

Real estate, renting and R&D



Like the business services enterprises covered in the previous chapter, R&D enterprises enable their clients to focus on their own activities and reduce the need to occupy their own personnel with ancillary or supporting tasks. In a similar fashion, renting and leasing services could be used to increase financial flexibility, including the need to commit own capital. While research and development enterprises provide essentially business services, a large part of real estate, renting and leasing services are provided to households. The services included in the present chapter are covered by the directive on services in the internal market - see Chapter 22 for more information.

STRUCTURAL PROFILE

Value added generated by the 1.1 million enterprises active in the EU-27's real estate, renting and R&D sector (NACE Divisions 70, 71 and 73) was EUR 304 billion in 2004 and there were 3.5 million persons employed in these activities (see Table 23.1). As such, the real estate, renting and R&D sector accounted for 6.0 % of value added in the non-financial business economy (NACE Sections C to I and K), but less than half this much in terms of employment, just 2.8 %. Real estate (NACE Division 70) accounted for close to three quarters (72.4 %) of the sector's value added and a slightly smaller share of employment (71.4 %). Renting and leasing (NACE Division 71) generated more than one fifth (21.5 %) of the sector's value added and also had a smaller

share in employment terms (17.1 %). Consequently, research and development (R&D) activities' (NACE Division 73) share of sectoral employment was considerably greater than its share of value added, contributing 11.1 % of those employed and just over half this level (6.1 %) in terms of sectoral value added.

Germany, with EUR 77.2 billion of value added, accounted for the largest share (25.4 %) of the EU-27's real estate, renting and R&D sector in 2004 (see Table 23.2). The United Kingdom generated EUR 59.8 billion of value added and was the second largest contributor with a 19.7 % share. The only other Member States with more than one tenth of EU-27 value added were France (14.8 %) and Spain (10.5 %). In terms of its contribution to value added in the non-financial business economy, the real estate, renting and R&D sector represented 11.2 % of the total in Denmark, 8.7 % in Sweden and 8.2 % in Estonia ⁽¹⁾. At the other end of the spectrum, these activities accounted for 1.3 % of non-financial business economy value added in Bulgaria and 1.6 % in Slovenia. In most Member States real estate, renting and R&D accounted for a smaller proportion of non-financial business economy employment than of value added, the only exception being Latvia.

⁽¹⁾ Ireland, Greece, Cyprus, Luxembourg and Malta, not available.

In this chapter, the term 'real estate, renting and R&D' is used to refer to the aggregate of three activities: real estate services (NACE Division 70), renting and leasing (NACE Division 71) and research and development (NACE Division 73), each of which are covered in turn in a subchapter. As well as these three divisions, NACE Section K also covers computer services (NACE Division 72) and other business activities (NACE Division 74) which together form Chapter 22 Business services.

NACE

- 70: real estate activities;
- 70.1: real estate activities with own property;
- 70.2: letting of own property;
- 70.3: real estate activities on a fee or contract basis;
- 71: renting of machinery and equipment without operator and of personal and household goods;
- 71.1: renting of automobiles;
- 71.2: renting of other transport equipment;
- 71.3: renting of other machinery and equipment;
- 71.4: renting of personal and household goods n.e.c.;
- 73: research and development;
- 73.1: research and experimental development on natural sciences and engineering;
- 73.2: research and experimental development on social sciences and humanities.

