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Review of the **Construction Industry 2004** and **Outlook 2005–2007**

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Explanatory note

The Department of the Environment, Heritage and Local Government (DEHLG) was responsible for the publication of *Review and Outlook for the Construction Industry* (ROCI) every year up to and including 2003. During that period the ROCI document was drafted with assistance from independent economic consultants. The publication provided details of the value and volume of national and regional construction output on a consistent basis over a number of years and presented the Department's views on the prospects for the industry over the medium-term.

In 2004, the DEHLG adopted a new approach to the preparation and publication of construction industry statistics. Since 2004, the Department has given editorial independence to DKM Economic Consultants to prepare the ROCI document, and to present its views, analysis, forecasts and economic commentary on the collated data and statistical trends. The ROCI document is commissioned and funded by the DEHLG, but is an independent report and does not necessarily reflect the views of the Department.

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September 2005

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Key statistics for the construction industry

	2001	2002	2003	2004	2005E
GNP (constant 2003 prices, €m)	107,812	110,718	116,374	121,032	127,084
% volume change in GNP	+3.9	+2.7	+5.1	+4.0	+5.0
Gross domestic fixed capital formation (constant 2003 prices, €m)	29,175	30,247	31,948	34,492	36,734
Volume change in GDFCF (%)	-0.2	+3.7	+5.6	+8.0	+6.5
Total construction output					
Value output (current prices €m)	19,926	21,293	23,820	27,595	29,718
Change in value of construction output (%)	+13	+7	+12	+16	+8
Value output (constant 2003 prices €m)	22,195	22,628	23,820	25,459	26,305
Change in volume of construction output (%)	+3	+2	+5	+7	+3
Construction output as % of GNP*	20.3	20.0	20.5	22.2	22.2
New construction output**					
Public sector new construction output***					
– Value of output (constant 2003 prices, €m)	5,397	6,476	6,309	6,064	6,657
– Change in volume of construction output (%)	+19	+20	-3	-4	+10
– As % of total construction output*	25	30	26	23	24
Private sector new construction output					
– Value of output (constant 2003 prices, €m)	11,433	11,327	12,774	14,237	14,264
– Change in volume of construction output (%)	-2	-1	+13	+11	+0
– As % of total construction output *	49	48	54	58	56

	2001	2002	2003	2004	2005E
Direct employment in construction (Q4)	185	191	201	227	240
Change in capital goods price index for building and construction (materials and wages)	+13	+7	+2.5	+7	+6
Change in building and construction price index for all materials (%)	+5	+3	+1	+9	+6
Change in tender prices (est) (%)					
– New housing	+11	+10	+14	+12	+5
– New general contracting	+8	-1	-2	+4	+4
– New civil engineering	+9	+6	+3	+4	+4
Change in total construction price inflation	+10	+5	+6	+8	+4

Notes:

*Percentages derived using output measured in current prices.

**The balance, not shown in the table, is repair and maintenance output, which is estimated to account for 19% of total output in 2004.

***The estimate for new public sector construction includes small amounts of private sector investment under education, energy and telecommunications.

Summary

2004 review

Significant revisions to economic growth figures now indicate that the economy made much more progress in 2002 and 2003 than previously thought while the outturn for GNP growth (4%) in 2004 was disappointing at below its previous estimate (5.5%). That said, the economy was once again supported by strong residential investment (+13%), which boosted the growth in capital formation (+8%). The preliminary estimate for Q1, 2005, showing an annualised rate of 3.6% real GNP, suggests that the economy will have to do much better over the remaining three quarters of the year if it is to grow in-line with the consensus forecast for the year (+5.1% GNP). When one considers the dominance of housebuilding as well as its impact on consumer spending and employment, it leaves the economy vulnerable to any negative developments in the housing market.

The value of output in the construction industry in 2004 is estimated at €27.6bn compared with €23.8bn in 2003. This represents an increase of almost 16% in the value of output in 2004 or almost 7% in volume terms. The lower than expected outturn for 2004 compared with the estimate in last year's Review and Outlook (+12%) is due to two factors: a lower than expected level of new housebuilding output, which nonetheless was up strongly in 2004, and a lower than planned level of investment by the public sector on productive infrastructure.

The construction industry continues to be a significant sector of the Irish economy. Depending on the measurement approach used, construction output as a percentage of GNP was 22% in 2004, based on gross estimates in the Review and Outlook, or 10% of GNP using the value-added concept of output (outputs less inputs). The latter compares with, for example, agriculture which accounted for 3% of GNP in 2004.

The change in the price of construction work, otherwise referred to as tender price inflation, accelerated in 2004. The composite tender price index for the industry shows the average rate of construction price inflation at 8.4% in 2004. The latter figure is heavily influenced by housebuilding, where the estimate for tender price inflation was 13% last year. Excluding housebuilding, non-residential construction inflation was up by over 4%, despite an even greater acceleration in the cost of building materials (+9%) and labour costs (+5%) compared with 2003. The higher inflation in building materials reflects the impact of oil price increases on certain products and the strong demand for steel in China.

The expansion in the numbers employed in construction has been unprecedented. Over the most recent year to the December-February quarter of 2005, construction employment increased by 15% to 233,100, and accounted for more than 42% of the total increase in employment across the entire economy. The latest numbers indicate that residential construction continues to underpin employment growth but also signal a recovery in non-residential construction. Based on the lower growth evident from other employment data (the CSO Construction Employment Index), it appears that the industry is becoming more fragmented over time, with a greater number of smaller firms.

The overall volume growth was almost 7% in 2004. There was an increase of just over 6% in the volume of new construction output associated with new and major refurbishment projects (80% of output), while the volume of construction output associated with repair, maintenance and improvement (20% of output) projects was up by almost 9%. The split between new and RM&I work is very much an estimate and we urge caution in relying on the breakdown.

The performance of the different sectors within construction was mixed during 2004. Once again the key driver was the housebuilding sector, while other sectors did not perform as well as expected. In particular

the figures suggest that the volume of publicly-funded investment in new building and construction, including infrastructure, was down for the second year in a row. Looking at the individual sectors:

- Housing supply reached a new record level of 76,954 in 2004, up by almost 12% on the corresponding level in 2003. As a result Ireland's housebuilding rate expanded further last year (19 units per 1,000 of the population) and was almost four times higher than the average in Western Europe (5 units).
- The first signs of a recovery in private non-residential construction emerged in 2004, with the volume of output up by just over 4%, following a decline in each of the previous three years. Agricultural building investment recovered for the first time in four years.
- The overall construction spend on productive infrastructure projects was just over 2% lower compared with 2003. New investment declined by 4%. The outturn is partly due to the significant decline in public transport investment, reflecting the completion of Luas in 2003.
- The volume of construction output associated with social infrastructure projects was unchanged in 2004 compared with 2003 while new investment in construction was down modestly (–3%).

Outlook 2005

The value of output in the construction industry is forecast to increase to €29.7bn in 2005. This represents an increase in value terms of 7.7%, implying an increase in the volume of construction output of 3.3%, after allowance is made for construction inflation (4.3%). The forecast is dependent on continued growth in non-residential construction which is assumed to take over from residential construction as the driver of growth.

The estimate for construction output this year represents 22% of GNP and 19% of GDP, leaving the construction sector accounting for just over one-fifth of overall economic activity, when measured in gross output terms.

The forecast assumes total house completions at around the same level as in 2004 (76,954), making 2004 the peak year of housebuilding activity after eleven years of sustained growth. We do not believe this rate of housebuilding is sustainable over the medium-term. If the estimate for 2005 proves correct, the total number of units built over the period 1994–2005 will be 602,000 or 37% of the estimated housing stock level at the end of 2005.

There is increasing evidence that the pick-up in non-residential construction activity in 2004 is gathering momentum this year. Economic conditions are boosting employment growth and the demand for industrial and office space from existing businesses in particular. Office development activity recovered strongly in the first half of 2005, although much of the space under construction is located in Dublin City Centre. The retail sector continues to thrive with a significant amount of retail development activity under construction and in the pipeline. Overall the volume of private non-residential construction output from new build is expected to rise by over 11% this year.

Two areas are expected to dominate growth in the civil engineering sector, where the total volume of output from new productive infrastructure projects is projected to increase by 5%, assuming all capital provisions are spent in the year. The overall performance is led by roads, where the volume of construction output arising from new investment in the road network is projected to recover strongly (+15.5%). Investment in airports is also expected to increase (+30%), reflecting major developments and improvement works at all three State airports by the Dublin Airport Authority. Investment in road and energy projects account for almost three-quarters of the total value of construction investment in this sector.

The volume of construction output associated with new social infrastructure building projects is forecast to recover in 2005 (+14%). Both education and health are expected to benefit from strong increases in the public capital provisions for major building work in 2005.

In the absence of reliable data on construction unemployment, we assume that the construction unemployment rate is in-line with the national average rate (4.2%, sa). Thus our estimate of the building and construction labour force in Q1, 2005 is 342,000 persons, including an estimate for indirect employment. This estimate corresponds to 17% of the national labour force estimate of 2 million.

Based on the latest construction cost indices for June, the capital goods price index for building and construction materials and wages is forecast to increase by 5.5% on average this year; the separate index for all building materials is forecast to rise by 6% – each index rising by marginally less than in 2004 as the impact of oil price increases is expected to moderate in the second half of the year. Contractors will be keen to recover cost increases, but subject to the market conditions and the level of competition. Accordingly construction tender price inflation for non-residential work is projected to rise by around 4% on average this year, much in line with the increase recorded in 2004.

The estimate for tender price inflation on average for the sector as a whole (4.3%) is lower than in 2004 (8.4%) due to the anticipated moderation in house price inflation to around 5% from 13% last year.

Medium-term prospects 2005–2007

The fate of overall activity levels in the construction sector over the medium-term will be determined by trends in the macroeconomic environment. Firstly, as a small open economy, Irish economic prospects will depend on the international economic environment. Rising oil prices are expected to restrain global growth this year to 4.3%. The international economic prospects are dependent on the US and China while there is a risk that the very gradual recovery underway in the Euro area could be stalled if the euro and/or oil prices appreciate further.

The consensus view is that the Irish economy will grow in line with its potential this year (+5% real GNP) on the back of a marked acceleration in consumer spending and a recovery in non-residential construction investment. There are risks, however, not least of which is the likelihood of lower US and/or eurozone growth if oil price rises persist. There is also the risk of a further loss of competitiveness if wage pressures result in a revival of inflation.

The preliminary assessment of the prospects for construction in 2006 and 2007 assume the following:

- While there is a general consensus that the current level of housing supply is unsustainable the difficulty is predicting the extent of the decline when it comes. The forecast assumes total completions will be 70,000 in 2006 and 65,000 in 2007, leading to a contraction in residential construction output volumes. Depending on the outcome of the Department of Finance's review of tax incentives and the response to it, the reduction in 2007 could be greater.
- There is expected to be a continued recovery in non-residential construction, although it is tempered by the persistent oversupply in the Dublin suburban office market. The expected moderation in employment growth over the medium-term will also soften the prospects for non-residential construction activity. That said construction activity in the retail sector is expected to remain buoyant on the back of strong levels of consumer spending.

- Public sector construction prospects should be good over the medium-term given the Government's target for Exchequer capital spending on infrastructure (5% of GNP) as set out in the multi-annual capital envelopes for the period 2005–2009. Confirmation that there is to be a new National Development Plan for the period 2007-2013 will also support public sector investment over the medium-term. However, there is concern that the public capital provisions for essential infrastructure look like being underspent for the third year in a row this year. If so this will imply that the Government's target of 5% will not be met, unless the capital envelopes are revised upwards in the 2006 Budget.
- Based on estimating the infrastructure spend from the 5-year rolling multi-annual capital investment envelopes announced by the Minister for Finance with the 2005 Budget, and adding an estimate for non-Exchequer spending, the volume of public sector construction output is projected to rise by just over 4% in 2006 and by 6% in 2007. The aggregate forecast assumes that investment in public housing, social and productive infrastructure projects continues at a high level.
- The overall volume of construction output is projected to decline by 2% in 2006 and is almost unchanged in 2007 (–0.4%), or is forecast to decline by 2.3% over the two years, due to the contraction in housing output.

While it is difficult to be precise about the timing of the downturn in residential construction output, there will be implications for the construction sector and the wider economy. The weaker outlook for residential construction is expected to lead to a reduction in the numbers directly employed in housebuilding. The lower housing supply reflects the builders' expectations of lower demand in the future which implies less home related purchases and a lower level of consumer expenditure, less employment in property related business and financial services and lower housing related tax revenues. The overall implication is a level of GNP growth below what it would otherwise be, unless other sectors make up the difference.

The difficulties which such an adjustment poses for the Irish economy could be further compounded by a scenario in which mortgage rates finally start to rise again, causing a knock to confidence levels and house prices across the general economy. This would probably cause builders to reduce supply even more, thus keeping house prices higher than they would otherwise be. Given the low probability that mortgage rates will increase significantly in the short run, this should result in a soft landing for the housing market.

The economy has come to rely on the construction and housebuilding sector as a key driver of economic growth. Thus there is a need to ensure, whether or not the housebuilding sector experiences a contraction in volume, that the Government's commitments to delivery of essential infrastructure are honoured and that funding is allocated to those projects that yield the highest economic and social return.

Section 1: Review of 2004 and outlook for 2005

Significant revisions to economic growth figures by the CSO now indicate that the Irish economy performed much better in 2002 and 2003, but somewhat worse in 2004 than was previously reported. GNP expanded by 5.1% in 2003 (as against 2.8% previously) while GNP was up by 4% in 2004 (as against 5.5% previously). The performance in Q1, 2005 was disappointing (+0.9% sa on Q4, 2004) and corresponded to an annualised growth rate of 3.6%. This figure suggests that the economy has to do a lot better over the next three quarters if it is to grow in line with the consensus forecast for 2005 (5.1% GDP).[1]

The volume of construction output in 2004 was up by a respectable 7% according to Review and Outlook estimates. It is clear that the key driver of growth was the housebuilding sector, while other sectors did not perform as well as expected. However, the volume of publicly funded investment in new building and construction, including infrastructure, declined for the second year in a row. Output in the sector is expected to expand more modestly in 2005 (+3.3%), despite an unchanged level of housing output. Non-residential construction is expected to stage a recovery while public sector construction activity is expected to recover strongly. With housing unchanged from its 2004 level, the upbeat projection for 2005 is dependent on public capital commitments being fully spent in the year.

A welcome development this year is the expected moderation in construction inflation to 4.3% from 8.4% in 2004, due to the anticipated moderation in house-price inflation.

The estimates for construction output prepared in this report are based on the best and most up-to-date information available. However, there are substantial data gaps for measuring output in the construction sector and estimates have had to be made in these cases. The reader should be aware of the potential for inaccuracies in some of these estimates, which are flagged in the text where appropriate. The CSO and others are working to improve their accuracy, which will help to establish a firmer basis for measuring output in the sector in the future.

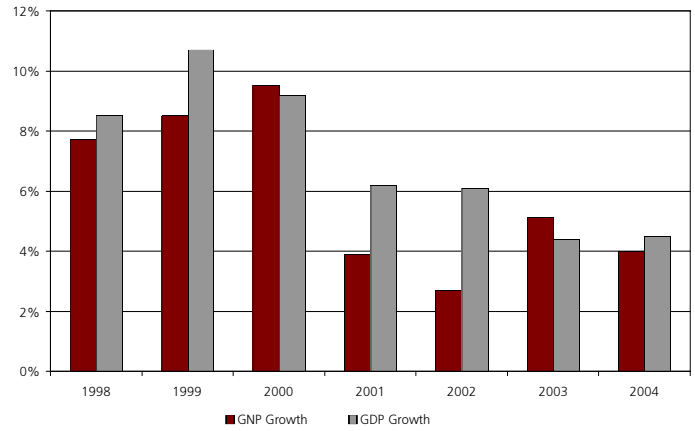
1.1: Economic review

According to the latest set of National Accounts, the Irish economy expanded by 4% in 2004 in real GNP terms compared with the previous estimate of 5.5%. There was a substantial revision to the real GNP estimate for 2003, which was revised up from 2.8% to 5.1% . Despite the downward revision to the 2004 outturn, Ireland remains firmly at the top of the EU growth league, at least in the context of the original EU15 Member States.

According to the revised estimates for GNP the economy made significant progress in 2003 while the outturn in 2004 was disappointing in that overall GNP growth decelerated, and was below the growth forecast by many economists. That said, economic performance in 2004 was boosted by a strong rebound in exports (+7% in volume) following very modest growth in 2003 (+0.8%); strong residential investment, which supported the growth in fixed-capital formation (+8%); and a slight acceleration in growth of consumer expenditure (+3.8% vs 3.4% in 2003). However, government spending growth slowed to 2.4% last year from 3.5% in 2003, while strong import growth (+7.6%) contained the overall GNP performance.

1 There were extensive revisions to the GDP and GNP estimates by the CSO due to the introduction of two methodological changes: the move to chain-linked accounts and a further change related to the treatment of financial services. See National Income and Expenditure, Annual Results for 2004, CSO, 28th July 2005.

Figure 1.1: GDP and GNP real growth 1998–2004 (%)

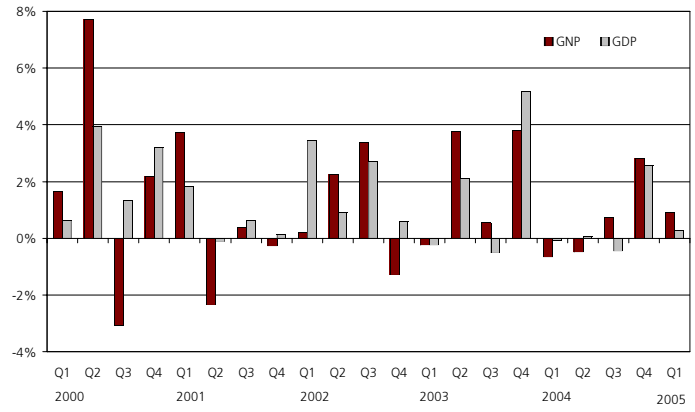


Source: CSO

Provisional figures for Q1, 2005 suggest that real GNP grew by 3.9% in Q1, 2005 compared with Q1, 2004 while real GDP growth was lower over the same period (2.4%). Looking at the quarterly movements, real GNP only expanded by 0.9% in Q1, 2005 compared with Q4, 2004 (sa). This is equivalent to an annualised rate of 3.6%. The quarterly rate of growth in real GDP was lower at only 0.3% in Q1, 2005, equivalent to an annualised GDP growth rate of only 1.2%. The performance in Q1 suggests that the economy has to do a lot better over the next three quarters if it is to grow in line with the consensus forecast for 2005 (5.1% GDP).[2]

However, the quarterly seasonally adjusted figures, which are derived using a new methodology, show much greater volatility than previous CSO estimates, making it difficult to draw any plausible conclusions from the data presented.

