference.

### 3.1. An overall view

In the first half of the 1990s, the peseta exchange rate was sharply devalued, largely offsetting the appreciation that had taken place in the second half of the 1980s. The adjustment of relative prices and costs that this entailed, to-
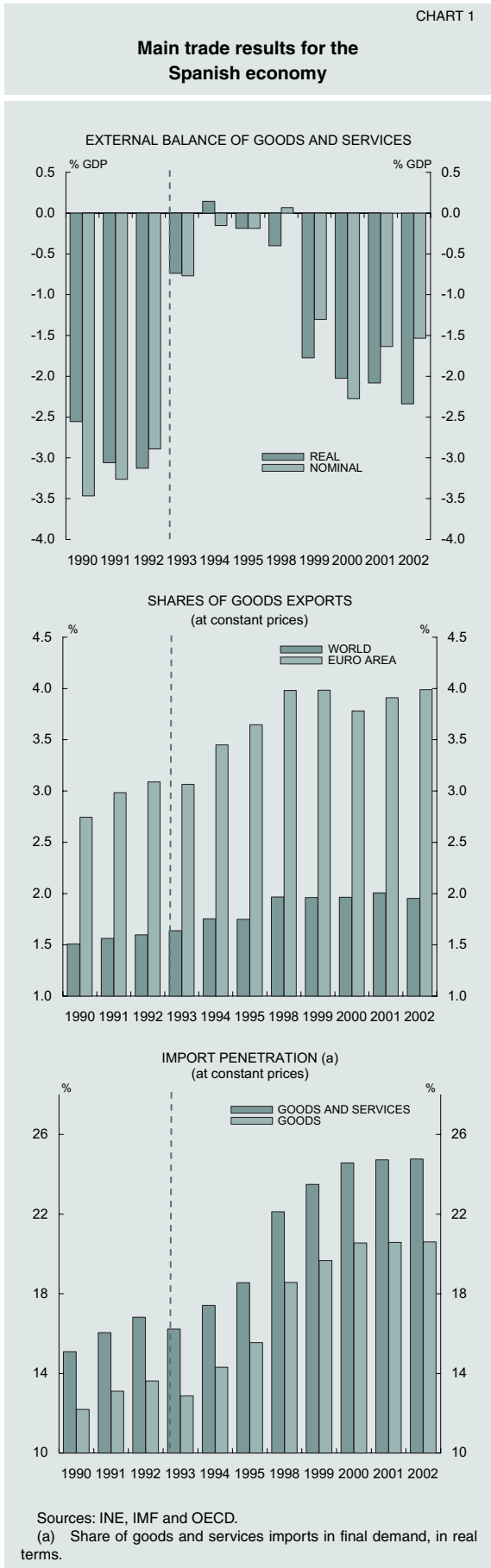
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(5)  See, for example, OECD (2001a and 2001b).

(6)  See, inter alia, Hernando and Núñez (2002).

(7)  See the *International Regulation Database* of the OECD.

(8)  See World Economic Forum (2002) and Institute for Management & Development (2003).

(9)  The OECD classifies manufacturing industries according to their technological intensity (high, medium-high, medium-low, low), measured in terms of their expenditure on research and development as a proportion of their value added or output (see OECD (2001)). When drawing conclusions on a country's pattern of specialisation and its productive and trade performance on the basis of this type of classification, it should be borne in mind that the composition of its output is as important as its sectoral productive efficiency.

CHART 1

**Main trade results for the Spanish economy**

Sources: INE, IMF and OECD.
(a) Share of goods and services imports in final demand, in real terms.

gether with the significant expansion in merchandise trade at the international level, as a consequence, among other factors, of the stepping up of internationalisation and globalisation processes in numerous economies, explains the extraordinary buoyancy of Spanish goods and services exports from 1993, which grew at an average rate of more than 10% in the period to 1998, practically double the rate in the previous decade. This enabled the balance of goods and services trade to improve significantly between 1993 and 1998 (the year before Spain's entry into the euro area), with a surplus in some of these years, while the share of Spanish products in international markets increased notably. The share of goods exports reached 2% of the world market in 1998 and 4% of the euro area market (see Chart 1).

Nonetheless, following entry into the euro area and the adoption of the euro at the irrevocable rate, as the effects of the devaluations were petering out, the external balance at constant prices returned to deficit, the amount of which has continued to increase even during the cyclical correction of 2001 and 2002. In 2002, the deficit on goods and services trade amounted to 2% of real GDP, while the merchandise deficit was 6%. During the same period, the share of goods exports has remained unchanged at levels below the relative weight of Spanish GDP. As will be seen below, this shows up the persistence of positive differentials in price and cost growth, despite the substantial reduction in inflation, and the possible existence of mismatches between Spanish productive activity and the structure of international demand.

Meanwhile, imports doubled their share of domestic markets during the 1990s, to reach around the average level in the euro area. In the first few years of the current decade the rate of penetration of imports has been checked, against a background of greater cyclical weakness.

As mentioned in section 2, there are many factors that determine an economy's trade performance. Even though the most recent literature has highlighted the pre-eminence of aspects of a more structural nature, changes in relative prices, costs and margins certainly have a large influence in the short and medium term.