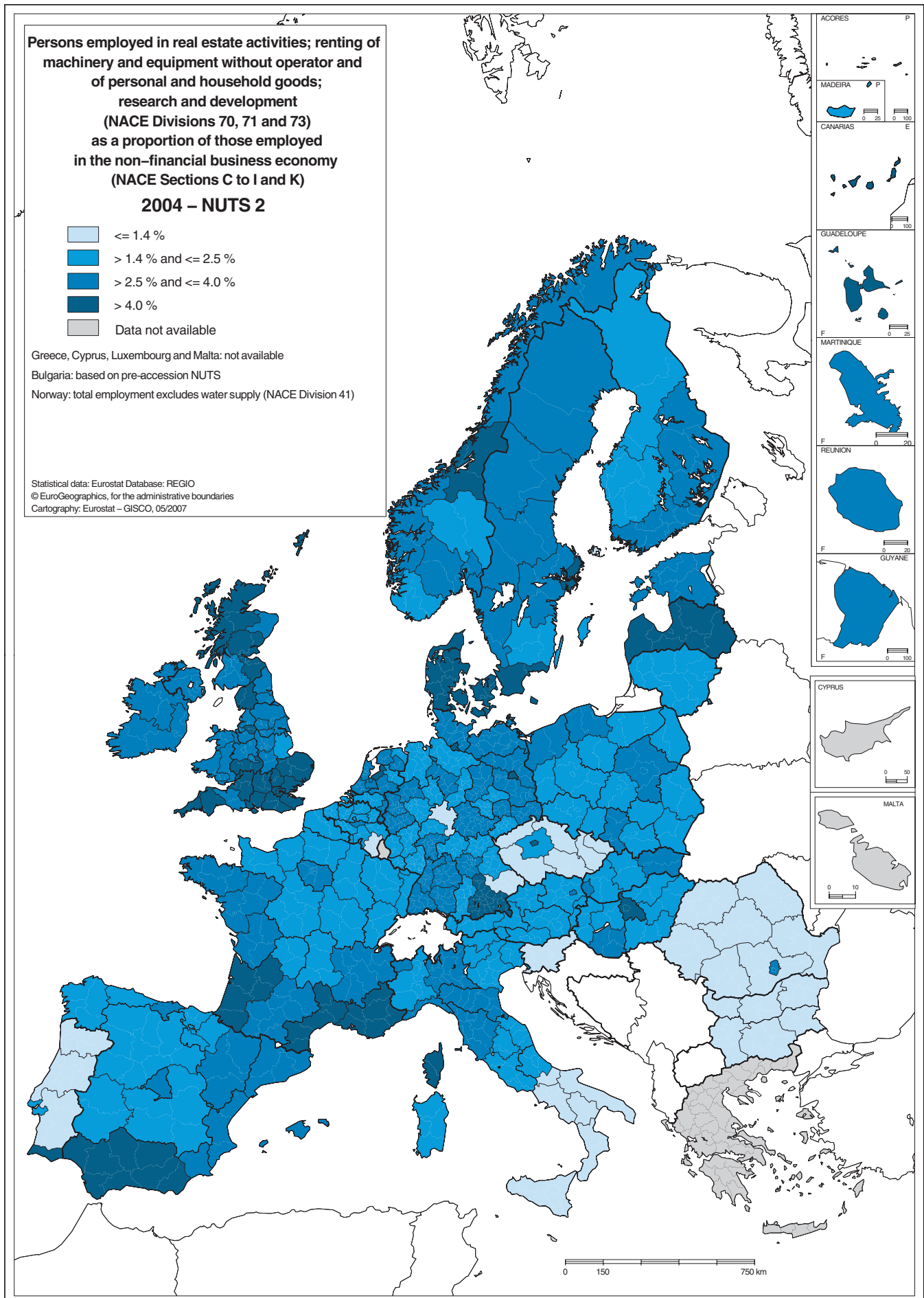


Table 23.1

**Real estate, renting and research and development (NACE Divisions 70, 71 and 73)
Structural profile, EU-27, 2004 (1)**

	No. of enterprises		Turnover		Value added		Employment	
	(thousands)	(% of total)	(EUR million)	(% of total)	(EUR million)	(% of total)	(thousands)	(% of total)
Real estate, renting and research and development	1 072.0	100.0	620 000	100.0	304 000	100.0	3 500.0	100.0
Real estate activities	897.8	83.7	460 000	74.2	220 000	72.4	2 500.0	71.4
Renting and leasing	137.0	12.8	126 310	20.4	65 498	21.5	598.4	17.1
Research and development	37.2	3.5	37 000	6.0	18 400	6.1	390.0	11.1

(1) Rounded estimates based on non-confidential data.

Source: Eurostat (SBS)

Table 23.2

**Real estate, renting and research and development (NACE Divisions 70, 71 and 73)
Structural profile: ranking of top five Member States, 2004**

Rank	Value added (EUR million) (1)	Employment (thousands) (1)	Share of non-financial business economy			
			No. of enterprises (2)	Turnover (3)	Value added (3)	Employment (3)
1	Germany (77 177)	United Kingdom (740.1)	Latvia (17.7 %)	Spain (5.3 %)	Denmark (11.2 %)	Latvia (6.0 %)
2	United Kingdom (59 763)	Germany (551.2)	Denmark (12.4 %)	Sweden (5.0 %)	Sweden (8.7 %)	United Kingdom (4.1 %)
3	France (44 977)	France (447.3)	Luxembourg (11.7 %)	France (3.9 %)	Estonia (8.2 %)	Denmark (4.0 %)
4	Spain (31 888)	Spain (412.4)	Germany (11.5 %)	Denmark (3.6 %)	Germany (7.2 %)	Sweden (3.6 %)
5	Italy (16 619)	Italy (321.8)	Estonia (9.4 %)	Netherlands (3.5 %)	Netherlands (7.1 %)	Estonia (3.4 %)

(1) Greece, Cyprus, Luxembourg and Malta, not available.

(2) Ireland, Greece, Cyprus and Malta, not available; Luxembourg, 2003.

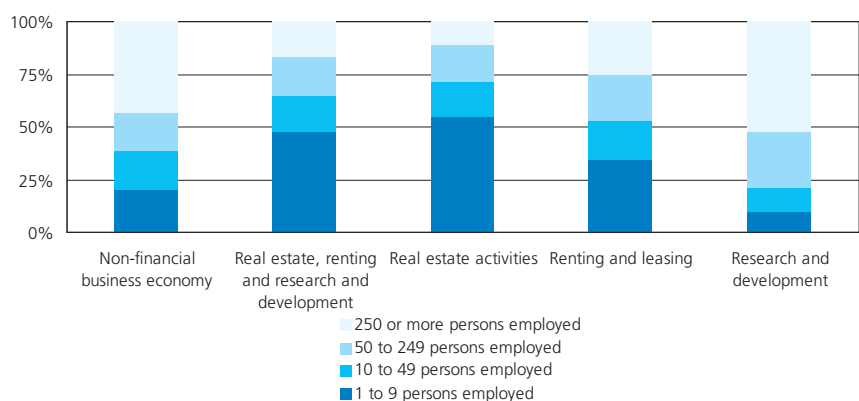
(3) Ireland, Greece, Cyprus, Luxembourg and Malta, not available.

Source: Eurostat (SBS)

The regional specialisation of the real estate, renting and R&D sector is shown in the map on page 394 which is based on the non-financial business economy employment share of this sector. The most specialised regions (at the level of detail shown in the map) were inner London and Latvia (the latter considered as one region at the level of detail in the map). Many other regions in the United Kingdom were specialised in this sector, particularly in southern England and central Scotland.

