# Supplements to the Statistical Bulletin Sample Surveys 

## Survey of Industrial and Service Firms 2007

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## NOTE

I. All calculations have been made by the Bank of Italy unless indicated otherwise.
II. Symbols and conventions:
-- the phenomenon in question does not occur
.... the phenomenon occurs but its value is not known
.. the value is known but is less than the minimum considered.

## SUPPLEMENTS TO THE STATISTICAL BULLETIN

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This publication contains the main findings of the Bank of Italy's survey of industrial and service firms conducted in the early months 2008.
The authors are Claudia Biancotti, Leandro D’Aurizio, Caterina Di Benedetto and Raffaele Tartaglia Polcini. Stefania Coscarella helped with the editing and the tables. All the Bank's branches assisted in the survey, being directly responsible for collection of the data.
The data are used exclusively for the purpose of economic analysis and have been handled and processed in aggregate form, in full compliance with Italy's law on the treatment of personal information.
We would like to thank all the firms that agreed to take part, providing the information requested in a long and demanding interview.

## SURVEY OF INDUSTRIAL AND SERVICE FIRMS

## Introduction ${ }^{1}$

The interviews for the sample survey of industrial and service firms with 20 employees and over for the year 2007 were conducted in February and April 2008.

The sample consists of 2,980 industrial firms, excluding construction, 465 construction companies and 1,083 non-financial private service firms, representing 8.1, 6.5 and 3.8 per cent of the respective total reference populations. Because of the bigger sampling fraction of large firms, the three samples respectively account for 28.3, 20.4 and 18.5 per cent of payroll employment in the reference populations, ${ }^{2}$ which in turn represent a very substantial share of the sectoral aggregates (Table 1).

Table 1

## Payroll employment, turnover and investment in firms with 20+ employees compared with the economy as a whole

| (per cent) |  |  |  |
| :---: | :---: | :---: | :---: |
|  | Payroll employment | Turnover | Investment |
| Industrial firms, excluding construction.............. | 70.0 | 81.4 | 77.7 |
| Construction firms............................................ | 31.6 | 31.6 | 19.1 |
| Non-financial private service firms ...................... | 58.5 | 50.1 | 56.6 |

Sources: Rilevazione sulle piccole e medie imprese e sull'esercizio di arti e professioni and Rilevazione sul sistema dei conti delle imprese, Istat, 2005.

Over-sampling of the largest firms produces more accurate estimates of the totals of the main aggregates (employment, turnover, and investment) and of their fluctuations over a period of time. ${ }^{3}$ In the rest of this report reference is made to firms with 20 employees and over unless stated otherwise.

The report describes the salient features and main findings of the survey. Section I presents data on the activity of service firms and of non-construction industrial firms. In Section II some individual topics are discussed in detail. ${ }^{4}$ Section III is devoted to the construction sector.

The Methodological Notes (Appendix A) describe the composition of the sample and the universe, the sampling design, the collection of data and the estimation and weighting procedures. They also provide information on response behaviour, data quality, and data processing by external researchers. The statistical tables and the questionnaires used can be found in Appendices B and C.

[^0]
## I - Labour, capital and output in non-construction industrial firms and in nonfinancial private service firms ${ }^{5}$

## I. 1 Employment

According to the survey, in 2007 average employment rose by 1.2 per cent, the result of an increase of just 0.3 per cent in the number of jobs in industrial firms and of 2.3 per cent in the service sector (Figure 1; Table B1). ${ }^{6}$ In the previous survey, industrial firms had predicted a slightly larger rise ( 0.5 per cent), while service firms were more cautious and their expectations were below the actual results (1.5 per cent).

Figure 1
Annual changes in average payroll employment, 1988-2007 (per cent)

(a) For 1988-98, manufacturing firms; from 1999, industry excluding construction. For 1988-2000, firms with 50 employees and over; from 2001, firms with 20 employees and over.
(b) National accounts; includes firms with fewer than 20 employees.

In the North-East, employment growth was slightly above average, in both industry ( 0.8 per cent) and services ( 3.5 per cent). However, in the country as a whole, employment contracted by 1 per cent in textile firms, following the trend of previous years, and by 2 per cent in energy and extractive industries. For 2008 industrial firms predict a 0.4 per cent contraction in employment, while service firms anticipate growth of 1.6 per cent.

[^1]Fixed-term employment contracts are more common in the service sector than in industry and accounted, respectively, for 10.4 and 6 per cent of the workforce at the end of the year (Table B3). The shares were highest in the regions of the South and the North-East and in trade and tourism. ${ }^{7}$ The total figure shows little change with respect to earlier years in either sector.

Temporary work accounted for 3 per cent of the total hours worked by payroll employees in industry and 1.2 per cent in services. Temporary employment occurs slightly more frequently in the North and in chemical and engineering industries. ${ }^{8}$ Historically, the incidence is greater in industry than in services, but it has been stationary in both sectors since 2006.

Non-EU workers represented 3.7 per cent of the total workforce in both industry and services - a slightly smaller proportion than in 2006. They are concentrated in the northern regions and find employment mainly in business and household services, industrial firms in the 20-49 employee category, and in service firms with over 200 employees. Their presence remains limited in the South.

Labour turnover ${ }^{9}$ in 2007 was 26.3 per cent in industry and 47.6 per cent in services (Table B4). More than half of turnover is due to the creation or termination of fixed-term jobs, which account for an average of 60 per cent of hirings in the sample. In industry, hirings and terminations more or less balance out, although the former tend to outnumber the latter in the service sector, notably in trade, hotels and catering. In industry, turnover remains highest among firms in the South and lowest in the North-West, in energy and extractive firms, and among export-oriented businesses.

In 2007, hours actually worked per capita totalled 1,659 in industry and 1,643 in the service sector (Table B5), virtually unchanged from the previous year (1,654 and 1,639 hours respectively). The number of hours worked per capita decreases with firm size; variations between sectors are less marked. In industry, the value recorded for firms with 2049 employees is 7 per cent higher than for firms with 500 employees and over. In the service sector the gap is even wider, in the order of 20.8 per cent, due to the higher proportion of part-time workers in the largest category of firms (Table B6): in 2007 they represented 27.3 per cent of the labour force in firms with 500 or more employees, compared with 8.4 per cent in the under-50-employee group.

Annual gross per capita earnings (in industry and services) averaged $€ 28,200$ in 2007, 3.3 per cent higher in nominal terms than in 2006. ${ }^{10}$ National minimum contract wages accounted for 86.7 per cent of the amounts effectively disbursed (Table B7). ${ }^{11}$ Some of the indications emerging from earlier surveys have been confirmed: pay is above average in energy and extractive and chemical industries, and lower in textiles. Wages and salaries increase with firm size and are higher in the North and the Centre than in the South and Islands, although the geographical variation is partly due to differences in the distribution of industry by size and sector.

[^2]The survey also examines some aspects of firms' attitudes to 'key workers', i.e. workers whom the manager or owner believes make a significant difference to product quality or to competitiveness. The firms were asked, in particular, to estimate the amount of time and effort needed to find such people and to evaluate whether their skills were adequate for the tasks assigned. The largest industrial firms take less time to find key workers: six and a half weeks for firms with 500 employees and over, against eight weeks for firms with fewer than 50 employees.

Some 72.4 per cent of firms are of the opinion that their key workers possess the necessary qualifications and experience to perform the tasks required of them, while according to 25.5 per cent of firms they are not sufficiently skilled and according to 2.1 per cent they are over-qualified (Table B8). Firms in the 500 -employee group are highly satisfied with these workers, an opinion expressed by 82.4 per cent of industrial firms and 84.8 per cent of service firms. Smaller firms, both in industry and services, have greater difficulty recruiting suitable staff, with respectively 29.1 and 23 per cent seeking more experience or better qualifications.

## I. 2 Turnover and operating results

In 2007, turnover grew by 1.3 per cent at constant prices ${ }^{12}$ in industry and by 1.8 per cent in services (Table C1), slowing somewhat with respect to the previous year (Figure 2).

In industry, turnover growth was largest in the engineering sector ( 5 per cent at constant prices), while firms in the energy sector posted negative results ( -3.9 per cent) as did chemical companies, although to a smaller extent ( -0.8 per cent). Firms with fewer than 200 employees outperformed firms in the largest category.

In the service sector, results were slightly below average for firms in the North-West, with turnover up by 1.3 per cent. In all the other areas of the country the increase was around 2 per cent. Turnover growth was largest in business and household services ( 3.8 per cent), in line with previous surveys.

Projections for 2008 are of an increase of 2.7 per cent in industry and 1.2 per cent in services. Expectations are more modest among service firms in the North-East (growth of 0.6 per cent) and among small industrial firms ( 0.9 per cent). Large firms tend to be more optimistic than the average in both industry and services, projecting turnover growth of 5 and 2.9 per cent respectively.

Export revenue represented 32.1 per cent of turnover in industry (Table C2), up from 29.8 per cent in 2006. In services it declined from 11.7 to 10.2 per cent. As in the past, the largest exporters were firms in the North-East (41.2 per cent of turnover) and textile and engineering firms ( 43.1 and 46.1 per cent). Service firms located in the South were geared almost exclusively to the domestic market, exporting just 7.4 per cent. The share of export revenue is projected to remain virtually stationary in both the industrial and the service sector.

In 2007, 67.1 per cent of firms posted a profit, 15.5 per cent a loss, and 17.4 per cent were in balance (Table C3). The spread between firms showing a profit and firms showing a loss widened by 1.5 percentage points compared with 2006, mainly owing to the 1.2 per cent decline in firms recording a loss. The best performance in industry was recorded by engineering firms, 73.4 per cent of which showed a profit, the worst performance by energy and extractive firms, of which only 52.2 per cent showed a profit and 30.6 per cent were in balance.

[^3]Figure 2
Annual changes in turnover, 1988-2007
(constant prices; per cent)

(a) For 1988-98, manufacturing firms; from 1999, industry excluding construction. For 1988-2000, firms with 50 employees and over; from 2001, firms with 20 employees and over.
(b) Indices of turnover at current prices for a sample of firms with 20 employees and over, deflated with the change in prices estimated in the Bank of Italy's survey.

## I. 3 Investment and capacity utilization

According to the survey findings, the overall performance of gross fixed investment ${ }^{13}$ was generally positive in 2007 compared with 2006 , with growth of 2.6 per cent in real terms ${ }^{14}$ (Table D1). The situation differs between industrial and service firms, however. In industry, investment grew by 5.4 per cent - less in manufacturing, in which the increase was 3.7 per cent - indicating a turnaround with respect to the decline of the previous three years. Investment by firms in the service sector showed little change ( -0.2 per cent) compared with the increases recorded in recent years (Figure 3).

Figure 3

13 In accordance with ESA95, gross fixed investment is defined as the addition of capital assets to the firm's existing stock in the reference period. Capital assets consist of tangible goods, software, databases and mineral exploration. They are the result of a production process and are used repeatedly or continuously in the production of goods and services for more than a year. Gross fixed investment includes depreciation and purchases of the tangible goods used, the latter being excluded from the national accounts aggregate.

14 See Appendix A for details of the method of deflation.

Annual changes in investment, 1988-2007
(at constant prices; per cent)

(a) For 1988-98, manufacturing firms; from 1999, industry excluding construction. For 1988-2000, firms with 50 employees and over; from 2001, firms with 20 employees and over.
(b) Time series of investments by ownership branch; includes firms with fewer than 20 employees.

In industry, the largest increases in investment were reported by firms located in the North-East and the Centre ( 7.8 per cent each), energy and extractive firms ( 12.1 per cent) and engineering firms ( 6 per cent). Chemical companies performed less well ( 0.6 per cent), while investment by manufacturing firms located in the Centre contracted slightly, by 2 per cent (Table 2). In terms of actual location, investment in the North-East expanded sharply, by 9.8 per cent, while investment in the South contracted by 3.9 per cent. The South's poor performance was largely due to the results for manufacturing firms, which cut their investment by 9.2 per cent (Table 2).

In the service sector investment decreased sharply in the North-West: by 5.1 per cent on the basis of the location of the investing firm and by 6.7 per cent taking into account the actual site of the investment. Results were positive for the Centre: investment by firms located there increased by 7.5 per cent while investment in the area grew by 8.1 per cent. The transport and communication sector also performed well, with investment up by 1.7 per cent.

The realization rate - i.e. the ratio between actual spending during the year and planned expenditure at the end of the previous year - is 99.7 per cent for the sample as a whole (Table D3). Around 56.8 per cent of firms report that they invested more than planned at the end of 2006, even considerably more in one out of three cases. On the other hand, 36.4 per cent invested less, and just over half of this group invested substantially less (Table D4). In industry the realization rate for 2007 is 98.8 per cent, indicating that plans were in line with actual investment. However, results vary widely from sector to sector. Projections in excess tend to be more common among energy and extractive industries (81.4 per cent) and chemical firms ( 99.2 per cent). Opposite signs are observed for textile (121.4 per cent) and engineering firms (104.7 per cent).

Table 2
Annual change in investment by manufacturing firms, 2007
(constant prices; per cent) ${ }^{(\mathrm{a})}$

(a) Robust means (Winsorized) obtained by adjusting extreme values of the individual variation in investment per capita (with positive or negative sign) according to the $5^{\text {th }}$ and $95^{\text {th }}$ percentile. The method takes account of the sampling fractions in each stratum of the sample (Winsorized type II estimator). - (b) At constant 2007 prices. The deflator is calculated as the average, at Ateco 2002 sub-section level, of the price indices for their investment spending estimated by the firms interviewed. - (c) Forecast.

In the service sector the overall realization rate is 100.6 per cent, due to faster than expected growth in investment by small firms ( 107.3 per cent) and a contraction with respect to projections in investment by large firms ( 96.8 per cent) and in transport and communications ( 95.3 per cent).

Overall, firms predict that investment will pick up by 4.5 per cent in 2008, although this figure conceals marked variations between the different size groups. Firms with 500 employees and over forecast a sharp expansion in investment, both in industry ( 13.4 per cent) and in services ( 7.9 per cent). On the other hand, smaller firms expect to cut their investments by 2.2 and 5.7 per cent respectively in the two sectors. Investment in projects located in the South is projected to grow by 10.9 per cent in the case of industrial firms and by 4.2 per cent for service firms. In manufacturing, investment plans are positive, with an increase of 6.5 per cent (Table 2). A substantial contribution is expected to come from firms with 500 employees and over and from engineering firms, amounting to 20.8 and 14.1 per cent respectively (Tables 2 and D1).

The reasons for amending investment plans are recorded only for firms with 50 employees and over. In the majority of cases the revisions, upward and downward alike, are due to issues of internal organization, such as new objectives and strategies; the next reason is trends in demand (Table D5), which are cited more often than in 2006.

The capacity utilization rate of industrial firms with 50 employees and over rose by 4.6 per cent between 2006 and 2007 (Table D4), in line with predictions made in the previous survey. For 2008, firms forecast an increase of 5.4 per cent. As in the previous survey, the largest increases are both recorded and forecast for firms in the South (6 and 7.4 per cent respectively). The average capacity utilization rate for industrial firms with 50
employees and over averaged 81.4 per cent, slightly higher than in 2006; a further increase, of 1.8 percentage points, is forecast for 2008.

## II - Focus topics relating to service firms and non-construction industrial firms

## II. 1 Ownership, organization and governance

The survey collects information on the concentration of ownership, stock exchange listing, and controlling shareholders of industrial firms with 50 employees and over. The proportion of the company held by the leading shareholder remains unchanged at around two-thirds, and that of the first three shareholders at nine-tenths (Table E1). In 45.3 per cent of cases control of industrial firms is in the hands of a natural person, although the percentage that has been falling steadily over the years; by contrast, the percentage of firms controlled by a holding or sub-holding company has increased (Table E2 and Figure 4). The leading shareholder is Italian in just under 9 out of 10 firms, while the incidence of foreign control increases with firm size and propensity of export.

Figure 4

## Leading shareholder in industrial firms with 50+ employees, 2003-2007

(per cent; basis 2003=100)


Some 5 per cent of the firms surveyed were involved in a transfer of control during 2007, compared with 8.1 per cent in the previous year. Reorganizations of this type mainly affected the chemical industry, with 11.4 per cent of firms involved. Major events such as splits, mergers, capital contributions and transfers concerned 4.3 per cent of firms in 2007, virtually the same proportion as in 2006 (Table E3).

About 31 per cent of firms belong to a group (Table B4), a share that has risen slowly but steadily in recent years. Approximately 80 per cent of groups are Italian and most of the remainder are from EU countries.

In the previous survey, both industrial and service firms were asked specific questions about the ownership of the firm (direct or through other companies) and whether it remained stable over time. Some 64.4 per cent of the firms in the sample belong to a natural person or are owned or controlled by a family; this breaks down into 70.9 per cent in industry excluding construction (rising to around three-quarters for firms producing traditional Italian goods) and 56.2 per cent in services, mainly trade, hotels and catering, and the proportion tends to decrease as the size of the firm increases. In two-thirds of the cases, in both industry and services, the person or otherwise controlling the firm has been in that position from the time of its foundation (Table E5). Among industrial firms, this characteristic applies mainly to firms in the South ( 76.9 per cent), small firms ( 70.9 per cent) and, at the sectoral level, to textile firms ( 73.1 per cent) and energy and extractive industries ( 77.4 per cent). Around half of the large firms, in industry and services, have been involved in at least one transfer of control since their foundation; in 21.6 per cent of cases control was previously in the hands of a person or family ( 23.4 per cent in industry and 19.1 per cent in services).

## II. 2 Some aspects of corporate financing

In 2007 some 8 per cent of firms declared that they wished to borrow more from banks and financial institutions at existing conditions as to cost and collateral. The figure is down from the 9.6 per cent recorded in 2005 and is higher for industrial firms ( 8.8 per cent) than for service firms ( 6.9 per cent). As in the past, the proportion is above average for firms in the South, despite having declined considerably ( 11.8 per cent compared with 15.2 per cent in 2005) (Table 3).

Table 3
Service firms and non-construction industrial firms wishing to borrow more, 2005-07 (per cent of total)

|  | Total |  |  | Would borrow even at worse conditions <br> (a) |  |  | Turned down by lending institutions <br> (b) |  |  | Both <br> (a) and (b) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2005 | 2006 | 2007 | 2005 | 2006 | 2007 | 2005 | 2006 | 2007 | 2005 | 2006 | 2007 |
| Geographical area Centre and North | 8.5 | 8.1 | 7.2 | 4.0 | 3.5 | 3.2 | 2.7 | 2.4 | 2.7 | 1.8 | 1.3 | 1.9 |
| South \& Islands ........ | 15.2 | 14.8 | 11.8 | 6.5 | 6.6 | 4.2 | 5.2 | 5.3 | 4.6 | 2.8 | 3.4 | 2.2 |
| Number of employees 20-49 | 9.1 | 8.9 | 7.5 | 4.2 | 4.2 | 3.5 | 3.1 | 3.1 | 3.2 | 2.0 | 1.9 | 2.2 |
| 50 and over .............. | 10.8 | 10.1 | 9.1 | 5.0 | 3.6 | 3.2 | 3.4 | 2.4 | 2.6 | 1.9 | 1.2 | 1.3 |
| Sector |  |  |  |  |  |  |  |  |  |  |  |  |
| Industry .................. | 9.4 | 8.7 | 8.8 | 4.2 | 3.7 | 3.9 | 3.4 | 2.9 | 3.2 | 1.9 | 1.6 | 2.1 |
| Services .................. | 9.9 | 10.0 | 6.9 | 4.9 | 4.4 | 2.7 | 2.8 | 3.0 | 2.8 | 2.1 | 1.8 | 1.6 |
| Total ........................ | 9.6 | 9.3 | 8.0 | 4.5 | 4.0 | 3.4 | 3.1 | 2.9 | 3.0 | 2.0 | 1.7 | 1.9 |

In order to assess to what extent these firms really need to borrow more funds the questionnaire asks for further information about the possible additional cost and any steps actually taken to obtain a loan. Only 3.4 per cent of the firms state that they will accept worse conditions (higher interest rate or extra collateral) in order to borrow more, down from 4.5 per cent in 2005 . Some 3 per cent of firms that actually applied for additional funds were turned down, about the same proportion as in 2005. The firms that would have agreed to
tougher conditions in order to borrow more but were turned down amount to 1.9 per cent of the total, compared with 2 per cent in 2005 and 1.7 per cent in 2006. ${ }^{15}$

The survey also looks at changes in the sources of funding for firms with 50 employees and over. More firms report an increase in self-financing than a decrease (49 per cent against 38.8 per cent); the balance is larger in the case of engineering and transport firms and firms providing other household and business services. In general, firms reporting a strong performance of turnover and investment tend to resort more often to self-financing (Tables F1, C1 and D1). Similarly, for bank borrowing and venture capital more firms declare an increase than a decrease, particularly energy and extractive firms. Just under 4 per cent of firms report changes in their stock of bonds and other long-term securities, with a slight prevalence of decreases.

## II. 3 Sub-contract work and outsourcing

The focus topics include a section reserved to industrial firms regarding their subcontractor turnover and outsourcing of purchases. ${ }^{16}$ Data are collected for 2004 and 2007 in order to illustrate the changes that have taken place in this area during these years of profound transformation of Italy's industrial system. ${ }^{17}$

In about one-fifth of the industrial firms sampled a part of production is executed as sub-contractor. The majority of these are textile or engineering firms (G1). In 2007, subcontract business represented 7.1 per cent of the value of turnover, compared with 6.4 per cent in 2004, and was higher in the South ( 10.6 per cent) and for firms with fewer than 200 employees ( 9.5 per cent). On a sectoral level, 11.7 per cent of turnover is from sub-contract business in engineering and 6.6 per cent in textiles. Just over one-third of sub-contractor turnover is from foreign firms, rising to about half in the case of firms with 200 employees and over.

The situation regarding outsourcing of purchases differs according to the firm's size and sector and concerns just under 20 per cent of the total sample (Table G2), increasing with the number of employees. Firms with 500 employees and over outsource about onetenth of total purchases; this increases to one-fifth in the textile sector. The value of outsourced purchases rose from 6.1 in 2004 to 7.6 per cent in 2007 as Italian firms, especially large ones, increasingly contracted out to foreign firms.

The survey analyses the geographical breakdown of outsourced purchases for firms with 50 employees and over. Between 2004 and 2007, the role of foreign suppliers expanded, particularly those from advanced European countries, followed by Indian and Chinese companies; the contribution of suppliers from Eastern Europe remained stationary (Table 4).

[^4]
# Geographical distribution of outsourced purchases of non-construction firms with 50+ employees, 2004 and 2007 (per cent) 

|  | Italy | Other countries | of which: |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | EU15 ${ }^{(a)}$ | Other European countries | China and India | Rest of the world |
| 2004 | 65.7 | 34.3 | 9.1 | 8.9 | 7.6 | 8.7 |
| 2007 | 62.8 | 37.2 | 11.2 | 8.7 | 8.3 | 9.1 |

(a) Countries belonging to the European Union on 31.12.2003.

## II. 4 Corporate support functions

The structural changes that have taken place in Italy's productive system are examined more closely in a specific section of the questionnaire, designed to collect information on the support functions that are essential to industrial firms' core business, such as IT, personnel management, and bookkeeping. The respondents were asked whether, between 2004 and 2007, these functions were performed within the firm or outsourced, and to provide a geographical classification of outsourcers for 2007.

The likelihood that a firm will have one of these support functions increases with size (Table G3). ${ }^{18}$ The function occurring most often (three-quarters of firms) is sales and after-sales, which is also outsourced less often because of its strategic importance. The functions that are usually outsourced are IT (including telecommunications) and logistics and distribution, which are contracted out by 40 and 30 per cent of firms respectively (Figure 5).

In aggregate, there was only a small growth in outsourcing of support functions in the four years considered, notably of logistics and distribution. The increase was greater than average among large firms (500 employees and over) (Figure 6).

The geographical proximity of supplier and user of a service is important if the firm decides to outsource. Approximately two-thirds of firms use providers in the same region, and foreign providers remain marginal.

[^5]Figure 5
Outsourcing of support functions in industry excluding
construction, 2004 and 2007
(percentage of firms using the service)


Figure 6
Outsourcing of support functions in non-construction firms with 500+ employees, 2004 and 2007
(percentage of firms using the service)


## II. 5 Market structure

Another section of the questionnaire addresses firms with 50 employees and over to collect information on their three main competitors (Table G4). Only a third of industrial firms report that their chief competitor is a foreign company, although this proportion rises to 54.6 per cent in the case of firms with 500 employees and over and firms with more than two-thirds of export turnover ( 52.9 per cent). In traditional branches of manufacturing, such as textiles, clothing and leather goods, the main competitor tends to be located in the same region, confirming the existence of fragmented and highly competitive local productive systems, while China and India figure strongly among foreign competitors, being cited by 11.5 per cent of these firms, compared with an average of 4.1 per cent for the whole of manufacturing. In other branches, particularly high-tech ones such as chemicals and metals and engineering, foreign competition comes mainly from the other EU-15 countries. Energy and extractive firms encounter very little competition from abroad. In all sectors, foreign firms are more frequently listed as second or third main competitors, particularly by firms with fewer than 500 employees.

Service companies compete mainly with firms in their same region, particularly in the branches of trade, hotels and catering.

Industrial firms base their competitive strategy primarily on product quality (Figure 7), followed by technology content or innovation. The third factor is cost reduction through the reorganization of production, including relocation and outsourcing.

Figure 7

## Importance of selected competitive advantages in non-construction

 firms with 50+ employees, 2007(average points) ${ }^{(\mathrm{a})}$


[^6]
## III - The construction industry

## III. 1 Employment, output and financial situation

The findings of the survey show that average employment in firms with 20 employees and over fell by 1.5 per cent between 2006 and 2007 (Table H1). ${ }^{19}$ This is more than the 0.3 per cent drop projected in the previous survey and it contrasts with growth of 1.1 per cent in 2005. Geographically, employment contracted most sharply in firms in the South and Islands ( -5 per cent). A further small decline in employment is forecast in $2008(-0.8$ per cent), although firms in the North-East and the Centre and large firms plan to increase employment by $2.5,1.2$ and 3.8 per cent respectively. The most negative trend in employment is projected for the South ( -4.5 per cent).

Output in the construction industry rose by 0.9 per cent in real terms in 2007 (Table $\mathrm{H} 1),{ }^{20}$ which is basically in line with the previous year's projections. In firms with 500 employees and over output contracted by 4.4 per cent. Forecasts for 2008 point to a generalized decline ( -1.8 per cent), which will be sharpest in the North-West ( -4 per cent) and among shall firms ( -3.3 per cent).

Three-quarters of construction firms reported a profit for the year, about eight percentage points less than in 2006. The proportion of firms reporting a loss was stable at around 8 per cent.

Since 2006 a separate section of the questionnaire concerning loan terms and conditions has been put to construction firms. According to the findings, 14.1 per cent of firms in the sector wish to borrow more, a proportion that rises to just over a quarter in the South and Islands and falls to one in ten in the North and the Centre (Table 5). These figures represent an increase of 3.6 percentage points overall with respect to 2006 and of 5.5 per cent in the South.

## Table 5

Construction firms wishing to borrow more, 2006-2007
(per cent of total)

|  | Total |  | Would borrow even at worse conditions <br> (a) |  | Turned down by lending institutions <br> (b) |  | Both <br> (a) and (b) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2006 | 2007 | 2006 | 2007 | 2006 | 2007 | 2006 | 2007 |
| Geographical area |  |  |  |  |  |  |  |  |
| North and Centre....... | 7.3 | 10.1 | 1.9 | 3.7 | 2.2 | 3.1 | 0.4 | 1.8 |
| South and Islands ...... | 18.5 | 24.0 | 8.4 | 8.4 | 10.4 | 11.3 | 4.0 | 3.9 |
| Total ...................... | 10.5 | 14.1 | 3.8 | 5.0 | 4.5 | 5.4 | 1.4 | 2.4 |

19 The national accounts, which also take account of firms with fewer than 20 employees (representing 80 per cent of the workforce in the construction industry), record employment growth of 1 per cent in the same period.