Figure 1.2: Quarterly change in real GNP and GDP (s/a), 2000–2005 Q1 (%)



Source: CSO

2 Consensus Economics, July 2005

1.2: Construction review

The construction sector continues to be significant in the context of overall economic activity. Measured in terms of expenditure, construction accounted for 22% of GNP in 2004 compared with 20% in 2000. In GDP terms, construction expenditure represented almost 19% of GDP in 2004 compared with an average of 12% of GDP for construction across Western Europe.

1.2.1: Measurement of construction output

Construction is measured in terms of expenditure for the purposes of the Review and Outlook and is termed 'construction output'. The estimate of building and construction output derived in this report measures the value of work put in place from the construction of buildings and structures and from civil engineering projects plus the value of major and minor repair and maintenance expenditure on existing building and structures.[3] It is predominantly an expenditure based approach.

The value of expenditure on building and construction work is also measured by the CSO for the purposes of estimating the fixed investment element of the National accounts. The CSO measures all new investment in building and construction projects plus investment in major repair and maintenance work. The CSO estimate excludes minor investment in repair and maintenance work, which would be captured under consumption expenditure. The estimate derived in this report includes major and minor expenditure on repair and maintenance work and is therefore a higher figure than the estimate derived by the CSO.

The latest National accounts data for 2004, using the expenditure-based approach, reported a year of mixed fortunes for the construction sector. According to the 2004 National accounts, the volume of investment in building and construction was up 8% in 2004 compared with the corresponding level in 2003. Within the total, residential performed strongly (+13%), while other building and construction investment was unchanged from its 2003 level.

Construction output is also measured in the national accounts using the value added concept,[4] which amounts to taking the value of outputs less the value of intermediate consumption. Thus the true value added by the industry is what is measured. Using this approach, referred to as the 'output' measure, construction represented 10% of GNP in 2004. This compares with agriculture, for example, which in terms of value added, accounted for 3% of GNP in 2004.

Table 1.1: Different approaches to measuring building and construction output (%)

	Expenditure measure[1]	Share of GNP (%)	Output/ 'value-added' measure	Share of GNP (%)	Review and outlook measure	Share of GNP (%)
2000	14,736	17%	7,161	8%	17,586	20%
2001	17,056	17%	8,064	8%	19,926	20%
2002	18,809	18%	9,114	9%	21,293	20%
2003	21,360	18%	10,250	9%	23,820	20%
2004	24,707	20%	11,904	10%	27,594	22%

Source: CSO, DKM

[1] Expenditure measure excludes the costs associated with the transfer of land and buildings (€2.4bn in 2004)

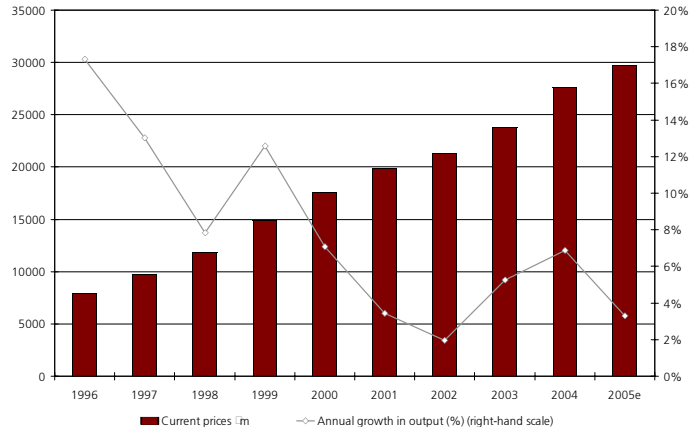
3 For detailed information on the methodology employed to measure construction output see the separate methodology paper 'ROCI Methodology' on the DOEHLG website under publications: www.environ.ie.

4 This is defined as gross value added at factor cost (Table 3 in the CSO National Accounts) which is a measure of output in which the values of the goods and services used as intermediate inputs (intermediate consumption) are eliminated from the value of output. Intermediate consumption is defined as the sum of purchases of materials and fuel, cost of industrial services and cost of non-industrial services less increases in stocks of materials and fuels (CSO Census of Industrial Production 2002, p.176).

1.2.2: Output value

Based on the Review and Outlook, the value of output in the construction industry in 2004 is estimated at €27.6bn compared with €23.8bn in 2003. This represents an increase of 15.8% in the value of output in 2004 or an increase of 6.9% in volume terms, after allowance is made for construction price inflation.

Figure 1.3: Construction output, 1996–2005E



Source: CSO, DKM

The outturn for 2004 (+7% approximately) compares with a very strong forecast (+12%) for 2004 in last year's Review and Outlook. The lower than expected outturn can be attributed to two factors: a slightly lower than expected performance from new residential construction, which nonetheless did well in 2004;[5] and a disappointing underspend by the public sector on productive infrastructure projects. The latter reflected a lower than planned level of investment in the public capital programme in 2004 compared with projections published for the year in February 2004.[6]

The private non-residential construction sector performed much in line with expectations. Last year witnessed the first signs of a very modest recovery in private sector non-residential building following a decline in activity levels over the period 2001-2003.

The performance of the construction sector in general has been spectacular over the past decade, as Figure 1.3 illustrates. The value of output in the industry expanded by a factor of 3.5 between 1996 and 2004; compared with a factor of 2.4 for the value of GNP over the same period. Over the most recent period 2000–2004, output in the industry increased by almost 19% (average 4.4% per annum) in volume terms compared with 47% over the period 1996 to 2000 (average 10% per annum).

5 The projection for total dwelling completions in 2004 was 83,000 completions last year compared with the outturn of 76,954, which itself was up almost 12% on 2003.

6 The projected Public Capital Programme for 2004 in February 2004 was €9.54 billion. The provisional outturn for 2004 published in February 2005 was €8.4bn. This latter figure includes the amount of capital carryover from 2004 to 2005 of €237 million, leaving the provisional outturn at €8.185 billion, over 14% below the original provision in February 2004.

Table 1.2: Value of construction output (constant 2003 prices, €m)

	2000	Annual avg growth 1996–2000 (%)	2004	Annual avg growth 2000–2004 (%)	2005E	Annual growth 2004–2005e (%)
Residential	12,510	8.9%	16,266	6.8%	16,392	0.8%
Non-residential	3,982	11.0%	2,845	-8.1%	3,163	11.2%
Productive infrastructure	3,632	14.5%	4,667	6.5%	4,883	4.6%
Social infrastructure	1,335	8.6%	1,682	6.0%	1,867	11.0%
Total output	**21,459**	**10.1%**	**25,459**	**4.4%**	**26,305**	**+3.3%**

1.2.3: Composition of output

Looking at the performance of the different sub-sectors in 2004, it is clear that the key driver of growth was the housebuilding sector, while other sectors within the new construction market did not perform as well as expected. Specifically, the figures suggest that the volume of publicly funded investment in 2004 in new building and construction, including infrastructure, was down for the second year in a row: by 3.9% in 2004 following a volume decline of 2.6% in 2003.

Residential construction

The total volume of residential construction – both new and repair, maintenance and improvement (RM&I) – was up 11%, after allowing for inflation. Private housing output performed strongly for the second year in a row (+12.5%) while the spend on public housing was lower (–6.5%), compared with 2003.

Non-residential construction

The first signs of a recovery in non-residential construction activity (new and RM&I) emerged in 2004 with output in the sector up by just over 4% in 2004 following a decline in each of the previous three years. The strongest growth was recorded by the agricultural sector, where the spend on buildings by farmers recovered for the first time in four years.

Productive infrastructure

The overall construction spend on productive infrastructure (new and RM&I) was just over 2% lower in 2004 compared with 2003. The lower spend overall is partly due to the significant decline in public transport investment, reflecting the completion of LUAS in 2003.

Social infrastructure

The volume of construction output associated with social infrastructure projects was unchanged in 2004 compared with 2003. Investment in public buildings fell by 20% while investment in education was up by 11%.

1.2.4: Repair, maintenance and improvement

The Tables 1.5–1.8 combine estimates for investment in new projects as well as expenditure on the repair and maintenance of existing buildings and structures.

The RM&I sector performed strongly in 2004 with the volume of output up by almost 9%, following a decline in each of the previous two years. All sub-sectors performed well: residential RM&I expenditure increased by 9.5% while non-residential RM&I expenditure was up by 7.8%.

With regard to repair, maintenance and improvement (RM&I), we continue to collect data on investment levels separately and this breakdown is presented in Appendix 2. However, there are still reservations as to the accuracy of the figures for non-residential repair and maintenance. We suspect that the figures for new investment may also include some repair and maintenance expenditure. Therefore, while we will continue to publish separate figures for these, we continue to urge caution in relying on the figures for repair and maintenance output.

1.2.5: Employment

Construction employment, based on the Quarterly National Household Survey (QNHS)[7] has continued to astound analysts by its continuing upward trend. In Q1, 2005 there were 235,000 (sa) employed in the industry, 15% up on the same period of 2004 and 42% of the total increase in employment across the entire economy over the 12-months to Q1, 2005. The industry now represents over 12% of total employment in the economy. The growth rates suggested from other data published by the CSO, the monthly employment index, are less rosy but indicate a strong sector nonetheless. In the absence of a breakdown of employment by sub-sector, we believe that the most recent figures suggest that either residential construction continued to support the growth in employment in early 2005 or that the recovery in non-residential construction is well underway. (Construction employment trends are examined in detail in Section 3).

1.3: Outlook for 2005

The value of output in the construction industry is forecast to increase to €29.7bn in 2005. The 2005 estimate represents an increase in value terms of 7.7%, implying an increase in the volume of construction output of 3.3%, after allowance is made for construction inflation (4.3%).

The estimate for construction output this year represents 22.2% of GNP and 18.6% of GDP, leaving the construction sector accounting for over one-fifth of overall economic activity.[8]

The prevailing economic environment continues to facilitate a positive climate for construction investment. The sector is benefiting from a low and stable interest rate environment, which has boosted private residential construction. Private non-residential construction activity should also be doing well as a result of the growth in employment and incomes, foreign direct investment and the growth in tourism. However, the spate of oversupply of commercial buildings at the end of the 1990s combined with adverse developments in the economy over the period 2001–2003, resulted in weaker levels of new build in this sector between 2001 and 2003. The estimates presented this year for private non-residential activity suggest that output levels recovered modestly in 2004 and will increase further this year.

The prospects for public sector construction activity are determined by the public capital programme (PCP).[9] The 2005 PCP provides for a 17% increase (before inflation) in the allocation for capital projects[10] to €9.9bn in 2005, compared with €6bn in 2000. Based on the official estimate for construction output presented in this report, public sector investment in construction is projected to rise by 12% in value terms

7 Produced by the Central Statistics Office (CSO).
8 Using the expenditure measure of construction output. Using the value added concept the proportion would be lower and closer to the 10% derived for 2004.
9 Public Capital Programme 2005, Department of Finance, February 2005.
10 The PCP covers construction related expenditure as well as expenditure on capital equipment.

or by 8.3% after adjusting for construction inflation. The latter assumes that the capital commitments in the PCP are fully spent this year.

The National accounts estimate for Q1, 2005 from the CSO suggests that the volume of building and construction expenditure was up by only 0.6% in Q1, 2005 on Q1, 2004. The almost unchanged position reflects the CSO assumption that residential investment was up by almost 8% (although this will now be subject to downward revision following the release of house completions data for the first seven months of 2005) while non-residential investment (public and private) was exceptionally weak (–18.5%).

1.3.1: Prospects for individual sectors in 2005

Residential construction output (new and RM&I) is projected to increase modestly in volume terms by almost 1%, with the number of housing completions expected to match their 2004 level (76,954).

The recovery in private non-residential construction activity which got underway in 2004 is projected to gather momentum in 2005, with the volume of construction output associated with private non-residential building projects forecast to be up by just over 11% this year.

All categories under productive infrastructure, except for public transport, are expected to grow in volume terms. Overall investment in civil engineering projects is projected to rise by 4.6% led by airports/seaports (+21%), roads (+14%) and water services (+5%).

The volume of construction related investment in social infrastructure projects is projected to be up by 11% led by educational buildings (+17.5%) and hospitals (+7%).

Section 2 provides a detailed sectoral Review and Outlook, which looks at current activity levels and the prospects for each category of work within each sector in 2005.

1.4: Construction inflation

The measurement of changes in the prices or costs of construction work is very complex. The output of the industry in any period will include a great variety of buildings of all types (residential and non-residential), civil engineering structures, as well as repair and maintenance projects. Moreover the construction costs of seemingly identical buildings or roads can vary quite considerably because of, for example, variations in ground or site conditions. The construction industry is probably unique in the complexity and variability of its products.

With construction costs, the terms frequently used, such as "cost index" and " price index", are often used interchangeably but do not refer to the same thing and need to be distinguished from each other. To clarify the terminology we distinguish below between different categories of construction price indices:

- The "construction cost" index, often referred to as an "input price" index,
- The "construction price" index often referred to as an "output price" index,
- The "selling price" index.

1.4.1: Construction cost indices

A construction cost index can be considered as a combination of the components of construction costs, namely raw materials and labour costs and the costs associated with the utilisation of machinery. Such an index shows the price developments of the main factors of production for construction, excluding land costs. It could also be considered as a 'factor price' index or a construction 'input price' index. Under this heading we would include the following indices:

- The wholesale price index for building and construction materials (CSO),
- The capital goods price index for building and construction materials (CSO),
- Average earnings in construction (CSO),
- The housebuilding cost index (The Department of the Environment, Heritage and Local Government, DOEHLG),
- The construction cost index (Society of Chartered Surveyors, SCS).

Construction costs should include all costs incurred by the contractor to carry out construction such as the cost of transport and energy and the hire of capital equipment. In respect of the indices quoted above, they predominantly focus on material and labour costs while other overheads are not included. The SCS and housebuilding cost indices are both prepared by Dublin City Council using a similar methodology. In the case of the SCS index, approximately 30 items that would typically be found in bills of quantities, are priced from current bills of quantities by a sample of chartered surveyors. Change in costs between two periods is applied to the previous index value to derive the index figure.

Ideally a construction cost index should measure the change in construction costs for a fixed amount of construction work, assuming no change in technology and a constant input mix. However, the evolution of construction costs will also reflect changes due to changes in technology which will give rise to changes in productivity.

We review trends in the published building and construction cost inflation indices over the decade 1995 to 2005 below.

1.4.1 (a): Building materials

Inflation in building and construction materials prices was remarkably subdued over the period 1996–1999, despite the very buoyant period of construction activity at that time. It was 2000 before evidence of inflation in building and construction materials emerged. In 2000 and 2001, average inflation stood at around 5% per annum, substantially below the corresponding rates of construction earnings inflation recorded around that time. Over the period 2002–2003, building materials inflation was again subdued at less than 3% on average in 2002 and less than 1% on average in 2003. The absence of any significant increase in materials prices up to 2003 may reflect the ease with which capacity was brought onstream at home and/or access to imports.

However, in 2004, building materials prices started to accelerate, following a surge in the price of some materials, most notably steel and reinforcing metal. Over the twelve months to December 2004, structural steel prices rose over 60%, driven by expanding demand from China. Other material price inflation also accelerated over the same period – the price for electrical fittings was up by 18%. All building and construction materials were up by 12.5% in December 2004 compared with December 2003 or by 8.6% on average in 2004 compared with the average for 2003.

In the first six months of 2005, building material price inflation had moderated to 4.4% yoy in June. The growth in structural steel prices had fallen back sharply to 7.6% yoy, in response to slowing demand

growth in China and increasing supply capacity. Other materials showing above-average price inflation in June included bituminous emulsions (+11% yoy), in response to the rise in oil prices, and cement, which recorded a 7.3% price increase in the month of March this year, following a 3.7% increase in the month of May 2004.

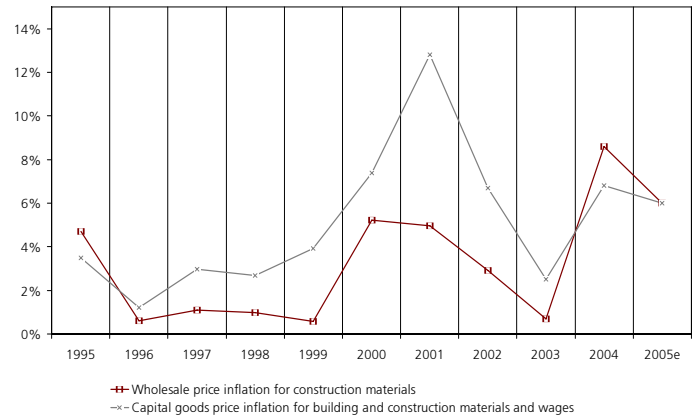
According to Table 1.3, all building and construction material prices were up by 7.1%, on average, in the first half of 2005 compared with the first half of 2004. The overall rate of inflation is expected to moderate over the second half of 2005, resulting in an average rate of inflation of 6% for the year as a whole.