A breakdown of EU-27 value added in the real estate, renting and R&D sector shows that small and medium-sized enterprises (SMEs, with less than 250 persons employed) generated 83.1 % of the total added value in 2004 (see Figure 23.1), a much higher proportion than the non-financial business economy average (57.0 %). Micro enterprises (with less than 10 persons employed) alone contributed 47.7 % of the added value in this sector, more than double the non-financial business economy average of 20.2 %. Nevertheless, the size class structures of the three subsectors covered in Subchapters 23.1 to 23.3 were quite different from each other. The dominance of micro enterprises was particularly pronounced for real estate services where they generated more than half of the value added (54.7 %), whereas the micro enterprises' share was notably lower (but still well above the non-financial business economy average) for renting and leasing activities

Figure 23.1

**Real estate, renting and research and development (NACE Divisions 70, 71 and 73)
Share of value added by enterprise size class, EU-27, 2004**


Source: Eurostat (SBS)

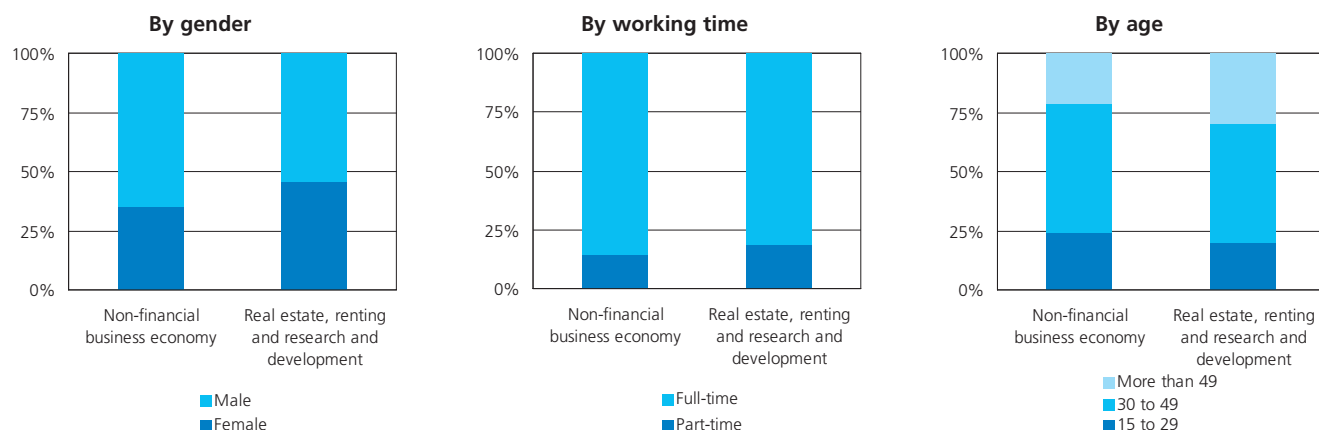
(35.1 %); these were respectively the highest and third highest value added contributions of micro enterprises among the non-financial business economy NACE divisions (2) in 2004. In the EU-27's research and development subsector the micro enterprise contribution to value added was very low (9.8 %), as large enterprises dominated the sector generating 52.5 % of value added and employing 46.0 %

of the workforce in 2004. Medium-sized enterprises (with 50 to 249 persons employed) were also relatively important in this subsector, their 26.5 % contribution to value added being among the highest shares recorded across the non-financial business economy NACE divisions in 2004, lower only than some of the industrial (NACE Sections C to E) NACE divisions.

(2) NACE Divisions 10 to 14, 16, 23 and 62, not available.

Figure 23.2

Real estate, renting and research and development (NACE Divisions 70, 71 and 73) Labour force characteristics, EU-27, 2006



Source: Eurostat (LFS)

EMPLOYMENT CHARACTERISTICS

The characteristics of the real estate, renting and R&D sector's workforce in the EU-27 was those of a fairly typical services sector, in that the shares of male workers and full-time workers were below the non-financial business economy average. Nevertheless, a more complex picture is revealed when analysing the individual NACE divisions that make up the sector. In 2006, according to the Labour Force Survey (see Figure 23.2), 54.4 % of the persons employed in the sector as a whole were male, some 10.6 percentage points lower than the non-financial business economy average (65.0 %). However, the proportion of male workers within the renting and leasing subsector was higher at 69.7 %, while it was as low as 50.6 % in the real estate subsector. The workforce in the research and development subsector was characterised by a high proportion of full-time employment (87.2 %), the only one of the three subsectors where this proportion was higher than the non-financial business economy average (85.6 %).

In terms of age profile, there was a much higher proportion of the real estate, renting and R&D workforce that were aged 50 or over (29.8 %) than the average for the non-financial business economy (21.6 %). This difference reflects, to a large degree, the fact that over one third (34.2 %) of workers in real estate services were aged 50 or more in 2006, while in the renting and leasing subsector the proportion (18.3 %) was in fact below the non-financial business economy average.

According to structural business statistics the share of paid employees in the total number of persons employed was just 74.3 % in the EU-27's real estate, renting and R&D sector in 2004, some 11.9 percentage points below the non-financial business economy average. A great diversity in this share was recorded across the three activities that make up this sector, ranging from 69.2 % for real estate, through 83.6 % for renting and leasing, to a high of 92.6 % for the research and development activities.

COSTS, PRODUCTIVITY AND PROFITABILITY

The three subsectors within the real estate, renting and R&D sector were all relatively capital intensive services, but to quite different degrees (see Figure 23.3). In 2004 gross tangible investment in the renting and leasing subsector was equivalent to 45.4 % of total expenditure in the EU-27, while in the real estate services subsector the share was 28.8 %: these were the two highest shares of tangible investment among all of the non-financial business economy NACE divisions⁽³⁾ in 2004. Even in the research and development subsector, where at 7.9 % this ratio was noticeably lower than for the other subsectors covered in this chapter, it was still well above the non-financial business economy average of 4.9 %.

⁽³⁾ NACE Divisions 10, 12 and 13, not available.