20 Istat's deflator of investment in construction is used, which gives an increase in prices of 3.5 per cent with respect to 2006. According to the survey, production increased by 4.2 per cent at current prices between 2006 and 2007. In the same period, according to the national accounts, production in the whole sector grew by 5.9 per cent at current prices and by 2.2 per cent at constant prices. The quarterly index of production in the construction sector, another source of official statistics, calculates an unadjusted annualized increase of 6.3 per cent.

Some 5 per cent of firms declare that they would borrow at tougher conditions as to cost and collateral, compared with 3.8 per cent in 2006. A similar proportion ( 5.4 per cent) report that they have been turned down by potential lenders when applying for further credit ( 4.5 per cent in 2006). Both situations - willingness of the firm to accept worse terms and conditions and refusal of the lender to grant additional credit - present simultaneously in 2.4 per cent of cases ( 3.9 per cent in the South), 1 percentage point more than in 2006, and a slightly larger proportion than for industrial and service firms.

## III. 2 Public works

Approximately 80 per cent of construction companies with 20 employees and over carried out public works in 2006-2007 (Table H2). The proportion varies little from one geographical area to another and is larger (97 per cent) in the case of firms with 200-499 employees. Public works account for just over 40 per cent of the sector's total output, rising to more than 60 per cent for firms in the South and Islands. The production of public works declined by 3.3 per cent between 2006 and 2007 in real terms, that is using Istat's deflator of investment in "other construction", which calculates an increase in prices of 3.5 per cent from 2006. Expectations are that activity will contract in 2008 by a further 2.3 per cent overall in real terms, and by 4.7 per cent in the North-West, compared with positive forecasts (3.2 per cent growth) for firms with 200-499 employees.

A breakdown of public works by state of advancement shows that almost 40 per cent of production consists of long-term projects, i.e. work begun in earlier years and due to terminate in the future. The proportion is slightly smaller than in 2006. In terms of location, around 60 per cent of public works were carried out in the North and around 20 per cent in the South. Forecasts for 2008 are that the share will fall by 3 percentage points in the North and increase by 1 point in the South.

## III. 3 Firms' opinions regarding some of the effects of the new regulations on public sector contracts

The questionnaire includes a section in which firms carrying out public works are asked to give their opinion of some of the effects of the new regulations governing public sector contracts (Legislative Decree 163/2006). These regulations implement two European directives and consolidate previous legislation on public procurement and major public works. ${ }^{21}$ They also make provision for the gradual introduction of new institutions relating to procurement procedures, such as central purchasing bodies, ${ }^{22}$ reliance on the capacities of other entities, ${ }^{23}$ use of the 'integrated contract' format also for large-value works, and a new global performance guarantee system.

In the opinion of 23.9 per cent of interviewees, the 'central purchasing bodies' and 'single contracting stations' can reduce the time required to complete work, against 18.4 per cent who believe the opposite (Table 6). Opinions about their effects on the quality of general government planning were less certain, with 26.7 per cent of firms expecting an improvement and 23.8 per cent, the opposite. The failure to pass a number of implementation rules may have negative consequences according to firms, such as fewer entities being qualified to take part in tenders ( 34.6 per cent 'yes' against 23.3 per cent 'no'), an increase in

[^7]the cost of the work contracted ( 30 per cent against 23.3 per cent) or the possibility of disputes arising ( 37.7 per cent against 21 per cent).

The majority of interviewees also think that the 'integrated contract' format could lead to an improvement in general government planning ( 40.7 per cent, against 20.7 per cent who think the opposite) as well as reduce performance times ( 35.2 per cent 'yes' and 15.5 per cent 'no') and the number of entities qualified to take part in a tender ( 60.7 per cent against 12.8 per cent).

Opinions differ more sharply regarding the new global performance guarantee for large-value contracts: 86.5 per cent of interviewees think it will raise costs for the firm awarded the contract ( 3.1 per cent, not) and 54.5 per cent that it will delay the awarding of the contract ( 6.6 per cent, not). The main positive effect, according to 28.3 per cent, will be to reduce the actual cost of the work contracted, a view not shared by 15.2 per cent.

Table 6
Opinions of construction firms undertaking public works regarding the effects of introducing new procurement institutions, 2007

$$
\text { (per cent of firms) }^{(\mathrm{a})}
$$

|  | quality of gove plan | f general <br> ment <br> ning | final cost contr | of work acted |  | ion time work acted | $\begin{gathered} \text { numb } \\ \text { quali } \\ \text { tende } \end{gathered}$ | er of ified erers | $\begin{aligned} & \text { likelihe } \\ & \text { disp } \end{aligned}$ | ood of utes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | decrease | increase | decrease | increase | decrease | increase | decrease | increase | decrease | increase |
| Central purchasing bodies ${ }^{(\mathrm{b})}$. | 23.8 | 26.7 | 23.3 | 30.0 | 23.9 | 18.4 | 34.6 | 23.2 | 21,0 | 37,7 |
| Integrated contract .... | 20.7 | 40.7 | 25.7 | 28.1 | 35.2 | 15.5 | 60.7 | 12.8 | 32,2 | 31,8 |
|  |  |  | final cost of work contracted |  | time to award contract |  | costs to firm awarded contract |  | likelihood of disputes |  |
| Global performance guarantee ${ }^{(c)}$. |  |  | 28.3 | 15.2 | 6.6 | 54.4 | 3.1 | 86.5 | 20.7 | 39.2 |

(a) The answers are grouped into the categories 'decrease', 'increase' and 'no effect'. The proportion of firms answering 'no effect' is the difference between the sum of the two percentages reported and 100. - (b) Includes regional and provincial single contracting stations. - (c) Required for large-value contracts.

Appendix A:
Methodological Notes

## METHODOLOGICAL NOTES

## A1. General remarks

The Bank of Italy has conducted sample surveys of firms since 1972. ${ }^{1}$ Prior to 1998 the survey only covered industrial processing firms with 50 employees and over. In recent years the field of observation has been extended to include, since 1999, all manufacturing firms as well as energy and extractive industries, and since 2001 firms with 20 to 49 employees. In 2002 a similar survey of non-financial private service firms ${ }^{2}$ with 20 or more employees was begun. In 2006 the survey was enlarged to include construction companies with 20 employees and over.

The sampling method was completely overhauled in 1987, with the adoption of a stratified design based on non-proportional selection probabilities. This has remained largely unchanged, although the overall number of firms sampled has gradually increased over the years. The Horvitz-Thompson estimator is employed, with appropriate re-weighting for the treatment of outliers. Over the years, the robustness of the estimates, particularly of variables with a large percentage of extreme data, has been improved by resorting to Winsorization techniques.

Until 2003 firms were classified into size groups according to their workforce at the end of the year. In 2004, however, it was decided to use the average annual workforce instead for reasons of uniformity with external sources.

Below is a description of various methodological aspects of the present survey. ${ }^{3}$

## A2. Composition of the population and the sample

The reference population (Table A1) is composed of firms whose registered head office is in Italy, having 20 employees and over (Table 1a) and belonging to various branches of activity in the non-construction industry, the construction sector, and in the sector of non-financial private services (Table 2a). The estimates are calculated on more synthetic aggregations to ensure they are sufficiently stable.

The 2007 sample is composed of 2,980 non-construction industrial firms, of which 1,128 have 20 to 49 employees and 1,852 have 50 and over, of 465 construction firms, fairly evenly distributed between those with 20 to 49 employees and those with 50 employees and over (231 and 234 of each), and of 1,083 non-financial private service firms, of which 397 have 20 to 49 employees and 686 have 50 and over (Table A1). The sampling fractions, which are 8.1 per cent for the non-construction industry, 6.5 per cent for construction firms and 3.8 per cent for services, increase considerably in the case of firms with 50 employees and over (Table 3a). As a result, the distribution of the sample is fairly biased in favour of large firms, with 61.2 per cent of the firms interviewed having 50 employees and over and the remaining 38.8 per cent between 20 and 49 , compared with 30.9 and 69.1 per cent respectively of the target population.

[^8]The sub-samples of industrial and service firms are distributed by branch of activity in much the same way as the target population. In industry, engineering firms are in the majority, while in the service sector trade and tourism companies predominate.

Table 1a
Distribution of firms and employees in the reference population, $2005{ }^{(\mathrm{a})}$ (units)

|  | Industry excluding construction |  | Construction |  | Non-financial private services |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | firms | employees | firms | employees | firms | employees |
| Geographical area ${ }^{(b)}$ |  |  |  |  |  |  |
| North-West ......... | 13,708 | 1,226,304 | 2,142 | 103,186 | 9,715 | 1,181,506 |
| North-East ... | 11,669 | 845,854 | 1,601 | 82,297 | 7,111 | 556,574 |
| Centre | 6,153 | 467,489 | 1,351 | 60,055 | 5,919 | 829,822 |
| South \& Islands . | 5,265 | 311,478 | 2,020 | 88,271 | 5,737 | 388,684 |
| No. of employees ${ }^{(\mathrm{c})}$ |  |  |  |  |  |  |
| 20-49 | 24,999 | 745,533 | 5,592 | 164,158 | 19,440 | 575,730 |
| 50-199 ... | 9,793 | 873,444 | 1,405 | 113,446 | 7,190 | 642,050 |
| 200-499. | 1,421 | 421,333 | 85 | 25,468 | 1,241 | 375,891 |
| 500 and over...... | 582 | 810,815 | 32 | 30,736 | 611 | 1,362,915 |
| Total | 36,795 | 2,851,125 | 7,114 | 333,809 | 28,482 | 2,956,586 |

(a) Source: Istat, 2005. - (b) Location of head office. - (c) Average annual workforce.

Table 2a

## Branch of economic activity

|  | Ateco 2002 section or sub-section | Branch of economic activity | Sector aggregations used in the tables |
| :---: | :---: | :---: | :---: |
| Industry excluding construction | $\begin{gathered} \text { DA } \\ \text { DB,DC } \\ \text { DF, DG, DH } \\ \text { DI } \\ \text { DJ, DK, DL, } \\ \text { DM } \\ \text { DD, DE, DN } \\ \text { CA, CB, E } \end{gathered}$ | Food products, beverages and tobacco Textiles, clothing, hides and leather <br> Chemicals, rubber and plastic <br> Non-metal minerals <br> Engineering <br> Other manufacturing <br> Energy and extraction | Other manufacturing <br> Textiles, clothing, hides and leather <br> Chemicals, rubber and plastic <br> Other manufacturing <br> Engineering <br> Other manufacturing <br> Energy and extraction |
| Con- <br> struction | F | Construction | Construction |
| Nonfinancial private services | G <br> H <br> I $K^{(a)}$ | Wholesale \& retail trade, repair services <br> Hotels and restaurants <br> Transport, storage \& communications <br> Other business \& household services | Trade, hotels \& catering <br> Transport \& communications <br> Other business \& household services |

[^9]In addition, to improve the accuracy of estimates for the South and Islands, firms whose registered office is located there are over-represented with respect to the population of firms with 20 employees and over in the sectors examined, accounting for 34.7 per cent of the sample against 18 per cent). ${ }^{4}$ The estimates take account of differences in the composition of the sample by means of weighting coefficients, details of which can be found in Section A6. ${ }^{5}$

Table 3a
Firms observed and sampling fraction, 2002-07
(number and per cent)

|  | Number of firms |  |  |  |  |  | Sampling fraction |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|  | Industry excluding construction |  |  |  |  |  |  |  |  |  |  |  |
| Number of employees |  |  |  |  |  |  |  |  |  |  |  |  |
| 20-49 .................... | 1,194 | 1,236 | 1,234 | 1,277 | 1,209 | 1,128 | 4.6 | 4.7 | 4.8 | 5.1 | 4.8 |  |
| 50 and over ................... | 1,852 | 1,905 | 1,916 | 1,950 | 1,900 | 1,852 | 15.3 | 15.5 | 16.0 | 16.5 | 16.1 | 15.7 |
| Total | 3,046 | 3,141 | 3,150 | 3,227 | 3,109 | 2,980 | 7.9 | 8.2 | 8.4 | 8.8 | 8.4 | 8.1 |
|  | Construction |  |  |  |  |  |  |  |  |  |  |  |
| Number of employees |  |  |  |  |  |  |  |  |  |  |  |  |
| 50 and over ................... | $\ldots$ |  | $\cdots$ |  | 236 | 231 | $\cdots$ | $\cdots$ | $\cdots$ | $\cdots$ | 4.2 15.6 | $4.1$ |
| Total. | $\cdots$ $\ldots$ | . $\ldots$ | $\ldots$ $\ldots$ |  | 473 | 465 | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $6.6$ | 6.5 |
|  | Non-financial private services |  |  |  |  |  |  |  |  |  |  |  |
| Number of employees |  |  |  |  |  |  |  |  |  |  |  |  |
| 20-49 | 367556 | $374$ | 410 | 444 | 428715 | 397686$\mathbf{1 , 0 8 3}$ | $\begin{aligned} & 2.1 \\ & 7.0 \\ & 3.6 \end{aligned}$ | $\begin{aligned} & 2.0 \\ & 7.4 \\ & 3.7 \end{aligned}$ | 2.2 | 2.37.9 | 2.27.9 | 2.07.6 |
| 50 and over ................... |  |  | 666 | 715 |  |  |  |  | 7.7 |  |  |  |
| Total.. | 923 | 994 | 1,076 | 1,159 | 1,143 |  |  |  | 3.9 | 4.1 | 4.0 | 3.8 |
| Total for industry and services | 3,969 | 4,135 | 4,226 | 4,386 | 4,725 | 4,528 | 6.2 | 6.4 | 6.5 | 6.7 | 6.5 | 6.3 |

## A3. Sample design

The survey adopts a one-stage stratified sample design. The strata are combinations of branch of activity (according to the classification in Table 2a), size class (in terms of number of employees $)^{6}$ and regional location of the firm's head office. ${ }^{7}$

[^10]The sample size is determined in two stages. First, the number of size classes is identified using the method known as optimum allocation to strata, ${ }^{8}$ which minimizes variance of the sample means and variations of the main variables observed (employment, turnover and investments). Second, the number of units in each size class is divided among regions and branches of activity in proportion to the number of firms in the target population belonging to that stratum. ${ }^{9}$

The firms are selected from the databases of the Company Accounts Data Service, Cerved, AIDA (Bureau Van Dijk) and other lists obtained independently by the Bank's branches in order to minimize the risk of under-coverage. The firms observed in the previous edition of the survey are always contacted again if they are still part of the target population, ${ }^{10}$ while those no longer wishing to take part are replaced with others in the same branch of activity and size class.

## A4. Data collection, questionnaire and response behaviour

The data for a survey referring to one year are collected in the course of interviews conducted by the Bank of Italy's branches between February and March of the following year.

The questionnaires (see Appendix C) are composed of a fixed part and a variable part. The fixed part contains general information on the firm and its structure, as well as annual data on investments, employment, turnover, operating result, capacity utilization and financing. ${ }^{11}$ The variable part covers different themes each year, which are the subject of detailed cyclical or structural analysis.

Separate questionnaires are prepared for industry excluding construction and for services, for firms with 20 to 49 employees and for firms with 50 and over. The general purpose of this distinction is to avoid having to ask questions that entail a greater respondent burden for small firms and to allow space, if necessary, to focus on separate topics for industry and services and for large and small firms. An individual questionnaire is submitted to construction firms, which tend to be smaller.

The content and structure of the questionnaires are decided shortly before these are administered. New questions are tested by the Bank's branches by means of pilot questionnaires designed to assess whether they are easy to understand and whether the information is effectively available from the firms.

In the case of employment, investments and turnover, information is requested for three periods: the year just ended (preliminary results), the previous year (final results) and the following year (forecasts). The effort involved in answering the questionnaire is monitored via a question at the end of the interview and specific information obtained from the interviewees.

The involvement of the Bank of Italy's branches (which themselves make use of the data collected) allows us to achieve a high response rate. The response rate in the 2007 survey, i.e. the proportion of firms interviewed in relation to all those contacted, is 79.7 per cent for non-construction industrial firms and 77.6 per cent for service firms (Table 4a).

[^11]
## Distribution of firms contacted for the survey in 2006

(number and per cent)

|  | Industry excluding construction |  | Construction |  | Non-financial private services |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number of firms | per cent | number of firms | per cent | number of firms | per cent |
| Firms contacted | 3,797 | 100.0 | 556 | 100.0 | 1,423 | 100.0 |
| Firms reporting. | 3,025 | 79.7 | 467 | 84.0 | 1,104 | 77.6 |
| non-homogeneous data ${ }^{(a)}$ | 45 | 1.2 | 2 | 0.4 | 21 | 1.5 |
| eligible data .................. | 2,980 | 78.5 | 465 | 83.6 | 1,083 | 76.1 |
| Firms failing to co-operate ${ }^{(\mathrm{b})}$. | 772 | 20.3 | 89 | 16.0 | 319 | 22.4 |

(a) For details concerning the treatment of these firms, see Section A5. - (b) Reasons for failure to co-operate include leaving the population covered by the survey.

## A5. Data quality checks and imputation of missing data

The collected data are subjected to a system of quality checks. In particular, we check for the compatibility of values with the range allowed by the question, the time consistency of panel data, the squaring of certain figures and the presence of outliers. The data are verified at different levels, with each check being run on data that have passed the previous level.

The questionnaires are first checked by the officers in charge of the interviews, who apply their technical skills and knowledge of the local market to assess the quality of the data collected. ${ }^{12}$ The data-entry procedure then rejects everything outside the defined range of the variable or incompatible with the internal consistency of the questionnaires.

Data accepted by the procedure may still be outside certain thresholds based on past statistics or external information. In this case the data are highlighted for the attention of the interviewers, who check them and, if necessary, contact the firm for clarification. Confirmation is recorded in a special field. Only at this point is the checked data entered in the database.

The second set of checks uses editing techniques founded on statistical assumptions that can detect extreme observations with respect to the frequencies based on (natural or logarithmic scale) cross-section distributions. The outliers are detected by comparing the value of each variable with the median of its distribution and setting as threshold a value proportional to the inter-quartile deviation.

Since the 2000 edition a further quality check has been put in place, called selective editing. This produces a list of priorities for checking outliers according to their importance for the final estimate. The values of each variable are compared with the predicted value of a simple regression model. On the basis of this statistic a Taylor approximation is used to build a score for each firm according to the impact each value would have on the final estimate in

[^12]the model. The higher the score (i.e. the greater the impact of the observed value on the final estimate according to the model), the more urgent it is to check the value of that variable for that firm. ${ }^{13}$ This process is applied to a set of several variables to draw up a ranking from the highest score down.

This method improves the quality of the estimates while reducing the respondent burden in the final stage of data processing, because it is necessary to re-examine and possibly re-contact only the firms with a significant impact on the final estimates. ${ }^{14}$

A treatment apart is reserved for data on firms affected by extraordinary events, such as mergers or splits. These firms are only included in the estimate if the data for final results, preliminary results and forecasts refer to a set of factories and workers that is homogeneous with the data collected in the same survey. The interviewer ensures their homogeneity either by considering the extraordinary event to have taken place at the beginning of the year of the final results, or by pretending the event never occurred and reconstructing the data accordingly; if this is not possible, the firm is excluded from further processing. Although this practice may cause distortions in the estimates (such as the total of investments), it does produce more stable estimates of changes and average values per employee, which are the main objective of the survey.

The firms taking part in the survey may have difficulty answering some of the questions. If the missing answer concerns one of the main variables, such as investment spending or turnover, the missing data are imputed.

In general, ratio estimators are used to impute data, setting the number of the firm's employees as denominator (since this information is always available, otherwise the firm is excluded from the survey) in order to capture the scale effect. ${ }^{15}$ In some cases the firm's time series data are used for the reconstruction, in the form of individual effects. This method gives an estimate of a level per employee that is obtained by combining a general crosssection mean and an average based on the firm's time series. The levels at time $t$ and $t+1$ are reconstructed in sequence, by calculating average changes in appropriate cells of homogeneous firms. ${ }^{16}$

The percentage of imputed data is usually small for both preliminary and final results for the fundamental variables. A higher rate of non-response tends to occur with questions involving forecasts, particularly of investments.

[^13]
## A6. Weighting

The weighting procedure is performed in two stages.
In step one, the combinations of branch of activity and size class are used as strata. Each firm is assigned an initial weight, given by the ratio of number of firms in the stratum cell to number of firms in the sample. Let $h$ be the general stratum cell and, within it, $N_{h}$ the number of firms in the target population and $n_{h}$ the sample size. ${ }^{17}$ The first stage weight of each firm in stratum $h$ is therefore:
(1) $\quad w_{h}{ }^{(0)}=\frac{N_{h}}{n_{h}}$

By construction, the sum of the weights of each cell therefore gives the size of the target population it contains.

In step two, post-stratification is performed using raking ${ }^{18}$ to take into account also the geographical area $k$ where the firm's head office is located. The initial weight is modified by an adjustment factor $f_{k}$ so that the final weights can be obtained:

$$
\begin{equation*}
w_{h k}^{(1)}=w_{h}^{(0)} f_{k} \tag{2}
\end{equation*}
$$

the sum of which coincides, in the post-stratum cells, with the number of firms in the target population they contain.

Therefore the system of final weights does not take into account the complete combinations of sector, branch of activity and geographical area, partly because some of them may contain no sample units, and partly because such a system of weights might lead to overly variable estimates for some domains. Consequently, post-stratification is limited to reconstructing the combinations of a) North-West, North-East, Centre, South and Islands, b) firms with 20 to 49 and 50 and over employees, c) manufacturing, energy and extractive, and service firms (the latter divided by section; see Section A2).

At every survey the weights are recalculated according to the distribution of the population on the latest available date. ${ }^{19}$

## A7. Sample estimates

For a generic variable $x$, the aggregate is estimated with a Horvitz-Thompson unbiased estimator of the total, ${ }^{20}$ given by:

$$
\begin{equation*}
X=\sum w_{i} x_{i} \tag{3}
\end{equation*}
$$

[^14]${ }^{20}$ See F. Cicchitelli et al., Il campionamento statistico, Bologna, Il Mulino Editore, 1994.

The estimate of rates of change, for instance of turnover or investments, is obtained using as estimator the ratio of the sums of the levels for each firm, weighted with the inverse sampling fraction according to a formula of the following type:

$$
\begin{equation*}
r_{t, t-1}=\frac{\sum_{i} w_{i} X_{i}^{t}}{\sum_{i} w_{i} X_{i}^{t-1}} \tag{4}
\end{equation*}
$$

The levels of the aggregate that are set as numerator and denominator of the formula are collected from the firm in the reference year, even when that firm has already taken part in the previous edition of the survey. ${ }^{21}$

In the specific case of percentage changes in investment, robust estimation techniques have been used since the 1999 survey. ${ }^{22}$ The empirical distribution of this variable is ridden with outliers, partly owing to the nature of the phenomenon of interest: measurement of the levels, the ratio of which gives the rate of change, is complicated by the simultaneous presence of factors such as the typical long-term nature of spending, uncertainty, classification errors, and other sources of measurement error.

Using the method known as 'type II Winsorization', the rates of change above and below the cut-offs fixed on the basis of the empirical distribution are squashed against the cut-off, in proportion to the sampling fraction, according to the following formula:

$$
y_{i}^{\text {wins }}=\left\{\begin{array}{cc}
f y_{i}+(1-f) J & y_{i}<J  \tag{5}\\
f y_{i}+(1-f) K & y_{i}>K \\
y_{i} & \text { otherwise }
\end{array}\right.
$$

in which $y_{i}^{\text {wins }}$ is the Winsorized rate, $y_{i}$ the observed rate, $f$ the sampling fraction, $J$ and $K$ respectively the lower and upper cut-offs. In the case of firms labelled as outliers, the extreme values are set equal to the cut-off, without taking the sampling fraction into account. ${ }^{23} 24$ This method is used for turnover from the 2005 survey on and, only in the case of construction firms, for total production and output of public works from the 2006 survey.

In a few cases the survey collects directly the rates of change in economic phenomena: this happens, for instance, with the rate of change of capacity utilization or of percentages (such as the percentage of hours worked overtime). In this case, the estimate for the whole population is calculated as an average of the individual rates of change, weighted

[^15]with the inverse sampling fraction times the amount of the phenomenon (or, if unavailable, a proxy).

The deflators for the levels of investments and turnover are calculated as sector means of the individual deflators collected directly from firms, weighted with the product of the coefficient of the ratio to the population and the amount of turnover. ${ }^{25} 26$

## A8. Estimating standard errors

Finding the analytical expressions of the variance of the estimators obtained from a non-proportional stratified sampling design, with weights adjusted to take account of poststratified variables, can be a complex task ${ }^{27}$ that suggests resorting to simulation methods able to take account of the original sample design. ${ }^{28}$

The values are estimated using the jackknife method, which is particularly wellsuited to take account of the imposed structure of the data due to the nature of the sampling design, while ensuring that adequate asymptotic properties are maintained. ${ }^{29}$

If $T_{n}$ is the value of the estimator for a sample containing $n$ units and $T_{n-1 ; i}$ is the value of the same estimator calculated for the sample in which the $i$ th unit has been left out (leave-one-out method), we first calculate the 'pseudo-values' $\tilde{T}_{n ; i}$ defined as:

$$
\begin{equation*}
\tilde{T}_{n ; i}=n T_{n}-(n-1) T_{n-1 ; i} \quad 1 \leq i \leq n \tag{6}
\end{equation*}
$$

the jackknife estimator of the variance of $T_{n}$ is (Tukey, 1958):

$$
\begin{equation*}
\operatorname{Var}_{J A C K}\left(T_{n}\right)=\frac{1}{n(n-1)} \sum_{i=1}^{n}\left(\tilde{T}_{n ; i}-\frac{1}{n} \sum_{j=1}^{n} \tilde{T}_{n ; j}\right)^{2} \tag{7}
\end{equation*}
$$

The highest standard errors are found for the estimate of the variance of investments owing to their intrinsic variability (Table 5a). Lower standard errors occur in the estimate of changes in turnover and employment. In the domain analyses, for example by firm size class or geographical area, the estimates are less accurate than the estimates for the total sample, a circumstance that should be taken into account when analysing the results.

The standard errors are also estimated for the forecasts of the main variables surveyed. These calculations take into account the fact that a fair portion of the data is affected by partial non-responses, which are imputed using the method described in Section

[^16]A5. ${ }^{30}$ Multiple imputation is used, which entails replicating independently a given number of datasets containing the complete observations so as to take account of the intrinsic variability of imputation. Twenty-five bootstrap samples are extracted from the original sample, only for observations based on complete original data, maintaining the sampling design. The imputation of the forecasting variables is replicated after the design weights have been realigned with the post-stratified variables. If $\hat{t}$ is used to denote the estimator and $m$ the number of replicated samples, the variance of $\hat{t}$ can be estimated by the following expression: ${ }^{31}$

$$
\begin{equation*}
\hat{v}(\hat{t})=\frac{1}{m} \sum_{j=1}^{m} \hat{v}_{p(s)}\left(\hat{t}_{j}^{*}\right)+\left(1+\frac{1}{m}\right) \sum_{j=1}^{m} \frac{\left(\hat{t}_{j}^{*}-\hat{t}_{m i}\right)^{2}}{m-1}, \text { where } \hat{t}_{m i}=\frac{1}{m} \sum_{i=1}^{m} \hat{t}_{j}^{*} \tag{8}
\end{equation*}
$$

The term $\hat{v}_{p(s)}\left(\hat{t}_{j}^{*}\right)$ indicates the variance estimated on the $j$-th sample replicated for the estimator $\hat{t}$, using the information from the sampling plan $p(s)$. The first sum is the average within imputation variance, while the second sum, known as the between imputation variance, is interpreted as the variability produced by the imputation process. Table 6 a gives the results. Clearly, the forecasting data show a greater degree of variability than the bottom line results.

Finally, Table 7a contains the standard errors for the forecasts and bottom line results of the main variables recorded for construction firms. Here again, the forecasting data show greater variability.

[^17]Standard errors of percentage changes, 2007 on 2006 Industry, excluding construction, and Services
(per cent)

(a) Estimated at constant 2007 prices using type II Winsorization at the 5th and 95 th percentile distribution of changes per employee.