Table 1.3: Average change in wholesale price inflation for building and construction materials, Jan–Jun 2005 vs Jan–Jun 2004 (%)

Structural steel and reinforcing metal	21.3%
Bituminous emulsions	8.8%
Electrical fittings	7.8%
Cement	7.4%
Stone, sand and gravel	7.1%
Other concrete products	6.5%
All other materials	5.9%
Bituminous macadam, asphalt and bituminous emulsions	5.2%
Bituminous macadam and asphalt	5.1%
Rough timber	2.7%
Concrete bricks and blocks	2.5%
Other timber	0.6%
Ready-mixed mortar and concrete	0.3%
All building and construction materials	**7.1%**
Capital goods price inflation, building and construction	6.0%

The other traditional measure used to gauge the cost of building and construction is the CSO Capital Goods Price Index for building and construction materials and wages. This index is derived by combining a special hourly wage rate index for employees in the building and construction sector with the price index for building and construction materials. Thus, this index includes labour cost increases which are awarded following each review of rates of pay for the construction industry. The index was up 6.8% on average in 2004 following annual increases of 6.7% and 2.7% respectively in 2002 and 2003. Over the first half of 2005, capital goods price inflation for building and construction stood at 6%. With building materials price inflation expected to moderate in the second half, the composite index is projected to be up by 5.5% on average in 2005.

Figure 1.4: Wholesale price inflation for building and construction materials and wages (%)

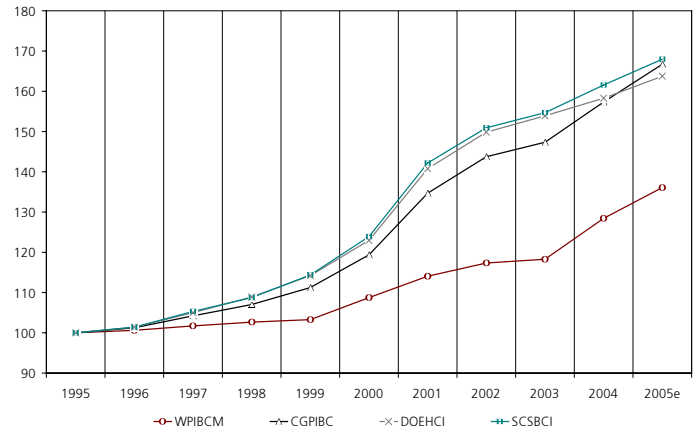


Source: CSO, DKM

The two other construction costs indices[11] comprise the housebuilding cost index[12] and the building cost index.[13] Trends in all four indices are set-out in Figure 1.5. The corresponding inflation rates are set-out in Table 1.4, together with the general CPI inflation rate.

Since 1998, building and construction materials prices have lagged the capital goods price index. The housebuilding cost index and the SCS construction cost index have moved closely in line with each other and just ahead of the capital goods price index up to 2004.

Figure 1.5: Building and construction cost indices, 1995–2005E (index 1998 =100)



Source: CSO, DKM

According to Table 1.4, the period 2002–2003 was marked by a deceleration in building and construction cost inflation in marked contrast to 2004 which recorded an acceleration in inflation, mostly attributed to pressure on selected building materials. Construction cost inflation is expected to remain at a high level in 2005 albeit below the record rates of 2004.

Table 1.4: Building cost inflation, 2000–2005E (annual change, %)

	Wholesale price inflation for B&C materials	Capital goods inflation (for B&C materials and wages)	DOE price housebuilding cost inflation	SCS building cost inflation	CPI consumer price inflation
2000	5.2%	7.4%	7.6%	8.2%	5.6%
2001	5.0%	12.8%	14.5%	14.8%	4.9%
2002	2.9%	6.7%	6.4%	6.2%	4.6%
2003	0.7%	2.5%	2.7%	2.5%	3.5%
2004	8.6%	6.8%	2.8%	4.4%	2.2%
2005E	6.0%	5.5%	3.5%	4.0%	2.3%

11 For a detailed explanation of these indices, see Appendix 1.
12 From the Department of the Environment, Heritage and Local Government (DOEHLG).
13 From the Society of Chartered Surveyors (SCS).

1.4.1 (b) Labour costs

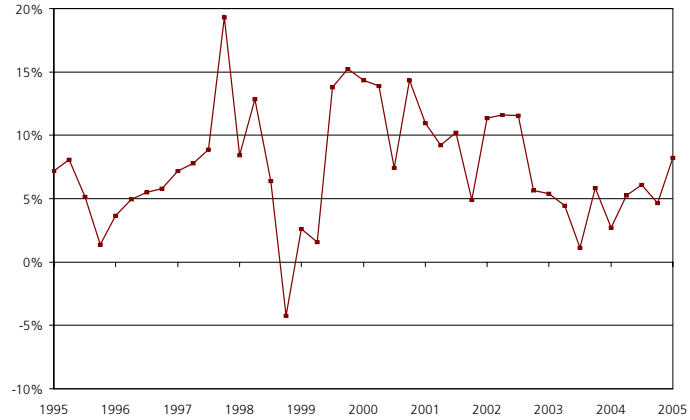
The Central Statistics Office collects data on average hourly and weekly earnings in the construction sector. Data are collected for a specific week in the middle of the last month of each quarter. All private businesses in the industry with ten or more persons engaged are covered in the survey. The latest available data, published in June this year, relate to March 2005.

Recent trends in average weekly earnings for all construction workers[14] are shown in Figure 1.6.

Average weekly earnings growth peaked at around 20% year-on-year at the end of 1997, reflecting the buoyant conditions in the industry. By the end of the 1990s, construction earnings were still rising by around 15% (sa) per annum. The rate of earnings growth remained in double digits up to mid-2002, despite the slowdown in non-residential building activity.

Average weekly earnings growth eased at the end of 2002 and had fallen to 1.1% (sa) yoy by Q3, 2003. Construction earnings increased by 4.2% on average in 2003 and by 4.8% on average in 2004.

Figure 1.6: Average weekly earnings for all construction workers (quarterly data, seasonally adjusted) % change yoy



Source: CSO

The most recent statistics for earnings and hours worked in construction (March, 2005) from the CSO show that average weekly earnings for all grades of construction workers increased from €678 in March 2004 to €731 in March 2005 or by 7.7% (not sa). This reflected:

- an annual increase of 4.7% in the hourly-rate paid from €15.67 to €16.41; and
- an annual increase of 2.8% in the average hours worked to 44.5 hours per week.

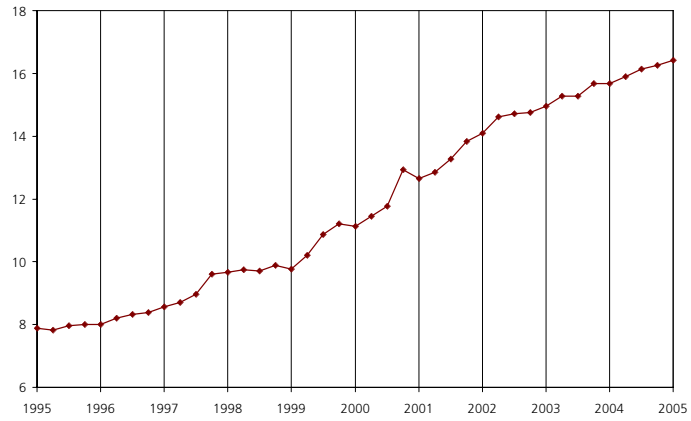
Looking separately at the component categories:

- The corresponding average weekly earnings for skilled workers increased from €782 to €854 over the same period, or by 9.2%. This reflected an annual increase of 6.4% in the hourly rate paid from €18.05 to €19.21; and an annual increase of 2.5% in the average hours worked to 44.4 hours per week; and
- Average earnings for unskilled and semi-skilled workers increased by almost 9% in March 2005 to €709 per week compared with March 2004. On an hourly basis, average earnings for the same segment of the industry were up 4.5% to €15.07 while the number of hours worked was up by 4% to 47.1 hours.

14 The main categories of employees covered in the CSO enquiry are skilled, unskilled and semi-skilled workers, clerical, foremen and apprentices.

The final increase of 2.5% under Sustaining Progress is due to be paid in the construction industry on 1 October 2005. The agreement, which resulted in an increase in rates of over 13% over 30 months, is due to expire on 31 March 2006. It is anticipated that the social partners will meet towards the end of 2005 to discuss the possibility of entering into a new national programme on the expiry of Sustaining Progress.

Figure 1.7: Average earnings per hour in the construction sector (€)



Source: CSO

1.4.2: Construction price indices

The construction price index measures movements in the prices charged to clients for construction work. Such an index is synonymous with an output price or a tender price index and will include both changes in productivity and in the contractor's margin.

While tender prices obviously reflect changes in construction materials and labour costs, they are also subject to a range of other factors including competitiveness and the capacity of firms to bid for work, business confidence, different contract forms and general economic conditions. However, pressure on construction costs can impact on construction tender levels. During the period 2002–2003, when there was a decline in the volume of new non-residential building activity, the market was characterised by strong competition amongst contractors and sub-contractors and rising construction costs. Consequently, tenders came in below costs, with the result that construction margins for non-residential work were squeezed compared with their levels in the late 1990s.

For the purposes of estimating volume changes in construction output, we need an output price index or a measure of tender price inflation as opposed to construction cost inflation. We derive an overall estimate of the value of work put in place, which is based on the prices charged to clients for construction work. Thus, to properly measure changes in the volume of output, we need to deflate the value series by a tender or output price index. Accordingly, we need data on tender or output prices for the various types of building and infrastructure put in place (Section 1.4.4).

There are three published tender price indices available for non-residential building activity:

- The Bruce Shaw Tender Price Index,
- The Davis Langdon PKS (DLPKS) Tender Price Index,
- The Society of Chartered Surveyors (SCS) Tender Price Index (from 1998 only).

These are explained in detail at Appendix 1.

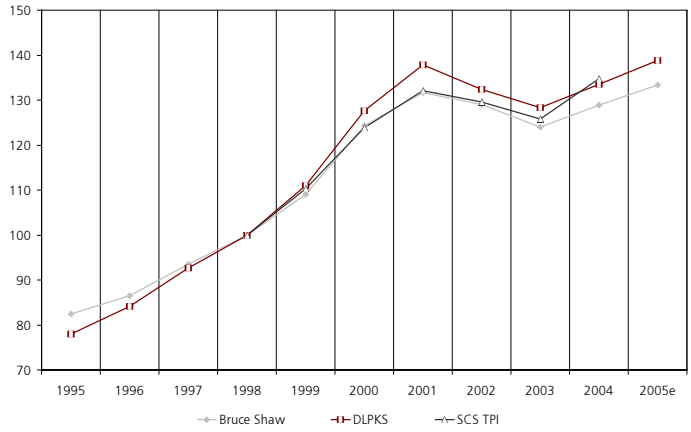
All three tender price indices available are derived from projects in the general contracting sector of the industry. Thus they cannot be used for the purposes of estimating the real volume of output for housebuilding and civil engineering projects.

1.4.2 (a) Trends in construction tender price inflation

We review trends in the three published tender price indices over the decade 1995 to 2005 below.Annual movements in the published tender price indices are shown in Figure 1.8 over the past decade, including the SCS index from 1998. The corresponding tender price inflation rates are shown in Figure 1.9. It is important to stress, however, that these published indices predominantly relate to projects in the general contracting sector as opposed to civil engineering work, where separate approaches are adopted for the purposes of the *Review and Outlook*.[15]

Both indices moved closely in line over the period 1995 to 2000 and continued on an upward trend over this period, reflecting the increasing workload in the industry at that time. Over the two years 2002 and 2003, both indices moved downwards, an indication of the declining number of new projects in the general contracting area and the intensely competitive climate. This was a major reversal of the trend in previous years.

Figure 1.8: Tender price indices, 1995–2005e (1998=100)

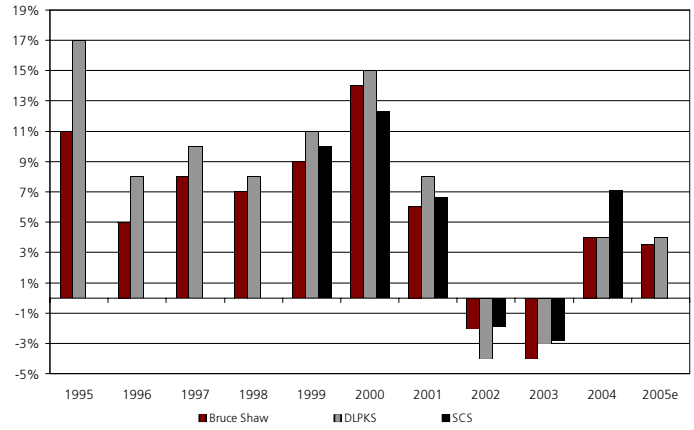


Source: Bruce Shaw Partnership, Davis Langdon PKS, SCS

Tender price inflation moved back into positive territory in 2004 in response to a pick-up in the levels of non-residential building work and also the pick-up in building materials inflation, most notably steel and reinforcing metal, which commenced in February 2004 and accelerated during the year. Both indices from Bruce Shaw and DLPKS suggest that tender price inflation was 4% in 2004. DLPKS expect it to remain at that level in 2005 while Bruce Shaw's forecast is lower at 3.5%. In contrast, the SCS tender price index (published on a half-yearly basis) suggests that construction tender prices increased by 4.6% in the first half of 2004 and by 3% in the second half, resulting in an average increase in tender price inflation of 7.1% in 2004, significantly ahead of the Bruce Shaw and DLPKS estimates. The SCS does not publish forecasts.

15 See Appendix 1.

Figure 1.9: Tender price inflation, 1995–2005E (%)



Source: Bruce Shaw Partnership, Davis Langdon PKS, SCS

1.4.3: Construction selling price indices

The aforementioned construction cost and price indices need to be distinguished from the final concept, the "selling price" index. The selling price index measures changes in the prices paid by the final owner of the output to the client. It includes the price of land and the client's profit margin. Such an index would arise in the context of the sale of a residential dwelling or a commercial building, for example. The closest example of a selling price index would be the permanent-tsb house price index, which records the final sale price of residential dwellings to housebuyers. Such an index is not relevant for the purposes of the Review and Outlook.

1.4.4: Construction inflation assumptions

For the purposes of measuring volume changes in construction output in this report, we need an output price index or a measure of tender price inflation as opposed to construction cost inflation. Accordingly, we need data on tender or output prices for the various types of building and infrastructure put in place.

While every effort is made to reflect a realistic view on the level of inflation in the construction industry by paying attention to the published tender and cost price indices summarised above, and consulting with the various government departments and the industry, there are no regular tender price indices published by sub-sector of activity for the industry, other than those presented above for the general contracting sector. The variation in tender price inflation across the various sub-sectors this year indicates the importance of calculating an individual tender price index for each segment of the industry, where activity levels can vary significantly in a given year.

Following consultation with the relevant government departments and State agencies, we derive separate deflators for each category of work where possible to ascertain volume changes in the amount of new work, and to demonstrate the varying levels of competition and activity in each sector. We also distinguish between private and public sector projects. Thus, the individual categories of new work are each assigned a different tender price deflator, based on the previous analysis of construction cost and tender price indices and based on discussions with key players in each sector.[16]

16 The detailed methodology used and assumptions made to derive tender price deflators for each category of construction work are set out in Appendix 1.

The end-result is a composite index for the industry as a whole which suggests that the overall average rate of construction price inflation was 8.4% in 2004 but is expected to decline to almost half this level (4.3%) in 2005. The 2004 figure is heavily influenced by new private housebuilding where tender price inflation was 13% in 2004, reflecting continued house price inflation (+11% excluding site costs) and a reduction in the average size of dwellings (–2%, see Appendix 1). The 2005 reduction reflects an ongoing moderation in house-price inflation to an average of 5% excluding site costs.

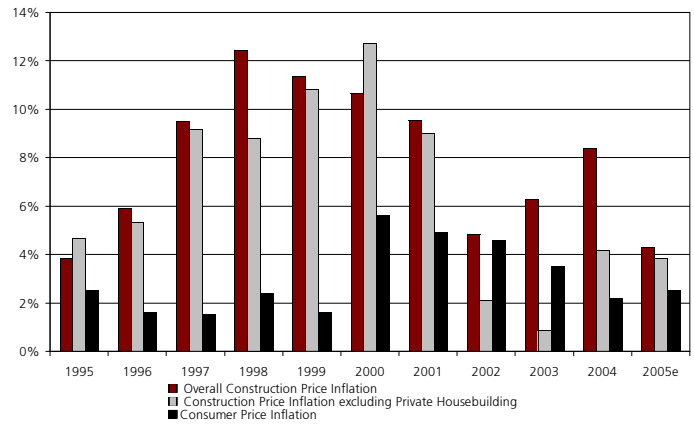
The composite index for the industry, excluding new private housebuilding, shows that the average rate of construction tender price inflation moderated to less than 1% in 2003, reflecting the weakness in non-residential tender price inflation. With the recovery in non-residential tender price inflation in 2004, the overall composite index, excluding private housebuilding, increased by just over 4% in 2004. A modest reduction in the growth rate is projected for 2005 (+3.8%). Given the outlook for construction cost inflation of an estimated 6% for building materials and an estimated 5.5% for capital goods (labour and materials) in 2005, construction margins are likely to be squeezed this year.

We are confident that the deflators used provide a reasonable reflection of market conditions over the recent period of construction activity. The projections for 2005 reflect a continued competitive market in construction contracts. Costs are generally increasing in line with forecasts for 2005 although some inputs are rising ahead of average due to the escalation in steel and oil prices. On tender prices, contractors are working through their current contracts and are beginning to selectively compete for replacement work.

1.4.5: Construction inflation and consumer price inflation

A comparison of changes in the derived construction output price deflator, including and excluding private housebuilding, with changes in the general consumer price index since 1995 is set-out in Figure 1.10.