Table 23.3

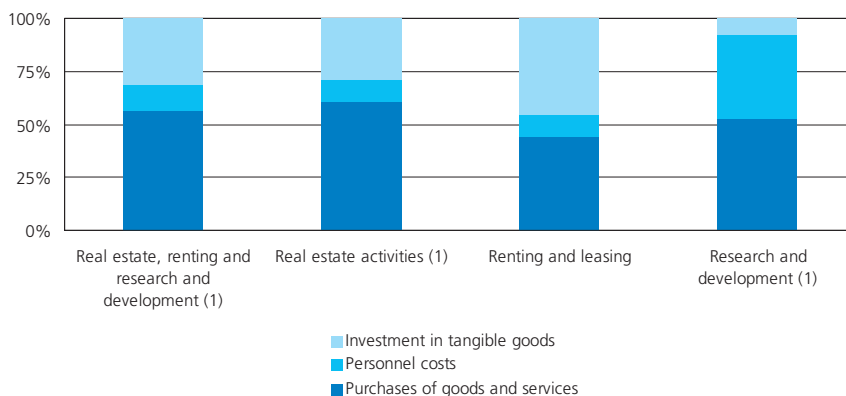
Real estate, renting and research and development (NACE Divisions 70, 71 and 73) Productivity and profitability, EU-27, 2004

	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
Real estate, renting and research and development (1)	87.0	31.0	280.0	35.8
Real estate activities (1)	88.0	28.1	315.0	37.0
Renting and leasing	109.5	28.9	378.4	40.4
Research and development (1)	46.9	47.1	99.0	3.4

(1) Rounded estimate based on non-confidential data.

Source: Eurostat (SBS)

Figure 23.3
Real estate, renting and research and development (NACE Divisions 70, 71 and 73)
Structure of expenditure, EU-27, 2004



(1) Rounded estimates based on non-confidential data.
 Source: Eurostat (SBS)

In 2004, apparent labour productivity for the EU-27 real estate, renting and R&D sector was around EUR 87 000 per person employed, more than double the non-financial business economy average of EUR 40 900. This productivity measure was notably lower in the research and development subsector where it was EUR 46 900.

Average personnel costs were also high, but not to the same extent: around EUR 31 000 per employee in real estate, renting and R&D compared with EUR 27 600 for non-financial business economy. In contrast to productivity, average personnel costs for the research and development subsector were significantly higher, at EUR 47 100 per employee.

For the sector as a whole, the combination of particularly high apparent labour productivity and slightly higher than average personnel costs led to a wage adjusted labour productivity ratio of 280.0 % in 2004 for the EU-27, well above the non-financial business economy average (148.0 %). This ratio was highest for the renting and leasing subsector (378.4 %) and a little lower in the real estate subsector (315.0 %), and as such these two subsectors recorded the second and fourth highest wage adjusted labour productivity ratios among the non-financial business economy NACE divisions ⁽⁴⁾. For the research and development subsector, high average personnel costs outstripped the apparent labour productivity resulting in a wage adjusted labour productivity ratio of 99.0 %, the only non-financial business economy NACE division in which this ratio was below 100 %.

⁽⁴⁾ NACE Divisions 10, 12 to 14, 23 and 62, not available.

The gross operating rate shows the percentage relationship between the gross operating surplus (value added minus personnel costs) and turnover. The gross operating rate of the EU-27's real estate, renting and R&D sector was 35.8 % in 2004, more than three times as high as the non-financial business economy average of 11.0 %. This rate was particularly high for the renting and leasing (40.4 %) and real estate (37.0 %) subsectors, while it was just 3.4 % in the research and development subsector: these were respectively the two highest, and the lowest levels for this rate among the non-financial business economy NACE divisions ⁽⁵⁾ in 2004. Care has to be taken with the ratios based on value added for the renting and leasing subsector, as in this subsector the activity of enterprises is to own a good that is then rented or leased out to customers, and financial costs and depreciation charges may constitute the main element of total costs; a similar situation is true for some parts of the real estate sector (letting of own property). These financial costs and depreciation charges are not considered when calculating gross value added and the gross operating surplus. In addition, changes in price levels on the property market have a large impact on the turnover and value added in real estate agencies (which operate on commission).

⁽⁵⁾ NACE Divisions 10, 12 and 62, not available.

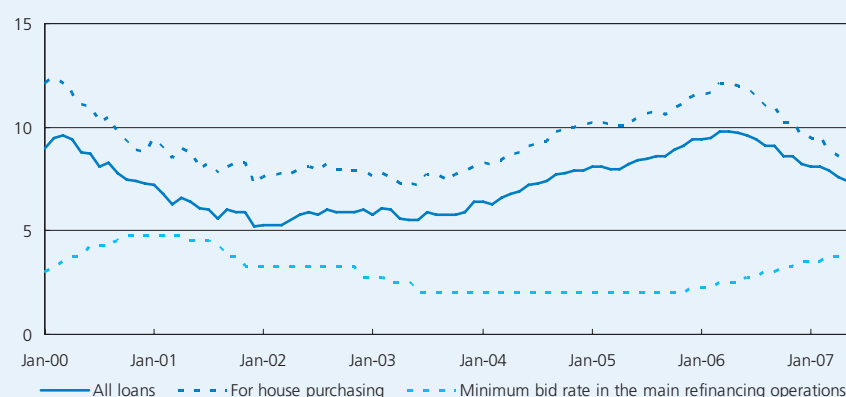
23.1: REAL ESTATE SERVICES

Within NACE, real estate services are covered by Division 70, which is classified alongside a range of business services within NACE Section K. However, some parts of the activity have a close relationship with the construction sector (Chapter 15) and others with architectural activities (Subchapter 22.3).