Standard errors of forecast changes, 2008 on 2007
Industry, excluding construction, and Services
(per cent)

|  | Change in total investments <br> (a) |  | Change in turnover ${ }^{(a)}$ |  | Change in end-year workforce |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | estimate | standard error | estimate | standard error | estimate | standard error |
|  | Industry excluding construction |  |  |  |  |  |
| Geographical area |  |  |  |  |  |  |
| North-West......... | 10.6 | 2.7 | 2.1 | 0.8 | -0.7 | 2.4 |
| North-East | 0.9 | 3.1 | 2.3 | 0.8 | 0.2 | 2.0 |
| Centre ................ | 2.8 | 2.5 | 4.7 | 2.2 | -0.3 | 1.4 |
| South \& Islands | -1.4 | 3.5 | 2.2 | 0.8 | -0.9 | 1.5 |
| Number of employees |  |  |  |  |  |  |
| 20-49................. | -2.2 | 3.9 | 0.9 | 0.8 | -0.5 | 1.1 |
| 50-199............... | -0.3 | 2.9 | 2.2 | 1.0 | 0.2 | 1.6 |
| 200-499............. | 6.6 | 3.1 | 1.3 | 0.9 | 0.1 | 2.1 |
| 500 and over ........ | 13.4 | 2.4 | 5.0 | 1.4 | -1.1 | 3.7 |
| Total ........................ | 5.8 | 1.9 | 2.7 | 0.8 | -0.4 | 1.5 |
|  | Non-financial private services |  |  |  |  |  |
| Geographical area |  |  |  |  |  |  |
| North-West......... | 2.9 | 3.2 | 1.3 | 0.9 | 1.5 | 0.8 |
| North-East | -0.5 | 3.5 | 0.6 | 0.7 | 1.2 | 0.8 |
| Centre ................ | 6.5 | 2.9 | 1.8 | 2.1 | 2.1 | 0.6 |
| South \& Islands | 0.3 | 3.7 | 1.4 | 0.9 | 1.8 | 1.3 |
| Number of employees |  |  |  |  |  |  |
| 20-49................. | -5.7 | 3.0 | -0.2 | 0.8 | 0.8 | 0.9 |
| 50-199............... | -0.5 | 3.9 | 1.4 | 0.9 | 1.5 | 0.9 |
| 200-499............. | 2.7 | 3.1 | 1.2 | 1.1 | 1.8 | 1.1 |
| 500 and over........ | 7.9 | 2.5 | 2.9 | 1.6 | 2.2 | 0.8 |
| Total .......................... | 3.2 | 2.0 | 1.2 | 0.8 | 1.6 | 0.5 |
| Total .......................... | 4.5 | 1.9 | 2.0 | 0.4 | 0.6 | 0.8 |

(a) Estimated at constant 2007 prices using type II Winsorization at the 5 th and 95 th percentile distribution of changes per employee.

Table 7a
Standard errors of percentage changes

## Construction firms

(per cent)

|  | Change in total investments <br> (a) |  | Change in turnover ${ }^{(a)}$ |  | Change in end-year workforce |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | estimate | standard error | estimate | standard error | estimate | standard error |
|  | Changes 2007 on 2006 |  |  |  |  |  |
| Geographical area <br> North-West $\qquad$ <br> North-East <br> Centre $\qquad$ <br> South \& Islands | $\begin{array}{r} -1.1 \\ -0.7 \\ 1.5 \\ -5.0 \end{array}$ | $\begin{aligned} & 1.2 \\ & 1.8 \\ & 1.4 \\ & 3.3 \end{aligned}$ | $\begin{aligned} & 1.2 \\ & 0.8 \\ & 1.1 \\ & 0.0 \end{aligned}$ | 1.8 1.4 1.4 2.0 | $\begin{aligned} & -4.6 \\ & -4.1 \\ & -2.5 \\ & -1.2 \end{aligned}$ | $\begin{aligned} & 2.5 \\ & 2.2 \\ & 2.3 \\ & 2.4 \end{aligned}$ |
| Number of employees $\begin{aligned} & 20-49 \ldots . . . . . . . . . . . . . . . . . ~ \\ & 50-199 \ldots . . . . . . . . . . . ~ \\ & 200-499 \ldots . . . . . . . . . . \\ & 500 \text { and over ...... } \end{aligned}$ | $\begin{array}{r} -3.4 \\ 1.6 \\ -5.8 \\ -0.3 \end{array}$ | $\begin{aligned} & 1.8 \\ & 1.4 \\ & 5.5 \\ & 2.0 \end{aligned}$ | $\begin{array}{r} 1.5 \\ 1.5 \\ 2.0 \\ -4.4 \end{array}$ | $\begin{aligned} & 1.4 \\ & 1.5 \\ & 2.1 \\ & 1.3 \end{aligned}$ | $\begin{array}{r} -4.6 \\ -2.2 \\ 1.4 \\ -6.0 \end{array}$ | $\begin{aligned} & 1.9 \\ & 2.3 \\ & 2.6 \\ & 2.7 \end{aligned}$ |
| Total... | -1.5 | 1.1 | 0.9 | 0.9 | -3.3 | 1.2 |
|  | Forecast changes 2008 on 2007 |  |  |  |  |  |
| Geographical area <br> North-West <br> North-East <br> Centre $\qquad$ <br> South \& Islands | $\begin{array}{r} -2.0 \\ 2.5 \\ 1.2 \\ -4.5 \end{array}$ | $\begin{aligned} & 1.3 \\ & 1.6 \\ & 2.2 \\ & 5.0 \end{aligned}$ | -4.0 0.3 -1.5 -1.7 | 1.6 1.6 2.7 4.9 | -4.7 -2.5 -0.9 0.0 | $\begin{aligned} & 3.4 \\ & 3.3 \\ & 4.7 \\ & 7.1 \end{aligned}$ |
| Number of employees $\begin{aligned} & 20-49 . . . . . . . . . . . . . . . . . . . ~ \\ & 50-199 \ldots . . . . . . . . . . . . . ~ \\ & 200-499 \ldots . . . . . . . . . . . . ~ \\ & 500 \text { and over ...... } \end{aligned}$ | $\begin{array}{r} -1.7 \\ -1.0 \\ -1.8 \\ 3.8 \end{array}$ | $\begin{aligned} & 1.4 \\ & 2.5 \\ & 1.7 \\ & 1.8 \end{aligned}$ | $\begin{array}{r} -3.3 \\ -1.8 \\ 2.3 \\ 1.0 \end{array}$ | $\begin{aligned} & 1.7 \\ & 2.4 \\ & 2.3 \\ & 2.3 \end{aligned}$ | $\begin{array}{r} -5.7 \\ 0.2 \\ 3.2 \\ -2.7 \end{array}$ | $\begin{aligned} & 3.8 \\ & 3.9 \\ & 4.0 \\ & 3.3 \end{aligned}$ |
| Total ........................ | -0.8 | 1.2 | -1.8 | 1.3 | -2.3 | 2.7 |

(a) Estimated at constant 2007 prices using type II Winsorization at the 5th and 95th percentile distribution of changes per employee.

## A9. The BIRD remote processing system for survey data

In March 2008 the Bank of Italy started a system for remote processing of data collected for its Survey of Industrial and Service Firms named BIRD (Bank of Italy Remote access to micro Data).

The new system allows researchers and economists to process data from the survey on industrial and service firms collected since 1984, ensuring that individual information remains completely confidential. The researcher submits calculations and receives output by e-mail, without having access to individual micro data. Input and output alike are subject to automatic and manual checks of their content and logic. Users must apply to the Bank for authorization in order to gain access to the system.

## Appendix B

Statistical Tables

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Composition of the samples and reference populations
(number)

|  | Firms with 20-49 employees |  | Firms with 50+ employees |  | Total firms with 20+ employees |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | sample size 2007 | population $\text { size }^{(1)}$ | sample size 2007 | population size ${ }^{(1)}$ | $\begin{gathered} \text { sample size } \\ 2007 \end{gathered}$ | population size ${ }^{(1)}$ |
|  | Industry, excluding construction |  |  |  |  |  |
| Geographical area ${ }^{(2)}$ |  |  |  |  |  |  |
| North-West ................................ | 173 | 8,804 | 524 | 4,904 | 697 | 13,708 |
| North-East .................................. | 174 | 7,879 | 392 | 3,790 | 566 | 11,669 |
| Centre ....................................... | 238 | 4,410 | 421 | 1,743 | 659 | 6,153 |
| South \& Islands ......................... | 543 | 3,906 | 515 | 1,359 | 1,058 | 5,265 |
| Number of employees |  |  |  |  |  |  |
| 20-49 ................................... | 1,128 | 24,999 | - | - | 1,128 | 24,999 |
| $50-199$................................... | - | - | 1,170 | 9,793 | 1,170 | 9,793 |
| 200-499 .................................. | - | - | 381 | 1,421 | 381 | 1,421 |
| 500 and over .............................. | - | - | 301 | 582 | 301 | 582 |
| Branch of activity |  |  |  |  |  |  |
| Total manufacturing..................... | 1,093 | 24,552 | 1,785 | 11,516 | 2,878 | 36,068 |
| Textile, clothing, leather, shoes . | 139 | 4,298 | 229 | 1,647 | 368 | 5,945 |
| Chemicals, rubber and plastics .. | 107 | 2,069 | 219 | 1,405 | 326 | 3,474 |
| Engineering ............................ | 388 | 10,907 | 785 | 5,391 | 1,173 | 16,298 |
| Other manufacturing ................ | 459 | 7,278 | 552 | 3,073 | 1,011 | 10,351 |
| Energy and extraction .................. | 35 | 447 | 67 | 280 | 102 | 727 |
| Total industry, excl. construction... | 1,128 | 24,999 | 1,852 | 11,796 | 2,980 | 36,795 |
|  |  |  | Cons | ction |  |  |
| Geographical area ${ }^{(2)}$ |  |  |  |  |  |  |
| North-West ................................ | 48 | 1,669 | 46 | 473 | 94 | 2,142 |
| North-East .................................. | 32 | 1,253 | 65 | 348 | 97 | 1,601 |
| Centre ....................................... | 60 | 1,064 | 47 | 287 | 107 | 1,351 |
| South \& Islands ......................... | 91 | 1,606 | 76 | 414 | 167 | 2,020 |
| Number of employees |  |  |  |  |  |  |
| 20-49 | 231 | 5,592 | - | - | 231 | 5,592 |
| 50-199 | - | - | 182 | 1,405 | 182 | 1,405 |
| 200-499 .................................. | - | - | 33 | 85 | 33 | 85 |
| 500 and over ............................. | - | - | 19 | 32 | 19 | 32 |
| Total construction ......................... | 231 | 5,592 | 234 | 1,522 | 465 | 7,114 |
|  |  |  | Ser | s ${ }^{(3)}$ |  |  |
| Geographical area ${ }^{(2)}$ |  |  |  |  |  |  |
| North-West ................................ | 81 | 6,261 | 169 | 3,454 | 250 | 9,715 |
| North-East .................................. | 62 | 5,030 | 161 | 2,081 | 223 | 7,111 |
| Centre ....... | 100 | 4,044 | 165 | 1,875 | 265 | 5,919 |
| South \& Islands ... | 154 | 4,105 | 191 | 1,632 | 345 | 5,737 |
| Number of employees |  |  |  |  |  |  |
| $20-49$..................................... | 397 | 19,440 | - | - | 397 | 19,440 |
| $50-199$.................................. | - | - | 362 | 7,190 | 362 | 7,190 |
| 200-499 .................................. | - | - | 162 | 1,241 | 162 | 1,241 |
| 500 and over .............................. | - | - | 162 | 611 | 162 | 611 |
| Branch of activity |  |  |  |  |  |  |
| Trade, hotels, restaurants ............. | 260 | 10,801 | 294 | 3,725 | 554 | 14,526 |
| Transport and communication ....... | 78 | 3,392 | 187 | 1,912 | 265 | 5,304 |
| Other h.hold \& business services... | 59 | 5,247 | 205 | 3,405 | 264 | 8,652 |
| Total services ................................ | 397 | 19,440 | 686 | 9,042 | 1,083 | 28,482 |
| Total ........................................... | 1,756 | 50,031 | 2,772 | 22,360 | 4,528 | 72,391 |

(1) Population data are from Istat and refer to 2004. - (2) The geographical area is defined by the location of the registered head office (North-West = Piedmont, Valle d'Aosta, Lombardy and Liguria; North-East = Veneto, Trentino-Alto Adige, Friuli-Venezia Giulia and Emilia-Romagna; Centre = Tuscany, Umbria, Le Marche and Lazio; South and Islands = Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicily and Sardinia). - (3) Does not include firms in credit and insurance, public services and other social and personal services.

Table B1
Change in average workforce, 2004-08
(per cent)

|  | 2004 | 2005 | 2006 | 2007 | $2008{ }^{(1)}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Industrial firms |  |  |  |  |
| Geographical area |  |  |  |  |  |
| North-West | -2.0 | -1.3 | -0.6 | 0.1 | -0.7 |
| North-East. | -0.9 | -0.7 | 0.3 | 0.8 | 0.2 |
| Centre | -1.5 | -0.2 | 0.4 | -0.4 | -0.3 |
| South \& Islands | -0.3 | -0.4 | -0.3 | 0.7 | -0.9 |
| Area of employment |  |  |  |  |  |
| North-West | -2.1 | -1.0 | -0.7 | -0.1 | -0.8 |
| North-East. | -1.0 | -0.7 | 0.4 | 0.9 | 0.2 |
| Centre | -0.9 | -1.1 | 0.3 | 0.2 | 0.1 |
| South \& Islands | -1.0 | -0.4 | -0.3 | 0.2 | -1.1 |
| Number of employees |  |  |  |  |  |
| 20-49 | -1.3 | -0.7 | -0.1 | -0.6 | -0.5 |
| 50-199 | -0.8 | -1.4 | -0.5 | 0.6 | 0.2 |
| 200-499 | -0.3 | -0.2 | 0.6 | 0.9 | 0.1 |
| 500 and over | -2.9 | -0.8 | -0.2 | 0.4 | -1.1 |
| Branch of activity |  |  |  |  |  |
| Total manufacturing .......................... | -1.3 | -0.9 | -0.3 | 0.4 | -0.3 |
| Textile, clothing, leather, shoes ....... | -2.7 | -2.8 | -2.8 | -1.0 | -1.6 |
| Chemicals, rubber and plastics ........ | -0.3 | -0.8 | -0.6 | 0.2 | -0.6 |
| Engineering .................................. | -1.4 | -0.4 | 0.6 | 1.4 | 0.4 |
| Other manufacturing ...................... | -0.9 | -1.0 | -0.5 | -0.7 | -1.1 |
| Energy and extraction........................ | -3.3 | 0.8 | 2.5 | -2.0 | -0.9 |
| Share of exports |  |  |  |  |  |
| Less than one-third | -1.6 | -0.7 | 0.1 | 0.0 | -0.8 |
| From one- to two-thirds ..................... | -1.6 | -1.2 | -0.9 | 0.5 | -0.5 |
| Over two-thirds .... | -0.8 | -0.7 | 0.3 | 0.5 | 0.7 |
| Total industrial firms. | -1.4 | -0.9 | -0.1 | 0.3 | -0.4 |
|  | Service firms |  |  |  |  |
| Geographical area |  |  |  |  |  |
| North-West | 1.4 | 1.0 | 0.1 | 1.9 | 1.5 |
| North-East. | 2.1 | 1.5 | 2.3 | 3.5 | 1.2 |
| Centre | 1.2 | -0.3 | 1.7 | 1.7 | 2.1 |
| South \& Islands | 3.5 | 1.1 | -0.6 | 2.2 | 1.8 |
| Area of employment |  |  |  |  |  |
| North-West . | 2.0 | 1.5 | 0.3 | 1.7 | 1.8 |
| North-East. | 0.9 | 1.1 | 1.8 | 3.1 | 1.2 |
| Centre | 1.5 | -0.3 | 1.7 | 3.1 | 1.8 |
| South \& Islands | 3.2 | 0.5 | 0.1 | 1.3 | 1.7 |
| Number of employees |  |  |  |  |  |
| 20-49 | 1.3 | -0.7 | -0.4 | 1.2 | 0.8 |
| 50-199 | 3.0 | 1.8 | 1.3 | 1.6 | 1.5 |
| 200-499 | 1.7 | 1.5 | 0.3 | 3.7 | 1.8 |
| 500 and over | 1.4 | 1.1 | 1.9 | 2.9 | 2.2 |
| Branch of activity |  |  |  |  |  |
| Trade, hotels, restaurants ................... | 3.1 | 1.1 | 1.9 | 2.4 | 0.8 |
| Transport and communication............. | 0.9 | 0.7 | -0.8 | 1.4 | 1.1 |
| Other h.hold \& business services ......... | 1.0 | 0.7 | 1.0 | 2.7 | 3.0 |
| Total service firms .............................. | 1.8 | 0.9 | 0.9 | 2.3 | 1.6 |
| Total ................................................. | 0.0 | -0.1 | 0.3 | 1.2 | 0.6 |

(1) Forecast.

Table B2
Change in end-of-year workforce, 2004-07
(per cent)

|  | 2004 | 2005 | 2006 | 2007 |
| :---: | :---: | :---: | :---: | :---: |
|  | Industrial firms |  |  |  |
| Geographical area |  |  |  |  |
| North-West ...................................... | -1.4 | -1.1 | -0.1 | -0.5 |
| North-East......................................... | -1.1 | -0.7 | 0.4 | 1.0 |
| Centre ........................................... | -0.5 | -1.2 | -0.5 | -0.6 |
| South \& Islands ................................. | -0.7 | -1.0 | 0.6 | 0.4 |
| Area of employment |  |  |  |  |
| North-West ...................................... | -1.5 | -1.1 | -0.1 | -0.6 |
| North-East......................................... | -1.0 | -0.7 | 0.4 | 0.9 |
| Centre ............................................. | -0.3 | -1.4 | 0.1 | 0.0 |
| South \& Islands ................................. | -0.9 | -1.1 | -0.2 | -0.1 |
| Number of employees |  |  |  |  |
| $20-49$........................................... | -1.2 | -0.6 | 0.4 | -0.6 |
| $50-199$.......................................... | -1.0 | -1.5 | 0.2 | 0.6 |
| 200-499 ........................................ | -0.9 | -0.4 | 1.1 | 0.4 |
| 500 and over ..................................... | -1.2 | -1.2 | -0.9 | -0.3 |
| Branch of activity |  |  |  |  |
| Total manufacturing.............................. | -1.1 | -0.9 | 0.1 | 0.1 |
| Textile, clothing, leather, shoes .......... | -3.5 | -3.0 | -2.0 | -1.5 |
| Chemicals, rubber and plastics ........... | -0.1 | -0.9 | -0.6 | -0.4 |
| Engineering ..................................... | -1.0 | -0.2 | 1.3 | 1.1 |
| Other manufacturing ........................ | -0.4 | -1.3 | -0.6 | -0.6 |
| Energy and extraction .......................... | -0.8 | -2.0 | -0.9 | -2.5 |
| Share of exports |  |  |  |  |
| Less than one-third ............................. | -1.1 | -1.0 | -0.2 | -0.3 |
| From one- to two-thirds ....................... | -1.1 | -1.3 | 0.0 | -0.3 |
| Over two-thirds .................................... | -1.0 | -0.5 | 0.9 | 1.0 |
| Total industrial firms ........................... | -1.1 | -1.0 | 0.1 | 0.0 |
|  | Service firms |  |  |  |
| Geographical area |  |  |  |  |
| North-West ...................................... | 1.1 | -0.1 | 0.2 | 1.6 |
| North-East........................................ | 1.5 | 1.0 | 3.4 | 2.9 |
| Centre .......... | 0.6 | -0.1 | 2.5 | 1.5 |
| South \& Islands .................................. | 2.7 | 3.0 | -1.8 | 3.4 |
| Area of employment |  |  |  |  |
| North-West ......................................... | 1.0 | 0.3 | 0.3 | 1.4 |
| North-East.......................................... | 0.5 | 0.5 | 2.5 | 2.5 |
| Centre ............................................ | 1.8 | 0.3 | 3.1 | 3.1 |
| South \& Islands ................................. | 2.6 | 1.8 | -0.8 | 2.0 |
| Number of employees |  |  |  |  |
| 20-49 .......................................... | 0.8 | 0.1 | -0.4 | 1.3 |
| $50-199$......................................... | 1.8 | 2.0 | 2.3 | 2.9 |
| $200-499$........................................ | 1.5 | 0.2 | 1.1 | 2.8 |
| 500 and over ..................................... | 1.2 | 0.1 | 1.7 | 2.0 |
| Branch of activity |  |  |  |  |
| Trade, hotels, restaurants ....................... | 2.4 | 1.1 | 2.3 | 2.3 |
| Transport and communication ................ | -0.2 | -0.2 | -1.0 | 0.7 |
| Other h.hold \& business services............ | 1.1 | 0.6 | 1.6 | 3.0 |
| Total service firms ................................ | 1.3 | 0.6 | 1.2 | 2.2 |
| Total ................................................. | -0.1 | -0.3 | 0.6 | 1.0 |

Table B3
Fixed-term work, temporary work and immigrant workers, 2007
(per cent; number; average points)

|  | Fixed-term work | Temporary work ${ }^{(1)}$ |  | Non-EU workers |
| :---: | :---: | :---: | :---: | :---: |
|  | $\%$ of end-year workforce | number of assignments | \% hours temporary work over total | \% of end-year workforce |
|  | Industrial firms |  |  |  |
| Geographical area |  |  |  |  |
| North-West ........ | 5.5 | 29.4 | 3.3 | 3.5 |
| North-East........ | 5.9 | 18.8 | 2.9 | 5.1 |
| Centre ..................................... | 5.6 | 15.6 | 2.4 | 3.3 |
| South \& Islands ... | 9.1 | 5.9 | 2.0 | 0.7 |
| Number of employees |  |  |  |  |
| 20-49 ................. | 6.0 | - | - | 4.7 |
| 50-199 | 6.5 | 12.8 | 2.6 | 3.8 |
| 200-499 .... | 6.4 | 38.0 | 3.4 | 3.6 |
| 500 and over ............................. | 5.1 | 123.3 | 3.3 | 2.0 |
| Branch of activity |  |  |  |  |
| Total manufacturing ... | 6.2 | 21.3 | 3.1 | 3.8 |
| Textile, clothing, leather, shoes .... | 5.2 | 9.2 | 1.9 | 3.1 |
| Chemicals, rubber and plastics ..... | 6.1 | 25.1 | 3.1 | 3.4 |
| Engineering .... | 6.0 | 16.2 | 3.5 | 3.9 |
| Other manufacturing .................... | 6.9 | 34.8 | 2.8 | 4.0 |
| Energy and extraction................... | 2.0 | 20.9 | 1.4 | 0.5 |
| Share of exports |  |  |  |  |
| Less than one-third ........................ | 6.9 | 23.7 | 2.6 | 3.9 |
| From one- to two-thirds | 5.0 | 20.1 | 3.1 | 3.6 |
| Over two-thirds ..................... | 5.1 | 17.8 | 3.6 | 3.3 |
| Total industrial firms......................... | 6.0 | 21.2 | 3.0 | 3.7 |
|  | Service firms |  |  |  |
| Geographical area |  |  |  |  |
| North-West ....... | 9.2 | 33.0 | 1.5 | 4.7 |
| North-East... | 13.3 | 25.5 | 1.1 | 5.0 |
| Centre ....... | 9.4 | 16.1 | 0.9 | 3.2 |
| South \& Islands ................ | 10.3 | 6.7 | 0.8 | 0.5 |
| Number of employees |  |  |  |  |
| 20-49 ................ | 11.0 | - | - | 2.7 |
| 50-199 ............. | 11.2 | 5.5 | 1.4 | 2.7 |
| 200-499.... | 11.4 | 14.3 | 0.9 | 6.0 |
| 500 and over | 9.0 | 247.6 | 1.2 | 4.6 |
| Branch of activity |  |  |  |  |
| Trade, hotels, restaurants ..... | 13.6 | 37.4 | 1.4 | 3.0 |
| Transport and communication........... | 7.4 | 16.2 | 1.1 | 2.9 |
| Other h.hold \& business services ...... | 8.9 | 11.2 | 1.1 | 5.1 |
| Total service firms ................... | 10.4 | 23.0 | 1.2 | 3.7 |
| Total | 8.0 | 22.0 | 2.2 | 3.7 |

(1) Only firms with 50+ employees.

Labour turnover, hirings and terminations, 2007
(per cent of average workforce)

|  | $\underset{\text { turnover }}{ }{ }^{(1)}$ | Hirings |  |  | Terminations |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Payroll employees | Fixed-term employees | Total | Other reasons | End of fixedterm contract | Total |
|  | Industrial firms |  |  |  |  |  |  |
| Geographical area |  |  |  |  |  |  |  |
| North-West .. | 23.1 | 5.2 | 6.1 | 11.3 | 6.7 | 5.1 | 11.8 |
| North-East ......... | 27.2 | 6.6 | 7.4 | 14.1 | 5.6 | 7.5 | 13.1 |
| Centre ............... | 26.0 | 5.8 | 6.9 | 12.7 | 6.4 | 7.0 | 13.3 |
| South and Islands | 40.5 | 7.9 | 12.5 | 20.4 | 8.6 | 11.5 | 20.1 |
| Number of employees |  |  |  |  |  |  |  |
| 20-49 .................. | 26.7 | 6.3 | 6.8 | 13.1 | 7.0 | 6.6 | 13.6 |
| $50-199$................................ | 29.0 | 6.5 | 8.3 | 14.8 | 6.2 | 8.0 | 14.2 |
| 200-499 ............................... | 25.0 | 6.0 | 6.6 | 12.7 | 6.6 | 5.7 | 12.3 |
| 500 and over ............................. | 23.8 | 5.0 | 6.7 | 11.8 | 6.3 | 5.7 | 12.0 |
| Branch of activity |  |  |  |  |  |  |  |
| Total manufacturing ..................... | 26.8 | 6.1 | 7.4 | 13.5 | 6.5 | 6.9 | 13.4 |
| Textiles, clothing, leather, shoes | 28.8 | 6.5 | 7.2 | 13.6 | 8.7 | 6.5 | 15.2 |
| Chemicals, rubber and plastics | 20.6 | 4.4 | 5.7 | 10.1 | 5.3 | 5.2 | 10.5 |
| Engineering ........................... | 24.6 | 6.4 | 6.4 | 12.8 | 6.0 | 5.8 | 11.7 |
| Other manufacturing ............... | 33.2 | 5.9 | 10.4 | 16.3 | 7.0 | 9.9 | 16.9 |
| Energy and extraction .................... | 16.5 | 3.9 | 3.1 | 7.0 | 6.2 | 3.3 | 9.5 |
| Share of exports |  |  |  |  |  |  |  |
| Less than one-third .................... | 28.5 | 6.0 | 8.1 | 14.1 | 7.1 | 7.3 | 14.4 |
| From one- to two-thirds .............. | 24.6 | 5.4 | 6.8 | 12.2 | 5.9 | 6.6 | 12.5 |
| More than two-thirds .................. | 23.7 | 6.6 | 5.8 | 12.4 | 6.0 | 5.4 | 11.4 |
| Total industrial firms ..... | 26.3 | 5.9 | 7.2 | 13.2 | 6.5 | 6.7 | 13.2 |
|  |  |  |  | vice fir |  |  |  |
| Geographical area |  |  |  |  |  |  |  |
| North-West ........ | 42.7 | 9.3 | 12.8 | 22.1 | 7.8 | 12.8 | 20.5 |
| North-East.... | 55.1 | 9.7 | 19.4 | 29.0 | 7.3 | 18.8 | 26.1 |
| Centre | 51.1 | 8.0 | 18.3 | 26.3 | 6.9 | 17.9 | 24.8 |
| South \& Islands ............. | 42.6 | 9.8 | 13.2 | 23.0 | 7.5 | 12.1 | 19.6 |
|  |  |  |  |  |  |  |  |
| 20-49... | 52.5 | 7.7 | 19.2 | 26.9 | 5.9 | 19.7 | 25.6 |
| 50-199 | 52.7 | 10.1 | 17.7 | 27.8 | 7.8 | 17.2 | 25.0 |
| 200-499. | 40.9 | 10.0 | 11.8 | 21.8 | 7.7 | 11.3 | 19.0 |
| 500 and over | 43.4 | 9.2 | 13.4 | 22.7 | 8.1 | 12.6 | 20.7 |
| Branch of activity |  |  |  |  |  |  |  |
| Trade, hotels, restaurants ............. | 60.6 | 8.1 | 23.3 | 31.4 | 6.2 | 22.9 | 29.1 |
| Transport and communication ....... | 35.4 | 8.1 | 9.9 | 18.0 | 8.1 | 9.2 | 17.3 |
| Other h.hold \& business services... | 41.3 | 11.1 | 11.0 | 22.1 | 8.3 | 10.8 | 19.2 |
| Total service firms.. | 47.6 | 9.2 | 15.7 | 24.9 | 7.4 | 15.3 | 22.7 |
| Total ..... | 36.2 | 7.4 | 11.2 | 18.6 | 6.9 | 10.7 | 17.6 |

(1) Sum of flows of hirings and terminations during the year.