Figure 1.10: Consumer price inflation and construction inflation compared, 1995–2005E (%)



Source: DOEHLG, CSO, DKM

Over the period of the late 1990s to 2001, construction price inflation was substantially ahead of general consumer price inflation, reflecting the buoyant period of construction activity. The gap between the two measures was virtually eliminated in 2002. While consumer price inflation decelerated further in 2003, construction inflation was strongly influenced by house price inflation, and picked-up again in 2003. When private housing is excluded, the price of construction work moderated to less than 1% compared with a consumer price inflation of 3.5%. Over the two years 2002–2003, construction price inflation excluding private housebuilding was lower than consumer price inflation.

Tender price inflation picked up in 2004 while consumer price inflation eased further, resulting in a widening of the gap between construction and consumer price inflation. Average consumer price inflation is forecast at 2.5% for 2005 while overall construction price inflation is forecast at 4.3%. When private housebuilding is excluded the gap between both measures is expected to narrow to 1.3% compared to 1.8% when private housing is included.

1.5: Overall construction output

Trends in the value and volume of construction output by sector (new and repair and maintenance activity combined) over the period 2001 to 2005e, are set-out in the following summary Tables 1.5 to 1.8.

Table 1.5: Value of construction output in current prices, 2001–2005E (€m)

	2001	2002	2003	2004	2005E
Residential construction					
Private housing	10,055.1	10,814.2	13,506.2	16,937.4	17,668.2
Public housing	899.3	1,113.6	1,138.3	1,117.8	1,367.8
Sub-total	**10,954.3**	**11,927.8**	**14,644.5**	**18,055.2**	**19,036.0**
Non-residential construction					
Industry	1,079.2	813.7	750.9	802.1	916.4
Commercial	1,897.7	1,508.1	1,318.2	1,391.2	1,642.1
Agricultural	222.6	217.9	203.1	250.4	270.4
Tourism	471.1	361.3	408.1	451.0	519.4
Worship	39.6	61.4	50.4	63.8	73.3
Sub-total	**3,710.1**	**2,962.3**	**2,730.6**	**2,958.5**	**3,421.4**
Productive infrastructure					
Roads	1,387.0	1,618.5	1,697.0	1,708.9	2,019.4
Water services	719.7	754.1	750.2	738.6	786.4
Airports and seaports	163.2	217.4	143.3	159.0	200.6
Energy	840.4	1,263.4	1,237.0	1,495.6	1,566.6
Transport	389.0	447.2	668.3	449.6	362.7
Communications	245.1	280.2	265.8	279.5	297.9
Sub-total	**3,744.3**	**4,580.9**	**4,761.6**	**4,831.2**	**5,233.6**
Social infrastructure					
Education	609.0	721.7	562.3	659.2	812.7
Health	356.2	454.3	459.4	459.9	509.9
Public buildings	423.5	365.1	450.8	373.4	396.5
Other social*	128.4	281.2	211.1	257.8	308.2
Sub-total	**1,517.1**	**1,822.3**	**1,683.5**	**1,750.3**	**2,027.3**
Total all construction	**19,925.9**	**21,293.3**	**23,820.2**	**27,595.2**	**29,718.4**

The value of construction output includes repair and maintenance expenditure.

*Includes building output associated with capital investment in local authority services, sports and the Gaeltacht

Table 1.6: Change in construction output value in current prices, 2001–2005E (%)

	2001	2002	2003	2004	2005E
Residential construction					
Private housing	13.1	7.6	24.9	25.4	4.3
Public housing	49.2	23.8	2.2	-1.8	22.4
Sub-total	**15.4**	**8.9**	**22.8**	**23.3**	**5.4**
Non-residential construction					
Industry	11.3	-24.6	-7.7	6.8	14.3
Commercial	12.9	-20.5	-12.6	5.5	18.0
Agricultural	-25.3	-2.1	-6.8	23.3	8.0
Tourism	-43.2	-23.3	12.9	10.5	15.2
Worship	-5.8	54.9	-17.8	26.5	14.9
Sub-total	**-2.9**	**-20.2**	**-7.8**	**8.3**	**15.6**
Productive infrastructure					
Roads	30.8	16.7	4.9	0.7	18.2
Water services	11.4	4.8	-0.5	-1.5	6.5
Airports and seaports	4.8	33.2	-34.1	11.0	26.1
Energy	24.4	50.3	-2.1	20.9	4.8
Transport	27.4	15.0	49.4	-32.7	-19.3
Communications	11.5	14.3	-5.1	5.1	6.6
Sub-total	**22.3**	**22.3**	**3.9**	**1.5**	**8.3**
Social infrastructure					
Education	12.4	18.5	-22.1	17.2	23.3
Health	16.4	27.5	1.1	0.1	10.9
Public buildings	45.5	-13.8	23.5	-17.2	6.2
Other social*	87.2	118.9	-24.9	22.1	19.6
Sub-total	**25.7**	**20.1**	**-7.6**	**4.0**	**15.8**
Total all construction	**13.3**	**6.9**	**11.9**	**15.8**	**7.7**

The value of construction output includes repair and maintenance expenditure.

*Includes building output associated with capital investment in local authority services, sports and the Gaeltacht

Table 1.7: Construction output in constant 2003 prices, 2001–2005E (€m)

	2001	2002	2003	2004	2005E
Residential construction					
Private housing	12,098.5	12,089.9	13,506.2	15,201.0	15,139.6
Public housing	929.2	1126.5	1138.3	1064.6	1252.5
Sub-total	13,027.7	13,216.4	14,644.5	16,265.6	16,392.2
Non-residential construction					
Industry	1,032.7	793.0	750.9	771.2	847.2
Commercial	1,817.3	1,471.1	1,318.2	1,337.7	1,518.2
Agricultural	213.4	212.2	203.1	240.8	250.0
Tourism	451.7	352.3	408.1	433.7	480.2
Worship	39.4	61.2	50.4	61.3	67.8
Sub-total	3,554.5	2,889.8	2,730.6	2,844.7	3,163.3
Productive infrastructure					
Roads	1,497.3	1,664.5	1,697.0	1,643.2	1,867.1
Water services	781.0	772.0	750.2	731.3	770.9
Airports and seaports	178.9	222.7	143.3	152.9	185.4
Energy	921.5	1,294.6	1,237.0	1,438.0	1,448.4
Transport	426.3	458.2	668.3	432.3	335.3
Communications	268.5	287.1	265.8	268.7	275.5
Sub-total	4,073.5	4,699.0	4,761.6	4,666.5	4,882.6
Social infrastructure					
Education	617.8	721.7	562.3	624.3	733.8
Health	360.8	454.3	459.4	451.0	481.3
Public buildings	430.1	365.1	450.8	359.0	366.6
Other social*	130.5	281.2	211.1	247.9	285.0
Sub-total	**1,539.3**	**1,822.3**	**1,683.5**	**1,682.2**	**1,866.7**
Total all construction	**22,195.0**	**22,627.5**	**23,820.2**	**25,459.1**	**26,304.8**

The value of construction output includes repair and maintenance expenditure

*Includes building output associated with capital investment in local authority services, sports and the Gaeltacht

Table 1.8: Change in volume of construction output, 2001–2005E (%)

	2001	2002	2003	2004	2005E
Residential construction					
Private housing	2.3	-0.1	11.7	12.5	-0.4
Public housing	36.2	21.2	1.1	-6.5	17.7
Sub-total	**4.1**	**1.4**	**10.8**	**11.1**	**0.8**
Non-residential construction					
Industry	1.9	-23.2	-5.3	2.7	9.9
Commercial	3.6	-19.1	-10.4	1.5	13.5
Agricultural	-29.3	-0.6	-4.3	18.6	3.8
Tourism	-47.9	-22.0	15.8	6.3	10.7
Worship	-13.4	55.3	-17.7	21.7	10.4
Sub-total	**-10.7**	**-18.7**	**-5.5**	**4.2**	**11.2**
Productive infrastructure					
Roads	20.0	11.2	2.0	-3.2	13.6
Water services	2.2	-1.2	-2.8	-2.5	5.4
Airports and seaports	-3.8	24.5	-35.7	6.8	21.3
Energy	14.2	40.5	-4.4	16.3	0.7
Transport	16.8	7.5	45.9	-35.3	-22.4
Communications	2.3	6.9	-7.4	1.1	2.5
Sub-total	**12.1**	**15.4**	**1.3**	**-2.0**	**4.6**
Social infrastructure					
Education	3.2	16.8	-22.1	11.0	17.5
Health	6.8	25.9	1.1	-1.8	6.7
Public buildings	33.6	-15.1	23.5	-20.3	2.1
Other social*	72.0	115.4	-24.9	17.4	15.0
Sub-total	**15.3**	**18.4**	**-7.6**	**-0.1**	**11.0**
Total all construction	**3.4**	**1.9**	**5.3**	**6.9**	**3.3**

The value of construction output includes repair and maintenance expenditure

*Includes building output associated with capital investment in local authority services, sports and the Gaeltacht

Section 2: Sectoral review and outlook

The reliance of the economy on residential construction is evident from the fact that it now accounts for 65% of total construction output. The dominance of housebuilding leaves the economy very vulnerable to any slowdown in the housing market. That said, the expectation is that in 2005 other sectors will take over from housebuilding as a driver of growth, most notably private non-residential construction and publicly funded construction, resulting in an overall volume growth in construction output of 3.3% in 2005.

Residential planning permissions and mortgage lending are up strongly and could indicate another strong housing year in 2005. However, given trends in registrations and completions to date, the assessment here is that total completions this year will be in line with the 2004 level (76,954). The total will include an increasing number of social and affordable housing units delivered under recent initiatives - the Part V Social and Affordable Provisions in the Planning and Development Act 2000 and the Sustaining Progress Partnership Agreement.

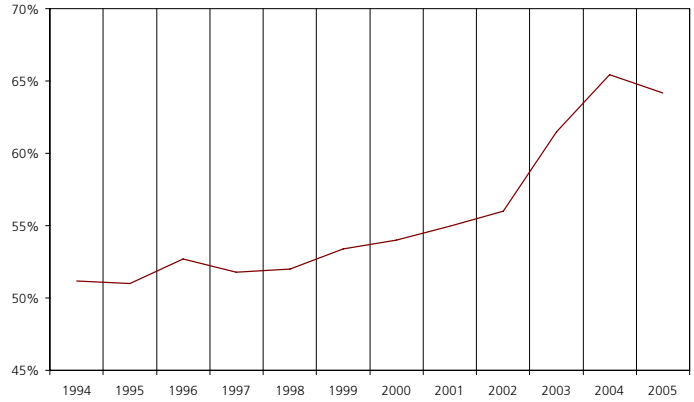
The forecast for 2005 is heavily dependant on the public sector capital commitments being spent and on the recovery in private non-residential construction gathering momentum over the remainder of the year. The most recent Exchequer figures show the total public capital spend in the first six months of 2005 12% behind the corresponding period in 2004. While this may be a timing effect it may equally signal a third year in which the allocation for essential infrastructure is underspent. If the forecast 8% increase in construction related public sector investment failed to materialise this year, output in the industry would be up by only 1%, all other sectors left unchanged.

2.1: Residential construction

Over the past decade housing has become a key sector of the economy. The gross value of housing output (new and repair and maintenance) was just over €18bn in 2004, which is equivalent to 14.5% of GNP, compared with 7% in 1994. The economy is now very dependent on the housing sector. A strong housing market has a positive impact on the economy, not only through its direct contribution to GDP via new residential construction and home related purchases, but also through enabling home owners to extract equity from their homes to finance current consumption. Housing also influences activity and employment in the construction, financial and other business services sectors of the economy.

Residential construction now accounts for 65% of total construction output as against 51% in 1994. Since 2002 its share of total construction output has increased considerably. In the absence of any breakdown of the employment numbers between the individual sub-sectors of construction, we suspect that the strong employment growth in the sector can be attributed to the strong growth in residential construction activity. If so, the economy is now very vulnerable to any slowdown in residential construction.

Figure 2.1: Residential construction share of total construction output (%) 1994–2005E



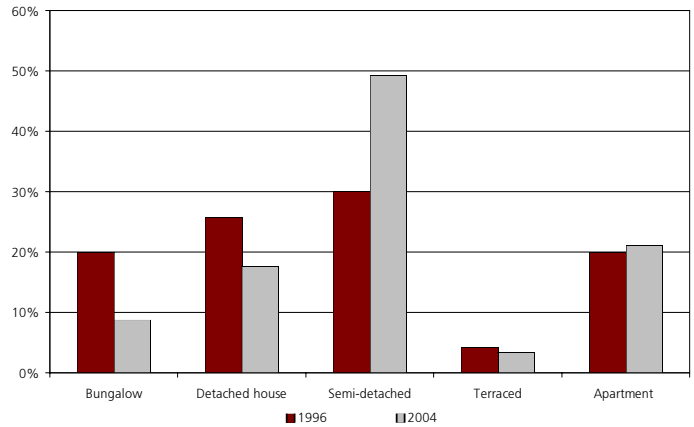
Source: DOEHLG, DKM

In the new-build market, housing supply reached a record level of 76,954 units in 2004, up almost 12% on the corresponding level in 2003. Based on completions data, a total of 525,000 units have been added to the housing stock over the period 1994–2004. This implies that, based on an estimated stock level of 1.58m at the end of 2004, one-third of the housing stock has been built over the last decade.

Ireland's exceptional rate of housebuilding, 19 units per 1,000 of the population in 2004, compares with an average of around five units per 1,000 of the population across Western Europe and only three units in the UK. Total completions in the UK, which has a population of almost 60 million, reached almost 190,000 in 2004, less than two and a half times the corresponding level in Ireland, which has a population of four million. Despite Ireland's exceptional rate of housebuilding, its stock level is still behind Western Europe: approximately 400 dwellings per 1,000 of the population in the Republic compared with an average across Western Europe of 475 dwellings per 1,000 of the population.

Some interesting trends emerge from looking at the mix of house types. Most of the growth in market share has been in the semi-detached market (from 30% to 49% between 1996 and 2004) while apartments have only managed to maintain their share of the total (at around 20%), despite the spate of apartment-building evident in urban areas and the increasing share of apartments in the total planning permissions. Single houses, notably bungalows and detached houses, have lost share (from 46% in 1996 to 26% in 2004).

Figure 2.2: Total house completions by type, 1996–2004 (%)



Source: DOEHLG

2.1.1: Private residential

The private housebuilding market continues to grow and reached 71,808 units in 2004, twice the corresponding level as recently as 1997. The value of new private housebuilding output reached almost €14bn in 2004.[17] This represented an increase of 13% in volume terms on the 2003 level which itself increased by 19% compared with the 2002 level.

Despite the increase in housing supply in each year since 1994, housing demand remains at a high level, as evident from house price and residential lending data:

- Average new house prices increased by 11% both nationally and in Dublin in 2004 compared with around 14% in 2003.[18] Similar rates of increase were reported for all categories covered by the tsb-permanent house price index with the exception of second-hand house prices where the increase was higher (+16%).[19]
- The total value of loans paid-out in 2004 reached a record level of almost €17bn compared with less than €5bn in 1998. The corresponding number of loans paid-out was up by 16.5% in 2004 to almost 100,000. Approximately 45% (44,231) were loans for new houses, indicating that in the region of 38% of all new homes were financed without a mortgage.[20] Assuming the same proportion of second-hand properties is financed without a mortgage, the total number of residential property transactions is estimated at around 152,000 in 2004.[21]

The estimate for private housing repair, maintenance and improvement (RM&I) output in 2004 is from the DOE/ESRI monthly survey of private repair, maintenance and improvement (RM&I) expenditure.[22] This survey estimated private RM&I expenditure at €3.18bn in 2004.[23] It is important to point out that the DOE/ESRI survey is not intended to capture the entire turnover of the Irish merchanting business, some of which will be picked-up under consumer expenditure in the National Accounts. The Irish merchanting business would also cover sales to the new housebuilding sector, which is separately quantified under new private housing output. Hence, we have to be careful to avoid any double counting. Accordingly, we continue to use survey figures in the absence of better information.

This survey also suggested that 68% of expenditure is on major home improvement works, including extensions and conversions, compared with 32% on minor works.

2.1.2: Public housing

Total investment in public housing in 2004 amounted to €1.5bn according to the 2005 PCP, of which it is estimated that €910m[24] was invested in new-build. Investment in new-build fell by 7% in 2004 following a decline of 2% in 2003. However, investment in new-build had increased by 145% between 1999 and 2002.

Total investment in the public capital programme is intended to cover all social and affordable housing measures aimed at catering for the needs of those who cannot afford to meet their own housing needs.

17 The total volume is derived by multiplying the number of private completions by the average net sales price (excluding site costs) and adjusting for house price inflation. See separate methodology paper on the DOEHLG website: www.environ.ie.
18 Annual Housing Bulletin 2004, DOEHLG.
19 The house prices published by the DOEHLG are based on loan approvals; house prices published by permanent-tsb are based on loans paid.
20 A total of 44,231 loans were paid out for new houses and 71,808 private houses were built. This implies that 27,577 properties (38%) were financed without a mortgage.
21 A total of 76,954 new houses plus 75,180 second-hand houses (54,478 loans paid out * 1.38) implies total transactions of 152,134.
22 See separate methodology paper on the DOEHLG website: www.environ.ie.
23 The DOE/ESRI survey specifically asks households about expenditure on household renovation and repairs covering major home improvements such as door or window replacement, extensions, major plumbing or electrical work, as well as expenditure by households on minor home repairs, such as decorating and minor electrical, plumbing and heating repairs or minor repairs to the structure of dwellings.
24 The level of construction related investment estimated by the Department of the Environment, Heritage and Local Government for the Review and Outlook.

As a result, the housing needs of 12,145 households were met in 2004.[25] This figure includes new-build, acquisitions and regeneration schemes under the local authority housing programme (total 4,510 including 3,539 new units), completions by the voluntary and co-operative housing sector (1,607) and other social housing measures including vacancies, affordable housing, and shared ownership (6,028). Affordable housing units acquired under the 1999 Affordable Housing and the Part V (of the Planning and Development Act, 2000) schemes are counted under private sector completions. Under Part V arrangements, local authorities and the voluntary and co-operative housing sector acquired 217 social housing units and 374 affordable housing units from developers in 2004.