The activities of real estate services are very diverse: real estate agents sell on a commission basis; traders buy and sell property; surveyors, valuers, facilities and estate managers provide professional services; and finally owners let property. Most of these activities are related to the secondary market concerned with existing property, although some, such as property developers are active in the primary market and are therefore more closely related to construction. The wide range of real estate service activities have very different cost structures and revenue streams and care has to be taken when comparing them, particularly when trying to measure the size of each subsector or their labour productivity. In particular, when enterprises are the owner of a good that they rent or lease, their financial costs and depreciation charges may constitute the main element of their total costs, but these are not considered when calculating gross value added, the gross operating surplus or indicators of productivity or profitability that are based on these.

One indicator of the level of activity in the residential property market is lending for house purchases. Data from the European Central Bank (ECB) shown in Figure 23.4 indicate how the stock of such lending, was increasing at a progressively stronger rate throughout the period 2003 to 2005, and peaked at 12.1 % in March and April 2006; since when the rate of growth slowed mirroring the increase in interest rates that started in December 2005.

Figure 23.4
Annual growth rate for stocks of loans by MFIs to households and individual enterprises, euro area (%)



Source: European Central Bank (ECB)

STRUCTURAL PROFILE

There were almost 900 000 enterprises active in the EU-27's real estate services sector in 2004. Together they generated EUR 220 billion of value added and employed 2.5 million persons. As such, their contributions to real estate, renting and R&D was 72.4 % in terms of value added and 71.4 % of employment, making real estate services by far the largest of the three activities presented in Subchapters 23.1 to 23.3.

The largest real estate services' sector in the EU-27 was found in Germany (25.3 % of the EU-27 total), followed by the United Kingdom (17.0 %), France (14.5 %) and Spain (12.0 %) - see Table 23.4. As a proportion of value added in the non-financial business economy, the real estate services sector in 2004 was largest⁽⁶⁾ in Denmark, Sweden and Estonia (all in excess of 7 %), while it was smallest in Bulgaria, Slovenia and Romania (all just over 1 %).

⁽⁶⁾ Ireland, Greece, Cyprus, Luxembourg and Malta, not available.

COSTS, PRODUCTIVITY AND PROFITABILITY

In 2004 gross tangible investment in the real estate services sector was equivalent to 28.8 % of total expenditure in the EU-27, the second highest share of tangible investment among all of the non-financial business economy NACE divisions⁽⁷⁾ in 2004, underlying the capital intensive nature of some parts of the sector; the share of tangible investment exceeded 50 % in Denmark, Romania and Austria. The share of personnel costs in operating and tangible investment expenditure was just 10.2 % in real estate services, only three fifths of the average share for the non-financial business economy (16.4 %).

⁽⁷⁾ NACE Divisions 10, 12 and 13, not available.

Table 23.4

Real estate activities (NACE Division 70)

Structural profile: ranking of top five Member States, 2004

Rank	Share of EU-27 value added (%) (1)	Share of EU-27 employment (%) (1)	Value added specialisation ratio (EU-27=100) (2)	Employment specialisation ratio (EU-27=100) (2)
1	Germany (25.3)	United Kingdom (18.5)	Denmark (233.4)	Latvia (256.7)
2	United Kingdom (17.0)	Germany (15.3)	Sweden (174.0)	Denmark (161.0)
3	France (14.5)	France (13.0)	Estonia (167.8)	Estonia (149.9)
4	Spain (12.0)	Spain (12.6)	Spain (133.4)	Sweden (132.8)
5	Italy (5.8)	Italy (10.4)	Germany (120.8)	United Kingdom (128.6)

(1) Greece, Cyprus, Luxembourg and Malta, not available.

(2) Ireland, Greece, Cyprus, Luxembourg and Malta, not available.

Source: Eurostat (SBS)

As noted in the overview, 69.2 % of those persons employed in the EU-27's real estate sector were paid employees, the lowest share among the activities covered in Subchapters 23.1 to 23.3, and some 17.0 percentage points below the non-financial business economy average. Average personnel costs in real estate services were EUR 28 100 per employee in the EU-27 in 2004. In the majority of the Member States ⁽⁸⁾, average personnel costs were close to the national non-financial business economy average, with only the Netherlands recording average personnel costs that were notably higher. Apparent labour productivity was EUR 88 000 per person employed for real estate services in the EU-27 in 2004. The

combination of high apparent labour productivity yet typical average personnel costs resulted in a very high EU-27 wage adjusted labour productivity ratio of 315.0 %, which was more than twice as high as the non-financial business economy average (148.0 %). Only Latvia recorded a wage adjusted labour productivity ratio lower in real estate services (218.0 %) than in its non-financial business economy average (230.1 %), while Denmark recorded the highest ratio (651.4 %) in this sector among the Member States, which was four times higher than the average for the Danish non-financial business economy (163.1 %). Alongside the high wage adjusted labour productivity ratio, real estate services

recorded a high gross operating rate: the gross operating surplus of EUR 170.0 billion was equivalent to 37.0 % of turnover in the EU-27 in 2004; which was 3.4 times as high as the average for the non-financial business economy (11.0 %). Indeed, the gross operating rate for real estate services was the second highest recorded for any NACE division ⁽⁹⁾ in the non-financial business economy ⁽¹⁰⁾, just 3.4 percentage points below the level for renting and leasing activities (see the next subchapter).

⁽⁹⁾ NACE Divisions 10, 12 and 62, not available.

⁽¹⁰⁾ NACE Divisions 50 to 52, 2002.

⁽⁸⁾ Ireland, Greece, Cyprus, Luxembourg and Malta, not available.