During the 1990s, the usual indicators of relative prices and costs were dominated, first, by the impact of the depreciation of the peseta exchange rate, which offset the differential between price and cost growth in the Spanish economy and in the developed countries as a whole (see Chart 2). However, from 1999, with Monetary
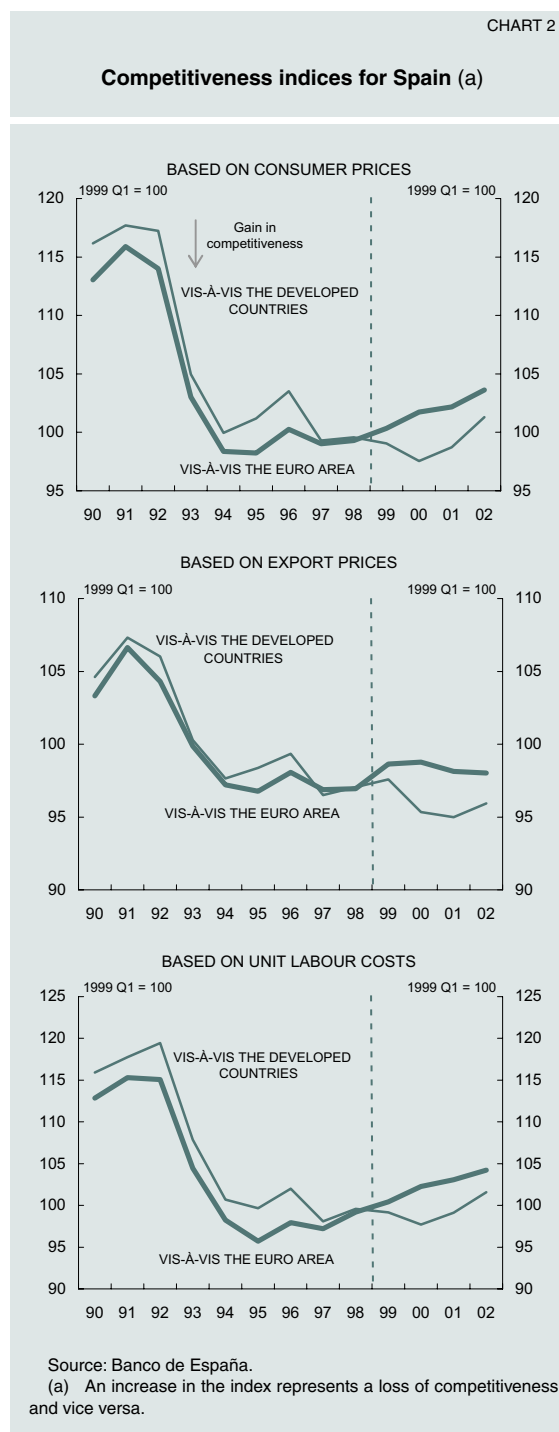
Union in place, the consumer price and unit labour cost indices appreciated notably against the euro area, while the relative prices of exports remained practically unchanged. In the late 1990s, the appreciation of the US dollar offset the cost and price growth differentials in relation to the other developed countries. Subsequently, during the first few years of this decade, most of the indices have risen in relative terms.

The difference observed between the behaviour of relative export prices and of unit labour costs shows the worsening in export margins since the late 1990s. As seen in Table 1, the nominal depreciation in the early 1990s enabled these margins to recover notably, following their deterioration during the previous upturn. From 1998, however, export margins began to contract again, in contrast to the behaviour of margins in the economy as a whole. There was a fall in the relative return on export activity (10), which may have increased the preference of domestic producers to sell their products on the domestic market, curbing their orientation towards external markets. In relative terms, however, the trend in export margins has been more favourable in Spain than in the EU, against a background of greater buoyancy of margins in the economy as a whole.

In short, as from 1999, the growth differential of prices and costs in the Spanish economy has checked the penetration of international markets by Spanish products, helping to worsen the trade imbalance. However, as mentioned above, the competitiveness of an economy ends up being reflected, beyond its trade results, in its capacity to sustainedly increase the level of its population's economic welfare.

The process of real convergence of the Spanish economy with the more advanced economies of the EU accelerated notably in the second half of the 1990s, and has even continued during the last few years of cyclical slowdown (in contrast to previous downturns). As seen in Table 2, in 2002, output per head in Spain stood at 84.5% of the EU average, when expressed in current prices, and at around 83%, when expressed in constant 1995 prices. Analysis of the components reveals that the progress in convergence was essentially based on the greater intensity of employment creation in Spain, while the growth of productivity was more moderate than on average in the EU. The modest increase in productivity and the persistence of differentials in the rate of growth of compensation per employee relative to EU countries have reduced the competitive advan-

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(10)   This indicator compares the growth of domestic prices (measured by the GDP deflator) with that of export prices.



CHART 2

**Competitiveness indices for Spain** (a)

Source: Banco de España.
(a)   An increase in the index represents a loss of competitiveness and vice versa.

tages that the Spanish economy has traditionally derived from the level of its labour costs per unit of output over its main trading partners (see Table 2). Also, these advantages may be threatened by those offered by other more recently industrialised countries and the future new EU members from eastern Europe (11).

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(11)   International comparisons of labour cost levels are subject to numerous caveats, owing to the absence of sufficiently comparable series of employment, costs and productivity and to the problems arising from the need to express all these series in a common currency or unit.

|  | Average 90-92 | Average 93-97 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|---|
| **1. Export margin (1.1/1.2 = 2x3)** | **-5.9** | **1.7** | **-1.8** | **-1.7** | **4.2** | **-1.0** | **-3.2** |
| 1.1 Exports deflator | 2.2 | 3.8 | 0.6 | 0.4 | 7.3 | 2.7 | 0.0 |
| 1.2 Unit labour cost | 8.6 | 2.1 | 2.5 | 2.1 | 3.0 | 3.8 | 3.2 |
| *1.2.1 Compensation per employee* | *10.7* | *3.6* | *2.7* | *2.7* | *3.7* | *4.1* | *4.0* |
| *1.2.2 Productivity per employed person* | *1.9* | *1.5* | *0.2* | *0.6* | *0.8* | *0.3* | *0.7* |
| **2. Relative profitability of exports (2.1/2.2)** | **-4.3** | **0.2** | **-1.7** | **-2.3** | **3.7** | **-1.4** | **-4.2** |
| 2.1 Exports deflator | 2.2 | 3.8 | 0.6 | 0.4 | 7.3 | 2.7 | 0.0 |
| 2.2 GDPmp deflator | 6.8 | 3.7 | 2.4 | 2.7 | 3.5 | 4.2 | 4.4 |
| **3. Whole economy unit margin (3.1/3.2)** (a) | **-1.7** | **1.6** | **-0.1** | **0.6** | **0.5** | **0.4** | **1.1** |
| 3.1 GDPmp deflator | 6.8 | 3.7 | 2.4 | 2.7 | 3.5 | 4.2 | 4.4 |
| 3.2 Unit labour cost | 8.6 | 2.1 | 2.5 | 2.1 | 3.0 | 3.8 | 3.2 |
| **SPAIN/EU COMPARISON** | | | | | | | |
| **Export margin** | **-2.0** | **1.3** | **-0.6** | **0.7** | **2.2** | **0.7** | **-0.2** |
| Relative profitability of exports | -0.8 | 0.9 | 0.8 | -0.4 | 1.4 | -0.6 | -1.4 |
| Whole economy unit margin (a) | -1.2 | 0.5 | -1.4 | 1.1 | 0.8 | 1.2 | 1.3 |