2.1.3: Prospects for 2005

The performance of the Irish housing market has been unprecedented for the past decade. Over that time, average new house prices have increased by almost one-and-a half in real-terms while average second-hand house prices have doubled over the same period. The most recent Central Bank data suggests that the underlying annual growth in residential mortgage lending stabilised at around 26% in the first five-months of 2005, not much lower than the peak of almost 28% in July 2004.

Looking at the most recent data on house prices for June 2005,[26] there is evidence that house price growth has moderated compared with the corresponding growth rates in 2004. Nationally, average house prices rose by 2.5% between January and June 2005 compared with 4.7% in the same period of 2004. Some further moderation is expected over the second-half of 2005 to an average of around 5% nationally in 2005 compared with 11.5% in 2004. However, house price levels still remain high in absolute terms, at almost nine times the average industrial wage.[27] Surprisingly, the only category where house prices have not moderated, according to permanent-tsb data, is first-time buyer prices, where average house prices were 4.2% higher over the same six-month period in each year.

Table 2.1: Average house price inflation

	Average house price Year-to-date growth rates June 2005	June 2004	Monthly % increase June 2005	Average house price June 2005 (€)
National	2.5%	4.7%	0.6%	260,458
of which				
Dublin	3.5%	4.2%	0.9%	346,576
Outside Dublin	2.3%	5.8%	0.3%	224,938
First-time buyer	4.2%	4.2%	1.2%	230,688
Second-time buyer	1.9%	5.1%	0.4%	292,775
New houses	2.9%	6.9%	0.4%	258,667
Second-hand houses	2.4%	4.5%	0.8%	268,421

Source: permanent-tsb

The moderation in house prices may reflect the record levels of housebuilding. However, it may also reflect the trend in rents in the private sector market, where rents had been on a downward trend over the three-year period to 2004. Data for 2005 suggest that rents may have stabilised in Q2, 2005 although it remains to be seen whether this trend is firmly established over the remainder of the year.

In terms of the immediate prospects for the level of housebuilding in 2005, there are three leading indicators on the housing market: planning permissions granted; registrations (a proxy for housing starts); and commencement notices, which give an indication of supply in the pipeline. Recent figures have also been published on the number of completions.

25 Annual Housing Bulletin, Department of the Environment, Heritage and Local Government 2004.
26 Permanent-tsb data on house prices.
27 Based on average earnings per week for all industrial workers of €562 and national house price of €260,458.

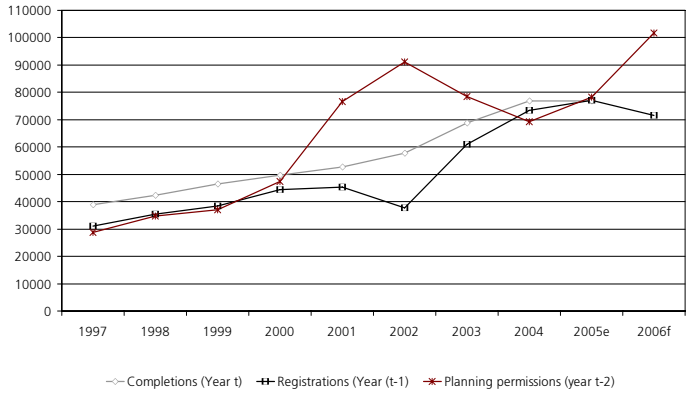
- Recent data published on planning permissions for Q1, 2005 show the total almost unchanged (-0.2%) compared with Q1, 2004. The aggregate figures hide a strengthening of house permissions (+10.9% yoy) and a significant weakening of apartment permissions (-22.9% yoy) to their lowest quarterly level for two years. The four-quarter running total at the end of Q1, 2005 was unchanged from Q4, 2004 at 101,600, which was 12.6% higher than Q1, 2004. However, permissions have a five-year life and do not tend to be built-out in the year in which they are granted.
- Figures for registrations are derived by taking the published figure for registrations (which exclude one-off houses) and adding an estimate for the number of one-off houses. Adjusting the registrations figure by the proportion of planning permissions for one-off houses, total registrations reached 77,053 in 2004, almost in line with the completions figure. Early indications for 2005 show unadjusted registrations figure down almost 3% in the first seven-months of the year on the same period in 2004. Based on the adjusted figures (taking account of one-offs), the cumulative twelve-month total had stabilised at around 77,000 units over the period August 2004 to May 2005. Accordingly, total completions in 2005 should be close to this figure, assuming a nine-to-ten month construction lag. Taking the June and July figures into account, the cumulative twelve-month total has declined slightly to around 74,000, possibly signaling a lower level in 2006.
- The DOEHLG published a new indicator based on a survey of residential commencement notices issued by local authorities. Results for the year 2004 indicated that there were over 77,000 dwellings commenced of which 19,079 (25%) were single houses. The number of commencements declined by 7% in the first half of 2005 compared with the same period in 2004, also signaling a lower level of completions over the next twelve months.
- DOEHLG data just released on completions for the first seven months of 2005, show total completions at 41,863, down marginally (-0.9%) on the corresponding period in 2004.[28]

Figure 2.3 charts the number of planning permissions for two years previously (Y_{t-2}) against the number of registrations in the previous year (Y_{t-1}) and the number of completions in the current year (Y_t). All three indicators are very close, apart from the period 2001–2003, which corresponds to planning permissions granted over the period 1999–2001. The latter period is distorted by the provision of the Planning and Development Act, 2000 and the two-year withering rule, which was subsequently abandoned. The almost 30% hike in planning permissions granted in 2004, compared with 2003, may reflect the reapplication for permission for units which had already been granted in 1999 but were never built.

The trend in planning permissions would lend support to the view that the number of units constructed could be higher again in 2005 than in 2004, which, as many have suggested, may have been the peak year in terms of supply. However, given the trend in completions and registrations for 2005 so far, our assessment is that total completions this year will be in line with the 2004 level (76,954). On this basis, total completions are expected to rise by 1.1% in the last five months of the year. If the total remains unchanged in the last five months of 2005, the year total for 2005 will be marginally lower than in 2004. Either way this assessment suggests that 2004 was the peak year in terms of supply.

28 In contrast, the CSO have provisionally suggested in the national accounts estimates that the growth in residential construction was 8% in Q1, 2005 compared with Q1, 2004, on the back of strong mortgage demand. This figure will now need to be revised given the most recent data that has become available.

Figure 2.3: Housing indicators, 1997–2005E



Source: CSO, DOEHLG, DKM

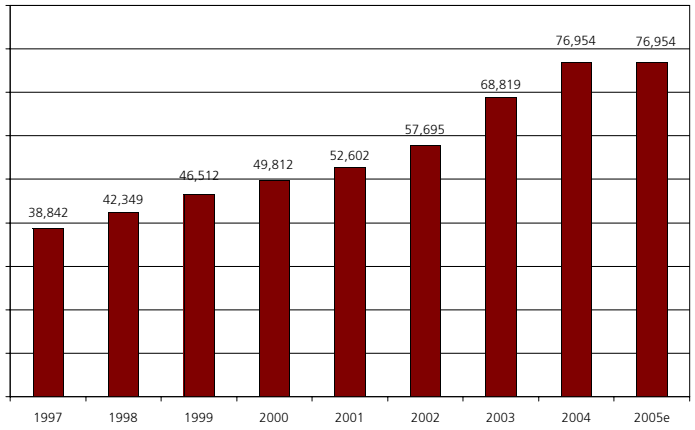
The number of local authority completions in 2005 will include new dwellings expected under main local authority housing construction and various regeneration programmes. They should also include social and affordable housing units acquired under the various Affordable Housing schemes – the 1999 Affordable Housing Initiative, Part V and the Sustaining Progress Partnership Agreement – although many of these will be captured under the private housebuilding market. For this reason we do not speculate as to the breakdown between the private and public sectors.

Prospects for completions in the voluntary and co-operative housing sector in 2005 and beyond are good as figures for work currently in progress, coupled with projects in the pipeline at local level, would indicate that the 2004 level of output can at least be maintained in the coming years.

Thus the value of new housing output in 2005 is estimated at €15.4bn or €19bn when RM&I expenditure is included.

Our assessment of the prospects beyond 2005 (see Section 4) continues to reflect our view that the current level of housebuilding is unsustainable and will fall back over the medium-term.

Figure 2.4: Total dwellings completed, 1997–2005E



Source: DOEHLG, DKM

2.2: Private non-residential construction

The private non-residential construction sector covers private-sector building investment (new and RM&I) in the following sub-sectors: industrial, commercial, agriculture and tourism, including hotels. There is other private sector construction activity such as investment in private sport and leisure facilities, and golf clubhouses. We separately identify public sector investment in sporting facilities under social infrastructure but there is no comprehensive data on the level of private sector investment in sporting facilities.

Private investment in non-residential buildings should be positively correlated with economic and employment growth. That said, this sector performed poorly over the period 2001–2003, due partly to adverse developments in the economy during that period (notwithstanding the upward revisions to GNP growth over that time), but also the spate of overbuilding during the construction boom of the late 1990s, predominantly with regard to offices and hotels. The first signs of a very modest recovery in private non-residential construction activity emerged during 2004.

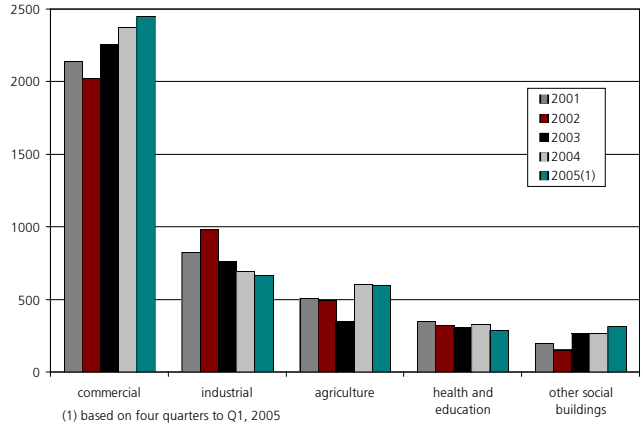
We continue to acknowledge the difficulties with measuring the volume of private non-residential construction. The CSO has been working on a new survey of building and construction which is expected to provide quarterly data on production and orders. The survey is required to meet the requirements of EU Council Regulation No 1165/98 concerning short-term statistics. The statutory survey was initiated in 2004 and collects detailed information on the value of work done and on the value of new orders received in the reference quarter. The target population of the new survey is all firms involved in building and construction activity in the State and the sample survey covers about 2,500 firms each quarter. The survey is still in the development phase but CSO plans to publish results later this year. It is hoped that this survey will, in the future, provide a firmer basis for establishing the true volume of work in the private non-residential sector.

Meanwhile, the estimates provided for construction related investment are the best available, based on planning permissions and existing property market and related reports produced by, and in discussion with, key players in the property market.

The following chart provides data on the total floor area planned for new construction in industrial, commercial and agricultural buildings over the period 2001 to 2004. Data is also published for government, health and educational buildings and buildings for social use. Data prior to 2001 is not available.

The figures suggest that the total floor area planned for commercial and agricultural buildings is rising while the total for industrial buildings is down from the peak levels in 2001 and 2002.

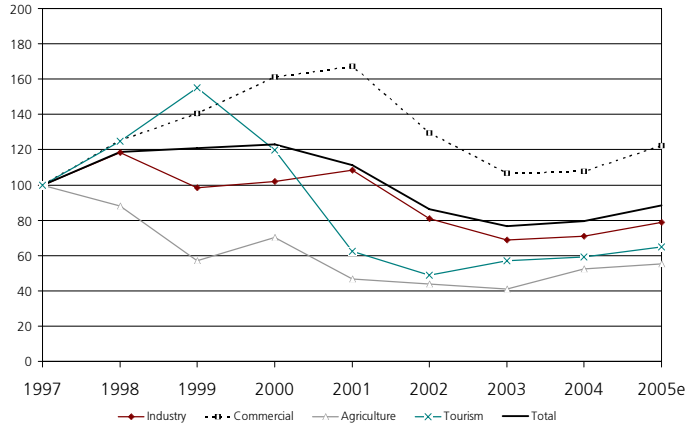
Figure 2.5: Total floor area planned for new construction of non-residential buildings (thousand square metres)



(1) based on four quarters to Q1, 2005

Source: CSO

Figure 2.6: New private non-residential construction, 1997–2005E (constant 2003 prices, 1997=100)



Source: DOEHLG, DKM

2.2.1: Industry

After a difficult period in 2002 and 2003, conditions in the industrial building market started to improve in 2004. The estimate for 2004 suggests that the industrial building market bottomed-out in 2004 while investment in construction by the semi-State agencies[29] was up strongly (+46%) from a low base in 2003. Meanwhile the total persons employed in the industrial sector declined by almost 3% to 239,500 between Q1, 2003 and Q1, 2004. Preliminary figures for March suggest that the rate of decline in industrial employment slowed in Q1, 2005 to 2% yoy.

Despite the decline in employment, the demand for industrial building space has been strengthening since the beginning of 2005 with agents reporting encouraging levels of take-up.[30] The low interest rate environment is encouraging sales activity while owner-occupiers are reported to be seeking modern facilities in prime locations. A number of major industrial schemes are under construction in close proximity to existing and emerging transportation corridors around Dublin. As a result prime industrial land prices around Dublin have started to rise again, despite the fact that additional lands have been zoned industrial in local authority plans covering the Greater Dublin Area. Elsewhere prime locations in the provincial industrial markets are expected to be in demand.

Against this background, the volume of new industrial building investment is projected to rise by 6% in 2005 following an unchanged position in 2004 compared with 2003.

We have acknowledged the difficulties with measuring private non-residential construction output. In regard to the amount of new industrial building output put in place there is one source of data which leads us to believe that the estimates in the Review and Outlook (R&O) may be conservative. The Census of Industrial Production[31] (CIP) published by the CSO asks industrial enterprise about (1) their capital expenditure on buildings and other construction work and (2) their sales of capital assets (disposals). The most recent Census relates to 2002 and shows that manufacturing industries acquired €1.39bn of buildings and other construction work in 2002 and had total disposals (including plant and equipment) of €222m. Assuming one-half of the latter figure relates to the disposal of buildings, this would imply an estimated €1.28bn. of additions to capital assets of building and others construction work by the manufacturing sector in 2002. This figure compares with the estimate for new industrial building output in the Review and Outlook of €641m in 2002. The corresponding CIP figures for 2000 and 2001 were €722m (as against €871m in the R&O) and €1.05bn (€768m. in the R&O) respectively.

29 Also included under non-residential investment.
30 CB Richard Ellis, Bi-monthly Research Report, July 2005.
31 2002 Census of Industrial Production, CSO, June 2004.

While the figures for 2003 and 2004 in Table 2.2 are not directly comparable with the figures for 2000 to 2002 as they relate to land and buildings acquired by enterprises with 20 or more persons engaged,[32] they give some indication of the level of additions of capital assets for recent years by the larger firms.

Table 2.2: Capital assets additions of buildings and other construction work by manufacturing industry 2000–2004, €m

	2000	2001	2002	2003	2004
Additions to capital assets:					
Buildings and other construction work	833.9	1,145.9	1,394.4	520.7	652.9
Sales of all capital assets	223.7	195.2	220.2	348.0	300.7
of which buildings (1)	111.8	97.6	110.1	174.0	150.4
Net additions to capital assets of buildings and other construction work (1)	722.1	1,048.3	1,284.3	346.7	502.6
Review and Outlook estimate for new industrial building output	768.4	871.4	640.8	528.6	549.8

Source: 2000-2002 from Census of Industrial Production Inquiry for enterprises with 3 or more persons engaged.
2003-2004 Capital assets in Industry Inquiry for enterprises with 20 or more persons engaged. Figures include land and buildings
(1) DKM estimates.

We have not revised our historic estimates for industrial building output this year but prefer to await the outcome of the CSO Survey on construction at which stage a thorough review of the methodology will be completed for all private non-residential construction, which will take into account the information presented in Table 2.2.

2.2.2: Commercial – offices

The volume of office building activity appears to have declined modestly (-2%) in 2004 following two very weak years in 2002 and 2003. There is increasing evidence that the market turned the corner this year and the prospects are now positive for a recovery in office building, as the vacancy rate continues to gradually decline.

There is no comprehensive coverage on the extent of office building across the State, making it difficult to derive the aggregate position in terms of the amount and value of office building put in place in a given year.

Much of the research that is available tends to concentrate on the Dublin office market, covering Dublin City and its suburbs. In a very detailed analysis of the Dublin office market in 2004 published earlier this year[33] the following conclusions were drawn:

- The reluctance amongst developers to start schemes in recent years was evident from the 16% decline in completed office buildings in 2004 compared with 2003. In contrast, we understand from Jones Lang Lasalle that there was a significant increase in the amount of office space completed in the first half of 2005 (+163%) on the same period in 2004, with the six-month total already just ahead (+1.3%) of the total space completed in the full year 2004.

32 Capital Assets in Industry, Q1, 2005, published quarterly by the CSO.
33 Dublin Office Market Report, Jones Lang Lasalle, January 2005.

- Office vacancy rates were lower in the city centre (16%) compared with the suburbs (27%) at the end of 2004. Although vacancy rates are expected to decline gradually, it will be difficult to achieve lower rates in the city centre, where the vast majority of the new space is expected onstream.
- The amount of office space under construction increased by 114% from Q1 2004 to Q4 2004 indicating a renewed confidence amongst developers about the future performance of the market. Approximately 31% of the space under construction was pre-let at the end of 2004. A worrying trend is that over 80% of the space under construction was located in Dublin City Centre, which may give rise to higher rather than lower vacancy rates in the city centre by the end of 2005.
- The office supply pipeline at the end of 2004 amounted to 844,461 square metres planned over the period 2005–2007. While not all of this space may be provided, the total represents one-third of the total office stock in Dublin at the end of 2004.
- The total take-up of office space was at its highest in 2004 for six years, increasing by 21% on the corresponding level in 2003. The sectors most active in terms of take-up in 2004 were business, financial and insurance services. There is little or no evidence of any new sectors coming to the market; demand is primarily driven by expansion of existing businesses in Dublin.