23.2: RENTING AND LEASING

This subchapter covers the activities of renting of machinery and equipment without operators and the renting of personal and household goods (NACE Division 71). The most important items that are rented or leased include transport equipment (motor vehicles, ships, aircraft, etc.) and agricultural, construction or office equipment. It should be noted that a distinction is generally made between operational leasing (or long-term rental), which is included in this subchapter, and financial leasing which is considered as a special form of credit granting and is hence covered as part of the financial services sector (see Chapter 24). The renting and leasing of real estate is covered in Subchapter 23.1.

In general, durable goods can be purchased, leased or rented. In the case of leasing, the two parties involved in the transaction are the lessor and the lessee (the person or enterprise that uses the good in leasing). In exchange for the transfer of user rights, the lessor receives payments. Leasing, contrary to renting, often foresees the possibility of the acquisition of the good at the end of the leasing term; renting is also usually for shorter periods than leasing.

Table 23.5
Renting and leasing (NACE Division 71)
Structural profile, EU-27, 2004

	No. of enterprises (thousands)	Turnover (EUR million)	Value added (EUR million)	Employment (thousands)
Renting and leasing	137.0	126 310	65 498	598.4
Renting of automobiles; renting of other transport equipment	34.1	66 948	34 318	171.1
Renting of other machinery and equipment	60.7	45 071	24 507	257.5
Renting of personal and household goods n.e.c.	42.3	14 291	6 674	169.8

Source: Eurostat (SBS)

STRUCTURAL PROFILE

Value added in EU-27 renting and leasing activities (NACE Division 71) was EUR 65.5 billion in 2004, of which 25.9 % was generated in Germany, 25.2 % in the United Kingdom and 16.5 % in France, a combined share of 67.6 % compared with a 54.0 % share for the same three Member States in non-financial business economy (NACE Sections C to I and K) value added. In 2004, EU-27 value added in renting and leasing activities accounted for 21.5 % of the wealth generated by real estate, renting and R&D (NACE Divisions 70, 71 and 73). The renting and leasing workforce of 598 400 persons employed represented 17.1 % of the real estate, renting and R&D workforce; the workforce was spread across 137 000 enterprises whose main activity was classified within renting and leasing.

The renting of transport equipment (NACE Groups 71.1 and 71.2) generated EUR 34.3 billion of value added in the EU-27 in 2004, while the renting of other machinery and equipment (NACE Group 71.3) generated EUR 24.5 billion, with the renting of personal and household goods (NACE Group 71.4) clearly the smallest subsector with value added of EUR 6.7 billion (Table 23.5). The renting of transport equipment, and the renting of personal and household goods each employed around 170 000 persons, while the workforce in the renting of other machinery and equipment subsector was larger, at around a quarter of a million strong.

Table 23.6

Renting and leasing (NACE Division 71)

Structural profile: ranking of top five Member States, 2004

Rank	Share of EU-27 value added (%) (1)	Share of EU-27 employment (%) (1)	Value added specialisation ratio (EU-27=100) (2)	Employment specialisation ratio (EU-27=100) (2)
1	Germany (25.9)	United Kingdom (29.5)	Austria (148.3)	United Kingdom (204.7)
2	United Kingdom (25.2)	France (14.5)	Luxembourg (136.0)	Spain (128.8)
3	France (16.5)	Germany (13.4)	United Kingdom (133.4)	France (126.7)
4	Spain (7.2)	Spain (13.2)	Germany (123.7)	Netherlands (118.1)
5	Netherlands (5.5)	Italy (6.1)	Netherlands (118.8)	Denmark (105.9)

(1) Greece and Malta, not available; Luxembourg, 2003.

(2) Ireland, Greece, Cyprus and Malta, not available; Luxembourg, 2003.

Source: Eurostat (SBS)

Austria was particularly specialised in the renting and leasing sector ⁽¹¹⁾, which accounted for 1.9 % of value added in the Austrian non-financial business economy in 2004. The three largest Member States in this sector (Germany, the United Kingdom and France), as well as the Benelux Member States were also relatively specialised, each generating at least 1.5 % of their national non-financial business economy value added in the renting and leasing sector. In these terms, Slovenia was the least specialised Member State in this sector, as value added from renting and leasing activities contributed less than 0.1 % of Slovenian non-financial business economy value added.

An analysis of the three subsectors shows that the renting of transport equipment accounted for 70 % or more of the renting and leasing sector's total value added in Cyprus, Portugal and the Netherlands. In Sweden, Bulgaria and Latvia the renting of other machinery and equipment subsector generated 60 % or more of sectoral value added, while only in the small Slovenian renting and leasing sector was the renting of personal and household goods the largest subsector, with a 43.1 % share of Slovenian renting and leasing value added.

⁽¹¹⁾ Luxembourg, 2003; Ireland, Greece, Cyprus and Malta, not available.

COSTS, PRODUCTIVITY AND PROFITABILITY

The share of gross tangible investment in total expenditure for the renting and leasing sector was 45.4 % in the EU-27 in 2004, by some way the highest value for this indicator across the non-financial business economy NACE divisions ⁽¹²⁾. This share was over 60 % in Austria, the Netherlands and Portugal. Among the three subsectors that make up the renting and leasing sector, the share of gross tangible investment in total expenditure varied considerably, ranging from 17.6 % for the renting of personal and household goods n.e.c. to 55.2 % for the renting of automobiles; renting of other transport equipment.

Reflecting this high level of use of capital, apparent labour productivity for EU-27 renting and leasing activities soared to EUR 109 500 per person employed in 2004 (Table 23.7). This ratio was particularly high for the renting of transport equipment subsector at EUR 200 600 per person employed, and lowest for the renting of personal and household goods subsector at EUR 39 300, which was just below the non-financial business economy average.