TABLE 1

**Export margins**
**Rates of change**

Sources: INE, Ministerio de Economía, OECD and European Commission.
(a) Inverse of real unit labour cost.

In any case, apparent labour productivity is an imperfect measure of productive efficiency, especially against a background of structural labour market reforms that have stimulated employment growth. In this respect, the breakdown of apparent labour productivity into the degree of use of the primary productive resources (capital and labour) and total factor productivity (12), which best approximates the changes in productive efficiency associated with technological development, shows that the rate of growth of the latter was below the EU average (see Chart 3).

During the period analysed the Spanish economy made a considerable effort to bring its levels of physical, human and technological capital into line with those recorded in EU countries, yet the distance is still considerable. In particular, the notable growth in the stock of physical capital stands out, although its components have behaved quite differently. Thus,

(12) Total factor productivity (TFP) captures both changes in productivity attributable to technical change and the influence of other factors that have a bearing on the efficiency of productive processes such as the skills possessed by labour, the quality of infrastructure, the characteristics of the institutional and regulatory framework, etc. In any case, it should be pointed out that the analysis of this variable is not without its problems, since it is based on estimates subject to some controversy.

while the infrastructure endowment has increased notably, equipment investment has been somewhat weak in recent years, a circumstance that may affect the path of potential output in so far as this type of investment is the main channel through which technological progress is incorporated into productive processes (see Chart 2).

Meanwhile, expenditure on R&D in terms of GDP has improved substantially since the mid-1990s, reaching a level of around 1% of GDP in 2001 (see Chart 4). However, this percentage is still behind the average levels observed in the EU. Activities relating to the new information and communication technologies (ICT) still have a comparatively small presence in the Spanish productive structure (both in terms of value added and employment), despite having grown in recent years. At the same time, the skills possessed by human capital are still far from reaching the levels seen in other European countries, although the distances are considerably smaller when the comparison focuses on the youngest strata of the population.

In such circumstances, the existence of a sufficiently flexible and competitive institutional environment, which stimulates the enhancement of labour and business skills, and facilitates the incorporation of technological progress

TABLE 2

**Main structural competitiveness indicators**

| | 1990 | | 2002 | | Latest figure available |
|---|---|---|---|---|---|
| | Spain | Spain/EU | Spain | Spain/EU | |
| **GDP *PER CAPITA* AND COMPONENTS:** | | | | | |
| GDP per capita (a) | 11.5 | 78.0 | 20.2 | 84.5 | 2002 |
| GDP per capita (b) | 12.9 | 77.6 | 16.9 | 83.4 | 2002 |
| Population 16-64 / Total population | 66.5 | 99.5 | 68.3 | 103.2 | 2002 |
| Employment rate (c) | 53.4 | 81.9 | 58.9 | 87.6 | 2002 |
| Labour productivity (d) | 36.4 | 95.2 | 42.0 | 92.2 | 2002 |
| **TOTAL FACTOR PRODUCTIVITY AND CAPITAL STOCKS:** | | | | | |
| Total factor productivity (e) | 97.4 | 103.0 | 102.5 | 96.9 | 2002 |
| Total capital stock / employment | 98.2 | 83.7 | 126.2 | 89.1 | 2002 |
| Technological capital / GDP | 4.3 | 33.3 | 6.2 | 40.8 | 1999 |
| Human capital / population 16-64 | 28.1 | 62.9 | 36.3 | 71.7 | 1999 |
| **OTHER SUPPLEMENTARY INDICATORS:** | | | | | |
| Compensation per employee (f) | 0.01 | 67.60 | 0.03 | 77.90 | 2002 |
| Unit labour costs (g) | 0.39 | 71.13 | 0.60 | 84.45 | 2002 |
| Expenditure on R&D / GDP | 0.82 | 42.27 | 0.96 | 49.74 | 2001 |
| GVA of ICT branches (h) | 3.31 | 69.95 | 4.05 | 72.85 | 2000 |
| Expenditure per capita on ICT (i) | 443.35 | 56.16 | 1,026.00 | 71.75 | 2001 |
| Public expenditure on education / GDP | 4.66 | 89.96 | 4.43 | 89.68 | 2000 |
| Population of working age with secondary education / total population | 24.00 | 47.86 | 40.00 | 62.60 | 2001 |

Sources: Eurostat, OECD, FUNCAS, Ministerio de Economía and Banco de España.
(a)  Thousands of current euro in PPP.
(b)  Thousands of 1995 euro in PPP.
(c)  Employed persons as a percentage of the population aged 16-64.
(d)  Thousands of PPP in euro per employed person.
(e)  1995 = 100.
(f)  Millions of euro.
(g)  Monetary units per unit of output (in PPP).
(h)  % of whole-economy GVA.
(i)  Euro in PPP per inhabitant. Start of the series, 1995.

and its transmission to the rest of the productive system, becomes especially important. One of the elements that has most helped to change the competitive environment of the Spanish economy has been the greater commercial and financial openness. In the domestic sphere, the drive to increase competition in certain sectors and markets has been notable. In fact, the indicators of barriers to competition in the goods and services market compiled by the OECD on the basis of information relating to 1998 place the Spanish economy in a position close to that of other euro area economies, when in the past it had higher levels of regulation and intervention (13). Even so, there is widespread agreement regarding the persistence of certain legal and administrative barriers that should be progressively eliminated to enable the Spanish economy to achieve its full growth potential.