Other research from other agents[34] presents a similar story and notes that:

- Economic conditions are boosting employment growth and the demand for more office space from existing businesses;
- Prime rental values have begun to creep upwards in Dublin City centre and the inducements which were present in the market up to 2004 are becoming less significant in prime locations, although they still exist in the suburban office market;
- There is less evidence of any major upturn in provincial office markets in 2005, despite Government initiatives like the National Spatial Strategy and decentralisation.

The Dublin dockland's project passed the half-way point in its 15-year Master Plan in 2004 and is reported to be on schedule, according to the Docklands Authority Annual Report for 2004. In the Grand Canal Dock area alone some 73,000 square metres of mixed use buildings were advanced, including the following key developments during the year:

- contracting of Heritage Properties for the development of the Studio Libeskind designed 2,200 seat Grand Canal Theatre at Grand Canal Square which is due to go on site at the end of 2005;
- construction of the Sean O'Casey Bridge, linking the north and south quays at Lombard Street, which was opened in July 13, 2005;
- completion of the renovation and development of the former Stack A building, a large part of which has been leased to FSC Ltd, to house a retail mall, bistro bars, restaurants, a health spa and boutique hotel suites;
- commencement on-site of the Spencer Dock development, to provide 969 apartments and 53,000 sq m of office and retail space; and
- by year end, completion of 334 social and affordable units, with a further 294 units under construction, and agreements for a further 694 put in place.

The Authority is to focus over the next seven years on encouraging more families to move into the area and intends to take a number of steps to address this objective, ensuring that the prospects for residential construction there should be good over the medium-term, provided conditions in the housing market remain favourable.

34 CB Richard Ellis, Market Review on Dublin Office Market, Q2, 2005.

Investment by semi-State agencies, also included under private non-residential construction, is projected to increase strongly in 2005 (+56%) following a strong year in 2004 (+46%). The increased level of investment in 2004 and 2005 is partly due to the inclusion for the first time this year of investment in business parks by IDA Ireland.

In the light of the above the estimates suggest that the recovery in the national office market will gather momentum this year, with a volume growth in office building of 12%. If sustained, the recovery should give rise to much stronger volume growth rates in 2006.

2.2.3: Commercial – retail

The retail sector continues to be the 'jewel in the crown' of the Irish commercial property sector, with construction activity at a relatively high level, driven by the influx of European retailers, especially from the UK, intense competition in the sector and pressure on existing retailers to revamp and expand their premises. As a result of the strong demand for retail space, rents are coming under pressure throughout the country.

The sector continues to thrive on the back of rising incomes and strong employment growth. The volume of retail sales was up by 3% in 2004 while the volume of consumer expenditure was up by 3.8% compared with 2003. More recent figures for 2005 show retail sales up 4.1% year-on-year in the first five months. Consumer spending is expected to benefit somewhat in the future from the release of funds from the government's SSIA scheme in 2006 and 2007, estimated by some to be in the region of €14bn. This should ensure that retail construction activity continues at a high level over the medium-term.

A number of retail developments are under construction or planned (see Table 2.3). In addition to the new facilities being developed, refurbishment programmes are planned or underway in many older shopping centres anxious to compete with the more modern ones.

A key development in January 2005 was the relaxation of the Retail Planning Guidelines for warehousing space in areas designated as IAPs (Integrated Area Plans) in the National Spatial Strategy. The existing upper limit of 6,000 square metres of floorspace remains in place throughout the rest of the country. In regard to retail warehousing generally, there is considerable expansion underway throughout Ireland.

Based on the above and on discussions with estate agents, it is estimated that the volume of retail construction output will rise by 15% in 2005 following a 5% increase in 2004.

Table 2.3: Retail schemes currently under construction

Shopping centres	Completion date	Size (m2)
The Jetlands, Limerick	Autumn 2005	13,000
Whitewater Shopping Centre, Newbridge	2006	27,800
The Marshes, Dundalk, Co. Louth	2006	21,500
Citywest, Co. Dublin	Autumn 2006	14,000
Ilac Centre, Dublin City Centre	2006	na
Beacon Court, Sandyford, Dublin	2006	c. 22,000
Monread Centre, Naas, Kildare	2006	c. 20,000
Whitewater Centre, Newbridge, Kildare	2006	40,878
Glasshaus, Tallaght, Co. Dublin	Spring 2007	36,100
Pavillions Shopping Centre, Swords, Phase 2	2007	8,157
MacDonagh Junction, Kilkenny	2007	c. 18,600
Scotch Hall (Phase 2), Drogheda	2008	12,667
Extension to Liffey Valley, West Dublin	2009	8,157
Ballymum Town Centre, Dublin	2009	30,000
Dundrum, Phase 2, South Dublin	Unknown	c. 70,000
Retail Parks		
The Park, Carrickmines	Autumn 2005	15,000
CityEast, Limerick	Autumn 2005	15,000
The Globe, Naas, Co.Kildare	Autumn 2005	15,000
Santry Point, Santry, Co. Dublin	Spring 2006	10,000
Drogheda Retail Park	Spring 2006	15,000

Source: DKM

2.2.4: Tourism

Tourism output covers expenditure on the construction and development of hotels, holiday accommodation, resorts and other amenities and tourism infrastructure. The estimates ascertained for the Review and Outlook suggest that the volume of construction related investment in tourism facilities peaked in 1999 due to record hotel construction in that year. Following a decline over the period 2000–2002, hotel investment in construction bottomed out in 2002 and staged a recovery in 2003, which continued in 2004.

When other public and private investments in tourism-related projects are included, the overall volume of construction output associated with tourism investment is forecast to increase in 2005 by 10%, net of inflation. Much of this growth reflects an increase in hotel construction.

2.2.5: Agriculture

The CSO estimate the increase in agricultural incomes at 3.5% (nominal) in 2004 compared with 2.9% in 2003. The corresponding value of agricultural output was up 3.1% in 2004 compared with 2.5% in 2003. The numbers employed in the sector continue to plummet – total persons employed[35] stood at 113,900 (seasonally adjusted) in Q1, 2005. However, investment in farm buildings recovered for the first time in four years in 2004.

According to the Teagasc annual survey of farmers' investment intentions for 2005, total planned investment in farm buildings was forecast to decline in 2004 for the fourth year in a row in last year's Review and Outlook. However, the outturn for 2004 showed that farmers invested €155m in farm buildings in 2004 compared with a planned level of €117m. The planned investment level for 2005, according to the National Farm Survey, is €167m. This represents a significant increase on the outturn for 2003, which reached its lowest level (€108m.) for a number of years.

35 Including forestry and fishing.

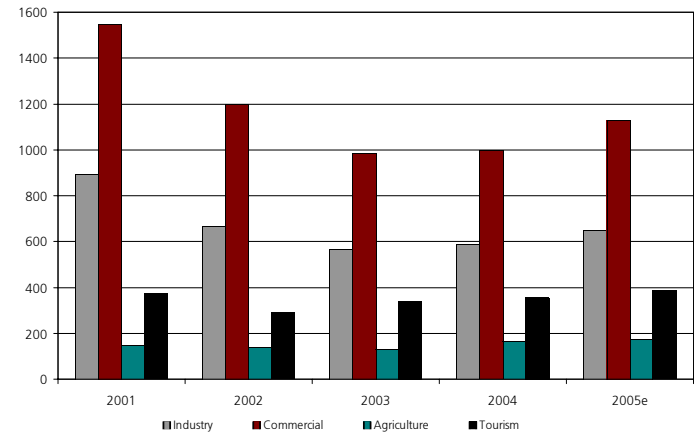
The data on planning permissions for farm buildings (Figure 2.5) also supports a recovery in investment, with planning permissions up strongly in 2004 (+73%) compared with 2003.

After adding investment by the OPW in arterial drainage, which is included under agriculture, the projection for 2005 is for an increase in investment in farm buildings to around €190m or by 5.4% after adjusting for tender price inflation, following a volume increase of 28% in 2004.

2.2.6: Private non-residential summary

Combining the prospects for each individual sector, the overall volume of new private non-residential output is forecast to rise by around 11% in 2005, following an increase of almost 4% in 2004. All sub-sectors are expected to contribute to this improved performance. We continue to stress that the methodology for estimating the value of building output in private non-residential construction is weak and a firmer basis is needed to more accurately reflect construction activity in this sector.

Figure 2.7: New private non-residential construction output, 2001–2005E (constant 2003 prices, €m)



Source: DOEHLG, DKM

2.3: Productive infrastructure

Investment in productive infrastructure captures the total output from all civil engineering projects. In respect of public investment it includes spending on roads, water services, airports, seaports and harbours, as well as investment by the respective Semi-State organisations responsible for transport, energy and telecommunications. The total also includes capital investment by private sector companies involved in the energy and telecommunication sectors.

Overall investment in construction related productive infrastructure projects amounted to €4.8bn in 2004 of which almost €4bn was on new projects and major improvement works. The total investment in productive infrastructure projects, which is predominantly funded by the provisions in the public capital programme, represented 17.5% of total construction output in 2004.

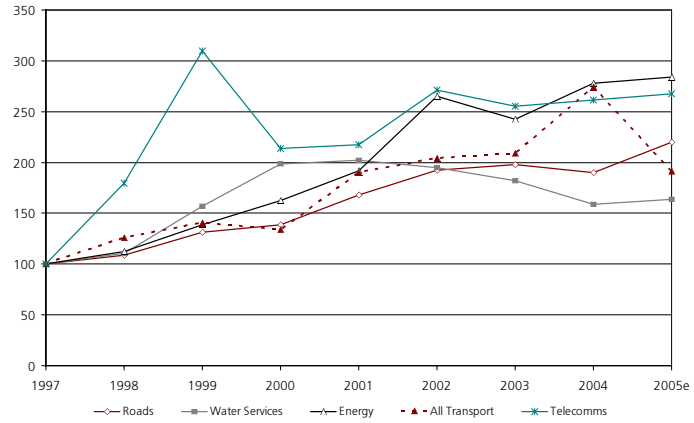
The outturn for new investment in 2004 is lower than forecast this time last year for two reasons:

- The 2004 outturn for capital investment in productive infrastructure per the 2005 PCP (€4.4bn) was lower than that planned for 2004 (€5bn); and
- Delays in respect of some energy projects, most notably wind generation.

As a result, the overall volume of investment in new infrastructure projects declined by just over 4% in 2004 compared with 2003, which itself was just over 1% lower than 2002. However, the value of construction related investment in new productive infrastructure peaked at €4bn in 2003 and increased by an annual average rate of almost 14% between 1995 and 2003.

The forecast for 2005 is for growth of around 5% in the volume of new investment in productive infrastructure projects. Allowing for inflation of around 4% on average for civil engineering projects, this is equivalent to an increase in the value of new investment of 9%. The latter figure is just below the planned annual increase in investment for 2005 in the PCP (+12%). The conservative view is based on the expectation that the public capital spending commitments this year will fall short of the planned level. The most recent exchequer figures show the total public capital spend in the first six months of 2005, 12% behind the corresponding period in 2004. While this may be a timing effect, it may signal a third year in which the allocation for essential infrastructure will be underspent.

Figure 2.8: New productive infrastructure, 1997–2005e (constant 2003 prices, 1997=100)



Source DOEHLG, DKM

2.3.1: Roads

A total of €1.4bn (excluding land costs) was invested in new road projects in 2004, the same as in 2003. This represented a volume decline of 4% after adjusting for road construction inflation estimated at 4% in 2004. The decline is disappointing but represents the first in real terms in the volume of road investment since 1994.

Among the key developments in 2004 were the following:

- 10 major schemes completed comprising 76km (mainline) of road infrastructure.
- M7 Heath-Mayfield (Monasterevin by-pass) motorway scheme opened 11 months ahead of schedule, while the N8 Cashel by-pass, N11 Ashford/Rathnew and N22 Ballincollig by-pass schemes were also completed significantly ahead of their contract scheduled dates.

- 13 major schemes commenced, supplementing seven schemes continuing under construction during 2004.
- Commencement of construction on two Public Private Partnership schemes – M1 Dundalk Western by-pass and the M8 Rathcormac/Fermoy by-pass schemes – bringing total private investment to date in the national roads programme to €483m.
- Increased road-building activity in the BMW Region including the commencement of construction on six major projects and the opening to traffic of three projects and one project that spans both the BMW and S&E Regions.
- Increased activity on national secondary road schemes (N52 Mullingar by-pass and N55 Cavan by-pass commenced) supplementing progress on the national secondary road Pavement Restoration Programme.
- Implementation of the crash barrier retrofit programme on inter-urban motorways and dual carriageways.

Further progress was achieved during 2004 in the delivery of the Public Private Partnership programme with the commencement of construction on the M1 Dundalk Western by-pass and the M8 Rathcormac/Fermoy by-pass projects. Following resumption of the Best and Final Offers (BAFO) for the N25 Waterford City by-pass, it is anticipated that construction will commence in 2005. In regard to the M3 Clonee/Kells project, the NRA is considering its position in relation to progressing the tender phase at this time, following the legal challenge to the scheme. Tenders were received in July for the N7 Limerick Southern Ring Road, Phase 2, and construction is scheduled to commence in 2006.

A high level of national road construction activity will be maintained in 2005. Work will continue on

major schemes such as the:

- M1 Dundalk Western by-pass,
- M4 Kilcock/Kinnegad,
- N7 Naas Road Widening upgrade,
- M8 Rathcormac/Fermoy by-pass,
- N15 Ballyshannon/Bundoran and
- N18 Ennis by-pass schemes.

Schemes expected to be completed during 2005 include, N2 Carrickmacross by-pass, N4 Sligo relief road and N6 Loughrea by-pass. The M50 South Eastern Motorway was completed earlier this year. This activity will be supplemented by the commencement of construction on up to 19 major schemes involving 215km of new roadway, including those listed in the following Table.

Table 2.3: National road schemes due to start in 2005

Scheme	Road type	Length (km)
M1 Drynam Interchange	Interchange	-
N2 Castleblaney by-pass	Single Carriageway	15
M3 Clonee/Kells (PPP Scheme)	Motorway/dual carriageway;	50
	Single carriageway	11
N5 Charlestown by-pass	Single Carriageway	18
N6 Kinnegad/Athlone, Phase 1	Dual Carriageway	28
N11 Arklow/Gorey by-pass	Dual Carriageway	23
N11 Enniskerry Junction Improvements	Footbridge	1
N25 Waterford City by-pass (PPP Scheme)	Dual Carriageway	23
	Single Carriageway	14
N25 Kinsalbeg	Single Carriageway	3
M50 Improvements (Phase 1)	Motorway	5
N51 Navan Inner Relief Road Phase 2B	Single Carriageway	1
N52 Mullingar/Belvedere	Single Carriageway	4
N56 Mountaintop/Illistrim	Single Carriageway	5
N77 Kilkenny Ring Road extension	Single Carriageway	12

The 2005 provision for road construction and improvements to the road network, according to the 2005 PCP, is €1.95bn of which €1.41bn is for major investment in the national road network and around €392m is for improvements to non-national roads. The anticipated contribution from PPP schemes to national road construction in 2005 is €190m. After deducting land acquisition costs, the total volume of construction output arising from investment in the road network is projected to recover strongly, rising by 15.5% in 2005, after adjusting for tender price inflation of 4%, and following a decline of 4% in real terms in 2004.

2.3.2: Water services

The investment provision for water and sewerage services is by far the largest proportion of the allocation for Environmental Services in the PCP (86% in 2004). It aims to provide an adequate supply of water of suitable quality for commercial, domestic, industrial and other users, and to provide systems for the safe and adequate disposal of sewage and other water borne wastes. The balance consists of investment in the development of waste management infrastructure, which is included under Local Authority Services for the purposes of estimating construction output.

Significant investment has been made in providing additional water and wastewater treatment capacity and new water supply infrastructure since 1995, reflecting the commitments in the NDP 2000-2006 and successive Water Investment Programmes over the same period. Total investment in new projects peaked at €560m in 2002. Since 2002 total investment in new projects had declined by 20% in volume terms by the end of 2004.

Nonetheless, the current Water Services Investment Programme, covering the three–year period 2004–2006, amounts to approximately €500m per annum from exchequer and non-exchequer sources. The programme contains 869 water and sewerage schemes across the country and is made up of:

- 37 schemes at construction,
- 415 schemes to commence construction in the years 2004-2006,
- 209 schemes approved for planning, and
- 208 schemes under the Serviced Land and Rural Towns and Villages Initiatives

The immediate outlook for 2005 is for investment of €492m, which represents an increase of 3% in the volume of construction output associated with water and sewerage schemes compared with 2004.

2.3.3: Airports and seaports

There was a substantial increase in the volume of construction related investment in airports in 2004. The total investment in airports recovered strongly in 2004 (+69%) reflecting major new developments and improvement works by the Dublin Airport Authority (formerly Aer Rianta) at the three State Airports of Dublin, Cork and Shannon and a very modest provision for capital development works at a number of regional airports. Further growth is expected in 2005 (+30%). The main reasons for the increases in 2004 and 2005 are the Terminal Development at Cork Airport, Pier D and other related projects at Dublin Airport.

The total construction related investment in seaports and commercial harbours was €44m in 2004 and is expected to increase to €53m in 2005 or by 17% in volume terms. Expenditure this year will concentrate on port development, the alleviation of capacity shortfalls and infrastructural improvements.

2.3.4: Energy

The total PCP provision for the energy sector was forecast at €1.78bn for 2004 in the 2004 PCP. According to the 2005 PCP, the outturn for capital investment in energy projects in 2004 was lower than planned, at €1.49bn. This is a substantial downward revision and reflects a 16% reduction in actual investment by the ESB and BGE in 2004 compared with their planned levels. As a result the outturn for construction-related investment in energy projects in 2004 was lower than forecast last year; investment in new energy projects increased by 16% in volume terms in 2004 compared with the Review and Outlook forecast of 41%.