Hours worked per capita, 2004-2007
(number; percentage change)

|  | 2004 | 2005 | 2006 | 2007 | Annual hours overtime over hours worked in 2007 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Industrial firms |  |  |  |  |
| Geographical area |  |  |  |  |  |
| North-West ................................ | 1,650 | 1,632 | 1,647 | 1,644 | 4.6 |
| North-East | 1,646 | 1,634 | 1,651 | 1,660 | 4.4 |
| Centre ....................................... | 1,637 | 1,648 | 1,641 | 1,672 | 3.8 |
| South and Islands ....................... | 1,702 | 1,697 | 1,718 | 1,710 | 3.6 |
| Number of employees |  |  |  |  |  |
| 20-49 .................................... | 1,707 | 1,684 | 1,703 | 1,708 | 3.9 |
| $50-199$................................... | 1,672 | 1,664 | 1,665 | 1,673 | 4.3 |
| 200-499 .................................. | 1,630 | 1,620 | 1,646 | 1,654 | 4.4 |
| 500 and over ............................. | 1,587 | 1,583 | 1,596 | 1,596 | 4.7 |
| Branch of activity |  |  |  |  |  |
| Total manufacturing. | 1,656 | 1,643 | 1,660 | 1,659 | 4.2 |
| Textiles, clothing, leather, shoes | 1,552 | 1,571 | 1,574 | 1,600 | 3.1 |
| Chemicals, rubber and plastics . | 1,684 | 1,670 | 1,662 | 1,675 | 3.4 |
| Engineering ............................ | 1,661 | 1,646 | 1,677 | 1,665 | 4.8 |
| Other manufacturing ................ | 1,693 | 1,662 | 1,671 | 1,670 | 4.2 |
| Energy and extraction ................... | 1,569 | 1,605 | 1,535 | 1,649 | 5.5 |
| Share of exports |  |  |  |  |  |
| Less than one-third .................... | 1,657 | 1,652 | 1,653 | 1,667 | 4.3 |
| From one- to two-thirds .............. | 1,649 | 1,628 | 1,655 | 1,657 | 4.3 |
| More than two-thirds ................. | 1,638 | 1,631 | 1,653 | 1,643 | 4.3 |
| Total industrial firms ................... | 1,651 | 1,641 | 1,654 | 1,659 | 4.3 |
|  |  |  | vice fir |  |  |
| Geographical area |  |  |  |  |  |
| North-West ............................... | 1,602 | 1,626 | 1,618 | 1,620 | 5.2 |
| North-East .................................. | 1,637 | 1,598 | 1,580 | 1,596 | 5.8 |
| Centre ....................................... | 1,697 | 1,655 | 1,664 | 1,670 | 5.9 |
| South and Islands ....................... | 1,781 | 1,738 | 1,755 | 1,744 | 4.7 |
| Number of employees |  |  |  |  |  |
| 20-49 .................................... | 1,750 | 1,743 | 1,767 | 1,783 | 3.8 |
| $50-199$.................................. | 1,737 | 1,737 | 1,693 | 1,725 | 5.3 |
| 200-499 .................................. | 1,676 | 1,631 | 1,639 | 1,677 | 5.5 |
| 500 and over ............................. | 1,522 | 1,501 | 1,508 | 1,476 | 6.8 |
| Branch of activity |  |  |  |  |  |
| Trade, hotels, restaurants ............. | 1,619 | 1,632 | 1,620 | 1,632 | 4.2 |
| Transport and communication ....... | 1,742 | 1,687 | 1,664 | 1,691 | 7.0 |
| Other h.hold \& business services... | 1,629 | 1,614 | 1,642 | 1,621 | 5.7 |
| Total service firms ......................... | 1,655 | 1,640 | 1,639 | 1,643 | 5.4 |
| Total ........................................... | 1,653 | 1,641 | 1,647 | 1,651 | 4.8 |

## Proportion of part-time workers in total average workforce in service firms, 2002-2007

(per cent)

|  | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Geographical area |  |  |  |  |  |  |
| North-West .............................. | 17.0 | 18.5 | 18.2 | 15.8 | 15.6 | 17.4 |
| North-East ............................... | 18.2 | 20.2 | 22.5 | 21.5 | 23.4 | 20.9 |
| Centre ..................................... | 9.7 | 9.6 | 10.0 | 10.1 | 9.7 | 11.7 |
| South and Islands ....................... | 8.3 | 9.1 | 9.3 | 12.5 | 14.4 | 11.8 |
| Number of employees |  |  |  |  |  |  |
| $20-49$................................... | 7.4 | 6.5 | 8.5 | 8.3 | 7.8 | 8.4 |
| $50-199$.................................. | 8.6 | 8.1 | 8.3 | 8.4 | 9.4 | 9.0 |
| $200-499$................................ | 14.5 | 15.2 | 14.8 | 14.8 | 17.4 | 13.9 |
| 500 and over ............................. | 25.3 | 27.5 | 28.1 | 26.4 | 26.2 | 27.3 |
| Branch of activity |  |  |  |  |  |  |
| Trade, hotels, restaurants ............. | 19.1 | 20.9 | 21.1 | 19.6 | 21.5 | 20.3 |
| Transport and communication ....... | 4.3 | 4.9 | 6.0 | 5.7 | 4.9 | 4.9 |
| Other h.hold \& business services... | 16.8 | 17.1 | 18.8 | 18.2 | 18.0 | 19.4 |
| Total service firms ........................ | 14.5 | 15.7 | 16.4 | 15.6 | 16.0 | 16.1 |

Table B7
Total gross earnings and minimum wages per national agreements, 2007
( $€$ thousands; per cent)

|  | Total gross earnings | Minimum wage over total gross earnings |
| :---: | :---: | :---: |
|  | Industrial firms |  |
| Geographical area |  |  |
| North-West ........ | 28.9 | 82.2 |
| North-East .................................. | 28.6 | 84.0 |
| Centre ..... | 29.0 | 90.5 |
| South and Islands ........................ | 23.6 | 94.2 |
| Number of employees |  |  |
| 20-49 ...... | 25.2 | 88.9 |
| $50-199$................................... | 27.2 | 86.2 |
| 200-499 .................................. | 30.2 | 83.3 |
| 500 and over | 31.6 | 82.6 |
| Branch of activity |  |  |
| Total manufacturing ............................. | 27.7 | 84.6 |
| Textiles, clothing, leather, shoes | 23.1 | 87.6 |
| Chemicals, rubber and plastics | 29.9 | 84.7 |
| Engineering ............................ | 28.7 | 82.8 |
| Other manufacturing ................ | 27.1 | 87.0 |
| Energy and extraction .......................... | 37.3 | 93.2 |
| Share of exports |  |  |
| Less than one-third .................... | 28.2 | 88.0 |
| From one- to two-thirds .... | 28.7 | 82.6 |
| More than two-thirds ................. | 27.9 | 83.0 |
| Total industrial firms . | 28.3 | 85.3 |
|  |  | ms |
| Geographical area |  |  |
| North-West ............................... | 28.3 | 84.5 |
| North-East ................................. | 27.8 | 86.6 |
| Centre ....................................... | 30.2 | 91.7 |
| South and Islands ....................... | 24.9 | 93.8 |
| Number of employees |  |  |
| 20-49 ......... | 27.3 | 90.4 |
| 50-199 | 27.3 | 89.1 |
| 200-499 .................................. | 28.3 | 87.4 |
| 500 and over ............................. | 29.3 | 86.7 |
| Branch of activity |  |  |
| Trade, hotels, restaurants ............. | 24.8 | 90.4 |
| Transport and communication ....... | 33.0 | 87.3 |
| Other h.hold \& business services... | 28.3 | 87.3 |
| Total service firms ........................ | 28.1 | 88.4 |
| Total ........................................... | 28.2 | 86.7 |

Table B8
Ability of key workers to perform required tasks, 2007
(per cent) ${ }^{(1)}$

|  | Do key workers perform required tasks satisfactorily? |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Yes: | No: |  | Total |
|  | they have the necessary qualifications and experience | the firms needs people with better qualifications or more experience | less qualifications or experience would be sufficient |  |
|  | Industrial firms |  |  |  |
| Geographical area <br> North-West $\qquad$ <br> North-East $\qquad$ <br> Centre $\qquad$ <br> South and Islands $\qquad$ | $\begin{aligned} & 74.2 \\ & 66.8 \\ & 66.5 \\ & 64.6 \end{aligned}$ | $\begin{aligned} & 24.0 \\ & 29.5 \\ & 30.8 \\ & 33.6 \end{aligned}$ | $\begin{aligned} & 1.8 \\ & 3.7 \\ & 2.7 \\ & 1.9 \end{aligned}$ | $\begin{aligned} & 100.0 \\ & 100.0 \\ & 100.0 \\ & 100.0 \end{aligned}$ |
| Number of employees | $\begin{aligned} & 67.8 \\ & 70.2 \\ & 77.8 \\ & 82.4 \end{aligned}$ | $\begin{aligned} & 29.1 \\ & 28.1 \\ & 22.2 \\ & 17.4 \end{aligned}$ | $\begin{aligned} & 3.1 \\ & 1.8 \\ & 0.0 \\ & 0.2 \end{aligned}$ | $\begin{aligned} & 100.0 \\ & 100.0 \\ & 100.0 \\ & 100.0 \end{aligned}$ |
| Branch of activity <br> Total manufacturing. Textiles, clothing, leather, shoes Chemicals, rubber and plastics Engineering $\qquad$ Other manufacturing $\qquad$ <br> Energy and extraction $\qquad$ | $\begin{aligned} & 68.9 \\ & 75.5 \\ & 72.6 \\ & 66.8 \\ & 67.3 \\ & 77.5 \end{aligned}$ | $\begin{aligned} & 28.5 \\ & 24.1 \\ & 25.4 \\ & 30.6 \\ & 28.6 \\ & 22.5 \end{aligned}$ | $\begin{aligned} & 2.6 \\ & 0.4 \\ & 2.0 \\ & 2.6 \\ & 4.1 \\ & 0.0 \end{aligned}$ | $\begin{aligned} & 100.0 \\ & 100.0 \\ & 100.0 \\ & 100.0 \\ & 100.0 \\ & 100.0 \end{aligned}$ |
| Share of exports <br> Less than one-third $\qquad$ <br> From one- to two-thirds $\qquad$ <br> More than two-thirds $\qquad$ <br> Total industrial firms $\qquad$ | $\begin{aligned} & 68.6 \\ & 68.9 \\ & 70.9 \\ & \mathbf{6 9 . 1} \end{aligned}$ | $\begin{aligned} & 28.9 \\ & 29.1 \\ & 25.6 \\ & \mathbf{2 8 . 4} \end{aligned}$ | $\begin{aligned} & 2.5 \\ & 2.0 \\ & 3.5 \\ & 2.6 \end{aligned}$ | $\begin{aligned} & 100.0 \\ & 100.0 \\ & 100.0 \\ & \mathbf{1 0 0 . 0} \end{aligned}$ |
| Geographical area <br> North-West $\qquad$ <br> North-East $\qquad$ <br> Centre $\qquad$ <br> South and Islands $\qquad$ | $\begin{aligned} & 79.6 \\ & 71.2 \\ & 78.5 \\ & 77.2 \end{aligned}$ | $\begin{aligned} & \text { Servic } \\ & \\ & 18.9 \\ & 28.6 \\ & 21.0 \\ & 19.1 \end{aligned}$ | firms $\begin{aligned} & 1.6 \\ & 0.1 \\ & 0.5 \\ & 3.7 \end{aligned}$ | $\begin{aligned} & 100.0 \\ & 100.0 \\ & 100.0 \\ & 100.0 \end{aligned}$ |
| Number of employees | $\begin{aligned} & 75.8 \\ & 79.1 \\ & 73.9 \\ & 84.8 \end{aligned}$ | $\begin{aligned} & 23.0 \\ & 19.1 \\ & 22.6 \\ & 14.1 \end{aligned}$ | $\begin{aligned} & 1.1 \\ & 1.9 \\ & 3.5 \\ & 1.1 \end{aligned}$ | $\begin{aligned} & 100.0 \\ & 100.0 \\ & 100.0 \\ & 100.0 \end{aligned}$ |
| Branch of activity <br> Trade, hotels, restaurants $\qquad$ <br> Transport and communication ....... Other h.hold \& business services... <br> Total service firms $\qquad$ | $\begin{aligned} & 77.9 \\ & 71.2 \\ & 78.6 \\ & 76.8 \end{aligned}$ | $\begin{aligned} & 20.7 \\ & 26.9 \\ & 20.4 \\ & 21.8 \end{aligned}$ | $\begin{aligned} & 1.4 \\ & 1.9 \\ & 1.0 \\ & \mathbf{1 . 4} \end{aligned}$ | $\begin{aligned} & 100.0 \\ & 100.0 \\ & 100.0 \\ & \mathbf{1 0 0 . 0} \end{aligned}$ |
| Total .......................................... | 72.4 | 25.5 | 2.1 | 100.0 |

[^18]Annual change in turnover, 2004-2008
(per cent; constant 2007 prices) ${ }^{(1)}$

|  | 2004 | 2005 | 2006 | 2007 | $2008{ }^{(2)}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Industrial firms |  |  |  |  |
| Geographical area |  |  |  |  |  |
| North-West .............................. | 1.2 | -0.2 | 4.1 | 2.2 | 2.1 |
| North-East ................................ | 1.7 | 1.3 | 4.7 | 2.7 | 2.3 |
| Centre ..................................... | 5.5 | -1.4 | 3.6 | -2.6 | 4.7 |
| South and Islands ....................... | -0.1 | 0.7 | 4.4 | 0.9 | 2.2 |
| Number of employees |  |  |  |  |  |
| 20-49 ................................... | -0.3 | 0.2 | 4.4 | 2.5 | 0.9 |
| $50-199$................................. | 1.0 | 0.1 | 4.7 | 2.2 | 2.2 |
| 200-499 ................................. | 1.5 | 1.1 | 2.1 | 0.4 | 1.3 |
| 500 and over .............................. | 4.5 | -0.9 | 5.1 | 0.6 | 5.0 |
| Branch of activity |  |  |  |  |  |
| Total manufacturing.... | 1.1 | 0.0 | 4.5 | 2.1 | 2.2 |
| Textiles, clothing, leather, shoes | -1.0 | -1.5 | 3.7 | 0.3 | 0.7 |
| Chemicals, rubber and plastics . | 0.9 | -2.0 | 1.5 | -0.8 | 1.7 |
| Engineering ............................ | 1.7 | 1.4 | 8.0 | 5.0 | 3.5 |
| Other manufacturing ................ | 1.1 | 0.5 | 2.3 | 0.8 | 0.5 |
| Energy and extraction .................... | 9.2 | -0.6 | 2.2 | -3.9 | 5.9 |
| Share of exports |  |  |  |  |  |
| Less than one-third .................... | 1.4 | -0.3 | 2.6 | -0.3 | 2.5 |
| From one- to two-thirds .............. | 3.8 | -0.3 | 5.8 | 2.8 | 3.0 |
| More than two-thirds ................. | 1.3 | 1.5 | 7.0 | 4.4 | 2.7 |
| Total industrial firms ................... | 2.1 | 0.0 | 4.2 | 1.3 | 2.7 |
|  | Services firms |  |  |  |  |
| Geographical area |  |  |  |  |  |
| North-West ................................. | 3.4 | 2.2 | 4.4 | 1.3 | 1.3 |
| North-East ................................ | 2.3 | 0.4 | 5.2 | 2.2 | 0.6 |
| Centre ..................................... | 2.5 | 1.4 | 2.7 | 2.1 | 1.8 |
| South and Islands ....................... | 6.0 | 1.6 | 4.2 | 2.0 | 1.4 |
| Number of employees |  |  |  |  |  |
| 20-49 ................................... | 2.8 | 0.2 | 3.8 | 1.3 | -0.2 |
| 50-199 .................................. | 4.4 | 2.2 | 5.5 | 2.4 | 1.4 |
| 200-499 ................................ | 5.3 | 1.2 | 5.7 | 1.5 | 1.2 |
| 500 and over .............................. | 1.3 | 2.1 | 2.5 | 1.8 | 2.9 |
| Branch of activity |  |  |  |  |  |
| Trade, hotels, restaurants ............. | 2.6 | 0.8 | 4.9 | 1.4 | 0.6 |
| Transport and communication ....... | 3.7 | 3.1 | 1.8 | 1.1 | 2.5 |
| Other h.hold \& business services... | 4.6 | 1.6 | 5.1 | 3.8 | 2.3 |
| Total service firms ........................ | 3.1 | 1.4 | 4.2 | 1.8 | 1.2 |
| Total .......................................... | 2.5 | 0.5 | 4.2 | 1.5 | 2.0 |

[^19]Turnover, 2007
( $€$ thousands; per cent)

|  |  |  |
| :--- | :---: | :---: | :---: |

[^20]Table C3
Operating result, 2007
(per cent)

|  | Profit | Balance | Loss | Total |
| :---: | :---: | :---: | :---: | :---: |
|  | Industrial firms |  |  |  |
| Geographical area |  |  |  |  |
| North-West ................................. | 68.6 | 16.6 | 14.8 | 100.0 |
| North-East .................................. | 66.2 | 19.6 | 14.2 | 100.0 |
| Centre ........................................ | 66.6 | 21.7 | 11.7 | 100.0 |
| South and Islands ....................... | 67.5 | 16.5 | 16.1 | 100.0 |
| Number of employees |  |  |  |  |
| 20-49 ................................... | 66.6 | 20.1 | 13.4 | 100.0 |
| $50-199$................................... | 68.1 | 15.3 | 16.5 | 100.0 |
| 200-499 .................................. | 74.3 | 12.3 | 13.4 | 100.0 |
| 500 and over............................... | 73.8 | 5.9 | 20.2 | 100.0 |
| Branch of activity |  |  |  |  |
| Total manufacturing ........ | 67.6 | 18.2 | 14.2 | 100.0 |
| Textiles, clothing, leather, shoes | 62.4 | 21.8 | 15.9 | 100.0 |
| Chemicals, rubber and plastics .. | 65.7 | 16.8 | 17.5 | 100.0 |
| Engineering ............................ | 73.4 | 14.5 | 12.0 | 100.0 |
| Other manufacturing ................ | 62.1 | 22.2 | 15.7 | 100.0 |
| Energy and extraction................... | 52.2 | 30.6 | 17.2 | 100.0 |
| Share of exports |  |  |  |  |
| Less than one-third ..................... | 66.4 | 18.2 | 15.4 | 100.0 |
| From one- to two-thirds .............. | 69.4 | 19.8 | 10.9 | 100.0 |
| More than two-thirds ................... | 67.9 | 17.4 | 14.7 | 100.0 |
| Total industrial firms.................... | 67.3 | 18.4 | 14.3 | 100.0 |
|  | Service firms |  |  |  |
| Geographical area |  |  |  |  |
| North-West ................................. | 67.9 | 16.2 | 15.9 | 100.0 |
| North-East .................................. | 65.5 | 18.6 | 15.9 | 100.0 |
| Centre ....................................... | 67.5 | 9.5 | 23.0 | 100.0 |
| South and Islands ....................... | 65.8 | 19.6 | 14.5 | 100.0 |
| Number of employees |  |  |  |  |
| 20-49 ................................... | 65.4 | 17.0 | 17.6 | 100.0 |
| $50-199$................................... | 71.2 | 13.8 | 15.1 | 100.0 |
| 200-499 .................................. | 62.5 | 17.3 | 20.2 | 100.0 |
| 500 and over............................... | 69.1 | 12.1 | 18.8 | 100.0 |
| Branch of activity |  |  |  |  |
| Trade, hotels, restaurants .............. | 65.6 | 17.2 | 17.2 | 100.0 |
| Transport and communication....... | 67.3 | 17.4 | 15.3 | 100.0 |
| Other h.hold \& business services ... | 68.4 | 13.5 | 18.2 | 100.0 |
| Total service firms ......................... | 66.8 | 16.1 | 17.1 | 100.0 |
| Total ........................................... | 67.1 | 17.4 | 15.5 | 100.0 |

## Annual change in investment, 2004-2008

(per cent; constant 2007 prices) ${ }^{(1)(2)}$

|  | 2004 | 2005 | 2006 | 2007 | $2008{ }^{(3)}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Industrial firms |  |  |  |  |
| Geographical area |  |  |  |  |  |
| North-West ....................................... | -3.1 | -4.3 | -2.4 | 3.7 | 10.6 |
| North-East ...................................... | 1.5 | -3.5 | -2.1 | 7.8 | 0.9 |
| Centre | -5.0 | -5.0 | -4.1 | 7.8 | 2.8 |
| South \& Islands ............................... | -2.0 | -4.5 | -0.7 | 3.1 | -1.4 |
| Area of investment |  |  |  |  |  |
| North-West ..................................... | -5.9 | -7.8 | -2.7 | 7.6 | 7.4 |
| North-East ....................................... | 0.2 | -4.2 | -2.8 | 9.8 | 4.8 |
| Centre ........................................... | -2.3 | -0.6 | -1.2 | 7.0 | 1.0 |
| South \& Islands ............................... | 1.0 | -0.3 | -3.2 | -3.9 | 10.9 |
| Number of employees |  |  |  |  |  |
| $20-49$........................................... | -0.6 | -3.7 | -3.1 | 5.9 | -2.2 |
| 50-199 ........ | -7.5 | -4.2 | 1.1 | 5.9 | -0.3 |
| $200-499$....................................... | 2.3 | -3.8 | -3.1 | 2.0 | 6.6 |
| 500 and over ...................................... | -1.8 | -4.9 | -4.1 | 6.3 | 13.4 |
| Branch of activity |  |  |  |  |  |
| Total manufacturing............................ | -0.9 | -3.6 | -1.5 | 3.7 | 6.5 |
| Textile, clothing, leather, shoes .......... | -12.4 | -11.5 | -4.3 | 2.7 | -6.0 |
| Chemicals, rubber and plastics ............ | -3.7 | -5.2 | -0.2 | 0.6 | 5.9 |
| Engineering ................................. | 1.2 | -2.2 | 0.9 | 6.0 | 14.1 |
| Other manufacturing ........................ | 1.2 | -2.9 | -4.8 | 2.6 | -2.7 |
| Energy and extraction .......................... | -6.5 | -6.7 | -6.4 | 12.1 | 3.2 |
| Share of exports |  |  |  |  |  |
| Less than one-third ............................. | -2.4 | -4.6 | -5.1 | 6.4 | 2.5 |
| From one- to two-thirds ........................ | -3.6 | -2.8 | -0.5 | 3.0 | 12.8 |
| Over two-thirds.................................. | -0.4 | -5.5 | 4.1 | 5.4 | 7.3 |
| Total industrial firms ............................ | -2.4 | -4.3 | -2.6 | 5.4 | 5.8 |
|  | Service firms |  |  |  |  |
| Geographical area |  |  |  |  |  |
| North-West ...... | -8.0 | 3.4 | 15.8 | -5.1 | 2.9 |
| North-East ....................................... | -2.7 | -0.7 | -1.7 | 0.8 | -0.5 |
| Centre ........................................... | -1.2 | 3.7 | 0.5 | 7.5 | 6.5 |
| South \& Islands | 0.2 | -0.6 | 1.6 | -0.2 | 0.3 |
| Area of investment |  |  |  |  |  |
| North-West ....................................... | -6.6 | 4.7 | 20.5 | -6.7 | 5.5 |
| North-East ....................................... | -4.4 | -3.7 | -0.9 | 3.4 | 1.1 |
| Centre .. | -5.0 | 6.3 | 0.3 | 8.1 | 2.2 |
| South \& Islands ................................. | -0.7 | 5.9 | 0.4 | -0.9 | 4.2 |
| Number of employees |  |  |  |  |  |
| 20-49 ........................................... | -5.6 | 4.8 | 4.2 | 0.9 | -5.7 |
| $50-199$......................................... | -6.2 | 1.0 | 4.7 | -4.0 | -0.5 |
| 200 - 499 ......................................... | -5.3 | -1.2 | 0.6 | -4.1 | 2.7 |
| 500 and over ..................................... | -3.4 | 2.3 | 6.9 | 2.4 | 7.9 |
| Branch of activity |  |  |  |  |  |
| Trade, hotels, restaurants ..................... | -6.3 | 0.9 | 3.8 | -3.0 | -1.1 |
| Transport and communication ............... | -4.3 | 5.0 | 6.5 | 1.7 | 8.3 |
| Other h.hold \& business services............ | -2.7 | -1.5 | 3.5 | 0.6 | -3.1 |
| Total service firms................................ | -4.6 | 2.1 | 5.1 | -0.2 | 3.2 |
| Total ................................................. | -3.4 | -1.4 | 0.9 | 2.6 | 4.5 |

(1) Robust means (Winsorized) obtained by adjusting extreme values (with positive or negative sign) of the distribution of annual changes in investments according to the 5th and 95th percentile. The method takes account of the sampling fractions in each stratum of the sample (Winsorized type II estimator). - (2) The deflator is calculated as the average, at Ateco 2002 sub-section level, of the price indices for their investment spending estimated by the firms interviewed. - (3) Forecast.