(13)   See Nicoletti, Scarpetta and Boyland (2000).

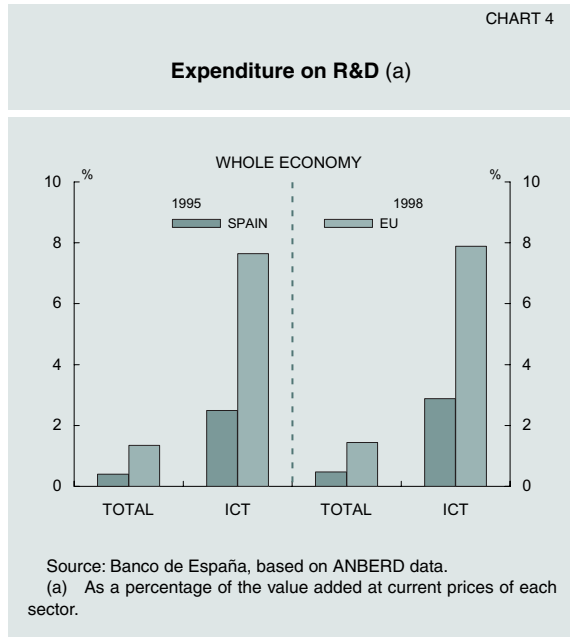## 3.2. The competitiveness of manufacturing

Even though the relative importance of manufacturing output has tended to fall in the most advanced economies, analysis of the competitiveness of this sector is still relevant. This is not only because of its decisive weight in trade performance, but also because of its interdependence with the rest of the productive branches and because it is here that most of the technological advances that are transmitted to the rest of the productive system are developed.

In the case of the Spanish economy, the overall trade results described above largely reflect the behaviour of manufacturing. These industries have an external deficit, which has tended to widen in recent years, at the same time as there has been a moderation in the capacity of exports to increase their presence on

CHART 3

**Technical characteristics of the productive process. Private sector** (a)

APPARENT LABOUR PRODUCTIVITY



TOTAL FACTOR PRODUCTIVITY



CAPITAL/LABOUR RATIO



Source: Banco de España, based on Ameco data.

CHART 4

**Expenditure on R&D** (a)

WHOLE ECONOMY



Source: Banco de España, based on ANBERD data.
(a) As a percentage of the value added at current prices of each sector.

tional markets, the result being a squeeze on their operating margins (14).

The lower growth of apparent productivity in manufacturing basically reflects the notable employment creation that has taken place in Spanish industry since the mid-1990s. However, the influence of other elements of a structural nature cannot be ruled out, including, in particular, the moderate effort made to incorporate technological progress, as inferred from the information compiled by the OECD on the R&D expenditure of this sector.
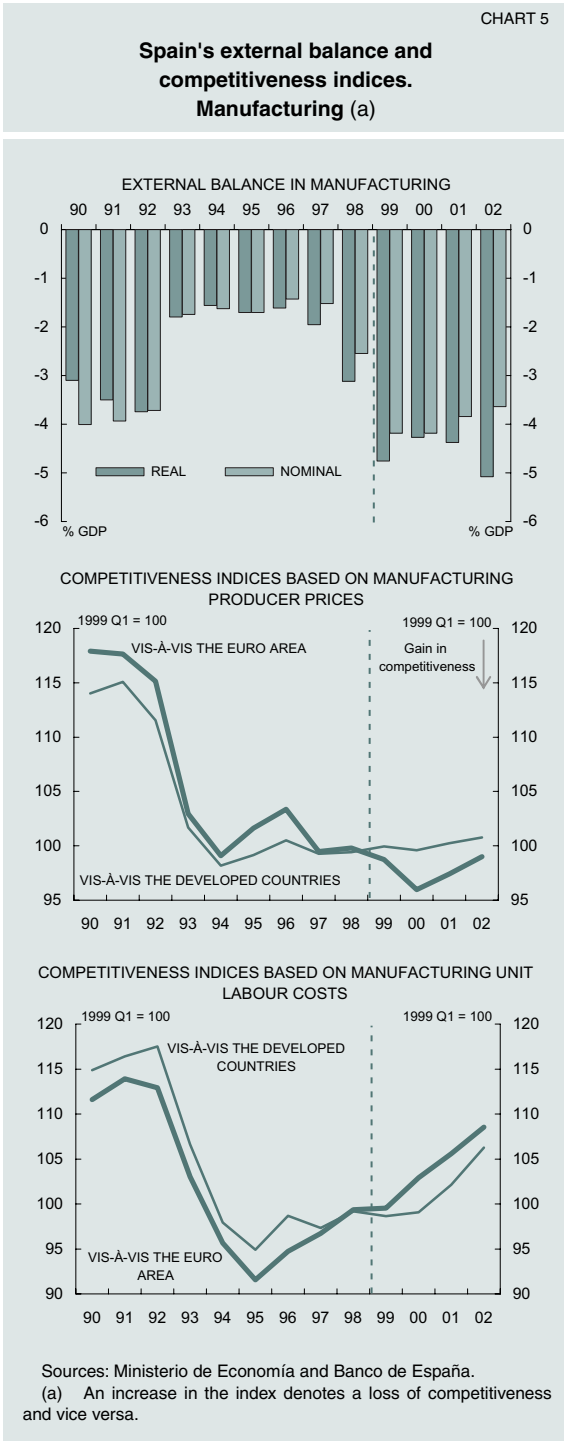
The pattern of productive and commercial specialisation of Spanish manufacturing indicates that, although its productive and export structure has moved closer to the European average in recent decades, owing to a shift towards activities with a higher technology content, the more traditional industries continue to account for a higher proportion of Spanish production and exports, in comparison with the EU, while the high-technology ones are smaller in size (15) (see Chart 7). Also, the high-technology industries, which are the main channel for the transmission of technological progress in countries, such as Spain, that have a smaller capacity to generate technology domestically, account for a smaller relative share of imports.