⁽¹²⁾ NACE Divisions 10, 12 and 13, not available.

Personnel costs averaged EUR 28 900 per employee in the renting and leasing sector in 2004, with the renting of personal and household goods subsector significantly below this with an average of EUR 20 900 per employee. The resulting wage adjusted labour productivity ratio was 378.4 % for the EU-27's renting and leasing sector in 2004, the second highest of any NACE division ⁽¹³⁾ in the non-financial business economy. This ratio was above the non-financial business economy average in all three subsectors, but by far the highest for the renting of transport equipment subsector at 640.5 %. These high values can, in part, be explained by the specific nature of this activity, where the main costs of enterprises are likely to be financial ones covering borrowing as well as depreciation charges, neither of which impact on gross value added or the gross operating surplus. The gross operating rate in the EU-27's renting and leasing sector in 2004 was 40.4 %, 3.7 times as high as the non-financial business economy average, and the highest rate among the non-financial business economy NACE divisions ⁽¹⁴⁾. As with the wage adjusted labour productivity ratio all three subsectors recorded a gross operating rate above the non-financial business economy average, and again the highest level was recorded for the renting of transport equipment subsector at 44.4 %.

⁽¹³⁾ NACE Divisions 10, 12 to 14, 23 and 62, not available.

⁽¹⁴⁾ NACE Divisions 10, 12 and 62, not available.

Table 23.7

Renting and leasing (NACE Division 71)

Productivity and profitability, EU-27, 2004

	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
Renting and leasing	109.5	28.9	378.4	40.4
Renting of automobiles; renting of other transport equipment	200.6	31.3	640.5	44.4
Renting of other machinery and equipment	95.2	32.3	294.2	38.7
Renting of personal and household goods n.e.c.	39.3	20.9	188.2	26.8

Source: Eurostat (SBS)

23.3: RESEARCH AND DEVELOPMENT

Research and development (R&D) activities are classified within NACE according to the field of investigation of the research. A distinction is made between research and experimental development within natural sciences and engineering (NACE Group 73.1) and research and experimental development within social sciences and humanities (NACE Group 73.2). Note that market research activities are not covered and that these are included as part of Subchapter 22.2. Furthermore, it should be noted that the statistics presented for the research and development sector in this subchapter concern exclusively those enterprises whose main activity consists of carrying out R&D activities, and thus excludes R&D departments of universities, public administrations and enterprises whose main activity is otherwise classified.

Increased levels of research and development expenditure are seen as one of the means to achieve the goals set out by the European Council in Lisbon in 2000: in 2002 a target that investment in R&D should reach 3 % of GDP by 2010 was set; the Lisbon objectives were re-launched in 2005 to focus on growth and employment in Europe.

In December 2006 the seventh framework programme of the European Community for research and technological development for the period 2007 to 2013 (FP7) was established, to be applied from January 2007. FP7 will be implemented through specific programmes corresponding to the main themes of European research policy, with funding amounting to around EUR 51 billion.

In January 2000 the European Commission proposed the creation of a European Research Area (ERA), to create an 'internal market' in research, improve coordination of research activities and policies, and develop a European research policy. In April 2007 the European Commission adopted a Green paper titled 'The European Research Area: New Perspectives' ⁽¹⁵⁾. This opens discussions on a number of issues, notably the mobility of researchers, developing research infrastructure and institutions; as well as improvements in the circulation and sharing of knowledge, research programmes, and global research cooperation. It aims to tackle underinvestment, and fragmentation. It is expected that this Green paper will be followed up by specific proposals in 2008.

STRUCTURAL PROFILE

Value added in the EU-27's research and development activities (NACE Division 73) was EUR 18.4 billion in 2004, making this the smallest of the three NACE divisions that compose real estate, renting and R&D (NACE Divisions 70, 71 and 73), with a 6.1 % share of real estate, renting and R&D value added. There were 390 000 persons employed in the EU-27's research and development activities in 2004, just over one tenth (11.1 %) of the real estate, renting and R&D workforce, a significantly higher share than that recorded for value added; the workforce was spread across 37 200 enterprises.

The United Kingdom and Germany had the largest research and development sectors in the EU-27 in 2004, generating 31.6 % and 24.5 % respectively of the EU-27's value added in 2004 (see Table 23.8). Only in a few Member States ⁽¹⁶⁾ did this sector's contribution to non-financial business economy value added approach or exceed 0.5 % in 2004, notably in the Netherlands (0.7 %), the United Kingdom (0.6 %) and Slovakia (0.5 %).

⁽¹⁵⁾ COM(2007) 161.

⁽¹⁶⁾ Ireland, Greece, Cyprus, Luxembourg and Malta not available.

COSTS, PRODUCTIVITY AND PROFITABILITY

One characteristic of its cost structure sets the research and development sector apart from many other activities in the non-financial business economy, and that is the very high share of personnel costs in total expenditure, likely to be in part a result of the relatively highly qualified labour force. In 2004 the share of personnel costs was 39.7 % in the EU-27, approximately 2.4 times as high as the non-financial business economy average, and the highest of all of the non-financial business economy NACE divisions ⁽¹⁷⁾, just ahead of both computer services and other business activities (NACE Divisions 72 and 74). This high share also reflects the high proportion of paid employees among all persons employed, a proportion which was 92.6 % in the EU-27's research and development sector in 2004, 6.4 percentage points above the non-financial business economy average.