Investment per employee, 2004-2008
(per cent at constant 2007 prices) ${ }^{(1)(2)}$

|  | 2004 | 2005 | 2006 | 2007 | $2008{ }^{(3)}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Industrial firms |  |  |  |  |
| Geographical area |  |  |  |  |  |
| North-West ......................................... | 11.1 | 11.2 | 11.5 | 12.7 | 14.3 |
| North-East ........................................... | 9.4 | 9.3 | 9.5 | 10.3 | 10.7 |
| Centre ................................................ | 18.1 | 15.8 | 17.9 | 17.9 | 18.4 |
| South \& Islands | 9.7 | 9.6 | 9.6 | 9.9 | 9.6 |
| Area of investment |  |  |  |  |  |
| North-West ........................................ | 10.5 | 10.0 | 10.6 | 11.8 | 12.8 |
| North-East .......................................... | 10.6 | 10.4 | 10.6 | 11.6 | 12.2 |
| Centre | 12.4 | 12.2 | 13.1 | 13.8 | 13.9 |
| South \& Islands | 16.0 | 15.8 | 16.1 | 15.3 | 17.2 |
| Number of employees |  |  |  |  |  |
| 20-49 ............................................ | 7.7 | 8.2 | 7.8 | 8.9 | 9.0 |
| $50-199$........................................... | 8.3 | 8.3 | 8.9 | 9.5 | 9.5 |
| 200 - 499 ........................................... | 11.3 | 11.7 | 11.7 | 12.9 | 13.7 |
| 500 and over ...................................... | 18.8 | 17.3 | 18.5 | 19.2 | 21.9 |
| Branch of activity |  |  |  |  |  |
| Total manufacturing............................. | 9.4 | 9.6 | 9.8 | 10.4 | 11.3 |
| Textile, clothing, leather, shoes .......... | 5.0 | 4.8 | 5.4 | 6.4 | 6.1 |
| Chemicals, rubber and plastics ........... | 13.4 | 12.6 | 12.5 | 14.1 | 14.8 |
| Engineering ..................................... | 8.8 | 9.1 | 9.5 | 10.3 | 11.8 |
| Other manufacturing ........................ | 11.1 | 11.5 | 11.2 | 11.1 | 11.1 |
| Energy and extraction ........................... | 50.1 | 40.5 | 45.5 | 52.1 | 54.1 |
| Share of exports |  |  |  |  |  |
| Less than one-third ............................. | 13.7 | 12.4 | 13.0 | 14.6 | 15.0 |
| From one- to two-thirds ....................... | 9.0 | 10.7 | 11.0 | 11.1 | 12.8 |
| Over two-thirds.................................... | 9.0 | 8.8 | 9.5 | 9.7 | 10.5 |
| Total industrial firms ............................. | 11.5 | 11.2 | 11.7 | 12.5 | 13.4 |
|  | Service firms |  |  |  |  |
| Geographical area |  |  |  |  |  |
| North-West | 14.3 | 10.6 | 12.0 | 12.0 | 12.0 |
| North-East .......................................... | 8.0 | 8.9 | 8.3 | 9.2 | 9.1 |
| Centre ............................................... | 14.9 | 16.2 | 16.2 | 17.7 | 18.9 |
| South \& Islands | 8.4 | 9.4 | 9.3 | 8.8 | 8.9 |
| Area of investment |  |  |  |  |  |
| North-West ......................................... | 11.7 | 11.1 | 13.0 | 13.0 | 13.1 |
| North-East ........................................... | 10.8 | 9.7 | 10.0 | 11.2 | 11.5 |
| Centre ................................................ | 13.8 | 12.2 | 11.4 | 12.6 | 12.7 |
| South \& Islands | 12.8 | 12.3 | 11.3 | 11.3 | 11.9 |
|  |  |  |  |  |  |
| 20-49 ............................................. | 7.5 | 8.8 | 8.5 | 8.8 | 8.0 |
| $50-199$........................................... | 8.9 | 9.5 | 9.3 | 9.8 | 9.3 |
| 200 - 499 .......................................... | 8.5 | 7.8 | 9.0 | 10.1 | 10.5 |
| 500 and over ...................................... | 18.8 | 15.6 | 16.8 | 17.0 | 18.4 |
| Branch of activity |  |  |  |  |  |
| Trade, hotels, restaurants ...................... | 9.2 | 10.1 | 9.1 | 9.3 | 9.2 |
| Transport and communication ................ | 24.9 | 20.2 | 23.3 | 23.1 | 25.4 |
| Other h.hold \& business services............ | 5.5 | 5.8 | 5.7 | 7.6 | 6.9 |
| Total service firms................................. | 12.1 | 11.2 | 11.6 | 12.2 | 12.4 |
| Total ................................................... | 11.8 | 11.2 | 11.7 | 12.3 | 12.9 |

(1) Robust means (Winsorized) obtained by adjusting extreme values (with positive or negative sign) of the distribution of annual changes in investments according to the 5th and 95th percentile. The method takes account of the sampling fractions in each stratum of the sample (Winsorized type II estimator). - (2) The deflator is calculated as the average, at Ateco 2002 sub-section level, of the price indices for their investment spending estimated by the firms interviewed. - (3) Forecast.

Investment realisation rate, 2004-2007

$$
(\text { per cent })^{(1)(2)}
$$

|  | 2004 | 2005 | 2006 | 2007 |
| :---: | :---: | :---: | :---: | :---: |
|  | Industrial firms |  |  |  |
| Geographical area |  |  |  |  |
| North-West ................................ | 96.4 | 96.1 | 101.0 | 101.5 |
| North-East | 98.9 | 105.1 | 103.8 | 103.7 |
| Centre | 90.2 | 77.1 | 104.1 | 86.5 |
| South and Islands | 100.4 | 103.4 | 105.7 | 105.2 |
| Number of employees |  |  |  |  |
| $20-49$................................... | 109.3 | 117.6 | 109.5 | 112.5 |
| 50-199 | 98.4 | 102.4 | 104.9 | 106.5 |
| 200-499 | 102.0 | 99.6 | 99.6 | 101.3 |
| 500 and over ............................... | 89.1 | 80.7 | 99.5 | 88.3 |
| Branch of activity |  |  |  |  |
| Total manufacturing. | 99.9 | 102.9 | 103.9 | 106.1 |
| Textiles, clothing, leather, shoes | 97.7 | 113.4 | 112.1 | 121.4 |
| Chemicals, rubber and plastics .. | 97.8 | 101.7 | 101.1 | 99.2 |
| Engineering ............................ | 99.0 | 100.7 | 105.1 | 104.7 |
| Other manufacturing ................. | 103.1 | 104.6 | 101.7 | 110.7 |
| Energy and extraction.. | 86.3 | 72.5 | 98.8 | 81.4 |
| Share of exports |  |  |  |  |
| Less than one-third ..... | 94.9 | 92.1 | 102.9 | 96.0 |
| From one- to two-thirds ............... | 96.3 | 94.4 | 102.0 | 106.2 |
| More than two-thirds .................. | 100.8 | 101.4 | 103.8 | 99.6 |
| Total industrial firms .................... | 95.9 | 93.9 | 102.8 | 98.8 |
|  | Service firms |  |  |  |
| Geographical area |  |  |  |  |
| North-West .. | 101.4 | 73.8 | 105.3 | 99.9 |
| North-East .............................. | 97.2 | 111.0 | 98.2 | 103.3 |
| Centre | 101.8 | 104.5 | 99.0 | 100.5 |
| South and Islands ............ | 106.0 | 116.8 | 104.1 | 99.3 |
| Number of employees |  |  |  |  |
| 20-49 .............. | 114.3 | 111.1 | 110.7 | 107.3 |
| $50-199$................................. | 103.0 | 110.9 | 107.9 | 107.3 |
| 200-499 | 92.6 | 97.8 | 101.9 | 98.5 |
| 500 and over ... | 98.3 | 80.5 | 96.2 | 96.8 |
| Branch of activity |  |  |  |  |
| Trade, hotels, restaurants ............. | 98.1 | 115.8 | 107.1 | 104.1 |
| Transport and communication ....... | 101.8 | 80.1 | 96.0 | 95.3 |
| Other h.hold \& business services... | 101.2 | 98.4 | 114.3 | 110.6 |
| Total service firms........................ | 100.7 | 93.0 | 101.8 | 100.6 |
| Total ............................................ | 98.3 | 93.5 | 102.3 | 99.7 |

(1) Robust means (Winsorized) obtained by adjusting extreme values (with positive or negative sign) of the distribution of annual changes in investments according to the 5th and 95th percentile. The method takes account of the sampling fractions in each stratum of the sample (Winsorized type II estimator). - (2) Ratio between investments effectively made and investments planned at the end of the previous year.

Review of investment plans, 2007
(per cent)

|  | Expenditure on gross fixed investment in 2007 compared with plans at end-2006 ${ }^{(1)}$ |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | much less | much less | much less | much less | much less | much less | much less | much less |
|  | Industrial firms |  |  |  |  |  |  |  |
| Geographical area |  |  |  |  |  |  |  |  |
| North-West ........ | 20,6 | 14,6 | 2,1 | 4,3 | 2,4 | 22,1 | 33,8 | 100,0 |
| North-East | 19,1 | 14,4 | 1,9 | 3,9 | 2,6 | 18,9 | 39,3 | 100,0 |
| Centre | 19,9 | 9,7 | 3,4 | 9,5 | 1,9 | 14,9 | 40,8 | 100,0 |
| South and Islands ...................... | 23,4 | 8,2 | 1,6 | 13,5 | 2,4 | 15,3 | 35,6 | 100,0 |
| Number of employees | 20,1 | 13, | 13 | 7.4 | 22 | 17.8 | 37.9 | 100,0 |
| 20-49 ................. | 20, | 13,3 10,6 | 1,3 4,2 | 7,4 | 2,2 | 17,8 20,8 | 37,9 36,2 | 100,0 100,0 |
| 200-499 | 21,9 | 14,5 | 2,8 | 2,1 | 3,4 | 24,1 | 31,2 | 100,0 |
| 500 and over | 23,6 | 23,9 | 5,1 | 0,4 | 5,8 | 19,9 | 21,3 | 100,0 |
| Branch of activity |  |  |  |  |  |  |  |  |
| Total manufacturing. | 20,2 | 12,5 | 2,2 | 6,4 | 2,4 | 19,0 | 37,2 | 100,0 |
| Textiles, clothing, leather, shoes | 13,3 | 11,7 | 1,9 | 9,7 | 1,5 | 13,5 | 48,5 | 100,0 |
| Chemicals, rubber and plastics | 21,5 | 24,1 | 3,0 | 2,8 | 2,8 | 16,7 | 29,0 | 100,0 |
| Engineering .......................... | 23,4 | 11,2 | 1,9 | 6,0 | 2,1 | 24,1 | 31,1 | 100,0 |
| Other manufacturing ............... | 18,8 | 11,1 | 2,4 | 6,5 | 3,2 | 15,0 | 43,2 | 100,0 |
| Energy and extraction................ | 28,8 | 26,9 | 1,5 | 4,1 | 2,0 | 12,5 | 24,2 | 100,0 |
| Share of exports |  |  |  |  |  |  |  |  |
| Less than one-third | 20,0 | 12,9 | 2,1 | 6,5 | 2,2 | 17,2 | 39,0 | 100,0 |
| From one- to two-thirds ............. | 21,7 | 11,8 | 2,0 | 5,0 | 3,5 | 20,0 | 36,1 | 100,0 |
| More than two-thirds ................ | 20,2 | 13,8 | 2,5 | 7,6 | 1,5 | 23,3 | 31,1 | 100,0 |
| Total industrial firms.................. | 20,4 | 12,8 | 2,2 | 6,4 | 2,4 | 18,9 | 37,0 | 100,0 |
|  |  |  |  | Servic | firms |  |  |  |
| Geographical area |  |  |  |  |  |  |  |  |
| North-West . | 20,7 | 10,0 | 5,0 | 6,4 | 1,3 | 16,0 | 40,7 | 100,0 |
| North-East | 20,5 | 12,6 | 4,6 | 5,0 | 3,4 | 14,4 | 39,5 | 100,0 |
| Centre | 18,4 | 12,5 | 5,2 | 8,9 | 2,7 | 16,4 | 35,8 | 100,0 |
| South and Islands ...................... | 21,8 | 18,7 | 1,5 | 11,2 | 4,3 | 10,4 | 32,1 | 100,0 |
| Number of employees $20-49$ |  |  |  |  |  |  |  |  |
| $20-49$ $50-199$ | 19,7 22,6 | 13,0 11,8 | 2,3 8,9 | 9,0 4,7 | 2,8 | 12,0 | 41,2 31,1 | 100,0 100,0 |
| 200-499 | 16,4 | 16,2 | 7,7 | 3,9 | 2,6 | 27,8 | 25,4 | 100,0 |
| 500 and over ............................. | 24,4 | 18,5 | 4,1 | 0,8 | 3,3 | 22,5 | 26,4 | 100,0 |
| Branch of activity |  |  |  |  |  |  |  |  |
| Trade, hotels, restaurants ............ | 18,4 | 19,3 | 3,1 | 8,2 | 3,4 | 17,6 | 30,0 | 100,0 |
| Transport and communication ..... | 36,1 | 9,0 | 9,8 | 9,1 | 3,1 | 8,7 | 24,4 | 100,0 |
| Other h.hold \& business services | 14,1 | 4,7 | 2,6 | 5,4 | 1,4 | 13,1 | 58,7 | 100,0 |
| Total service firms....................... | 20,4 | 12,9 | 4,2 | 7,5 | 2,7 | 14,6 | 37,6 | 100,0 |
| Total ......................................... | 20,4 | 12,9 | 3,1 | 6,9 | 2,5 | 17,0 | 37,3 | 100,0 |

(1) The frequency distribution is based on the following categories: 'much less' = investment less than 75 per cent of amount planned; 'less' $=75$ to 95 per cent of planned investment; 'a little less' 95 to 100 per cent of planned investment; 'same' $=$ 100 per cent of planned investment; 'a little more' 100 to 105 per cent of planned investment; 'more' = 105 to 125 per cent of planned investment; 'much more' = over 125 per cent of planned investment. Before calculating distribution, the extreme values of the numerator (actual investment) and the denominator (planned investment) were Winsorized on the basis of values per employee using the $5^{\text {th }}$ and $95^{\text {th }}$ percentiles as cut-offs. The method takes account of the sampling fractions in each stratum of the sample (Winsorized type II estimator). - (2)

Reasons for reviewing investment plans, 2007
(per cent) ${ }^{(1)}$

|  | Industrial firms with 50 employees and over |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Demand | Cost |  | Rules | Delivery times | Purchase price | Selffinancing | Interest rates | Availability of finance |  | $\begin{array}{\|c} \text { Internal } \\ \text { organisatio } \\ \mathrm{n} \end{array}$ | Other reasons |
|  |  | Level | $\left.\begin{array}{\|c\|} \hline \text { Uncertaint } \\ \mathrm{y} \end{array} \right\rvert\,$ |  |  |  |  |  | Shares | Loans |  |  |
|  |  |  |  |  | Cut-bac | k in plan | nned inv | tment |  |  |  |  |
| Geographical area |  |  |  |  |  |  |  |  |  |  |  |  |
| North-West | 29.1 | 6.3 | 7.5 | 4.5 | 8.5 | 9.2 | 8.7 | 8.5 | 1.0 | 4.8 | 74.4 | 21,3 |
| North-East | 27.6 | 8.3 | 11.3 | 8.3 | 10.1 | 8.7 | 11.8 | 5.0 | 4.1 | 9.3 | 73.3 | 17,2 |
| Centre | 28.5 | 4.9 | 10.8 | 1.2 | 9.5 | 9.1 | 12.8 | 6.2 | 2.4 | 8.7 | 70.8 | 10,6 |
| South and Islands .............. | 33.7 | 8.7 | 8.9 | 7.5 | 5.4 | 12.8 | 7.0 | 10.3 | 3.8 | 7.4 | 72.3 | 9,4 |
| Number of employees |  |  |  |  |  |  |  |  |  |  |  |  |
| 50-199 | 30.9 | 6.7 | 9.6 | 6.1 | 7.1 | 9.9 | 11.1 | 8.2 | 2.8 | 7.6 | 74.1 | 16,2 |
| 200-499 | 15.0 | 5.0 | 5.4 | 3.2 | 17.7 | 6.6 | 3.6 | 1.7 | 0.3 | 5.5 | 70.0 | 17,6 |
| 500 and over . | 29.5 | 15.2 | 15.5 | 1.3 | 16.0 | 7.3 | 11.4 | 3.9 | 3.6 | 4.1 | 68.1 | 30,9 |
| Branch of activity |  |  |  |  |  |  |  |  |  |  |  |  |
| Total manufacturing. | 29.6 | 6.9 | 9.6 | 5.4 | 8.9 | 9.4 | 10.3 | 7.2 | 1.8 | 6.4 | 73.7 | 16,3 |
| Text., cloth, leather, shoes | 31.1 | 1.1 | 3.0 | 0.0 | 10.0 | 2.1 | 8.7 | 1.1 | 3.5 | 11.1 | 88.0 | 5,0 |
| Chemicals, rubber, plastic | 22.7 | 2.2 | 2.2 | 5.6 | 12.3 | 9.6 | 20.5 | 0.5 | 6.5 | 12.3 | 78.8 | 23,8 |
| Engineering ................... | 32.5 | 8.2 | 12.0 | 6.7 | 10.5 | 13.3 | 10.9 | 9.2 | 1.1 | 5.3 | 73.2 | 15,7 |
| Other manufacturing ....... | 26.9 | 8.6 | 10.6 | 4.7 | 4.4 | 5.1 | 5.7 | 8.6 | 0.4 | 4.3 | 67.7 | 18,0 |
| Energy and extraction ......... | 3.5 | 8.4 | 2.4 | 9.6 | 9.1 | 6.1 | 7.1 | 6.1 | 30.0 | 36.3 | 57.9 | 50,4 |
| Share of exports |  |  |  |  |  |  |  |  |  |  |  |  |
| Less than one-third .... | 28.1 | 6.6 | 8.4 | 3.5 | 3.1 | 7.4 | 10.5 | 9.2 | 4.3 | 8.6 | 72.5 | 18,3 |
| From one- to two-thirds ..... | 29.2 | 3.6 | 5.3 | 8.6 | 13.4 | 6.4 | 11.5 | 2.7 | 2.5 | 5.6 | 71.1 | 17,3 |
| More than two-thirds ........ | 29.8 | 11.3 | 15.6 | 4.6 | 11.9 | 15.3 | 8.3 | 9.5 | 0.0 | 6.8 | 76.9 | 15,3 |
| Total industrial firms . | 28.9 | 6.9 | 9.4 | 5.5 | 8.9 | 9.3 | 10.2 | 7.2 | 2.5 | 7.1 | 73.3 | 17,1 |
|  |  |  |  |  | Increase | in plan | ed inv | tment |  |  |  |  |
| Geographical area |  |  |  |  |  |  |  |  |  |  |  |  |
| North-West | 29.4 | 11.5 | 5.7 | 5.1 | 8.8 | 7.2 | 7.0 | 9.9 | 1.1 | 7.3 | 73.8 | 19.4 |
| North-East | 35.0 | 11.5 | 6.1 | 8.2 | 8.1 | 15.4 | 14.8 | 4.1 | 5.8 | 6.2 | 73.4 | 12.4 |
| Centre | 21.3 | 11.6 | 6.1 | 9.5 | 6.7 | 10.9 | 8.8 | 4.5 | 1.4 | 1.5 | 72.5 | 14.1 |
| South and Islands .............. | 38.2 | 9.5 | 5.0 | 6.3 | 3.4 | 8.5 | 3.6 | 3.6 | 2.6 | 4.7 | 79.7 | 11.0 |
| Number of employees |  |  |  |  |  |  |  |  |  |  |  |  |
| 20-49 ........... | - | - | - | - | - | - | - | - | - | - | - | - |
| 50-199 | 29.1 | 11.0 | 5.3 | 7.5 | 7.4 | 11.3 | 9.8 | 6.5 | 3.5 | 6.0 | 74.8 | 14.9 |
| 200-499 | 47.2 | 12.8 | 7.9 | 5.8 | 8.2 | 8.1 | 6.0 | 6.1 | 0.0 | 4.7 | 71.1 | 13.7 |
| 500 and over ..................... | 25.4 | 13.6 | 10.3 | 0.8 | 9.4 | 8.4 | 14.9 | 0.0 | 0.0 | 0.0 | 68.7 | 24.2 |
| Branch of activity |  |  |  |  |  |  |  |  |  |  |  |  |
| Total manufacturing ........... | 31.0 | 11.3 | 5.5 | 6.7 | 7.5 | 10.7 | 8.9 | 6.4 | 2.8 | 5.6 | 74.1 | 14.7 |
| Text., cloth., leather, shoes | 36.5 | 5.8 | 1.9 | 6.0 | 0.6 | 4.1 | 4.7 | 0.0 | 0.8 | 0.8 | 80.9 | 11.5 |
| Chemicals, rubber, plastic | 49.4 | 8.2 | 6.0 | 6.6 | 7.2 | 15.0 | 11.1 | 5.8 | 5.3 | 1.4 | 88.2 | 6.2 |
| Engineering ................... | 29.1 | 11.2 | 4.2 | 6.3 | 8.0 | 9.4 | 7.6 | 6.0 | 3.5 | 5.6 | 68.8 | 18.6 |
| Other manufacturing ....... | 22.7 | 16.2 | 10.0 | 7.8 | 10.7 | 14.7 | 13.0 | 10.9 | 1.2 | 10.1 | 73.9 | 12.8 |
| Energy and extraction ......... | 32.7 | 8.3 | 18.0 | 25.4 | 6.4 | 16.1 | 37.6 | 0.0 | 9.7 | 9.7 | 79.2 | 31.2 |
| Share of exports |  |  |  |  |  |  |  |  |  |  |  |  |
| Less than one-third ............ | 29.9 | 11.4 | 5.9 | 10.6 | 5.3 | 14.2 | 11.8 | 7.2 | 1.8 | 6.4 | 75.7 | 13.9 |
| From one- to two-thirds ..... | 31.3 | 14.1 | 7.3 | 3.8 | 8.8 | 7.2 | 7.2 | 6.1 | 4.8 | 6.2 | 71.9 | 12.0 |
| More than two-thirds ......... | 33.9 | 5.6 | 2.8 | 3.7 | 11.0 | 8.4 | 8.0 | 3.9 | 2.6 | 2.6 | 74.5 | 23.6 |
| Total industrial firms .......... | 31.1 | 11.3 | 5.8 | 7.1 | 7.5 | 10.8 | 9.5 | 6.2 | 3.0 | 5.6 | 74.2 | 15.0 |

(1) As every firm can give more than one reason for reviewing plans, each row may not sum to 100. - (2) Less than planned expenditure. - (3) More than planned expenditure.

Table D6
Capacity and utilisation rate in industrial firms with 50+ employees, 2004-2008
(per cent)

|  | Capacity utilisation rate |  |  |  |  | Change in plant capacity from previous year |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2004 | 2005 | 2006 | 2007 | $2008{ }^{(1)}$ | 2007 | $2008{ }^{(1)}$ |
| Geographical area |  |  |  |  |  |  |  |
| North-West ............................... | 79.9 | 80.4 | 81.5 | 82.2 | 82.8 | 3.8 | 5.6 |
| North-East ................................ | 81.4 | 82.4 | 82.6 | 82.7 | 84.2 | 5.7 | 5.6 |
| Centre ..................................... | 69.4 | 77.5 | 78.0 | 77.2 | 83.2 | 5.3 | 3.9 |
| South and Islands ....................... | 80.3 | 83.4 | 82.0 | 83.1 | 84.4 | 6.0 | 7.4 |
| Number of employees |  |  |  |  |  |  |  |
| $20-49$................................... | - | - | - | - | - | - | - |
| $50-199$................................. | 79.6 | 81.2 | 81.9 | 81.7 | 83.1 | 4.9 | 6.5 |
| $200-499$................................ | 82.6 | 83.3 | 84.6 | 83.6 | 83.3 | 5.0 | 6.0 |
| 500 and over ............................. | 75.1 | 77.9 | 77.8 | 79.6 | 83.3 | 4.1 | 4.1 |
| Branch of activity |  |  |  |  |  |  |  |
| Total manufacturing .... | 80.5 | 81.3 | 82.1 | 82.5 | 83.2 | 4.5 | 5.6 |
| Textiles, clothing, leather, shoes | 80.3 | 79.9 | 82.2 | 81.4 | 81.6 | 1.3 | 2.9 |
| Chemicals, rubber and plastics .. | 82.3 | 84.2 | 85.0 | 84.1 | 82.9 | 4.6 | 5.9 |
| Engineering ............................ | 79.6 | 79.8 | 80.7 | 82.3 | 84.0 | 4.9 | 6.3 |
| Other manufacturing ................ | 80.0 | 80.5 | 80.6 | 81.3 | 82.6 | 4.6 | 4.7 |
| Energy and extraction ................... | 63.8 | 74.7 | 75.2 | 75.2 | 83.2 | 5.2 | 4.0 |
| Share of exports |  |  |  |  |  |  |  |
| Less than one-third .................... | 76.8 | 78.2 | 78.4 | 80.6 | 82.8 | 5.4 | 5.3 |
| From one- to two-thirds .............. | 80.3 | 83.0 | 84.2 | 82.0 | 83.3 | 3.2 | 4.3 |
| More than two-thirds .................. | 81.3 | 82.1 | 83.1 | 83.1 | 84.4 | 4.3 | 7.4 |
| Total industrial firms ................... | 78.4 | 80.4 | 80.9 | 81.4 | 83.2 | 4.6 | 5.4 |

(1) Forecast.

Table E1

## Concentration of ownership, listed firms and transfers of control in industrial firms with 50+ employees, 2007

(per cent)

|  | Quota of first shareholder | Quota of first three shareholders | Listed firms | Transfers of control |
| :---: | :---: | :---: | :---: | :---: |
| Geographical area |  |  |  |  |
| North-West ............................... | 68.0 | 89.4 | 1.7 | 4.2 |
| North-East ................................ | 71.7 | 91.5 | 2.7 | 5.5 |
| Centre ...................................... | 64.4 | 89.2 | 0.8 | 5.8 |
| South and Islands ....................... | 61.0 | 90.7 | 0.2 | 5.8 |
| Number of employees |  |  |  |  |
| $20-49$................................... | - | - | - | - |
| $50-199$.................................. | 66.1 | 89.8 | 0.9 | 4.8 |
| 200-499 ................................ | 75.3 | 92.3 | 2.1 | 6.5 |
| 500 and over | 80.0 | 92.0 | 14.4 | 5.4 |
| Branch of activity |  |  |  |  |
| Total manufacturing .................... | 68.1 | 90.5 | 1.6 | 5.1 |
| Textiles, clothing, leather, shoes | 67.6 | 92.3 | 2.6 | 4.0 |
| Chemicals, rubber and plastics .. | 76.7 | 94.0 | 1.5 | 11.4 |
| Engineering ........................... | 67.3 | 89.6 | 1.4 | 4.8 |
| Other manufacturing ............... | 65.7 | 89.4 | 1.5 | 3.4 |
| Energy and extraction..................... | 59.6 | 78.6 | 6.7 | 2.2 |
| Share of exports |  |  |  |  |
| Less than one-third ..................... | 65.7 | 89.3 | 2.2 | 6.2 |
| From one- to two-thirds .............. | 67.5 | 90.0 | 1.5 | 3.7 |
| More than two-thirds .................. | 72.9 | 92.4 | 1.0 | 4.8 |
| Total industrial firms................... | 67.9 | 90.2 | 1.7 | 5.0 |

Table E2

## Type and nationality of leading shareholder in industrial firms with 50+ employees, 2007

(per cent)

|  | Leading shareholder |  |  |  |  | Nationality |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Legal person | Holding or sub-holding company | Bank ${ }^{(1)}$ | Nonfinancial company | Total | Italian | Foreign | Total |
| Geographical area |  |  |  |  |  |  |  |  |
| North-West ............................... | 45.4 | 37.7 | 4.0 | 12.9 | 100.0 | 84.3 | 15.7 | 100.0 |
| North-East ................................ | 38.3 | 39.4 | 7.8 | 14.5 | 100.0 | 86.2 | 13.8 | 100.0 |
| Centre ..................................... | 47.5 | 33.8 | 5.6 | 13.1 | 100.0 | 85.2 | 14.8 | 100.0 |
| South and Islands ....................... | 62.9 | 21.4 | 3.7 | 12.0 | 100.0 | 92.1 | 7.9 | 100.0 |
| Number of employees |  |  |  |  |  |  |  |  |
| 20-49 .................................. | - | - | - | - | - | - | - | - |
| 50-199 .................................. | 50.3 | 31.0 | 5.6 | 13.1 | 100.0 | 87.2 | 12.8 | 100.0 |
| 200-499 ................................... | 23.7 | 57.7 | 4.3 | 14.3 | 100.0 | 82.0 | 18.0 | 100.0 |
| 500 and over ............................. | 11.9 | 67.2 | 5.4 | 15.4 | 100.0 | 72.6 | 27.4 | 100.0 |
| Branch of activity |  |  |  |  |  |  |  |  |
| Total manufacturing. | 45.7 | 36.1 | 5.6 | 12.7 | 100.0 | 85.7 | 14.3 | 100.0 |
| Textiles, clothing, leather, shoes | 51.0 | 27.8 | 9.6 | 11.7 | 100.0 | 89.2 | 10.8 | 100.0 |
| Chemicals, rubber and plastics .. | 30.1 | 52.1 | 3.0 | 14.8 | 100.0 | 76.7 | 23.3 | 100.0 |
| Engineering ............................ | 46.6 | 36.6 | 4.5 | 12.3 | 100.0 | 84.6 | 15.4 | 100.0 |
| Other manufacturing ............... | 48.3 | 32.4 | 6.5 | 12.8 | 100.0 | 90.0 | 10.0 | 100.0 |
| Energy and extraction...................... | 23.8 | 28.4 | 0.0 | 47.8 | 100.0 | 95.3 | 4.7 | 100.0 |
| Share of exports |  |  |  |  |  |  |  |  |
| Less than one-third ..................... | 49.3 | 33.8 | 3.1 | 13.7 | 100.0 | 90.2 | 9.8 | 100.0 |
| From one- to two-thirds ............... | 43.8 | 36.7 | 7.0 | 12.5 | 100.0 | 85.6 | 14.4 | 100.0 |
| More than two-thirds ................... | 39.1 | 38.9 | 8.0 | 13.9 | 100.0 | 77.8 | 22.2 | 100.0 |
| Total industrial firms................... | 45.3 | 35.9 | 5.5 | 13.4 | 100.0 | 85.9 | 14.1 | 100.0 |

(1) Including independent financial companies and insurance companies.