Against this background, the Spanish economy requires a further innovation drive, to draw

world markets with the intensity with which they did so in the past (see Chart 5).

With regard to competitiveness as measured by prices and costs, in recent years the unit labour costs of Spanish manufacturing have risen at higher rates than in the EU countries, as a result of higher growth of compensation per employee and lower productivity gains. And this has taken place in an increasingly competitive setting which, as mentioned above, obliges domestic producers of tradable goods to set their prices in line with those prevailing on interna-
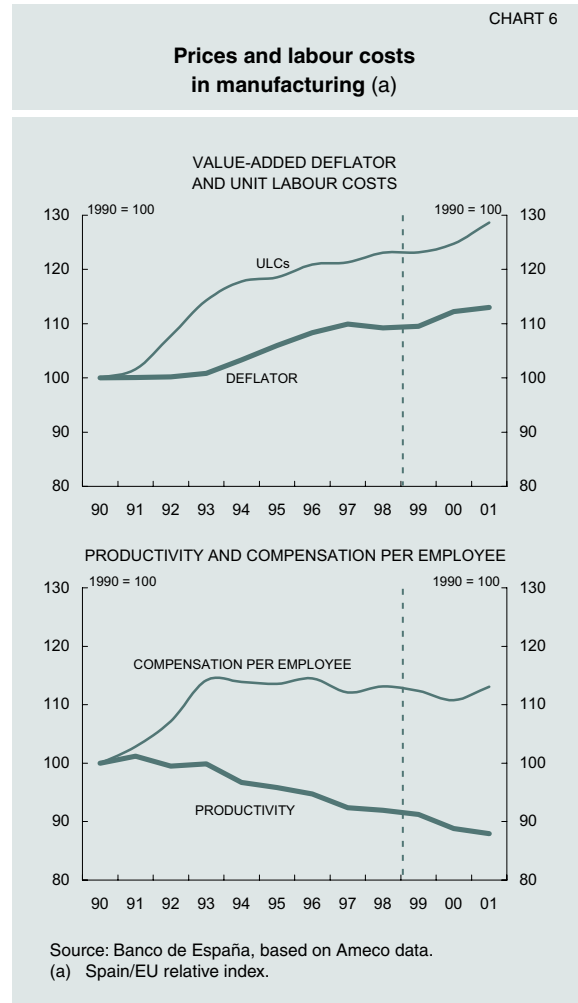
(14) Given the methodological differences involved in the international comparison of productivity levels in different sectors of the economy, as no appropriate conversion factor is available for every case, it was decided to include only rates of change in this paper.

(15) See Gordo, Gil and Pérez (2002 and 2003).

CHART 5

**Spain's external balance and
competitiveness indices.
Manufacturing** (a)

EXTERNAL BALANCE IN MANUFACTURING

COMPETITIVENESS INDICES BASED ON MANUFACTURING
PRODUCER PRICES

COMPETITIVENESS INDICES BASED ON MANUFACTURING UNIT
LABOUR COSTS

Sources: Ministerio de Economía and Banco de España.
(a)   An increase in the index denotes a loss of competitiveness
and vice versa.

CHART 6

**Prices and labour costs
in manufacturing** (a)

VALUE-ADDED DEFLATOR
AND UNIT LABOUR COSTS

PRODUCTIVITY AND COMPENSATION PER EMPLOYEE

Source: Banco de España, based on Ameco data.
(a)   Spain/EU relative index.

dustries, Spain has clearly been overtaken by the more recently industrialised countries. The capacity to attract foreign capital to this sector is also essential for its modernisation, given the role played by such investment when integrating technologically more innovative processes.