Within construction, the energy component covers the normal capital investment by the ESB and BGE on the enhancement and extension of their respective transmission and distribution networks, both of which are expected to record volume growth in 2005. New energy investments undertaken by the private sector are also included. Such companies include Airtricity and Hibernian Wind Power as well as the two new power stations under construction by Tynagh Energy Limited and Aughinish Alumina.

The 2005 PCP provides €1.57bn for energy projects in 2005 (16% of the total PCP), up by 5.6% in value terms on the 2004 outturn. The estimates in this report suggest that the volume of construction related investment in (public and private sector) energy infrastructure is forecast to increase by 2% in 2005.

2.3.5: Public transport

The provision for construction related investment under public transport includes capital allocations for the CIE Group, the Railway Procurement Agency (RPA), which has responsibility for the procurement of new light rail and metro projects, and the Dublin Transportation Office, responsible for co-ordinating and implementing the agreed integrated transport strategy for the Greater Dublin Area.

The construction related element arising under the RPA has declined significantly since the peak expenditure year (2003), reflecting the substantial completion of the construction works associated with the two Luas lines. The estimates this year include a small amount of investment, reflecting final payments to contractors for minor works.

As a result the total volume of construction output from public transport projects declined by 39% in 2004 and is projected to decline further by almost 28% in 2005. The value of the overall investment on new construction projects is projected at €264m in 2005.

The CIE share (approximately €213m) represents construction related investment in the suburban and mainline rail network and the bus network in Dublin and the regions, as well as investment in the DART upgrade, track renewal, upgrading of signalling, bridge renewal, level-crossing improvements and improved safety management across the entire network. Projects under the Rural Transport Pilot Project scheme aimed at improving accessibility in public transport are also included.

The third and final component of the public transport provision reflects various projects funded by the Dublin Transport Office such as Quality Bus Corridors (QBCs), and improved facilities for pedestrians, cyclists and disabled persons.

2.3.6: Telecommunications

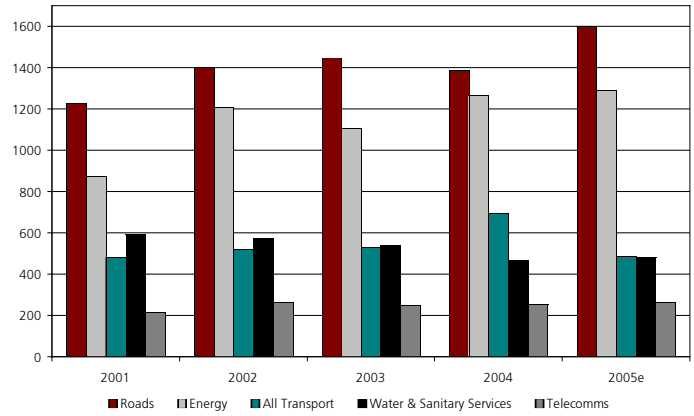
Activity in the telecommunications sector reflects the entry of new players into the market following liberalisation. The volume of investment in new construction projects had declined in 2003 but recovered modestly in 2004 (+2%) and is projected to be up again in 2005 (+2%).

A significant element of expenditure on construction in this segment of the industry is undertaken by the private sector. Apart from investment by RTE and An Post, the only other publicly-funded investment is in regard to investment in broadband technology to promote regional development.

2.3.7: Productive infrastructure summary

Overall the volume of construction-related investment from projects under the heading of new productive infrastructure is projected to record a healthy increase of 5% in 2005 following a decline of 4% in 2004. Investment in roads and energy accounts for almost three-quarters of the total value of construction investment in this sector compared with 58% in 2000.

Figure 2.9: New productive infrastructure output 2001–2005E (constant 2003 prices, €m)

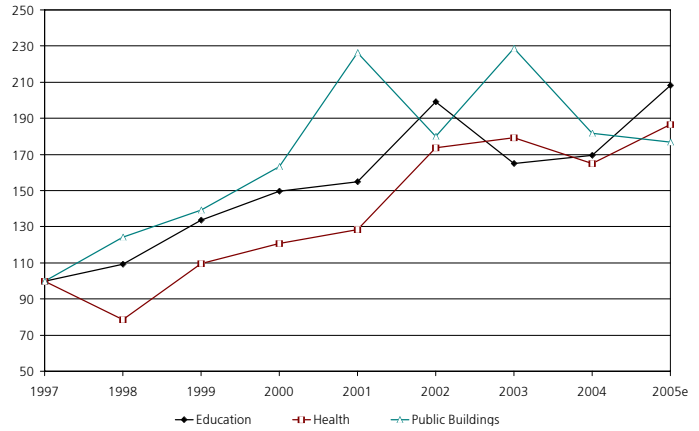


Source: DOEHLG, DKM

2.4: Social infrastructure

Activity in this sector is also determined by the public capital programme, and includes capital investment in education, hospitals, public buildings, local authority (LA) services and public sporting facilities. Following a reduction of 3% in the volume of construction-related investment from new social infrastructure projects in 2004, investment is forecast to be up by much more in 2005 (+14%).

Figure 2.10: New social infrastructure 1997–2005E (constant 2003 prices, 1997=100)



Source: DOEHLG, DKM

2.4.1: Education

The PCP projected provision for capital investment in education in 2005 is €565m compared with the outturn of €488m in 2004 – an increase of 16% in value terms. The funds are used to improve accommodation and facilities in primary schools and for the construction of new schools, extensions and associated equipment in secondary schools. The allocation at third level is to fund capital works in the institutes of technology and university sectors.

For the purposes of the Review and Outlook, only construction related investment is measured. Thus site costs and investment in equipment, furniture and IT are excluded. There is also non-grant aided private sector investment in third level facilities across the sector, although this is expected to diminish in the last two years, accounting for approximately 17% of total new investment in 2005 compared with 30% in 2004. Thus the overall volume of new construction related investment in educational buildings is projected to rise by an exceptional amount in 2005 (+23%) compared with almost 3% in 2004.

2.4.2: Health

Investment in hospital buildings is projected to rise by 13% in volume terms in 2005 following a decline of 8% in 2004. The 2004 reduction reflects a modestly lower public capital provision compared with 2003 (-2%). However, the total PCP provision for 2005, which includes the development of facilities and related services and equipment, is projected to rise by almost 15% to €579m.

2.4.3: Public buildings

The provision for public buildings includes expenditure by the OPW on the provision and refurbishment of accommodation for government departments and offices and for services under their aegis. The allocation also includes construction related investment by the Department of Justice, Equality and Law Reform on the refurbishment of existing prisons and courthouses as well as the commencement of work on new projects, including creches. A range of building and engineering works carried out by the Department of Defence for the Defence Forces is also included.

The 2005 public building programme specifically includes funding for the following:

- €40m for the government's decentralisation programme.
- Ongoing construction works at the Templemore garda college and garda stations.
- Ongoing works at the State Laboratory and the Department of Agriculture and Food laboratories.
- Ongoing works at the Marine Institute in Galway.
- Ongoing construction and renovation works at a number of courthouses around the country.
- The construction of new prison accommodation at Portlaoise Prison and the ongoing prison refurbishment programme.
- The construction and renovation of eligible childcare facilities.

It is noteworthy that the public capital provision for new and renovation works by the OPW has declined from €217m in 2003 to €198m in 2004 and is projected to fall further to €186m in 2005. As investment by the OPW accounts for the dominant share of investment in public buildings, it is therefore no surprise that the total construction related investment in new public buildings, including major renovation of existing buildings, is still below its peak 2003 level by the end of 2005 (-23% over two years).

2.4.4: Other social infrastructure

The remaining categories under social infrastructure comprise local authority services, investment in the Gaeltacht and in public sports facilities funded by the Department of Arts, Sports and Tourism.

Investment in local authority (LA) services covers work carried out by local authorities or by private contractors on behalf of local authorities and includes construction work associated with local authority offices, public libraries, the fire services and special amenity projects. Grants for waste management, waste disposal infrastructure and urban renewal works are also included. Overall investment in LA services is expected to rise considerably in 2005 (+51%), mostly due to a significant increase in the amount being invested in waste disposal facilities under the NDP Regional Operational Programme, and in miscellaneous local services, such as the construction of local authority offices.

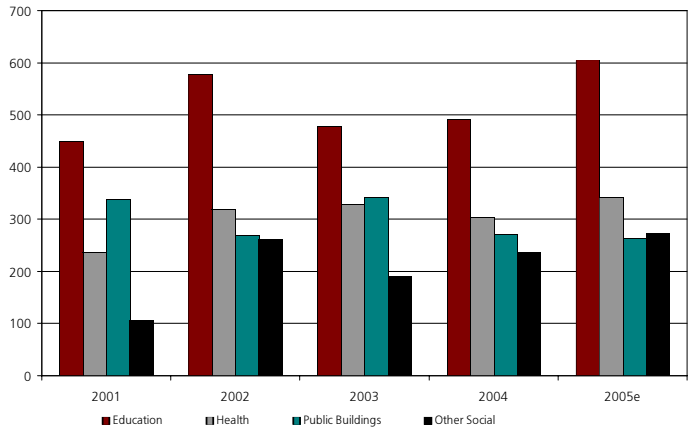
The construction related investment under sport includes funding for sporting bodies, local clubs and centres, national, regional and municipal facilities, as well as grants to local authorities for the provision and renovation of swimming pools. The types of local projects being funded include multi-purpose sports halls, community recreation halls and tennis courts. Although the vast bulk of sporting facilities are provided by the private sector, including private sporting and leisure clubs and voluntary sporting organisations, there is no estimate available for private investment in sporting facilities.

Under the category for the Gaeltacht, the construction related element of approximately €34m covers the improvement of strategic Gaeltacht roads, access roads, village renewal and marine works as well as the provision and refurbishment of community and recreational facilities in Gaeltacht areas.

2.4.5: Social infrastructure summary

Overall the volume of output from new social infrastructure building projects is expected to rise strongly in 2005 (+14%) following a decline in 2004 (-3%).

Figure 2.11:New social infrastructure output, 2001–2005E (constant 2003 prices, €m)



Source: DOEHLG, DKM

2.5: Repair, maintenance and improvement

The outturn in 2004 was one in which the Repair, maintenance and improvement (RM&I) sector of the construction industry performed very strongly compared with previous years. Total investment in RM&I projects was up by almost 9% in 2004 and is forecast to increase by 4.4% in 2005, after adjusting for construction inflation.

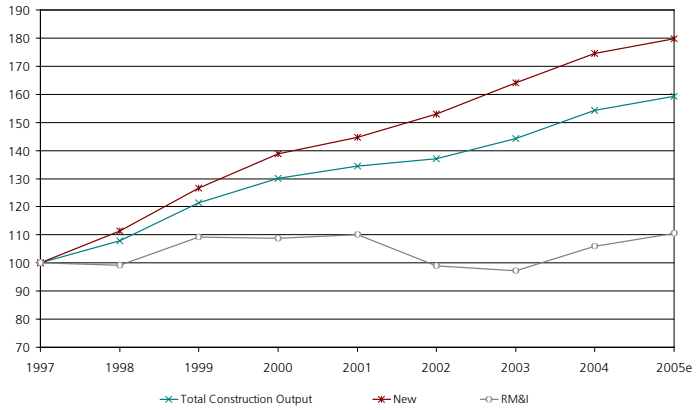
Despite the improvements that we are continually making each year to the methodology for ascertaining RM&I expenditure levels in the non-residential sector, we believe that there is insufficient data available to accurately gauge investment levels in this sector. We have reservations as to the accuracy of the figures derived for RM&I as we suspect that the figures for new investment may include some RM&I expenditure. However, while we will keep publishing separate figures for both new and repair and maintenance work (Appendix 2), we urge caution in relying on the separate figures for RM&I. Tables 1.5 to 1.8 (Section 1) present construction output figures including expenditure on RM&I.

With the overall volume of RM&I work expected to increase by 4.4% in 2005, the volume of RM&I housing output is up by 4%, while the volume of RMI output in the non-residential sector is expected to be up by just over 5% on 2004 levels.

2.6: Overall construction prospects for 2005

These estimates imply that total volume of output in the construction industry will increase by 3.3% this year, following a very respectable performance in 2004 (+7%), on the back of a very strong residential sector. This year, the strongest performing sectors in terms of new construction activity are social infrastructure (+14%) and private non-residential construction (+11%). The growth in investment in civil engineering projects is relatively modest (+5%) while residential construction is flat compared with 2004. The forecast is therefore heavily dependant on public sector capital commitments being spent and on the recovery in private non-residential construction gathering momentum over the remainder of the year.

Figure 2.12: Total construction output, 1997–2005e (constant 2003 prices, 1997=100)



Source: DOEHLG, DKM

Table 2.5: Annual change in construction output, 2001–2005E (%)

	Value	Inflation	Volume
2001	13.3	9.5	3.4
2002	6.9	4.8	1.9
2003	11.9	6.3	5.3
2004	15.8	8.4	6.9
2005E	7.7	4.3	3.3

Source: DOEHLG, DKM

Section 3: Employment in building and construction

Growth in direct employment in construction has accelerated in the last year, reaching 234,600 in January 2005, or 12.2% of total employment in the economy (seasonally adjusted). Including an estimate for indirect employment, the figure goes up to 17%. Average hours worked in the sector has also been increasing over the past year.

This continued growth reflects (1) the strength of housebuilding and (2) a recovery in non-residential construction.

Despite strong employment expansion and increasing hours worked, construction output has recorded only modest growth in the last year, leading to concerns about labour productivity in the sector.

With construction responsible for an ever-increasing proportion of total employment in Ireland, the overall economy remains vulnerable to a slowdown in the sector.

3.1: Employment levels

There are two official sub-annual sources of data on direct employment numbers in Construction – the Quarterly National Household Survey (QNHS) and the monthly Construction Employment Index. The QNHS covers the entire labour force, and hence can be considered more complete. The Construction Employment Index by contrast is based on an "establishment" survey, of firms with more than five employees, and hence it does not cover the entire sector. Being a monthly survey, however, it is a more up-to-date indicator for the sector.

Another relevant official source is the quarterly Earnings and Hours Worked in Construction. Employment in Construction is not simply a matter of numbers employed but also hours worked. One might have increased numbers engaged in the sector, but if for example there is a move to more part-time jobs or a reduction in overtime levels, then employment in the sector, in terms of total labour input, could actually be shrinking.

In what follows the data from these three sources are analysed, followed by a consideration of indirect and total employment in construction, and a brief discussion of productivity in the sector.

3.1.1: Quarterly national household survey

The Quarterly national household survey (QNHS) was first published in September 1997, replacing the Annual Labour Force Survey (LFS), and provides detailed measurements of employment, unemployment and labour force in the State, by sector. Full-time, part-time and temporary-employment are identified, and the data is also provided on a seasonally adjusted basis, which strips-out seasonal patterns.

In the QNHS, each year is split into four periods: December–February, March–May, June–August and September–November (generally referred to as Q1, Q2, Q3 and Q4 respectively). The latest available data is for Q1 2005 (published in June 2005).

Methodological differences between the LFS and the QNHS make the two series difficult to compare. However, the CSO has prepared labour force and employment estimates for April of each year back to 1994 consistent with the methodology in the QNHS. Thus we can present total direct construction employment per the LFS (1994–1997) and QNHS (1998–2005), as set out in Table 3.1:

Table 3.1: Direct employment in building and construction (not seasonally adjusted)

		Employment (000's)	% change year-on-year	% of total employment
LFS 1994	April	91.5		7.5%
1995	April	96.6	5.6%	7.5%
1996	April	100.8	4.3%	7.6%
1997	April	110.4	9.5%	8.0%
QNHS 1998	Mar-May	126.1	14.2%	8.4%
1999	Mar-May	142.1	12.7%	8.9%
2000	Mar-May	166.2	17.0%	9.9%
2001	Mar-May	180.0	8.3%	10.5%
2002	Mar-May	182.2	1.2%	10.3%
2003	Mar-May	191.4	5.0%	10.7%
2004	Mar-May	206.0	7.6%	11.2%
2005	Dec-Feb	233.1	13.2%	12.2%

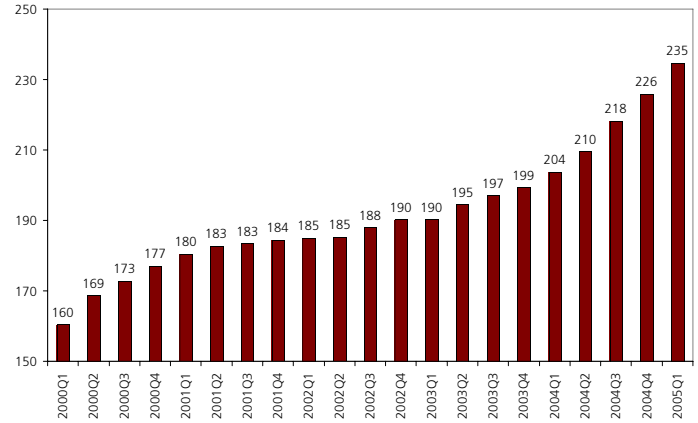
Note: Mar-May 2005 not yet available
Source: CSO, QNHS and LFS

The pace of growth in the sector has been remarkable. Between April 1994 and December to February 2005, construction employment grew from 92,000 to 233,000 representing cumulative growth of 155%, or an average of 9.1% per annum. This compares with 4.2% per annum for the economy as a whole, making construction the fastest-growing sector in the economy over the last decade or so. The construction sector has accounted for 21% of all the new jobs created over the period, more than any other sector. The strength of growth in construction employment is very apparent during the height of the "celtic tiger" boom (1998–2000), at well over 10% per annum. In 2000, construction generated over 35% of all the employment growth in the economy.

Perhaps even more remarkable is the growth recorded in the last nine months, of 13.2%, at a time when overall economic growth has been much more modest. Construction has accounted for almost 38% of total employment growth in the economy during this period.

Figure 3.1 illustrates the development of construction employment during the current decade in more detail. The data are seasonally adjusted, so we can compare qoq. Construction employment has grown by 30% since 2000 Q1. Employment grew steadily up to 2001 Q3, then stabilised for roughly a year, before experiencing modest growth in late-2002. Since early 2003, growth has been steady and robust, and has accelerated in the last year.