Table E3
Firms involved in mergers, acquisitions, contributions, transfers and splits, 2007
(per cent)

|  | Firms with 20-49 employees | Firms with 50+ employees | Total firms with 20+ employees |
| :---: | :---: | :---: | :---: |
|  | Industrial firms |  |  |
| Geographical area |  |  |  |
| North-West .............................. | 3.9 | 7.5 | 5.2 |
| North-East ................................ | 3.3 | 4.4 | 3.7 |
| Centre ..................................... | 1.8 | 5.6 | 2.9 |
| South and Islands ....................... | 3.0 | 3.7 | 3.2 |
| Number of employees |  |  |  |
| $20-49$................................... | 3.2 | - | 3.2 |
| $50-199$................................. | - | 4.8 | 4.8 |
| $200-499$................................ | - | 9.8 | 9.8 |
| 500 and over ............................. | - | 13.2 | 13.2 |
| Branch of activity |  |  |  |
| Total manufacturing................... | 3.3 | 5.7 | 4.0 |
| Textiles, clothing, leather, shoes | 5.1 | 8.7 | 6.1 |
| Chemicals, rubber and plastics | 2.2 | 6.6 | 4.0 |
| Engineering ........................... | 2.6 | 5.3 | 3.5 |
| Other manufacturing ............... | 3.5 | 4.2 | 3.7 |
| Energy and extraction .................... | 0.0 | 11.0 | 4.2 |
| Share of exports |  |  |  |
| Less than one-third .................... | 2.7 | 4.7 | 3.2 |
| From one- to two-thirds .............. | 4.2 | 8.7 | 6.3 |
| More than two-thirds ................. | 4.1 | 3.6 | 3.9 |
| Total industrial firms ................... | 3.2 | 5.8 | 4.0 |
|  | Service firms |  |  |
| Geographical area |  |  |  |
| North-West .............................. | 2.8 | 11.9 | 6.0 |
| North-East ................................ | 2.6 | 0.9 | 2.1 |
| Centre ..................................... | 5.9 | 7.6 | 6.4 |
| South and Islands ....................... | 2.9 | 5.6 | 3.7 |
| Number of employees |  |  |  |
| $20-49$................................... | 3.4 | - | 3.4 |
| $50-199$.................................. | - | 6.4 | 6.4 |
| 200-499 .................................. | - | 9.6 | 9.6 |
| 500 and over ............................ | - | 14.2 | 14.2 |
| Branch of activity |  |  |  |
| Trade, hotels, restaurants ............. | 3.2 | 6.3 | 4.0 |
| Transport and communication ....... | 4.4 | 4.4 | 4.4 |
| Other h.hold \& business services... | 3.2 | 10.1 | 5.9 |
| Total service firms ........................ | 3.4 | 7.4 | 4.7 |
| Total .......................................... | 3.3 | 6.5 | 4.3 |

Firms belonging to a group, 2007
(per cent)

(1) European Union on 31-12-2003.

## Corporate governance, 2007

(per cent)

|  | One-person or family business | Is control in the same hands since start-up of business? |  | Was control previously in the hands of a person/family? |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | yes | no | no | yes |
|  | Industrial firms |  |  |  |  |
| Geographical area |  |  |  |  |  |
| North-West . | 66.8 | 64.9 | 35.1 | 12.8 | 22.3 |
| North-East | 71.2 | 62.1 | 37.9 | 7.0 | 30.9 |
| Centre | 75.1 | 71.4 | 28.6 | 10.1 | 18.5 |
| South and Islands | 75.5 | 76.9 | 23.1 | 8.0 | 15.1 |
| Number of employees |  |  |  |  |  |
| 20-49 ................. | 72.4 | 70.9 | 29.1 | 7.7 | 21.4 |
| 50-199 | 71.8 | 60.2 | 39.8 | 11.6 | 28.2 |
| 200-499 ... | 50.9 | 55.1 | 44.9 | 20.0 | 24.9 |
| 500 and over | 38.1 | 49.6 | 50.4 | 33.1 | 17.3 |
| Branch of activity |  |  |  |  |  |
| Total manufacturing................. | 71.5 | 66.7 | 33.3 | 9.6 | 23.7 |
| Textiles, clothing, leather, shoes | 79.1 | 73.1 | 26.9 | 6.1 | 20.8 |
| Chemicals, rubber and plastics . | 66.6 | 64.9 | 35.1 | 9.7 | 25.4 |
| Engineering .......................... | 69.3 | 64.1 | 35.9 | 9.6 | 26.3 |
| Other manufacturing ............. | 72.2 | 67.5 | 32.5 | 11.4 | 21.1 |
| Energy and extraction ................. | 40.4 | 77.4 | 22.6 | 15.7 | 6.9 |
| Share of exports |  |  |  |  |  |
| Less than one-third | 71.8 | 68.0 | 32.0 | 9.3 | 22.7 |
| From one- to two-thirds | 65.9 | 65.0 | 35.0 | 9.6 | 25.4 |
| More than two-thirds ........... | 74.2 | 65.7 | 34.3 | 11.0 | 23.3 |
| Total industrial firms | 70.9 | 66.9 | 33.1 | 9.7 | 23.4 |
|  | Service firms |  |  |  |  |
| Geographical area |  |  |  |  |  |
| North-West . | 52.1 | 60.0 | 40.0 | 24.6 | 15.4 |
| North-East ...... | 58.4 | 61.7 | 38.3 | 13.3 | 25.0 |
| Centre ..... | 54.6 | 66.9 | 33.1 | 15.7 | 17.4 |
| South and Islands | 62.2 | 66.9 | 33.1 | 12.0 | 21.1 |
| Number of employees |  |  |  |  |  |
| 20-49 ................................ | 61.0 | 64.6 | 35.4 | 15.0 | 20.4 |
| 50-199. | 51.1 | 63.3 | 36.7 | 20.1 | 16.6 |
| 200-499 | 24.2 | 50.8 | 49.2 | 36.2 | 13.0 |
| 500 and over .................... | 24.3 | 53.3 | 46.7 | 26.4 | 20.3 |
| Branch of activity |  |  |  |  |  |
| Trade, hotels, restaurants ............ | 68.0 | 69.3 | 30.7 | 9.6 | 21.1 |
| Transport and communication ...... | 57.3 | 57.0 | 43.0 | 24.9 | 18.1 |
| Other h.hold \& business services.. | 36.0 | 56.8 | 43.2 | 28.5 | 14.7 |
| Total service firms ........................ | 56.2 | 63.5 | 36.5 | 17.4 | 19.1 |
| Total ........................................... | 64.4 | 65.5 | 34.5 | 12.9 | 21.6 |

## Table F1

## Change in sources of finance in firms with 50+ employees, 2007

(per cent) ${ }^{(1)}$

|  | Self-financing |  | Equity capital |  | Bonds and other longterm securities |  | Bank loans |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | negative | positive | negative | positive | negative | positive | negative | positive |
|  | Industrial firms |  |  |  |  |  |  |  |
| Geographical area |  |  |  |  |  |  |  |  |
| North-West .............................. | 36.7 | 50.3 | 4.9 | 10.3 | 4.5 | 1.8 | 26.3 | 30.9 |
| North-East ................................ | 42.2 | 52.6 | 5.0 | 14.3 | 2.4 | 1.4 | 23.8 | 32.8 |
| Centre ..................................... | 40.2 | 47.3 | 2.6 | 13.0 | 0.4 | 1.5 | 16.9 | 34.0 |
| South and Islands ....................... | 30.0 | 39.7 | 4.0 | 12.0 | 1.7 | 1.4 | 12.7 | 27.0 |
| Number of employees |  |  |  |  |  |  |  |  |
| $20-49$................................... | - | - | - | - | - | - | - | - |
| $50-199$.................................. | 38.6 | 47.6 | 4.1 | 12.2 | 2.4 | 1.6 | 21.9 | 30.9 |
| 200-499 ................................ | 37.0 | 57.2 | 4.6 | 12.6 | 4.7 | 0.9 | 24.1 | 35.5 |
| 500 and over ............................. | 35.0 | 60.5 | 10.5 | 12.0 | 6.7 | 1.3 | 30.2 | 34.8 |
| Branch of activity |  |  |  |  |  |  |  |  |
| Total manufacturing..... | 38.4 | 49.2 | 4.5 | 12.3 | 3.0 | 1.5 | 23.0 | 31.1 |
| Textiles, clothing, leather, shoes | 55.1 | 29.5 | 4.2 | 9.8 | 2.6 | 0.9 | 16.8 | 33.8 |
| Chemicals, rubber and plastics | 62.7 | 32.6 | 1.9 | 8.3 | 2.8 | 0.5 | 22.2 | 30.5 |
| Engineering ........................... | 19.9 | 65.5 | 5.4 | 13.4 | 2.4 | 2.2 | 23.8 | 29.0 |
| Other manufacturing ................ | 50.9 | 38.8 | 4.3 | 13.2 | 4.3 | 1.1 | 25.2 | 34.0 |
| Energy and extraction .................... | 28.9 | 54.6 | 0.9 | 11.2 | 0.0 | 1.4 | 9.2 | 52.2 |
| Share of exports |  |  |  |  |  |  |  |  |
| Less than one-third ..................... | 38.3 | 50.2 | 4.4 | 12.5 | 2.4 | 0.8 | 18.8 | 35.0 |
| From one- to two-thirds .............. | 38.4 | 47.1 | 4.7 | 11.1 | 3.6 | 3.0 | 29.9 | 28.8 |
| More than two-thirds ................. | 37.8 | 50.9 | 4.4 | 13.4 | 2.8 | 0.8 | 19.3 | 29.1 |
| Total industrial firms ................... | 38.2 | 49.4 | 4.5 | 12.3 | 2.9 | 1.5 | 22.6 | 31.7 |
|  | Service firms |  |  |  |  |  |  |  |
| Geographical area |  |  |  |  |  |  |  |  |
| North-West .............................. | 39.6 | 50.1 | 4.2 | 17.7 | 3.3 | 1.1 | 27.6 | 26.7 |
| North-East ................................ | 45.2 | 46.2 | 5.6 | 13.3 | 0.0 | 3.0 | 17.2 | 32.8 |
| Centre ..................................... | 37.4 | 54.3 | 3.5 | 19.6 | 0.6 | 0.0 | 19.9 | 34.5 |
| South and Islands ....................... | 35.5 | 40.9 | 6.3 | 19.0 | 1.3 | 1.7 | 15.6 | 36.3 |
| Number of employees |  |  |  |  |  |  |  |  |
| $20-49$................................... | - | - | - | - | - | - | - | - |
| $50-199$.................................. | 40.6 | 45.9 | 4.1 | 17.2 | 1.2 | 1.4 | 22.5 | 32.0 |
| 200-499 ................................ | 33.8 | 61.4 | 7.2 | 16.2 | 1.8 | 1.1 | 17.8 | 30.2 |
| 500 and over .............................. | 40.9 | 51.7 | 7.5 | 21.2 | 5.6 | 3.1 | 17.0 | 27.5 |
| Branch of activity |  |  |  |  |  |  |  |  |
| Trade, hotels, restaurants ............. | 59.2 | 31.3 | 2.0 | 15.5 | 1.7 | 0.4 | 20.0 | 36.0 |
| Transport and communication ....... | 30.4 | 62.7 | 11.9 | 18.1 | 0.4 | 0.6 | 22.1 | 34.7 |
| Other h.hold \& business services... | 23.6 | 59.1 | 3.6 | 18.8 | 2.0 | 3.1 | 22.3 | 24.7 |
| Total service firms ........................ | 39.7 | 48.4 | 4.7 | 17.4 | 1.6 | 1.4 | 21.4 | 31.4 |
| Total .......................................... | 38.8 | 49.0 | 4.5 | 14.5 | 2.3 | 1.5 | 22.1 | 31.6 |

[^21]Sub-contractor turnover of industrial firms, 2004 and 2007
(per cent of firms; per cent share)

|  | 2004 |  |  |  | 2007 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Firms with subcontractor turnover | Share of sub-contractor turnover |  |  | Firms with subcontractor turnover | Share of sub-contractor turnover |  |  |
|  |  | Total | Italy | Abroad |  | Total | Italy | Abroad |
| Geographical area |  |  |  |  |  |  |  |  |
| North-West | 16.8 | 5.7 | 3.2 | 2.5 | 17.3 | 6.8 | 3.6 | 3.2 |
| North-East | 20.2 | 7.0 | 5.0 | 2.0 | 20.6 | 7.2 | 4.8 | 2.4 |
| Centre | 20.5 | 5.9 | 4.4 | 1.5 | 22.1 | 6.3 | 4.8 | 1.5 |
| South and Islands ........... | 20.0 | 9.7 | 7.7 | 2.0 | 21.1 | 10.6 | 8.5 | 2.1 |
| Number of employees |  |  |  |  |  |  |  |  |
| 20-49.... | 18.8 | 9.0 | 7.3 | 1.7 | 19.4 | 9.4 | 7.5 | 1.9 |
| 50-199 | 19.4 | 8.6 | 5.6 | 3.0 | 20.6 | 9.5 | 5.7 | 3.8 |
| 200-499 | 18.7 | 3.2 | 1.7 | 1.5 | 20.7 | 4.4 | 2.2 | 2.2 |
| 500 and over .. | 18.7 | 4.4 | 2.0 | 2.4 | 19.3 | 4.5 | 2.0 | 2.5 |
| Branch of activity |  |  |  |  |  |  |  |  |
| Total manufacturing...... | 19.3 | 6.7 | 4.4 | 2.3 | 20.1 | 7.6 | 4.7 | 2.9 |
| Textiles, cloth., leather, shoes | 20.1 | 6.0 | 4.0 | 2.0 | 22.3 | 6.6 | 4.6 | 2.0 |
| Chemicals, rubber and plastics | 13.2 | 2.2 | 1.6 | 0.6 | 15.5 | 3.6 | 1.9 | 1.7 |
| Engineering ........... | 25.5 | 10.8 | 6.7 | 4.1 | 25.7 | 11.7 | 7.1 | 4.6 |
| Other manufacturing .............. | 10.9 | 3.4 | 2.8 | 0.6 | 11.4 | 3.3 | 2.6 | 0.7 |
| Energy and extraction ..... | 3.1 | 0.1 | 0.1 | 0.0 | 3.0 | 0.1 | 0.1 | 0.0 |
| Share of exports |  |  |  |  |  |  |  |  |
| Less than one-third ... | 21.3 | 6.3 | 5.7 | 0.6 | 21.7 | 7.0 | 6.3 | 0.7 |
| From one- to two-thirds ... | 15.3 | 5.7 | 3.2 | 2.5 | 16.9 | 6.1 | 3.2 | 2.9 |
| More than two-thirds ......... | 15.8 | 7.6 | 1.7 | 5.9 | 16.6 | 8.9 | 1.8 | 7.1 |
| Total industrial firms ................ | 19.0 | 6.4 | 4.2 | 2.2 | 19.7 | 7.1 | 4.4 | 2.7 |

Outsourcing by industrial firms, 2004 and 2007
(per cent of firms; per cent share)

|  | 2004 |  |  |  | 2007 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Firms <br> outsourcing <br> purchases | Share of outsourced purchases |  |  | Firms outsourcing purchases | Share of outsourced purchases |  |  |
|  |  | Total | Italy | Abroad |  | Total | Italy | Abroad |
| Geographical area |  |  |  |  |  |  |  |  |
| North-West ...... | 18.7 | 4.8 | 3.3 | 1.5 | 19.7 | 6.6 | 4.4 | 2.2 |
| North-East . | 25.0 | 9.0 | 5.7 | 3.3 | 26.8 | 10.1 | 5.8 | 4.3 |
| Centre | 16.4 | 6.6 | 4.7 | 1.9 | 17.3 | 7.4 | 5.3 | 2.1 |
| South and Islands ................... | 8.5 | 3.9 | 2.9 | 1.0 | 9.3 | 4.4 | 3.2 | 1.2 |
| Number of employees |  |  |  |  |  |  |  |  |
| 20-49. | 17.4 | 5.0 | 3.9 | 1.1 | 18.0 | 6.9 | 4.8 | 2.1 |
| 50-199 | 20.4 | 6.6 | 4.1 | 2.5 | 22.5 | 7.4 | 4.6 | 2.8 |
| 200-499 | 23.4 | 3.6 | 2.6 | 1.0 | 26.7 | 5.8 | 3.6 | 2.2 |
| 500 and over. | 37.5 | 10.1 | 6.6 | 3.5 | 38.7 | 10.5 | 6.5 | 4.0 |
| Branch of activity |  |  |  |  |  |  |  |  |
| Total manufacturing..... | 19.1 | 6.5 | 4.4 | 2.1 | 20.3 | 8.1 | 5.1 | 3.0 |
| Textiles, cloth., leather, shoes | 19.3 | 20.5 | 9.4 | 11.1 | 21.5 | 22.4 | 10.1 | 12.3 |
| Chemicals, rubber and plastics | 8.1 | 0.9 | 0.8 | 0.1 | 8.2 | 1.2 | 1.0 | 0.2 |
| Engineering ..... | 26.9 | 10.2 | 7.3 | 2.9 | 28.3 | 12.0 | 8.0 | 4.0 |
| Other manufacturing .............. | 10.5 | 2.7 | 2.3 | 0.4 | 11.2 | 2.8 | 2.3 | 0.5 |
| Energy and extraction ................. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Share of exports |  |  |  |  |  |  |  |  |
| Less than one-third. | 16.1 | 4.3 | 3.0 | 1.3 | 17.4 | 5.5 | 3.7 | 1.8 |
| From one- to two-thirds | 23.8 | 8.7 | 5.5 | 3.2 | 24.7 | 10.2 | 6.2 | 4.0 |
| More than two-thirds ............. | 21.1 | 7.7 | 5.3 | 2.4 | 21.8 | 9.0 | 5.6 | 3.4 |
| Total industrial firms ................ | 18.7 | 6.1 | 4.1 | 2.0 | 19.8 | 7.6 | 4.8 | 2.8 |

Support functions in industrial firms, 2004 and 2007
(per cent of firms)

| Number of employees | 2004 |  |  | 2007 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | of which: |  |  | of which: |  |  |  |  |  |
|  | Support function exists | provided internally | provided <br> externally | Support function exists | provided <br> internally | provided externally |  |  |  |
|  |  |  |  |  |  | Total | same region | other region | abroad |
| Distribution and logistics |  |  |  |  |  |  |  |  |  |
| 20-49 .... | 65.7 | 46.2 | 19.5 | 65.8 | 45.0 | 20.8 | 12.9 | 5.4 | 2.5 |
| 50-199 ... | 75.4 | 50.3 | 25.1 | 76.1 | 49.8 | 26.3 | 15.8 | 7.8 | 2.7 |
| 200-499.. | 75.7 | 50.6 | 25.1 | 75.0 | 49.2 | 25.8 | 16.4 | 7.6 | 1.8 |
| 500 \& over | 88.8 | 66.0 | 22.8 | 87.4 | 60.0 | 27.4 | 17.0 | 7.5 | 2.9 |
| Total........ | 68.9 | 47.7 | 21.2 | 69.1 | 46.6 | 22.5 | 13.9 | 6.1 | 2.5 |


| Marketing, advertising, promotions, market research, trademarks |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 20-49.... | 59.3 | 44.2 | 15.1 | 60.1 | 44.8 | 15.3 | 9.4 | 4.0 | 1.9 |
| 50-199 ... | 70.0 | 52.4 | 17.6 | 71.5 | 51.8 | 19.7 | 9.4 | 7.2 | 3.1 |
| 200-499 .. | 77.6 | 60.6 | 17.0 | 78.0 | 60.0 | 18.0 | 10.7 | 5.7 | 1.6 |
| 500 \& over | 86.7 | 75.4 | 11.3 | 86.4 | 73.0 | 13.4 | 5.8 | 5.8 | 1.8 |
| Total........ | 63.2 | 47.5 | 15.7 | 64.1 | 47.6 | 16.5 | 9.4 | 4.9 | 2.2 |
| Sales and after-sales service |  |  |  |  |  |  |  |  |  |
| 20-49.... | 73.7 | 68.3 | 5.4 | 73.8 | 68.0 | 5.8 | 2.0 | 3.3 | 0.5 |
| 50-199 ... | 80.2 | 75.5 | 4.7 | 80.2 | 75.0 | 5.2 | 1.5 | 2.5 | 1.2 |
| 200-499 .. | 83.5 | 77.8 | 5.7 | 84.2 | 78.2 | 6.0 | 4.4 | 0.6 | 1.0 |
| 500 \& over | 84.8 | 79.6 | 5.2 | 84.5 | 78.2 | 6.3 | 4.1 | 1.7 | 0.5 |
| Total........ | 75.9 | 70.7 | 5.2 | 76.0 | 70.3 | 5.7 | 2.0 | 3.0 | 0.7 |
| IT and telecommunications |  |  |  |  |  |  |  |  |  |
| 20-49.... | 54.2 | 27.7 | 26.5 | 54.3 | 28.6 | 25.7 | 19.9 | 5.3 | 0.5 |
| 50-199 ... | 68.4 | 41.6 | 26.8 | 68.2 | 40.4 | 27.8 | 19.0 | 7.3 | 1.5 |
| 200-499 .. | 84.1 | 64.7 | 19.4 | 83.7 | 62.5 | 21.2 | 16.5 | 3.6 | 1.1 |
| 500 \& over | 90.4 | 73.5 | 16.9 | 89.6 | 68.2 | 21.4 | 12.0 | 6.4 | 3.0 |
| Total........ | 59.6 | 33.4 | 26.2 | 59.5 | 33.4 | 26.1 | 19.4 | 5.8 | 0.9 |


| Engineering and design |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 20-49.... | 50.6 | 42.4 | 8.2 | 50.7 | 42.2 | 8.5 | 6.3 | 2.0 | 0.2 |
| 50-199 ... | 68.5 | 57.5 | 11.0 | 69.2 | 57.6 | 11.6 | 7.6 | 3.1 | 0.9 |
| 200-499 .. | 72.3 | 63.1 | 9.2 | 74.2 | 64.8 | 9.4 | 6.8 | 1.1 | 1.5 |
| 500 \& over | 80.4 | 70.0 | 10.4 | 81.0 | 69.3 | 11.7 | 9.2 | 1.8 | 0.7 |
| Total........ | 56.5 | 47.5 | 9.0 | 56.7 | 47.3 | 9.4 | 6.6 | 2.3 | 0.5 |
| R\&D related services |  |  |  |  |  |  |  |  |  |
| 20-49 .... | 52.2 | 45.7 | 6.5 | 53.3 | 45.7 | 7.6 | 5.6 | 1.8 | 0.2 |
| 50-199 ... | 70.2 | 63.7 | 6.5 | 71.6 | 63.8 | 7.8 | 3.9 | 2.0 | 1.9 |
| 200-499 .. | 78.7 | 74.2 | 4.5 | 80.4 | 74.3 | 6.1 | 3.2 | 1.0 | 1.9 |
| 500 \& over | 85.8 | 78.7 | 7.1 | 85.8 | 76.4 | 9.4 | 3.8 | 1.9 | 3.7 |
| Total........ | 58.4 | 52.0 | 6.4 | 59.5 | 51.9 | 7.6 | 4.9 | 1.9 | 0.8 |
| Other services |  |  |  |  |  |  |  |  |  |
| 20-49.... | 18.4 | 12.8 | 5.6 | 18.7 | 13.1 | 5.6 | 4.1 | 0.9 | 0.6 |
| 50-199... | 23.3 | 17.5 | 5.8 | 23.4 | 17.2 | 6.2 | 3.9 | 1.8 | 0.5 |
| 200-499 .. | 27.0 | 20.8 | 6.2 | 29.0 | 22.1 | 6.9 | 5.4 | 1.1 | 0.4 |
| 500 \& over | 33.6 | 27.8 | 5.8 | 34.5 | 28.6 | 5.9 | 3.4 | 2.5 | 0.0 |
| Total........ | 20.2 | 14.6 | 5.6 | 20.6 | 14.8 | 5.8 | 4.1 | 1.2 | 0.5 |

## Location of main competitors, 2007

(per cent)

|  | $1^{\text {st }}$ competitor |  |  |  | $2^{\text {nd }}$ competitor |  |  |  | $3^{\text {rd }}$ competitor |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Italy |  | $\begin{array}{\|c\|} \hline \text { EU } \\ \text { countr } \\ \mathrm{y}^{(1)} \\ \hline \end{array}$ | Rest of world | Italy |  | $\underset{\mathrm{y}^{(1)}}{\mathrm{EU}} \mathrm{countr}$ | Rest of world | Italy |  | $\underset{y^{(1)}}{\mathrm{E}} \mathrm{EU}$ | Rest of world |  |
|  | same region | $\begin{array}{\|c\|} \hline \text { other } \\ \text { region } \\ \hline \end{array}$ |  |  | $\begin{array}{\|c\|} \hline \text { same } \\ \text { region } \end{array}$ | other region |  |  | same region | other region |  |  |  |
|  | Industrial firms |  |  |  |  |  |  |  |  |  |  |  |  |
| Geographical area |  |  |  |  |  |  |  |  |  |  |  |  |  |
| North-West | 33.9 33.8 | 26.5 | 25.3 | 14.4 | 22.9 | 30.6 | 27.2 | 19.3 15.1 | 20.1 | 28.4 40.4 | 20.4 20.9 | 31.1 22.0 | 100.0 100.0 |
| Centre . | 27.6 | 40.7 | 16.4 | 15.3 | 18.9 | 44.0 | 16.2 | 20.9 | 21.2 | 33.6 | 18.6 | 26.6 | 100.0 |
| South and Islands | 43.2 | 40.1 | 8.8 | 8.0 | 31.4 | 43.3 | 14.6 | 10.7 | 28.7 | 37.1 | 12.3 | 21.9 | 100.0 |
| Number of employees |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 50-199 | 35.2 | 33.2 | 18.7 | 12.9 | 22.8 | 37.7 | 22.7 | 16.8 | 19.7 | 35.8 | 18.4 | 26.1 | 100.0 |
| 200-499 | 30.9 | 31.0 | 25.4 | 12.8 | 26.0 | 31.4 | 26.1 | 16.5 | 24.4 | 26.7 | 22.5 | 26.4 | 100.0 |
| 500 and over | 18.5 | 27.0 | 35.1 | 19.5 | 16.9 | 25.3 | 30.4 | 27.4 | 13.9 | 23.6 | 29.3 | 33.2 | 100.0 |
| Branch of activity |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total manufacturing | 33.5 | 32.7 | 20.5 | 13.3 | 22.5 | 36.3 | 23.7 | 17.5 | 19.7 | 34.1 | 19.5 | 26.7 | 100.0 |
| Textiles, cloth., leather, shoes | 47.4 | 30.3 | 6.8 | 15.5 | 35.5 | 38.6 | 10.8 | 15.1 | 28.3 | 29.2 | 10.9 | 31.6 | 100.0 |
| Chemicals, rubber \& plastics | 27.5 | 28.6 | 26.9 | 17.0 | 16.7 | 26.9 | 36.1 | 20.3 | 13.0 | 31.1 | 27.6 | 28.4 | 100.0 |
| Engineering | 26.0 | 30.7 | 27.4 | 15.9 | 17.0 | 32.0 | 28.7 | 22.4 | 15.9 | 29.7 | 23.5 | 30.9 | 100.0 |
| Other manufacturing | 42.4 | 39.3 | 12.4 | 5.9 | 28.5 | 47.5 | 15.6 | 8.4 | 25.2 | 46.3 | 13.1 | 15.5 | 100.0 |
| Energy and extraction. | 61.2 | 29.8 | 5.3 | 3.7 | 49.0 | 34.2 | 11.8 | 5.0 | 38.6 | 32.9 | 18.0 | 10.5 | 100.0 |
| Share of exports |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Less than one-third | 40.4 | 38.2 | 11.3 | 10.1 | 27.4 | 47.0 | 13.9 | 11.7 | 24.2 | 47.0 | 13.2 | 15.6 | 100.0 |
| From one- to two-thirds | 29.9 | 32.7 | 24.6 | 12.8 | 18.6 | 33.0 | 29.1 | 19.2 | 18.3 | 25.1 | 23.6 | 32.9 | 100.0 |
| More than two-thirds | 26.4 | 20.8 | 32.6 | 20.3 | 20.1 | 18.8 | 34.9 | 26.1 | 13.7 | 20.9 | 26.2 | 39.2 | 100.0 |
| Total industrial firms | 33.9 | 32.6 | 20.3 | 13.2 | 22.9 | 36.3 | 23.5 | 17.3 | 20.0 | 34.0 | 19.5 | 26.5 | 100.0 |
|  | Service firms |  |  |  |  |  |  |  |  |  |  |  |  |
| Geographical area |  |  |  |  |  |  |  |  |  |  |  |  |  |
| North-West .. | 64.4 | 19.8 | 13.2 | 2.6 | 44.1 | 33.4 | 17.5 | 4.9 | 39.1 | 36.2 | 15.7 | 9.0 | 100.0 |
| North-East | 69.5 | 23.7 | 4.7 | 2.1 | 51.3 | 35.4 | 11.7 | 1.6 | 52.5 | 30.5 | 11.7 | 5.3 | 100.0 |
| Centre | 55.3 | 37.7 | 6.0 | 1.0 | 51.9 | 40.7 | 6.8 | 0.6 | 46.5 | 40.6 | 6.6 | 6.3 | 100.0 |
| South and Islands | 80.9 | 15.3 | 2.2 | 1.6 | 74.2 | 24.1 | 1.3 | 0.4 | 73.8 | 23.1 | 1.1 | 2.0 | 100.0 |
| Number of employees |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 50-199 | 68.6 | 22.8 | 6.9 | 1.7 | 54.6 | 32.8 | 10.8 | 1.8 | 53.0 | 31.5 | 9.7 | 5.8 | 100.0 |
| 200-499 | 63.2 | 26.7 | 7.4 | 2.7 | 51.3 | 38.6 | 7.2 | 2.9 | 44.1 | 40.7 | 9.4 | 5.8 | 100.0 |
| 500 and over | 44.8 | 37.1 | 14.8 | 3.3 | 36.7 | 40.6 | 15.5 | 7.2 | 31.9 | 43.3 | 13.6 | 11.2 | 100.0 |
| Branch of activity |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Trade, hotels, restaurants | 73.0 | 18.8 | 6.4 | 1.8 | 59.1 | 26.8 | 11.8 | 2.3 | 58.6 | 24.4 | 10.7 | 6.3 | 100.0 |
| Transport and communication .... | 62.4 | 25.6 | 8.5 | 3.6 | 48.1 | 37.0 | 11.7 | 3.2 | 47.6 | 30.0 | 13.3 | 9.2 | 100.0 |
| Other h.hold \& business services | 59.7 | 30.8 | 8.3 | 1.1 | 48.0 | 41.8 | 8.5 | 1.7 | 42.2 | 46.3 | 7.1 | 4.4 | 100.0 |
| Total service firms. | 66.4 | 24.2 | 7.5 | 1.9 | 53.1 | 34.0 | 10.6 | 2.3 | 50.5 | 33.4 | 9.9 | 6.2 | 100.0 |
| Total | 47.6 | 29.1 | 14.9 | 8.4 | 35.6 | 35.3 | 18.1 | 11.0 | 33.2 | 33.8 | 15.3 | 17.7 | 100.0 |