### 3.3.   The competitiveness of market services

The notable buoyancy of the market services sector in recent years has significantly boosted its share in the value added and employment of the economy as a whole, so that an analysis of its competitiveness is highly relevant. However, such an analysis faces a number of difficulties as the sector embraces a very diverse range of activities, with numerous particular features in terms of market structure, the degree of regulation, etc., and there is also an absence of comparable information at the international level on many of these aspects. Moreover, compared to merchandise, many services by their very nature have few possibilities of being sold abroad, so that the trade results may be a less useful indicator of their competitive position. However,
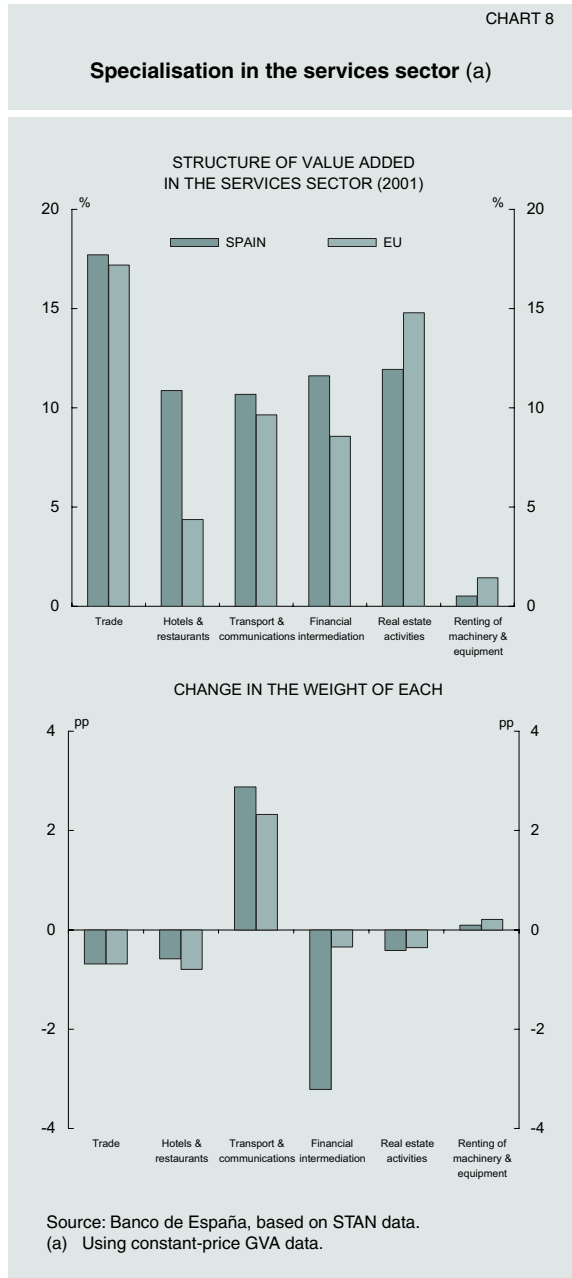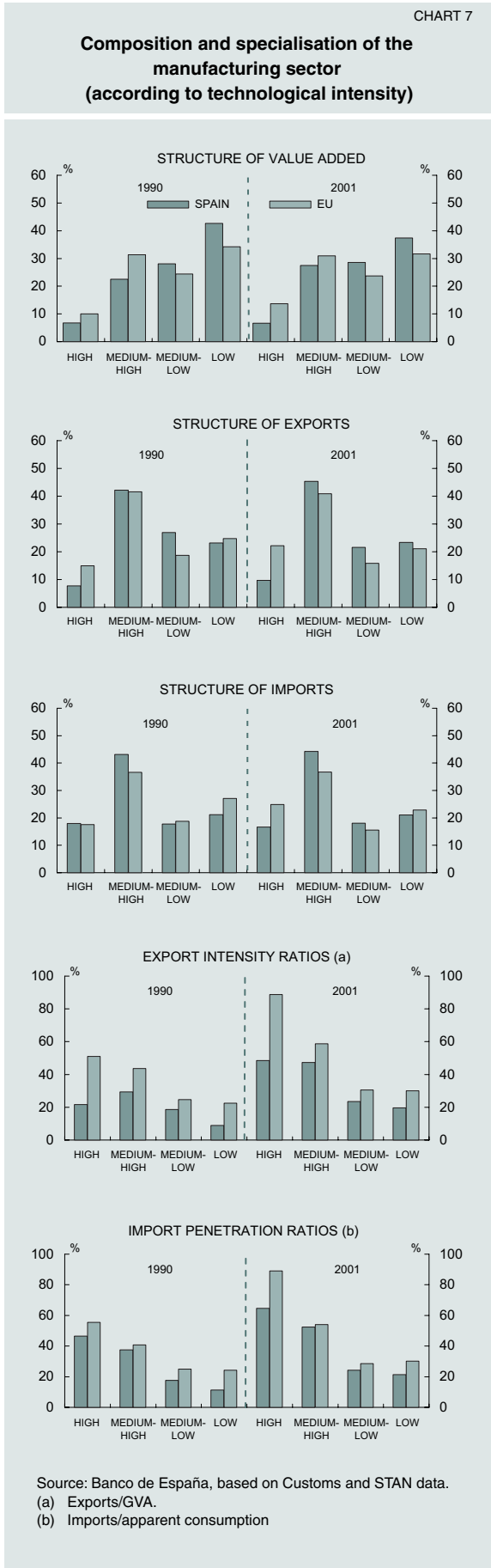
closer to the more advanced economies, insofar as the capacity to produce high-technology goods is concerned. Other industries, which generally face less buoyant international demand, as their products are more mature, also need to continue to modernise and to promote the adoption of more innovative technologies and the competitive advantages deriving from product differentiation. This is because, in the area of advantages based on an abundance of natural resources and cheap labour, which were the basis for the initial development of these in-

**Composition and specialisation of the manufacturing sector (according to technological intensity)**



STRUCTURE OF VALUE ADDED

STRUCTURE OF EXPORTS

STRUCTURE OF IMPORTS

EXPORT INTENSITY RATIOS (a)

IMPORT PENETRATION RATIOS (b)

Source: Banco de España, based on Customs and STAN data.
(a) Exports/GVA.
(b) Imports/apparent consumption

CHART 8

**Specialisation in the services sector** (a)



STRUCTURE OF VALUE ADDED
IN THE SERVICES SECTOR (2001)

CHANGE IN THE WEIGHT OF EACH

Source: Banco de España, based on STAN data.
(a)  Using constant-price GVA data.

it should be noted that the technological developments and the progress in the international liberalisation of services trade that have been made in recent years are changing this situation significantly.

As regards the pattern of productive specialisation, in comparison with the EU average, the services sector in the Spanish economy is dominated by the relative importance of tourism-related activities (in which Spain has natural and geographical advantages), while services most closely related to new technologies have a lower weight (see Chart 8). This pattern of specialisation partly explains the moderate growth of services productivity, since tourism is a very labour-intensive and highly mature sector. However, the

scant development of the services most related to the new technologies (where the largest increases in productivity at the international level are concentrated) and the lower degree of competition also contribute to this result.

Against this background, unit labour costs in the services sector have tended to increase at higher rates than in the EU, as can be seen in Chart 9. Both the lower growth of productivity and, in particular, the higher growth of compensation per employee have contributed to this outcome. However, unlike in manufacturing, domestic producers, sheltered by certain (legal and natural) barriers to competition in the sector, have passed through the higher increase in costs to final prices.

Given the importance of tourism in the Spanish productive structure and in determining the balance of payments, analysis of its competitiveness and its trade results is of particular interest. Estimates of the Spanish Tourism Satellite Account reveal that this activity contributed around 12% of GDP in 1999, being, as mentioned above, fundamental to the Spanish economy. Of this percentage, foreign tourism represents about 56%. Moreover, the balance of payments figures show the importance of the inflow of foreign tourists in offsetting trade imbalances, since tourism receipts represent more than 5% of GDP at current prices. Spain's share of international tourism, as measured both by the number of tourists received and by the nominal receipts, fluctuates around the 7% level, making Spain a leading international tourist destination (see Chart 10).