Apparent labour productivity in the EU-27's research and development sector was EUR 46 900 per person employed in 2004, slightly lower than average personnel costs (EUR 47 100 per employee). The higher average personnel costs resulted in a wage adjusted labour productivity ratio below 100 %, which at 99.0 % was the lowest ratio among the non-financial business economy NACE divisions ⁽¹⁸⁾ in 2004. This ratio was particularly low in Latvia (64.2 %) and Sweden (69.1 %).

⁽¹⁷⁾ NACE Divisions 10, 12 and 13, not available.

⁽¹⁸⁾ NACE Divisions 10, 12 to 14, 23 and 62, not available.

Table 23.8

Research and development (NACE Division 73)**Structural profile: ranking of top five Member States, 2004**

Rank	Share of EU-27 value added (%) (1)	Share of EU-27 employment (%) (1)	Value added specialisation ratio (EU-27=100) (2)	Employment specialisation ratio (EU-27=100) (2)
1	United Kingdom (31.6)	United Kingdom (25.9)	Netherlands (185.2)	Netherlands (244.9)
2	Germany (24.5)	Germany (22.5)	United Kingdom (166.9)	Slovakia (218.5)
3	France (12.4)	Netherlands (9.0)	Slovakia (136.1)	Romania (194.2)
4	Netherlands (8.5)	France (9.0)	Romania (118.5)	United Kingdom (180.0)
5	Italy (5.5)	Italy (6.7)	Germany (117.1)	Latvia (153.0)

(1) Greece, Cyprus, Luxembourg and Malta, not available.

(2) Ireland, Greece, Cyprus, Luxembourg and Malta, not available.

Source: Eurostat (SBS)

Table 23.11

Research and development (NACE Division 73)

Main indicators, 2004

	EU-27 (1)	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT
No. of enterprises (thousands)	37.2	0.2	0.1	0.5	0.3	4.2	0.0	0.3	:	1.5	2.9	10.8	:	0.1	0.1
Turnover (EUR million)	37 000	918	5	168	615	6 412	7	266	:	1 036	6 189	1 837	:	17	12
Production (EUR million)	39 000	935	6	168	719	6 520	7	237	:	977	5 709	2 124	:	16	11
Value added (EUR million)	18 400	486	2	69	250	4 513	3	151	:	736	2 283	1 021	:	7	5
Gross operating surplus (EUR million)	1 300	112	1	1	-67	686	1	71	:	113	261	358	:	-4	2
Purchases of goods & services (EUR million)	22 500	484	3	104	476	3 953	4	114	:	706	4 704	1 041	:	8	7
Personnel costs (EUR million)	17 000	373	1	68	317	3 827	3	80	:	623	2 022	663	:	12	3
Investment in tangible goods (EUR million)	3 370	44	0	18	64	871	0	25	:	184	521	157	:	4	0
Employment (thousands)	390	5	0	6	5	88	0	2	:	18	35	26	:	3	0
Apparent labour prod. (EUR thousand)	46.9	98.1	5.4	11.3	48.8	51.4	14.1	73.1	:	40.1	65.0	39.3	:	2.6	9.5
Average personnel costs (EUR thousand)	47.1	78.2	3.8	12.1	61.9	46.3	11.7	44.6	:	36.5	57.6	47.0	:	4.1	6.4
Wage adjusted labour productivity (%)	99.0	125.4	142.5	93.2	78.8	111.0	121.0	163.7	:	109.9	112.7	83.6	:	64.2	149.9
Gross operating rate (%)	3.4	12.2	15.9	0.4	-10.9	10.7	10.8	26.7	:	10.9	4.2	19.5	:	-24.7	14.6
Investment / employment (EUR thousand)	8.6	8.9	0.8	2.9	12.4	9.9	1.3	12.0	:	10.0	14.8	6.0	:	1.3	0.6
	LU (2)	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK	NO	
No. of enterprises (thousands)	0.0	2.7	:	2.0	0.5	0.7	0.1	0.4	0.4	0.1	0.3	2.8	2.9	0.4	
Turnover (EUR million)	:	214	:	2 795	489	149	11	173	112	159	405	1 317	13 156	647	
Production (EUR million)	:	166	:	2 666	408	143	9	202	102	154	376	1 376	16 090	635	
Value added (EUR million)	:	75	:	1 564	281	66	7	92	48	65	185	517	5 811	437	
Gross operating surplus (EUR million)	:	24	:	178	46	32	1	15	8	12	-7	-118	-459	-5	
Purchases of goods & services (EUR million)	:	136	:	1 352	409	68	10	113	64	93	240	956	7 262	346	
Personnel costs (EUR million)	:	51	:	1 386	236	34	6	78	40	53	192	634	6 270	442	
Investment in tangible goods (EUR million)	:	15	:	118	95	6	1	32	3	27	16	83	936	26	
Employment (thousands)	:	6	:	35	5	3	0	24	2	6	4	11	101	7	
Apparent labour prod. (EUR thousand)	:	13.0	:	44.4	55.6	19.6	28.0	3.8	27.3	10.6	47.7	45.5	57.5	58.6	
Average personnel costs (EUR thousand)	:	12.6	:	40.2	50.0	13.5	26.4	3.5	24.1	8.7	50.8	65.8	63.0	59.7	
Wage adjusted labour productivity (%)	:	102.6	:	110.3	111.1	144.6	105.8	109.2	113.1	121.8	94.0	69.1	91.3	98.2	
Gross operating rate (%)	:	11.3	:	6.4	9.3	21.5	12.3	8.4	7.5	7.4	-1.7	-8.9	-3.5	-0.8	
Investment / employment (EUR thousand)	:	2.7	:	3.3	18.7	1.8	4.5	1.3	1.8	4.3	4.2	7.3	9.3	3.4	

(1) Rounded estimate based on non-confidential data, except for number of enterprises. (2) 2003.

Source: Eurostat (SBS)