[^22]
## Construction firms: workforce and output, 2007

(per cent)

|  | Percentage change on previous year |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | average workforce |  | output ${ }^{(1)(2)}$ |  |
|  | 2007 | $2008^{(3)}$ | 2007 | $2008{ }^{(3)}$ |
| Geographical area |  |  |  |  |
| North-West ................................ | -1.1 | -2.0 | 1.2 | -4.0 |
| North-East ................................. | -0.7 | 2.5 | 0.8 | 0.3 |
| Centre ...................................... | 1.5 | 1.2 | 1.1 | -1.5 |
| South and Islands ....................... | -5.0 | -4.5 | 0.0 | -1.7 |
| Number of employees |  |  |  |  |
| 20-49 .................................... | -3.4 | -1.7 | 1.5 | -3.3 |
| 50-199 .................................. | 1.6 | -1.0 | 1.5 | -1.8 |
| 200-499 ................................. | -5.8 | -1.8 | 2.0 | 2.3 |
| 500 and over .............................. | -0.3 | 3.8 | -4.4 | 1.0 |
| Total construction firms..................................... | -1.5 | -0.8 | 0.9 | -1.8 |
| Change in output at current prices ${ }^{(1)}$ |  | .......... | 4.2 | 1.4 |

(1) Robust means (Winsorized) obtained by adjusting extreme values (with positive or negative sign) of the distribution of annual changes in investments according to the 5th and 95th percentile. The method takes account of the sampling fractions in each stratum of the sample (Winsorized type II estimator). - (2) Constant 2007 prices. The deflator is calculated by Istat. For 2008 the last available rate of growth is assumed constant. - (3) Forecast.

Table H2

## Construction firms: public works contracts, 2007

(per cent)

|  | Firms engaged in public works in | Share of p | in output | Percentage on p | public works $\mathrm{ar}^{(1)(2)}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2006-2007 | 2007 | $2008^{(3)}$ | 2007 | $2008^{(3)}$ |
| Geographical area |  |  |  |  |  |
| North-West ..... | 82.2 | 37.2 | 36.6 | -4.6 | -4.7 |
| North-East ............................. | 71.3 | 43.1 | 41.2 | -4.1 | -2.5 |
| Centre ....................................... | 82.8 | 49.5 | 51.2 | -2.5 | -0.9 |
| South and Islands | 83.7 | 57.2 | 58.8 | -1.2 | 0.0 |
| Number of employees <br> 20-49 |  |  |  | -4.6 |  |
| $\begin{aligned} & 20-49 \\ & 50-199 \end{aligned}$ | 78.8 85.1 | 40.8 44.2 | 40.0 45.3 | -4.6 -2.2 | -5.7 0.2 |
| 200-499 | 97.0 | 59.1 | 59.7 | 1.4 | 3.2 |
| 500 and over .............................. | 89.5 | 50.1 | 47.7 | -6.0 | -2.7 |
| Total construction firms... | 80.3 | 44.6 | 44.5 | -3.3 | -2.3 |
| Change in output at current prices ${ }^{(1)}$ |  |  |  | -0.2 | 0.8 |

(1) Robust means (Winsorized) obtained by adjusting extreme values (with positive or negative sign) of the distribution of annual changes in investments according to the 5 th and 95 th percentile. The method takes account of the sampling fractions in each stratum of the sample (Winsorized type II estimator). - (2) Constant 2007 prices. The deflator is calculated by Istat. For 2008 the last available rate of growth is assumed constant. - (3) Forecast.

Appendix C
Questionnaires

## Survey of industrial firms - 2007



Confidentiality notice (Legislative Decree 196/ 2003). - The purpose of this survey is to collect information on the main economic and financial variables in the industrial sector. Your co-operation is important but not compulsory and any refusal to take part will bear no consequences. The information provided will be used for research purposes only and will not be published outside the Bank except in aggregate form. The firms taking part will be sent an extract of the main results of the survey. The data will be processed entirely inside the Bank and appropriate devices will be put in place to ensure the safety and confidentiality of all information. The only people with access to individual data are those in charge of data handling and the staff engaged in processing and analysis. Firms enjoy the rights granted under the terms of Article 7 of Decree 196, including the right to correct and integrate information concerning them. In charge of data handling: Head of the Economic Research Department of the Bank of Italy, Via Nazionale 91, 00184 ROME, Italy. Responsible for data processing: Bank of Italy (Organization Department), Via Nazionale 91, 00184 ROME, Italy.

## PART A - General information


for SPA (public limited company) only: Did the firm adopt a governance model other than the traditional one?


[^23]
## Does the firm belong to a group?

If the firm belongs to a group (i.e. a set of firms directly or indirectly controlled - through one or more chains of control - by the same legal persons or the same public entity):
Is the firm the parent company ?


Name of group
Nationality of group

| 1 | Nationa <br> 1 <br> Italian <br> Other EU <br> on 3-12-03 | Other <br> European |
| :---: | :---: | :---: | | Rest of |
| :---: |
| world |

Total holding of first three shareholders and related information

(1) $1=$ legal person; $2=$ holding or sub-holding company; group financial company; 3= bank; 4= independent financial institution (non-group); insurance company; $5=$ non-financial institution; (2) $1=$ Italian; $2=$ foreign. - (3) $1=$ public; $2=$ private.

Are there voting agreements between the shareholders or agreements on the sale of holdings?
$\qquad$ yes

Do the by-laws place conditions on the transfer of holdings (e.g. directors' acceptance, pre-emptive rights)
no $\quad$ yes

Did a transfer of direct control over the firm (or the majority of it) take place in 2007?

## If yes

Did the transfer take place:

- within the same group?
- between relatives?


Changes that took place in 2007:


Capital contribution


Transfer of assets

$$
\begin{array}{|l|}
\hline \text { no } \\
\hline
\end{array}
$$

Are you able to provide homogeneous data for 2006 and 2007? (see instructions)

## PART B - Workforce and wages

| ( number) | Total workforce | Total workers \& apprentices | Total fixedterm contracts | Total non-EU workforce |
| :---: | :---: | :---: | :---: | :---: |
| 2006 Average workforce. |  |  |  |  |
| Workforce at end of year |  |  |  |  |
| Hirings |  |  |  |  |
| Terminations ............................ |  |  |  |  |
| $\underline{2007}$ Average workforce...................... |  |  |  |  |
|  |  |  |  |  |
| Hirings ...................................... |  |  |  |  |
| - of which: with work experience in firms in same sector (\%) . | \\| |  |  |  |
| Terminations $\qquad$ of which: resignations (\%) $\qquad$ |  |  |  |  |
| $\underline{2008}$ Average workforce (projection) ....... |  |  |  |  |

Total actual hours worked by payroll employees

- of which: per cent overtime

Total hours paid by Wage Equalization Fund

| 2006 | 2007 |
| :---: | :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

Wages and salaries in 2007
Total gross annual wages per capita ( $€)^{(1)}$
Minimum national contract wage ${ }^{(2)}$
(approximate per cent of total)

(1) Includes social security and tax with̄̄̄̄̄d on behalf of workers; does not include firms' payments on behalf of INPS (National Social Security Institute) and others. - (2) The part covered by national contract includes: minimum rates of pay, cost of living allowance, 13th month's pay (tredicesima ) and other additional months' pay, meal allowance, overtime, and shift allowance.

Supposing the firm needs to recruit workers for "key" roles in the business, how many weeks would it normally take to find such a person?
helpful 1 impediment 20 irrelevant 3
(firms with multiple locations should refer to "key" workers employed in the main factory or office)
Do you consider that, on average, your "key" workers are suitable for the tasks required of them? (1=yes, they $\square$ have the necessary qualifications and experience; $2=$ no, the firm needs people with better qualifications and more experience; $3=$ no, lower qualifications and less experience would be sufficient)
Number of days of formal training (see instructions) received on average in 2007 by your firm's "key" worker (do not include mandatory training) $\qquad$

## PART C - Gross fixed investment in Italy (please enter amounts in $€$ thousands; enter $\mathbf{0}$ for no investments)

Expenditure on tangible assets

- property
- plant, machinery \& equipment
- of which: for tangible assets used
- transport equipment


## Total expenditure on tangible assets

Total expenditure on software, databases and mineral exploration ${ }^{(1)}$
Expenditure on research and development and market analysis; design and test production

| 2006 | 2007 | 2008 projection |
| :---: | :---: | :---: |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

(1) Including expenditure on original copyright of entertainment and works of literature and art.

(1) Including expenditure on original copyright of entertainment, and works of literature and art.

Only to be completed by firms that took part in the previous survey.
If investment expenditure in 2007 diverged significantly (over $5 \%$ above or below) from the estimate given in the previous survey (see annex), to what was this due?

If you ticked the second answer, please say whether the difference in quantities purchased (plus or minus) was due to (more than one answer possible; tick 'no' otherwise)

- change in expectations regarding demand

| level |
| :---: |



- change in regulations (taxes and tax deductions for investments, financial contributions, etc.) ................. no
- change in delivery times of purchased capital goods imputable to the supplier ..................................... no. no.



- change in availability of financing: shares ................................................................................................................


Geographical distribution (per cent) of workforce and total fixed investment in 2006 and 2007 and projection for 2008:

(1) North-West = Piedmont, Valle d'Aosta, Lombardy and Liguria. - (2) North-East $=$ Veneto, Trentino-Alto Adige, Friuli Venezia Giulia and Emilia Romagna. - (3) Centre = Tuscany, Umbria, Le Marche and Lazio. - (4) South and Islands = Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicily and Sardinia. - (5) Same region as the location of the registered office.

## PART D - Production capacity

Percentage change in production capacity. $\square$ \% $\quad$ | $\quad$ | $\quad$ \% (production capacity is the maximum output obtainable with plant operating at full capacity, without altering the organization of work shifts)

|  | 2007 |
| :---: | :---: |

Capacity utilization $\qquad$
$\square$ \% $\qquad$
(actual output as a percentage of maximum obtainable output)

PART E - Turnover, expenditure on goods and services, prices and operating result

## Turnover ( $€$ thousand)

Turnover from sales of goods \& services in year

- of which: exports $\qquad$
Expenditure on goods and services ${ }^{(1)}$
- of which: purchase of services ${ }^{(1)}(\%)$

| 2006 | 2007 | 2008 (proj.) |
| :---: | :---: | :---: |
|  |  |  |
|  |  |  |
| 1 \| $\quad$ \% | $\underline{\square}+1$ \% | - \\| ل \% |

(1) Use the provisional balance-sheet figure for 2007 and a projection for 2008.


The projected percentage change in $\mathbf{2 0 0 8}$ on 2007 in turnover, adjusted for the percentage change in prices, is approximately (sign and percentage change)

$$
\lfloor\quad \downarrow \quad+\quad \text { calculate (a) - (b) }
$$

Please indicate a range around this figure, i.e. provide a forecast of minimum and maximum turnover, adjusted for the change in prices.
Min. (sign and \% change) $\quad \square \quad \square \quad \mathrm{L}=\mathrm{Max}$. (sign and \% change) $\quad \square \quad \square \quad 1 \quad \mathrm{~L}$


## PART F - Financing

Please state whether, at the terms and conditions (cost and collateral) currently applied, the firm would like to
borrow more from banks or other lenders
If yes, please say:

- whether the firm would be willing, at present, to pay a higher rate of interest or even to accept worse terms and conditions in order to borrow more. $\qquad$
- why do you think the firm has not been able so far to borrow as much as it would like? (only one answer possible)
no banks or other lenders have been contacted for that purpose because it is assumed they will answer no to any request for more financing
- no banks or other lenders have been contacted yet for other reasons

| no | yes |
| :---: | :---: |
| no | yes |

- the lenders that have been contacted are not willing to increase the volume of lending to the firm no


## Sources of finance

Self-financing ${ }^{(1)}(+/-)$ ( $€$ thousands)

(1) Please use the minus sign (' $-{ }^{\prime}$ ') in case of negative self-financing. For the definition of self-financing see the instructions.

For each of the following items, please say if there is any change with respect to the amounts outstanding at end of the preceding year and indicate how much.
(for a negative change please write: $1=$ over $-20 \%, 2=$ from $-20 \%$ to $-1.1 \%, 3=$ from $-10 \%$ to $-5.1 \%, 4=$ from $-5 \%$ to -0 . $\%$; for a positive change please write: $5=$ from $0.1 \%$ to $5 \%, 6=$ from $5.1 \%$ to $10 \%, 7=$ from $10.1 \%$ to $20 \%, 8=0$ ver $20 \%$ ) Equity capital ${ }^{(1)}$ of which: private equity funds ${ }^{(2)}$ $\qquad$
Bonds and other medium/long-term securities ${ }^{(3)}$ $\qquad$
Other ${ }^{(3)}$ $\qquad$
Bank borrowing $\qquad$


[^24]

## PART H - Sub-contract work and outsourcing (see instructions)



Continue this section only if the firm has sub-contractor turnover in at least one of the two years


Assuming the total value of sub-contractor turnover to be equal to 100 , please give a breakdown by location of the contractor in 2004 and 2007:


Has the firm subcontracted purchases?

Continue this section only if the firm has subcontracted purchases in at least one of the two years


If the firm belongs to a group, were subcontracted purchases made mainly within the group?


Assuming the total value of subcontracted purchases to be equal to 100 , please give a breakdown by location of the seller in 2004 and 2007:


Please indicate whether the firm used the following support functions in 2004 and 2007, performed either internally or by outsourcers. If yes, please indicate the nature of the provider. For 2007, please state also the country of origin of the main company to which the service was outsourced.
distribution and logistics marketing, advertising, promotions, market research, trademarks
sales and after-sales service
IT and telecommunications
personnel management, accounting, etc. engineering and design

R\&D-related services
other services

| 2004 |  |  | 2007 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| performed <br> internally | performed <br> mainly by ${ }^{(1)}$ | performed <br> internally | performed <br> mainly by ${ }^{(1)}$ | main <br> country |  |  |
| no | yes |  |  | no | yes |  |

(1) $1=$ by the firm itself; $2=$ by another firm in the group; $3=$ by another firm. - (2) $1=$ same region of 1 taly; $2=$ other region; 3= EU country on 31-12-2003; 4= other European country; 5= China or India; 6= USA or Canada; 7= rest of the world.

## PART J - Market structure (see instructions)

Regarding your leading product or main product line
please indicate what percentage of the firm's total turnover this represents


Please give the location of your three main competitors in 2007 ( $1=$ same region of Italy; $2=$ other region; $3=\mathrm{EU}$ country on 31-12-2003; 4= other European country; $5=$ China or India; 6= USA or Canada; 7= rest of the world)

$$
\text { leading competitor } \square \text { second competitor } \square \quad \text { third competitor }
$$

$\qquad$
Please indicate for your firm and your three main competitors the market share ${ }^{(1)}$ of each in 2004 and 2007 (of the combined Italian and foreign market):

| 2004 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| firm | leading <br> competitor | second <br> competitor | third <br> competitor |  |
| $\square$ | $\square$ | $\square$ | $\square$ |  |


| 2007 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| firm | leading <br> competitor | second <br> competitor | third <br> competitor |  |
| $\square$ | $\square$ |  | $\square$ |  |

(1) $1=$ less than $10 \% ; 2=$ from $10 \%$ to $29 \% ; 3=$ from $30 \%$ to $49 \% ; 4=$ from $50 \%$ to $80 \% ; 5=$ more than $80 \%$.

Hypothetically, assuming your firm raised its prices by $10 \%$ today, what percentage change would there be in turnover in nominal terms if your competitors did not change their prices and all other conditions remained the same?
(-100\% indicates that turnover would be nil) $\qquad$
$\square$
$\qquad$ \%

What weight does the firm attribute to the following factors in its competition policy ( $1=$ of no importance; $2=$ of little importance; $3=$ fairly important; $4=$ very important; $5=$ extremely important)? Indicate no more than two factors as 'very' or 'extremely' important.

| a) product quality | f) organizing production to contain costs |
| :---: | :---: |
| b) technology content/product innovation .... | (delocalization, outsourcing, etc.) |
| c) promotion, trademark, advertising | g) other |
| d) distribution network ..... | (please specify) |
| e) after-sales service.............................. |  |



## BANCA D'ITALA

## Survey of industrial firms - 2007



Confidentiality notice (Legislative Decree 196/ 2003). - The purpose of this survey is to collect information on the main economic and financial variables in the industrial sector. Your co-operation is important but not compulsory and any refusal to take part will bear no consequences. The information provided will be used for research purposes only and will not be published outside the Bank except in aggregate form. The firms taking part will be sent an extract of the main results of the survey. The data will be processed entirely inside the Bank and appropriate devices will be put in place to ensure the safety and confidentiality of all information. The only people with access to individual data are those in charge of data handling and the staff engaged in processing and analysis. Firms enjoy the rights granted under the terms of Article 7 of the Decree, including the right to correct and integrate information concerning them. In charge of data handling: Head of the Economic Research Department of the Bank of Italy, Via Nazionale 91, 00184 ROME, Italy. Responsible for data handling: Bank of Italy (Organization Department), Via Nazionale 91, 00184 ROME , Italy.

## PART A - General information


for SPA (public limited company) only: Did the firm adopt a governance model other than the traditional one?

(1) See Centrale dei Rischi. Nuova classificazione della clientela bancaria, 1991. - (2) See ISTAT. Classificazione delle attività economiche. Metodi e norme, 2002.

## PART B - Workforce and wages



Wages and salaries in 2007
Total gross annual wages per capita $(€)^{(1)}$
Minimum national contract wage $(€)^{(2)}$
(approximate per cent of total)

| Workers \& apprentices | Clerks \& managers | General average |
| :---: | :---: | :---: |
|  |  |  |
| $1 \quad$ \% | $\|\quad\| \quad \mathrm{l}$ | $\square \quad \mid \%$ |

(1) Includes social security and tax withheld on behalf of employees; does not include company payments on behalf of INPS and other social security institutes. - (2) The part covered by national contract includes minimum rates of pay, cost-of-living allowance, 13th month's pay (tredicesima) and other additional months' pay, meal allowance, overtime, and shift allowance.

Supposing the firm needs to recruit workers for "key" roles in the business, how many weeks would it normally take to find such a person?
helpful 1 impediment 2
irrelevant 3
How does the firm's location affect search times?
ployed in the main factory or office)
Do you consider that, on average, your "key" workers are suitable for the tasks required of them? ( $1=$ yes, they $\qquad$ have the necessary qualifications and experience; $2=$ no, the firm needs people with better qualifications and more experience; $3=$ no, lower qualifications and less experience would be sufficient)
Number of days of formal training (see instructions) received on average in 2007 by your firm's 'key' worker (do not include mandatory training) $\qquad$

## PART C - Gross fixed investment in Italy (please enter amounts in € thousands; enter $\mathbf{0}$ for no investments)

## Total expenditure on tangible assets ${ }^{(1)}$

 - of which: propertyTotal expenditure on software, databases and mineral exploration ${ }^{(2)}$ $\qquad$

| 2006 | 2007 | 2008 projection |
| :---: | :---: | :---: |
|  |  |  |
|  |  |  |
|  |  |  |

(1) Tangible assets include property, plant, machinery and equipment and means of transport. - (2) Includes expenditure on original copyright on entertainment and works of literature and art.

## PART D - Turnover, spending on goods and services, prices and operating result



(1) Use provisional balance-sheet data for 2007 and projections for 2008.


## PART E - Financing

Please state whether, at the terms and conditions (cost and collateral) currently applied, the firm would like to
borrow more from banks or other lenders
If yes, please say:

- whether the firm would be willing, at present, to pay a higher rate of interest or even to accept worse terms and conditions (e.g. more collateral) in order to borrow more.
- why do you think the firm has not been able so far to borrow as much as it would like? (only one answer possible)
- no banks or other lenders have been contacted for that purpose because it is assumed they will answer no to any request for more financing
- no banks or other lenders have been contacted yet for other reasons

| no | yes |
| :---: | :---: |
| no | yes |

- the lenders that have been contacted are not willing to increase the volume of lending to the firm


## PART F - Governance (see instructions)



## PART G - Sub-contract work and outsourcing (see instructions)

Does the firm have sub-contractor turnover ?
2004 no
Continue this section only if the firm has sub-contractor turnover in at least one of the two years


If the firm belongs to a group, was the sub-contract work performed mainly for members of the group?
2004 no yes 2007 no yes

Assuming the total value of sub-contractor turnover to be equal to 100 , please give a breakdown by location of the contractor in 2004 and 2007:

 If the firm belongs to a group, were subcontracted purchases made mainly within the group?
2004 no 2007 yes 10 no

Assuming the total value of subcontracted purchases equal to 100, please give a breakdown by location of the seller in


## PART H - Corporate support services (see instructions)

Please indicate whether the firm used the following support functions in 2004 and 2007, performed either internally or by outsourcers. If yes, please indicate the nature of the provider. For 2007, please state also the country of origin of the main company to which the service is outsourced.
distribution and logistics marketing, advertising, promotions, market research, trademarks
sales and after-sales service
IT and telecommunications
personnel management, accounting, etc. engineering and design
R\&D-related services

(1) $1=$ internally; 2=by another firm in the group; 3=by another firm. - (2) 1=same region of Italy; 2=other region; 3=EU country on 31-12-2003; 4=other European country; 5=China or India; 6=USA or Canada; 7=rest of the world.

Comments: $\qquad$


Confidentiality notice (Legislative Decree 196/ 2003). - The purpose of this survey is to collect information on the main economic and financial variables in the service sector. Your co-operation is important but not compulsory and any refusal to take part will bear no consequence. The information provided will only be used for research purposes and will not be published outside the Bank except in aggregate form. The firms taking part will be sent an extract of the main results of the survey. The data will be processed entirely inside the Bank and appropriate devices will be put in place to ensure the safety and confidentiality of all information. The only people with access to individual data are those in charge of data handling and the staff engaged in processing and analysis. Firms enjoy the rights granted under the terms of Article 7 of the Decree, including the right to correct and integrate information concerning them. In charge of data handling: Head of the Economic Research Department of the Bank of Italy, Via Nazionale 91, 00184 ROME, Italy. Responsible for data processing: Bank of Italy (Organization Department), Via Nazionale 91, 00184 ROME , Italy.

## PART A - General information


for SPA (public limited company) only: Did the firm adopt a governance model other than the traditional one?


## Does the firm belong to a group?

| yes |
| :--- |
| no |

If the firm belongs to a group (i.e. a set of firms directly or indirectly controlled - through one or more chains of control - by the same legal persons or the same public entity)


Was the firm involved in extraordinary operations in 2007?


If yes, are you able to provide homogenous data for 2006 and 2007? (see instructions)


Name and surname of managing director or head of business

|  |  |
| :---: | :---: |
| name | surname |

(1) See Centrale dei Rischi. Nuova classificazione della clientela bancaria, 1991. - (2) See ISTAT. Classificazione delle attività economiche. Metodi e norme, 2002.

## PART B - Workforce and wages

| ( number) |  | Total workforce | Total workers | Total fixed- | Total non-EU |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\underline{2006}$ | Average workforce <br> of which: part-time <br> Workforce at end of year <br> Hirings <br> Terminations |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| 2007 | Average workforce $\qquad$ - of which: part-time. $\qquad$ <br> Workforce at end of year $\qquad$ <br> Hirings $\qquad$ <br> - of which: with work experience in firms in the same sector (\%) $\qquad$ |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  | \% |  |  |  |
|  | Terminations $\qquad$ of which: resignations (\%) ....... |  |  |  |  |
|  |  | \% |  |  |  |
| $\underline{2008}$ Average workforce (projection) |  |  |  |  |  |

Total actual hours worked by payroll employees

- of which: per cent overtime

Total hours paid by Wage Equalization Fund
Number of temporary work assignments
Total hours of temporary work


Wages and salaries in 2007
Total gross annual wages per capita ( $€)^{(1)}$
Minimum national contract wage $(€)^{(2)}$
(approximate per cent of total)

(1) Includes social security and tax withheld on behalf of employees; does not include company payments on behalf of INPS and other social security institutes. - (2) The part covered by national contract includes minimum rates of pay, cost-of-living allowance, 13th month's pay (tredicesima) and other additional months' pay, meal allowance, overtime, and shift allowance.

Supposing the firm needs to recruit workers for "key" roles in the business, how many weeks would it normally take to find such a person?

How does the firm's location affect search times? $\quad$ helpful $\quad 1 \quad$ impediment $\left.\begin{array}{|c|}\hline\end{array}\right)$
(firms with multiple locations should refer to "key" workers employed in the main factory or office)
irrelevant 3

Do you consider that, on average, your "key" workers are suitable for the tasks required of them? (1=yes, they $\qquad$ have the necessary qualifications and experience; $2=$ no, the firm needs people with better qualifications and more experience; $3=$ no, lower qualifications and less experience would be sufficient)
Number of days of formal training (see instructions) received on average in 2007 by your firm's 'key' worker (do not include mandatory training)
 -

PART C - Gross fixed investment in Italy (please enter amounts in $€$ thousands; enter 0 for no investments)

| Total expenditure on tangible assets ${ }^{(1)}$ <br> - of which: property |  |
| :---: | :---: |
|  |  |
|  | Total expenditure on software, datab mineral exploration ${ }^{(2)}$ |


| 2006 |
| :--- |$|$| 2007 | 2008 projection |
| :---: | :---: |
|  |  |

Average annual percentage change in prices of
tangible assets purchased
 Average annual percentage change in prices of software,
databases and mineral exploration purchased ${ }^{(2)}$

(1) Tangible assets include property, plant, machinery and equipment and means of transport. - (2) Includes expenditure on original copyright on entertainment and works of literature and art.