However, in contrast to its buoyancy in the second half of the 1990s, incoming tourism has slowed considerably over the last three years. Even though this can largely be explained by the uncertainty that has dominated the international scene, there are other factors that might jeopardise the competitive position in future. Notable among these are the inflation differential between the Spanish economy and the main areas tourists are drawn from, as well as its main competitor countries. In addition, studies tend to show up certain competitive weaknesses, relating to the predominance of small firms, with low-skilled labour forces and with a low degree of incorporation of technical progress. Although geography and climate will continue to be the main advantages on which the development of Spanish tourism is based, these shortcomings need to be corrected if the sustainability of this model is to be ensured. At the same time, there are still certain segments relating to the natural, historical and cultural wealth of the Spanish economy that have only just begun to be developed.

CHART 9

**Prices and labour costs
in the market services sector** (a)

VALUE ADDED DEFLATOR
AND UNIT LABOUR COSTS

PRODUCTIVITY AND COMPENSATION PER EMPLOYEE

Source: Banco de España, based on Ameco data.
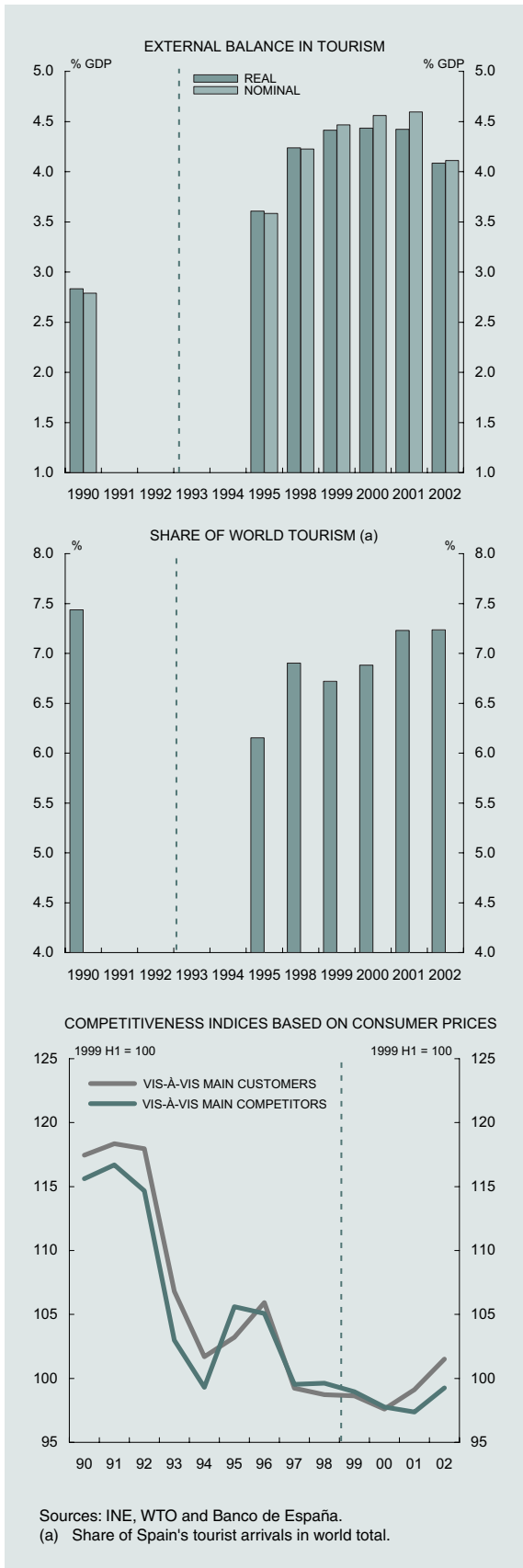(a) Spain/EU relative index.

Services other than tourism have, in recent years, undergone a process of increasing internationalisation. Thus, according to the balance of payments, and in line with developments in other countries, the share in real GDP of receipts and payments for the provision of international services doubled. As seen in Table 3, the Spanish economy has a trade deficit in this area. However, it has declined notably in recent years, as a result of the extraordinary buoyancy of sales abroad, which have more than offset the notable growth of imports. Among the most buoyant items are business services, which cover a wide range of transactions, including advertising services and market studies, research and development and legal, accounting, advisory, architectural, engineering, training services etc. The growth of these services is closely linked to the emergence of firms specialised in their provision, since previously they were obtained within the same productive unit. Meanwhile, in the case of *services relating to new technologies (*16) and *royalties and licence*

(16) These include Communications, IT and audiovisual services, and related services.

CHART 10

**Competitiveness indicators
for the tourist industry**



EXTERNAL BALANCE IN TOURISM

SHARE OF WORLD TOURISM (a)

COMPETITIVENESS INDICES BASED ON CONSUMER PRICES

Sources: INE, WTO and Banco de España.
(a) Share of Spain's tourist arrivals in world total.

*fees* (17), which cover activities relating to technology transfer, the Spanish economy has a structural deficit, which has worsened slightly in recent years.

## 4. CONCLUSIONS

This article presents a set of useful indicators for monitoring competitiveness and some of its main determinants. These cover both the more traditional aspects of analysis, relating to trade results and the behaviour of relative prices and costs, and also more structural aspects, which extend the analysis to the economy's levels of efficiency and welfare.

Among other results, it has been established that, from 1999, coinciding with the loss of the exchange rate as an adjustment factor, the positive growth differential of the Spanish economy's prices and costs with respect to those of its main competitors has tended to erode its competitive advantages and to reduce the relative profitability of the productive sectors exposed to international competition. This has helped to curb the growth of the share of Spanish products in international markets, which in turn, along with the penetration of foreign products in the domestic market, has led to a notable widening, in real terms, of the trade deficit. Despite this, in recent years the Spanish economy has continued to make progress towards attaining the levels of economic welfare that prevail in the more advanced EU economies, with a pattern of convergence that is permitting part of the unemployed labour force to be absorbed. This pattern, however, has certain risk factors that may jeopardise its continuity, notable among them being the insufficient level of capitalisation and the poor rate of productivity growth.

The analysis in this article shows that, despite the advances that have been made in recent years, the Spanish economy must intensify its efforts to incorporate technical progress and new technologies if it is to draw closer to other advanced economies. The pattern of productive specialisation, both in manufacturing and in services, shows a smaller share, relative to the EU average, for activities involving a more intensive use of technology. Also, certain differences persist in human capital skills, which are an essential element of competitiveness in many services activities, including tourism. All these factors help to explain the moderate productivity growth in the Spanish economy.

It can therefore be concluded that, in order to attain sustained growth rates in the medium term

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(17)   See the box in Chapter II of *The Spanish Balance of Payments,* 2002.

TABLE 3

**Structure of foreign trade in services**

| | Exports % nominal GDP | | | | Imports % nominal GDP | | | | Revealed comparative advantage indices (a) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1992 | | 2001 | | 1992 | | 2001 | | 1992 | | 2001 | |
| | Spain | EU | Spain | EU | Spain | EU | Spain | EU | Spain | EU | Spain | EU |
| **Total services** | **7.0** | **6.0** | **10.0** | **8.0** | **4.4** | **5.8** | **5.8** | **7.9** | **22.6** | **1.4** | **26.3** | **0.3** |
| Tourism | 4.6 | 1.8 | 5.6 | 2.2 | 1.2 | 1.8 | 1.0 | 2.2 | 60.0 | 1.3 | 69.2 | 0.1 |
| Transport | 1.0 | 1.5 | 1.5 | 1.8 | 1.1 | 1.5 | 1.5 | 1.8 | -2.9 | -1.3 | -0.3 | 0.6 |
| Other services | 1.4 | 2.7 | 2.9 | 3.9 | 2.2 | 2.5 | 3.3 | 3.9 | -22.2 | 3.0 | -6.8 | 0.3 |
| *Of which:* | | | | | | | | | | | | |
| Related to new technologies (b) | 0.1 | 0.2 | 0.6 | 0.5 | 0.4 | 0.2 | 0.6 | 0.5 | -46.1 | -14.5 | -2.5 | 0.0 |
| Construction services | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 | 0.0 | 0.2 | 6.2 | 18.1 | 52.3 | 14.3 |
| Financial services and insurance | 0.4 | 0.4 | 0.4 | 0.7 | 0.3 | 0.4 | 0.4 | 0.5 | 20.8 | 7.0 | 4.5 | 24.7 |
| Business services | 0.6 | 1.2 | 1.6 | 2.0 | 1.0 | 1.2 | 1.9 | 2.2 | -22.4 | 0.1 | -9.1 | -3.3 |
| Royalties and licence fees | 0.0 | 0.1 | 0.1 | 0.3 | 0.2 | 0.2 | 0.3 | 0.4 | -82.5 | -23.3 | -64.3 | -21.8 |

Sources: Eurostat and Banco de España.
(a)  IVCRi=(Xi-Mi)/(Xi+Mi)x100, where Xi and Mi are, respectively, the exports and imports of branch i.
(b)  Communications, information and audiovisual services.

and to remain on the current path of real convergence, productive efficiency needs to be improved, so that a high level of employment creation is compatible with increases in productivity. To do this, the Spanish economy needs to intensify the absorption and diffusion of technical progress and new technologies and to continue to enhance its human capital. In this respect, the changes still required to the business and competitive environment to stimulate high rates of innovation and human capital enhancement are particularly important. The forthcoming extension of the EU is an additional challenge for the Spanish economy, given that we will have to compete with a group of countries whose productive structures and factor endowments are similar to those of the Spanish economy.

19.9.2003.

### REFERENCES

BANCO DE ESPAÑA (2002): *The Spanish Balance of Payments.*

COMMISSION OF THE EUROPEAN COMMUNITIES (2001). *European Competitiveness Report.*

— (2002). *European Competitiveness Report.*

DURAND, M. and C. GIORNO (1987). «Indicators of international competitiveness: conceptual aspects and evaluation», OECD Economic Studies 9, pp. 147-182.

FAGERBERG, J., and B. VERSPAGEN (2000). *Productivity, R&D spillovers and trade,* in B. van Ark, S.K. Kuipers and G.H. Kuper (eds.), *Productivity, Technology and Economic Growth,* Kluwer Academic Publishers, Dordrecht, pp. 345-360.

GORDO, E., M. GIL and M. PÉREZ (2003). «The effects of economic integration on the specialisation and geographical distribution of industrial activity in the EU countries», Banco de España, *Economic Bulletin*, January, pp. 77-87.

— (2003). «La industria manufacturera española en el contexto europeo, *Boletín Económico del Banco de España*, March, pp. 33-48.

GORDO, E. and P. L'HOTELLERIE (1993). *La competitividad de la industria en una perspectiva macroeconómica.* Working Paper no 9328, Directorate General Economics, Statistics and Research, Banco de España.

HERNANDO I. and S. NÚÑEZ. *The contribution of ICT to economic activity: a growth accounting exercise with Spanish firm level data.* Working Paper 0203, Directorate Economics, Statistics and Research, Banco de España.

INTERNATIONAL INSTITUTE FOR MANAGEMENT AND DEVELOPMENT (2003). *The world competitiveness yearbook.* Lausanne.

KRUGMAN, P. (1996). «Making sense of the competitiveness debate», *Oxford Review of Economic Policy*, vol. 12, no. 3.

— (1994). «Competitiveness: a dangerous obsession». *Foreign Affairs*, vol. 73, no. 2.

NICOLETTI, G., S. SCARPETTA and O. BOYLAND (2000): *Summary indicators of product market regulation with an extension to employment protection legislation,* OECD Working Papers no. 226.

OECD (2001a): *Measuring the information economy*, Paris.

- (2001b). *Education at a glance*, Paris.

Porter, M. (1990). «The competitive advantage of nations», *Harvard Business Review,* March–April, pp. 73–91.

- (2002). «Enhancing the microeconomic foundations of prosperity: the current competitiveness index», in *The Global Competitiveness Report 2001-2002*, World Economic Forum, Oxford University Press, New York.

World Economic Forum (2002). *The Global Competitiveness Report 2001-2002,* Oxford University Press, New York.