Geographical distribution of workforce and total fixed investment in 2006 and 2007 and projection for 2008

|  | Average workforce |  |  |  | Total gross fixed investment |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2006 | 2007 |  | 2008 (proj.) | 2006 | 2007 |  | 2008 (proj.) |
| North-West ${ }^{(1)}$ | \% | \\| |  | \% | \\| \% | \% |  | \% |
| North-East ${ }^{(2)}$.. | \% | \% |  | \\| |  |  | \\| | \\| \% |
| Centre ${ }^{(3)}$ | \% | \% |  | - |  |  | - \% | \\| |
| South and Islands ${ }^{(4)}$. | \\| | \% |  | \\| | \% | \% |  | \% |
| Total. | 100 | 100 |  | 100 \% | 100 | 100 |  | 100 \% |
| Same region ${ }^{(5)}$..... | \\| \% | - \% |  |  | \\| \% | \\| \% |  | \\| \% |

[^25]
## PART D - Turnover, prices and operating result


(1) Sales to non-residents within the country.


## PART E - Financing

Please state whether, at the terms and conditions (cost and collateral) currently applied, the firm would like to borrow more from banks or other lenders
If yes, please say:

- whether the firm would be willing, at present, to pay a higher rate of interest or even to accept worse terms and conditions in order to borrow more.
- why do you think the firm has not been able so far to borrow as much as it would like? (only one answer possible)
- no banks or other lenders have been contacted for that purpose because it is assumed they will answer no to any request for more financing
- no banks or other lenders have been contacted yet for other reasons

| no | yes |
| :---: | :---: |
| no | yes |

- the lenders that have been contacted are not willing to increase the volume of lending to the firm


## Source of finance

Self-financing ${ }^{(1)}(+/-)$ ( $€$ thousands)

| 2006 | 2007 | 2008 projection |  |
| :---: | :---: | :---: | :---: |
| $\square$ | $\square$ |  | $\square$ |

(1) Please use the minus sign (' ${ }^{\prime}$ ') in case of negative self-financing. For the definition of self-financing see the instructions

For each of the following items, please say if there is any change with respect to the amounts outstanding at end of the preceding year and indicate how much
(for a negative change please write $1=$ over $-20 \%$; $2=$ from $-20 \%$ to $-1.1 \%$; $3=$ from $-10 \%$ to $-5.1 \%$; $4=$ from $-5 \%$ to $-0.1 \%$; for a positive change please write $5=$ from $0.1 \%$ to $5 \%$; $6=$ from $5.1 \%$ to $10 \%$; $7=$ from $10.1 \%$ to $20 \%$; $8=0$ er 20\%)

$$
\text { Equity capital }{ }^{(1)}
$$

of which: private equity funds ${ }^{(2)}$
Bonds and other medium/long-term securities ${ }^{(3)}$
Other ${ }^{(3)}$ $\qquad$
Bank borrowing

(1) Please consider only changes due to issues and redemption of capital equities. Changes are negative in the case of redemption. - (2) Minority stakeholders in unlisted firms that generally participate actively in the firm's management. - (3) Changes are negative for firms that overall reimburse bonds and/or securities.

## PART F - Governance (see instructions)




Has the person or family with control had that control since the business started?
If no: in what year did they gain control of the firm?


## PART G - Corporate support services (see instructions)

Please indicate whether the firm used the following support functions in 2004 and 2007, performed either internally or by outsourcers. If yes, please indicate the nature of the provider. For 2007, please state also the country of origin of the main company to which the service is outsourced.
distribution and logistics
marketing, advertising, promotions, market research, trademarks
sales and after-sales service
IT and telecommunications
personnel management, accounting, etc.
engineering and design
R\&D-related services
other services

| 2004 |  |  |  |
| :---: | :---: | :---: | :---: |
| performed internally |  |  | performed mainly by ${ }^{(1)}$ |
| no | yes | \% |  |
| no | yes | $\square$ |  |
| no | yes | \% |  |
| no | yes | \% |  |
| no | yes | (\%) |  |
| no | yes | \% |  |
| no | yes | $\square$ |  |
| no | yes | \% |  |


| 2007 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| performed internally |  |  | performed mainly by ${ }^{(1)}$ | main country ${ }^{\text {12 }}$ |  |
| no | yes | - | - | - |  |
| no | yes | $\square$ |  | $\square$ |  |
| no | yes | ${ }^{\circ}$ |  | ${ }^{\circ}$ |  |
| no | yes | a |  | ${ }^{\circ}$ |  |
| no | yes | \% |  | \% |  |
| no | yes | ${ }^{\circ}$ |  | 0 |  |
| no | yes | \% |  | - |  |
| no | yes | $0^{\circ}$ |  | \% |  |

(1) $1=$ internally; $2=$ by another firm in the group; $3=$ by another firm. - (2) $1=$ same region of Italy; $2=$ other region; $3=E U$ country on 31-12-2003; 4=other European country; 5=China or India; 6=USA or Canada; 7=rest of the world.

## PART H - Market structure (see instructions)

Please give the location of your three main competitors in 2007 ( $1=$ same region of Italy; $2=$ other region; $3=\mathrm{EU}$ country on 31-12-2003; 4= other European country; 5= China or India; 6= USA or Canada; 7= rest of the world)

$$
\text { leading competitor } \square \quad \text { second competitor } \quad \square \quad \text { third competitor } \quad \square
$$

Please indicate for your firm and your three main competitors the market share ${ }^{(1)}$ of each in 2004 and 2007 (of the combined Italian and foreign market):

| 2004 |  |  |  |
| :---: | :---: | :---: | :---: |
| firm | leading <br> competitor | second <br> competitor | third <br> competitor |
| $\square$ | $\square$ | $\square$ |  |


| 2007 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| firm | leading <br> competitor | second <br> competitor | third <br> competitor |  |
| $\square$ | $\square$ | $\boxed{ }$ |  |  |

(1) $1=$ less than $10 \% ; 2=$ from $10 \%$ to $29 \% ; 3=$ from $30 \%$ to $49 \% ; 4=$ from $50 \%$ to $80 \% ; 5=$ more than $80 \%$.

Hypothetically, assuming your firm raised its prices by $10 \%$ today, what percentage change would there be in turnover in nominal terms if your competitors did not change their prices and all other conditions remained the same? ( $-100 \%$ indicates that turnover would be nil) $\qquad$
$\square$ \%

What weight does the firm attribute to the following factors in its competition policy ( $1=$ of no importance; $2=$ of little importance; $3=$ fairly important; 4= very important; $5=$ extremely important)? Indicate no more than two factors as 'very' or 'extremely' important.

| a) product quality | f) organizing production to contain costs |
| :---: | :---: |
| b) technology content/product innovation | (delocalization, outsourcing, etc.) |
| c) promotion, trademark, advertising | g) other |
| d) distribution network | (please specify) |
| e) after-sales service. |  |



BANCA D'ITALIA
Survey of service firms - 2006

20-49 employees


Confidentiality notice (Legislative Decree 196/2003). - The purpose of this survey is to collect information on the main economic and financial variables in the service sector. Your co-operation is important but not compulsory and any refusal to take part will bear no consequence. The information provided will only be used for research purposes and will not be published outside the Bank except in aggregate form. The firms taking part will be sent an extract of the main results of the survey. The data will be processed entirely inside the Bank and appropriate devices will be put in place to ensure the safety and confidentiality of all information. The only people with access to individual data are those in charge of data handling and the staff engaged in processing and analysis. Firms enjoy the rights granted under the terms of Article 7 of the Decree, including the right to correct and integrate information concerning them. In charge of data handling: Head of the Economic Research Department of the Bank of Italy, Via Nazionale 91, 00184 ROME, Italy. Responsible for data processing: Bank of Italy (Organization Department), Via Nazionale 91, 00184 ROME , Italy.

PART A - General information

| Bank of Italy codes: <br> (to be entered by BI branch) | Branch code..... <br> Registered office |  |  | Firm code $\qquad$ <br> Type (sub-group) ${ }^{(1)}$ $\qquad$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Tax identification number |  |  |  |  |  |  |  |  |
| Name of firm ........................... |  |  |  |  |  |  |  |  |
| Legal status.................. | company0 <br> 1 <br> SRL | SPA | SAPA | SCRL | SCRI | SAS | SNC | Other |

for SPA ( public limited company) only: Did the firm adopt a governance model other than the traditional one?



(1) See Centrale dei Rischi. Nuova classificazione della clientela bancaria, 1991. - (2) See ISTAT. Classificazione delle attività economiche. Metodi e norme, 2002.

## PART B - Workforce and wages

| ( number) | Total workforce | Total workers \& apprentices | Total fixedterm contracts | Total non-EU workforce |
| :---: | :---: | :---: | :---: | :---: |
| $\underline{2006}$ Average workforce....................... |  |  |  |  |
| Workforce at end of year |  |  |  |  |
| Hirings |  |  |  |  |
| Terminations ............................ |  |  |  |  |
| $\underline{2007}$ Average workforce...................... |  |  |  |  |
| Workforce at end of year |  |  |  |  |
| Hirings |  |  |  |  |
| - of which: with work experience in firms in same sector (\%) .. <br> Terminations | $\\| \quad \mid \quad \%$ |  |  |  |
| - of which: resignations (\%) .............. | \% |  |  |  |
| $\underline{2008}$ Average workforce (projection) ....... |  |  |  |  |

Total actual hours worked by payroll employees

- of which: per cent overtime

Cost of freelance collaborators ${ }^{(1)}$ (\% of total cost of
Payroll employees)

(1) The item includes collaboration contracts, occasional freelance contracts (with VAT) and project contracts..

Wages and salaries in 2007
Total gross annual wages per capita $(€)^{(1)}$
Minimum national contract wage $(€)^{(2)}$
(approximate per cent of total)

(1) Includes social security and tax withheld on behalf of employees; does not include company payments on behalf of INPS and other social security institutes. - (2) The part covered by national contract includes minimum rates of pay, cost-of-living allowance, 13th month's pay (tredicesima) and other additional months' pay, meal allowance, overtime, and shift allowance.
Supposing the firm needs to recruit workers for "key" roles in the business, how many weeks would it normally take to find such a person?
How does the firm's location affect search times?

$$
\text { helpful } 1 \text { impediment } 2
$$ (firms with multiple locations should refer to "key" workers employed in the main factory or office)

Do you consider that, on average, your "key" workers are suitable for the tasks required of them? ( $1=y e s$, they have the necessary qualifications and experience; $2=$ no, the firm needs people with better qualifications and more experience; $3=$ no, lower qualifications and less experience would be sufficient)
Number of days of formal training (see instructions) received on average in 2007 by your firm's 'key' worker (do not include mandatory training)

## PART C - Gross fixed investment in Italy (please enter amounts in $€$ thousands; enter 0 for no

 investments)
## Total expenditure on tangible assets ${ }^{(1)}$ <br> - of which: property <br> Total expenditure on software, databases and mineral exploration ${ }^{(2)}$

| 2006 | 2007 | 2008 projection |
| :---: | :---: | :---: |
|  |  |  |
|  |  |  |
|  |  |  |

(1) Tangible assets include property, plant, machinery and equipment and means of transport. - (2) Includes expenditure on original copyright on entertainment and works of literature and art.

## PART D - Turnover, prices and operating result

## Turnover ( $€$ thousand)

Turnover from sales of goods \& services in year - of which: exports ${ }^{(1)}$

| 2006 | 2007 | 2008 projection |  |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
|  |  | $\%$ |  |

(1) Sales to non-residents within the country.

Average annual percentage change in prices of goods and services sold (Italy and abroad) ...


3 broad balance
moderate loss
large loss

## PART E - Financing

Please state whether, at the terms and conditions (cost and collateral) currently applied, the firm would like to borrow more from banks or other lenders
If yes, please say

- whether the firm would be willing, at present, to pay a higher rate of interest or even to accept worse terms and conditions (e.g. more collateral) in order to borrow more
- why do you think the firm has not been able so far to borrow as much as it would like? (only one answer possible)
no banks or other lenders have been contacted for that purpose because it is assumed they will answer no to any request for more financing
- no banks or other lenders have been contacted yet for other reasons

| no |
| :---: |
| no |

- the lenders that have been contacted are not willing to increase the volume of lending to the firms


## PART F - Governance

| Is your firm directly or indirectly controlled by a person (or by a family)?.......................................... yes |
| :--- |
| If yes, please give the name and surname of the leading shareholder ............ |

Has the person or family with control had that control since the business started?
If no: in what year did they gain control of the firm?
$\qquad$ was the firm previously controlled by a person or a family? $\qquad$

## PART G - Corporate support services (see instructions)

Please indicate whether the firm used the following support functions in 2004 and 2007, performed either internally or by outsourcers. If yes, please indicate the nature of the provider. For 2007, please state also the country of origin of the main company to which the service is outsourced.
distribution and logistics $\qquad$ marketing, advertising, promotions, market research, trademarks sales and after-sales service IT and telecommunications personnel management, accounting, etc. engineering and design
R\&D-related services
other services $\qquad$

| 2004 |  |  |  | 2007 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| performed internally |  |  | performed mainly by ${ }^{(1)}$ | performed internally |  |  | performed mainly by ${ }^{(1)}$ | main country ${ }^{(2)}$ |  |
| no | yes | \% |  | no | yes | (1) | $\square$ | \% |  |
| no | yes | \% |  | no | yes | (8) |  | 1 |  |
| no | yes | To |  | no | yes | (1) |  | (6) |  |
| no | yes | (b) |  | no | yes | \% |  | \% |  |
| no | yes | \% |  | no | yes | ${ }^{6}$ |  | \% |  |
| no | yes | - |  | no | yes | (8) |  | (8) |  |
| no | yes | \% |  | no | yes | \% |  | (6) |  |
| no | yes | (0) |  | no | yes | (8) |  | (8) |  |

(1) $1=$ internally; $2=$ by another firm in the group; $3=$ by another firm. - (2) $1=$ same region of Italy; $2=$ other region; $3=E U$ country on 31-12-2003; 4=other European country; 5=China or India; 6=USA or Canada; 7=rest of the world.

$\qquad$
$\qquad$
$\qquad$


[^0]:    1 There may be discrepancies between some of the calculations based on data from previous surveys and the data published in earlier editions of the Supplement as a result of progressive revisions of the database.

    2 This is the ratio of the number of firms sampled to the respective reference population. The latter is obtained from Istat's statistical records of firms in business (updated to 2005).

    3 See the Methodological Notes for the properties of the estimators (Appendix A).
    4 The topics covered include corporate governance, sub-contracting and outsourcing, and the structure of outlet markets.

[^1]:    5 For the sake of simplicity, the sector of industry excluding construction is abbreviated to 'industry' and that of non-financial private service firms to 'services'.

    6 According to the national accounts, in the same period employment rose by 1 per cent in the economy as a whole and payroll employment by 1.5 per cent; in industry excluding construction payroll employment increased by 1 per cent and in non-financial private services by 2.6 per cent. The difference with respect to the survey may be due, sampling error aside, to a particularly large growth in employment in small firms, which are not included in the sample. It should also be considered that the national accounts, unlike the survey, incorporate an estimate of informal employment. For firms with 500 or more employees, the survey results are very much in line with Istat's findings (see the press release Lavoro e retribuzioni nelle grandi imprese - Dicembre 2007, issued in February 2008).

[^2]:    7 The tourism sector includes hotels, bars and restaurants.
    8 See Table a9.21 in the appendix of the Italian version of the Bank of Italy's annual report, Relazione Annuale sul 2007.

    9 Labour turnover, which is an indicator of the speed of staff renewal, is the ratio between the sum of hirings and terminations in the year and average employment

    10 According to Istat's OROS survey, between 2006 and 2007 gross per capita earnings increased in industry (including construction) and services (including financial services) by 2.3 per cent in nominal terms overall (including in firms with less than 20 employees). In industry excluding construction (but including firms with less than 20 employees) the increase was 3.2 per cent in nominal terms, compared with a finding of 2.9 per cent in the present survey.

    11 This includes basic minimum wage, cost-of-living increase, thirteenth month's pay and any additional months, seniority increase, meal allowance, overtime and shift allowance. It does not include pay items agreed during company-level negotiations or on an individual basis.

[^3]:    12 The change at constant prices is obtained using average deflators for sub-categories of economic activity on the basis of the individual price changes reported by firms (for further details see Appendix A).

[^4]:    15 The percentage was 3.6 in 2002. See Supplements to the Statistical Bulletin - Survey of Industrial and Service Firms - Year 2004, New Series, Year XVI, Number 3, 4 January 2006.

    16 Sub-contractor turnover refers to production according to the contractor's technical specifications.
    17 To quote the Bank of Italy's Annual Report for the year 2007 (Chapter 10, page 76) ' the productive system is undergoing a process of "creative destruction", in which less productive firms are being expelled and production quotas reallocated to better existing or emerging companies.'

[^5]:    18 According to the Bank of Italy’s Annual Report for 2007 (Chapter 10, page 82), 'These "service" activities allow firms to go beyond mere price competition by supplying a differentiated product with its own characteristics. Since these activities have high fixed costs, in particular those of setting up an integrated and digitalized internal organization, firms need to be sufficiently large to meet them ...'.

[^6]:    (a) Average points: 1=not important; 2=slightly important; 3=fairly important; 4=very important; 5=extremely important.

[^7]:    ${ }^{21}$ For further details and an outline of the regulatory framework see Autorità per la Vigilanza sui Contratti Pubblici di lavori, servizi e furniture, Relazione Annuale 2007 (presented to Parliament on 9 July 2008).
    ${ }^{22}$ A 'central purchasing body' is an authority that awards public contracts, concludes framework agreements or acquires supplies or services intended for awarding or contracting entities. similar functions can be performed by the regional or provincial 'single contracting stations' now being set up.
    ${ }^{23}$ Construction firms that do not have the required certification can take part in tenders by relying, within limits, on the capacities of other entities but remaining the main contractor for the work (Article 49, Legislative Decree 163/2006).

[^8]:    ${ }^{1}$ This is the reference year of the survey, which is actually conducted in the early months of the following year.
    ${ }^{2}$ The survey does not include financial intermediation (on which the Bank of Italy has a vast dataset collected for institutional purposes of banking supervision and monetary policy) and insurance, general government, the school and health sectors, and other social and personal public services.
    ${ }^{3}$ For further details the reader is referred to the first periodical publication of the survey, Banca d'Italia, 'Survey of Industrial and Service Firms - Year 2003', Supplements to the Statistical Bulletin - Sample Surveys, 55, 20 October 2005.

[^9]:    (a) Includes real estate activities, rentals, IT, research, and other professional and business activities.

[^10]:    ${ }^{4}$ Istat, Archivio statistico delle imprese attive [Statistical Archives of Active Firms], updated to 2005. In terms of workforce, the geographical distribution is more balanced, with firms in the South representing 12.8 per cent of the population and 12 per cent of sample; this is due to the fact that they tend, on average, to be smaller.
    ${ }^{5}$ Because the sampling fraction of large firms is larger, the three sub-samples represent respectively 28.3, 20.4 and 18.5 per cent of the workforce in the reference populations.
    ${ }^{6}$ The size classes, which are based on the end-of-year workforce until 2003 and on the average annual workforce thereafter, are: $20-49,50-99,100-199,200-499,500-999,1,000-4,999$, and 5,000 and over employees. Firms in the last class form a self-representative (census) stratum.
    ${ }^{7}$ Piedmont and Valle d'Aosta are regarded as a single region.

[^11]:    ${ }^{8}$ See for example W. G. Cochran, Sampling Techniques, New York, John Wiley \& Sons, 1977.
    ${ }^{9}$ The number of firms assigned for each region is then divided among the Bank's branches, which collect the data. In some areas of the country over-sampling may be performed where necessary for use in studies of the local economy.
    ${ }^{10}$ Typical reasons for leaving the target population are change of activity and staff cutbacks to below the entry threshold. See Section A4.
    ${ }^{11}$ Investment and turnover are not recorded for construction firms; they are replaced by the value of production (total and relating to public works).

[^12]:    ${ }^{12}$ At this stage, the interviewers use a form containing the main variables provided by the firms taking part in the previous survey to run a preliminary check on data consistency.

[^13]:    ${ }^{13}$ For a detailed description of the process see P. Battipaglia, 'Selective Editing to Increase Efficiency in Survey Data Processing. An Application to the Bank of Italy's Business Survey on Industrial Firms', Irving Fisher Committee Bulletin, 13, December 2002, 149-154.
    ${ }^{14}$ Another method of data quality check, based on neural networks, is currently under study as a future complement of the existing editing processes. These focus on identifying the answers with the greatest impact on the most important variables and ignoring the others, which speeds up normal processing times so that the main results of the survey can be published as early as possible. Using neural networks would allow us to organise sample data according to reliability, regardless of their importance for the purpose of producing the estimates usually released. Research is based on an algorithm obtained by using neural networks to construct non-parametric and non-linear classifiers that can identify adaptively any outlier variables, thus improving the quality checks on micro-data. See C. Biancotti and R. Tartaglia Polcini, 'A Neural Network Architecture for Data Editing in the Bank of Italy's Business Surveys', Temi di discussione della Banca d'Italia, No. 612, February 2007.
    ${ }^{15}$ For an analysis of the situations in which a ratio estimator is preferable to the mean see F. Cicchitelli et al., Il campionamento statistico, Bologna, Il Mulino Editore, 1994.
    ${ }^{16}$ Other devices are also used when imputing data. For example, if a cell in which an average is to be calculated contains a very small number of firms, it is merged with neighbouring cells according to size class or geographical area. Moreover, robust averages are calculated in the cells, limiting the influence of outliers in the reconstruction. In some cases specific solutions are used that exploit data collected in the questionnaire, as when there are arithmetic constraints between the variables or weaker links that nonetheless allow a reliable reconstruction of the missing datum. For instance, if a firm does not report the number of hirings during the year, this is calculated by adding the number of terminations to the difference between the workforce at the beginning and end of the year; the same method is used for the number of terminations.

[^14]:    ${ }^{17}$ The symbol $n h$ indicates the actual sample size. This allows the weights to be implicitly corrected to take account of the total of missing responses.
    ${ }^{18}$ Iterative proportional fitting (or raking) simultaneously aligns the sample weights to the distribution of certain characteristics known from outside sources. See for instance V. Verma, Advanced Sampling Method: Manual for Statistical Trainers, Statistical Institute for Asia and the Pacific, Tokyo, 2000, 6.13-6.21.
    ${ }^{19}$ The population of firms is that obtained from Istat, Archivio statistico delle imprese attive, 2004. Updates are published periodically for the population of about two years earlier. The estimates are revised periodically to take account of updates in the survey reference population.

[^15]:    ${ }^{21}$ The estimate of the trend of phenomena based on the data of a single survey has proved much more stable than the estimate obtained from a comparison of the values recorded in adjacent surveys, which sometimes reflect structural changes in the firms that are difficult to take into account, as well as problems of classification and measurement. These aspects are monitored more closely within a same questionnaire, leading to more accurate estimates of changes. However, this method does not take full account of the entry and exit of firms in the target population.
    ${ }^{22}$ On robust estimation techniques in general see for example D.F. Andrews, P.J. Bickel, F.R. Hampel, P.J. Huber, W.H. Rogers and J.W.Tukey, Robust estimates of location, Princeton, Princeton University Press, 1972 or D.C. Hoaglin, F. Mosteller and J.W. Tukey (eds.), Understanding robust and exploratory data, New York, John Wiley \& Sons, 1983. A classic reference for the theory is P. J. Huber, Robust statistics, New York, John Wiley \& Sons, 1981.
    ${ }^{23}$ In the literature, changing the values based on (5) is called 'type II Winsorization'; when the sampling fraction is not taken into account it is called 'type I Winsorization': in the latter case, the values beyond the cut-off are completely squashed against it. For a detailed description of the method used to estimate the changes in investments see P. Battipaglia, 'Robust Estimates of Investments from the Bank of Italy's Business Survey', Statistics Research Report, London, London School of Economics, 2000.
    ${ }^{24}$ Per capita investment is calculated by Winsorzing per capita investment at the level of single firms.

[^16]:    ${ }^{25}$ Research has been undertaken to assess whether individual deflators or deflators obtained from simple regression models can be used in place of average deflators to estimate variations at constant prices. Estimates based on individual deflators or on dummy regressions using the survey design variables as covariates have a smaller standard error if there is a positive correlation between the deflators and the nominal variations at the individual level, which would reduce their variance. Empirical analysis has found that variations in turnover display this property even in the presence of measurement errors. The positive correlation was not found in the case of variations in investments. See L. D'Aurizio and R. Tartaglia Polcini, 'Use of Deflators in the Bank of Italy's Business Surveys', Journal of Official Statistics, 24/2, June 2008, 277-300.
    ${ }^{26}$ For construction firms, total production at constant prices is calculated on the basis Istat's latest deflator for construction, while the production of public works is calculated using Istat's updated deflator for 'other construction', which does not include housing.
    ${ }^{27}$ See Chapter 7 in C. Särndal et al., Model Assisted Survey Sampling, New York, Springer-Verlag, 1992.
    ${ }^{28}$ A classic reference is K. M. Wolter, Introduction to Variance Estimation, New York, Springer Verlag, 1985.
    ${ }^{29}$ This method is well suited to the purpose, as comparisons of its theoretical and empirical properties with those of other replication methods show. See, for example, J. Shao and D. Tu, The Jackknife and Bootstrap, New York, Springer, 1995, which contains a thorough comparative analysis of the two methods of estimating variance.

[^17]:    ${ }^{30}$ The partial non-response rates of firms in industry, excluding construction, and services regarding forecasts for 2008 are 10.9 per cent for average workforce, 7.6 per cent for turnover, and 15.4 per cent for investment.
    ${ }^{31}$ See, for example, Chapter 4 in H. Lehtonen and E. Pahkinen, Practical Methods for Design and Analysis of Complex Surveys, New York, Wiley, 2004.

[^18]:    (1) Key workers are workers who, according to the owner or manager, exert a significant influence on the type of product or competitiveness of the firm.

[^19]:    (1) Robust means (Winsorized) obtained by adjusting extreme values (with positive or negative sign) of the distribution of annual changes in investments according to the 5th and 95th percentile. The method takes account of the sampling fractions in each stratum of the sample (Winsorized type II estimator). The deflator is calculated as the average, at Ateco 2002 sub-section level, of the price indices for their investment spending estimated by the firms interviewed. - (2) Forecast.

[^20]:    (1) Robust means (Winsorized) obtained by adjusting extreme values of turnover per employee (with positive or negative sign) according to the 5th and 95th percentile. The method takes account of the sampling fractions in each stratum of the sample (Winsorized type II estimator). - (2) Forecast.

[^21]:    (1) Percentage of firms reporting a change in sources of finance with respect to amounts outstanding at the end of the previous year. Answers were grouped into the categories 'negative', 'positive' and 'no change'. The percentage of firms reporting no change under each source is equal to the difference between the sum of the two percentages appearing in the table and 100 .

[^22]:    (1) European Union on 31-12-2003.

[^23]:    (1) See Central Credit Register. Nuova classificazione della clientela bancaria, 1991. (2) See ISTAT, Classificazione delle attività economiche. Metodi e norme, 2002.

[^24]:    (1) Please consider only changes due to issues and redemptions of capital equities. Changes are negative in the case of redemptions. - (2) Minority stakeholders in unlisted firms that generally participate actively in the firm's management. - (3) Changes are negative for firms that overall reimburse bonds and/or securities.

[^25]:    (1) North-West $=$ Piedmont, Valle d'Aosta, Lombardy and Liguria. - (2) North-East $=$ Veneto, Trentino-Alto Adige, Friuli Venezia Giulia and Emilia Romagna. - (3) Centre = Tuscany, Umbria, Le Marche and Lazio. - (4) South and Islands = Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicily and Sardinia. - (5) Same region as the location of the registered office.