Figure 3.1: Direct employment in construction 2000–2005 (seasonally adjusted)



Source: CSO, QNHS

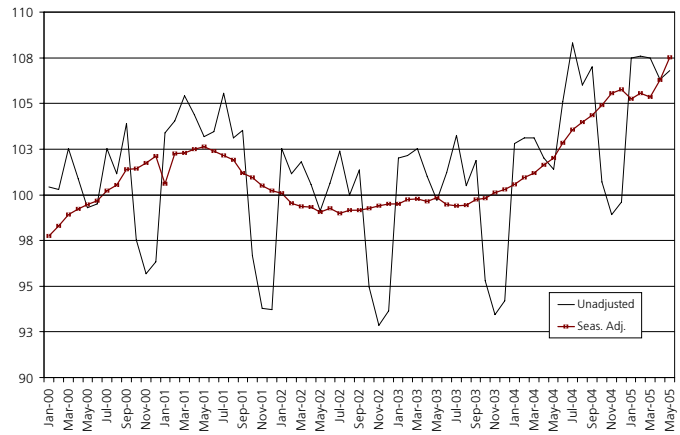
The period from mid-2001 to early-2003 coincided with the economic slowdown, which affected all elements of construction except housing. Employment levels were maintained by switching resources from other areas of construction into housebuilding. The return of employment growth reflects the improvements in the overall economy in 2003 and 2004. The housing sector continues to grow unabated, while non-residential construction is recovering, even though infrastructural delivery fell slightly in 2003 and 2004. Infrastructure construction (roads, water plants, etc.,) is not a labour-intensive segment, however, so there is relatively little impact on employment.

3.1.2: Construction employment index

This index is derived from a monthly sample inquiry of approximately 1,000 private sector construction firms with five or more persons engaged. The sample covers all large firms (i.e. 100 persons or more), approximately 75% of medium-sized firms (i.e. 20–99 persons), and about 25% of small firms (i.e. 5–19 persons) in the industry. It covers permanent staff, proprietors and family members, and persons working as labour-only subcontractors. It excludes the State sector, the self-employed and firms with less than five employees, and as such is not comprehensive. The index tends to be used more as a short-term indicator of employment trends in the sector. Figure 3.2 shows the index since the start of this decade, as well as a seasonally adjusted version.

As one would expect, the series is highly seasonal. The seasonally adjusted series indicates that, for the firms in question, employment peaked in the first half of 2001, then fell for roughly a year, bottoming out in mid-2002, and experienced little improvement over the following year before staging a strong recovery over the last two years.

Figure 3.2: Construction employment index, 2000=100



Source: CSO Construction Employment Index, seasonally adjusted by DKM

It is interesting that the employment index for these larger firms shows less growth than the series from the QNHS (Figure 3.1). This implies that most employment growth is happening in smaller firms, or that the industry's employment structure is becoming more fragmented over time, with a greater number of smaller firms.

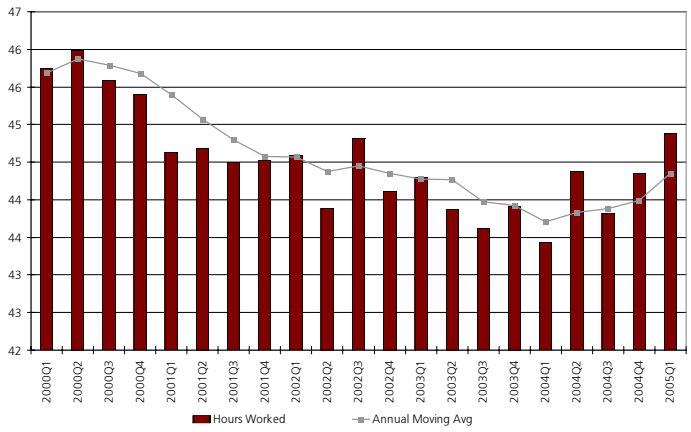
The index is available up to May 2005, and thus is more up-to-date than the QNHS, which is available up to Q1 2005 (December 2004–February 2005). The index suggests a stabilisation in construction employment from January to March 2005, followed by sharp growth in April and May 2005 (sa). This may not of course reflect performance in construction as a whole.

3.1.3: Hours worked in construction

The latest release of the CSO's Earnings and Hours Worked in Construction is for Q1 2005.[36] The data are based on a survey of firms with ten or more persons engaged. It indicated that the average employee of these firms worked 44.5 hours per week in March 2005 (44.9 hours per week seasonally adjusted).

Figure 3.3 presents the trend in these data during the current decade, in seasonally adjusted form, so they are comparable qoq.

Figure 3.3: Hours worked in construction (sa), 2000 to date



Source: CSO Earnings and hours worked in construction, seasonally adjusted by DKM

36 It relates to March 2005, as opposed to the latest QNHS release which covers the period December 2004–February 2005.

The data record relatively little variation over the period, from a high of 45.9 hours to a low of 43.3 hours per week. The average hours worked has been trending downward for most of this decade, troughing in 2004 Q1. Since then however it has been on a strong upward trend, and 2005 Q1 recorded the highest figure (sa) since late 2000. This strong growth in hours worked in the last year has coincided with increased employment numbers over the same period.

3.1.4: Indirect and total employment numbers

The QNHS figures for construction cover direct employment only. They thus exclude employment in the manufacture and distribution of building materials, plant hire, and a proportion of construction-related employment in the professional services sector (e.g. engineers, architects, planners, etc.).[37]

While no official statistics exist for indirect construction employment, it has traditionally been estimated at 40% of direct employment.[38] On this basis, total employment in Construction in Q1 2005 would be:

Table 3.2: Construction employment numbers, Q1 2005

	'000
Direct employment per QNHS (seasonally adjusted)	234.6
Indirect employment estimate at 40% of direct	93.8
Total estimated employment	**328.4**

Source: CSO; QNHS

3.2: Structure of the construction sector

While there are no official data on the total number of firms in the construction sector, it is generally agreed that the number has been increasing rapidly, mainly as a result of a proliferation of small firms and sole traders. Over the past twenty years, the employment structure of the industry has changed fundamentally, with most major firms changing from being large direct employers to operating as contract managers, and the bulk of work being carried out by sub-contractors. This fits with the picture presented in the QNHS and Construction Employment Index, whereby most employment growth appears to be occurring in firms with fewer than five persons and sole traders.

The D&B database of Irish firms indicates that the number of enterprises giving construction as their main business is in excess of 16,000, ranging from the largest companies down to sole traders.[39] As far as we know, this is the most accurate estimate available.

The CSO's Census of Building and Construction gives information on the structure of the sector, though it only covers firms with 20 or more employees. The latest available Census is for 2002, and the results are summarised in Table 3.2. Only 646 firms employed 20 or more persons in 2002, indicating that the bulk of firms are very small.

37 Research by DKM in 2003 (A Qualitative and Quantitative Assessment of the Skills Needs of Construction Professionals, 2003–2015, for FÁS) on construction-related professional services concluded that around 16,700 persons were employed as construction professionals and a further 7,000 persons were employed as associate professionals and technicians, making a total of 23,700. Of this total, 9,100 or 38% were included in the Construction heading in the QNHS, and the balance of 14,600 or 62% were included under other headings.

38 This is broadly in line with the methodology used by the EU Commission; see The Competitiveness of the Construction Industry [Com (97) 539 Final], 4th November 1997 (Page 2).

39 As quoted in *Construction*: "Ireland's Top 150 Construction Companies", February 2005. The figure of 16,000 is based on firms registered either as limited companies or with the Registry of Business Names with the Companies Registration Office, and who have a credit rating, indicating that they have traded at some point. The Irish D&B (formerly Bun & Bradstreet) database is maintained by its Dublin-based affiliate BusinessPro.

The total turnover for the firms covered by the Census was €8,853m, or 44% of total industry output in 2002, up 10.6% on the 2001 figure. Turnover growth was particularly strong for new dwellings. The construction sector was operating at close to capacity in 2002, and was characterised by labour shortages and inflation. The strong turnover growth reflects this: total volume output of the sector in 2002 was a more modest 1.9%.

Table 3.3: 2002 census of building and construction (Private sector firms with 20 or more persons engaged)

	Census results	%of total construction sector (note 1)	% change on 2001
Number of firms	646		18.3
Persons engaged	51,722	28	11.5
Persons engaged per firm	80		-5.7
Total turnover (€m)	8,853	44	16.3
Breakdown of turnover as principal contractor:			
	€m	**% split**	**% change on 2001**
New dwellings	2,352	32.2	42.8
New other	4,842	66.4	6.2
Total new	7,195	98.6	15.9
Total RM&I (note 3)	100	1.4	-5.2
Grand total (note 4)	7,295	100	15.5

Notes:

1.Industry total number of firms and turnover are estimates; total numbers engaged are from QNHS Q2 2001

2.The increase in recorded number of firms is partly due to improved coverage in the 2002 census

3.Repairs, maintenance and improvements

4.Excludes work done as a subcontractor

Source: CSO; 2002 census of building and construction

The census reported total employment of 51,700 persons in the firms covered, or 28% of total construction direct employment per the QNHS. Comparing this with the 44% share of total sectoral output indicates that these firms have higher labour productivity than smaller firms, but may reflect that they are more involved in capital intensive activities, for example civil engineering rather than house-building.

The breakdown of employment in these firms is summarised in Table 3.4. Of the total persons employed in 2002, 54% were engaged as manual workers, and 22% were employed in managerial, technical, and clerical positions, or as foremen. Roughly 1% consisted of proprietors and family workers, while 23% were engaged on a labour-only sub-contract basis. Total numbers engaged grew by 11.5% in the year.

Strong growth was recorded for skilled operatives, managerial and technical staff, and foremen and supervisors. Lower than average growth was recorded for unskilled and semi-skilled workers, clerical staff, and sub-contractors. The modest growth in the last of these is somewhat paradoxical, given our understanding of trends in employment structure, but the firms covered by the sector account for only 28% of direct construction employment. That said, one might have expected larger firms such as these to rely more on sub-contractors than smaller firms.

Table 3.4: 2002 Census of building and construction
Structure of employment

Manual workers		% of total	% change on 2001
Skilled operatives	13,617	26.3	15.7
Apprentices	3,980	7.7	10.2
Unskilled and semi-skilled	10,332	20.0	8.6
Sub-total	**27,929**	**54.0**	**12.2**
Others			
Managerial and technical	4,373	8.5	17.1
Clerical	3,041	5.9	8.2
Foremen and supervisors	4,048	7.8	21.1
Sub-total	**11,462**	**22.2**	**16.0**
Total employees	39,391	76.2	13.3
Proprietors and family members	570	1.1	11.3
Labour-only sub-contractors	11,761	22.7	6.1
Total persons engaged	51,722	100.0	11.5

Source: CSO, 2002 Census of Building and Construction

Surveys of the construction sector also provide information on the sector's structure, notably (i) "Survey of Ireland's Top Construction Companies", carried out annually by Irish Construction Industry Magazine (latest in April 2005), and (ii) "Ireland's Top 150 Construction Companies", in Construction, February 2005. They indicate that:

(i) The top 20 Irish contractors had a combined turnover of €4.5bn in 2004, 16.5% of total construction output, or 18% of total new construction output. Between them they employed roughly 11,700 workers, or 5.8% of total direct construction employment.

(ii) Ireland's top 10 civil engineering firms had a combined turnover of €3bn in 2004, 62% of total civil engineering output. Between them they employed roughly 8,700 workers, or 4.3% of total direct construction employment.

(iii) The top 50 construction firms had a combined turnover of €6.4bn in 2004, 23% of total construction output. They employed 18,500 in 2004, or 9.1% of total direct employment in the sector.

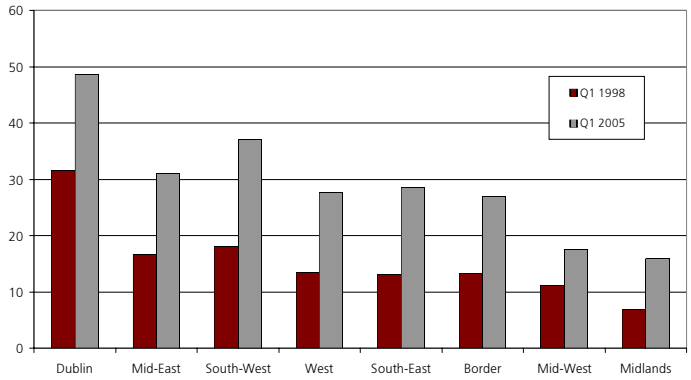
(iv) The top 150 firms had a combined turnover of €8.1bn in 2004, 30% of total construction output. They employed 25,000 in 2004, or 12.4% of total direct employment in the sector.

These data highlight that a small number of large firms account for a significant proportion of total output. Table 3.3 indicates that fewer than 5% of firms account for roughly 45% of output. The remaining 95% of firms produce only 55% of total output. Even within the top 5%, the surveys indicate a high degree of concentration: 0.125% of firms produce over 16% of total output.

3.3: Regional breakdown of employment

Figure 3.4 provides a breakdown of building and construction employment in Q1 of 1998 and 2005 respectively per the QNHS, for the eight planning regions. The data are seasonally unadjusted, as they are only available in this format.

Figure 3.4: Regional employment in building and construction, '000s nsa*



* not seasonally adjusted
Source: CSO

The main points are:

- Total construction employment (nsa) in Q1 2005 was 233,000. Dublin accounted for the largest share of employment, with 48,600 or 20.8% of the total, followed by the South-west, with 37,000 or 15.9% of the total.
- Over the six-year period, direct construction employment has grown by 109,000. The South-west recorded the highest employment gain in absolute terms, at 19,000, followed by Dublin at 17,000. Most regions have recorded employment growth in excess of 10,000. At the other extreme, the mid-West recorded growth of only 6,300 over the period.
- In percentage terms, construction employment growth has been 88% over the seven years. The Midlands, while having the smallest number of construction employees in absolute terms, recorded the largest percentage increase over the period, of 130%. Next came the South-east at 118%. Dublin recorded the lowest percentage increase, at 54%.

3.4: Unemployment in the construction sector

Unfortunately there is no reliable source for unemployment in the construction sector. The QNHS is the official source of unemployment statistics in the State, but it does not produce data by sector.

The live register, which records those claiming unemployment benefit and assistance, has information on numbers of persons who had previously worked in the construction industry. However, it is generally agreed that the live register is not a reliable indicator of unemployment, by sector or in aggregate.

The national unemployment rate in Q1, 2005 was 4.2% (sa), the lowest rate recorded in three years. Assuming the construction sector unemployment rate is the same as for the economy as a whole, this implies a construction sector unemployment level of roughly 13,000.[40]

40 Based on the following calculation: 328,40000 x 0.042/(1 - 0.042) 13,000

3.5: Construction labour force

Without an official sectoral unemployment measure, it is not possible to measure definitively the total size of the construction sector labour force. However, we can make an estimate, based on the preceding calculations:

Table 3.4: Estimated construction sector labour force, Q1, 2005

	'000s
Direct employment (seasonally adjusted)	234.6
Indirect employment (40% of direct)	93.8
Total construction employment	**328.4**
Unemployment (4.2%)	13.2
Total construction labour force	**341.7**
As percentage of total labour force	17.1%

Source: CSO QNHS; DKM estimates

On this basis, the construction labour force in Q1 2005 amounted to roughly 342,000, or 17% of the total labour force in the economy (2m).

3.6 Construction sector productivity

Productivity growth is a key factor in Ireland's sustained economic expansion. The shift away from manufacturing towards services in recent years has raised concerns that productivity growth in the future may not be as rapid as heretofore.[41] With construction accounting for 22% of GNP, based on estimates presented in this report (see Section 1.2), and a key driver of employment growth, productivity trends in construction are important, not only for the sector itself but for the overall economy.

3.6.1: Productivity and its measurement

Productivity in the construction sector is an important, but difficult to measure, economic issue. The general definition of productivity is the amount of output per unit of input, but the meaning of output and inputs must be determined. Output can relate to either gross output or to value added (see discussion in Section 1.2), and the composition of output can change over time (e.g. residential construction accounted for 42% of total construction output in Ireland in 1990, but 64% in 2005). On the input side, there are a number of different inputs, or factors, most importantly labour and capital (i.e. plant and machinery). Productivity measures can thus relate to a single input (e.g. labour productivity), a group of inputs or total inputs used (known as total factor productivity).

There is a further complication in that the changes in productivity need to be ascertained in real terms, making it necessary to deflate whichever construction output series is used by an appropriate construction price index. Thus there are many different ways of measuring productivity, making it difficult to reach a consensus.

41 For example: Falling Productivity Growth Needs to be Addressed, Davy Weekly Market Comment, August 1st 2005.

Difficulties with measuring construction productivity are not confined to Ireland. A preliminary investigation of long-term construction productivity trends in the US states that "there is a lack of agreement and understanding concerning this critical issue".[42] The US Bureau of Labour Statistics (BLS), which maintains productivity indices for all significant sectors of the economy except construction, cites "a lack of suitable data" as the main reason for not covering construction.[43] Other sources indicate that productivity measures have been avoided by the US BLS due to the lack of a professional and academic consensus on appropriate measurement techniques.[44]

3.6.2: Factors affecting construction productivity

From a brief survey of the literature on construction productivity, a number of factors are highlighted as particularly affecting the measurement of construction productivity, compared with other industrial sectors:

a) Construction projects tend to be unique, and construction workers often have to go through a learning curve at the early stages of more complex projects. Factors such as topography, geology and weather can have a radical impact on apparently similar projects.

b) The sector has been affected by a number of factors over time, which make it difficult to measure productivity on a consistent basis, including:

   – Design changes and improvements in building processes.

   – Stricter building and planning regulations, and environmental standards.

   – Changing client requirements, for example landscaping, information technology and networked systems.

   – Technological improvements have changed how the most basic tasks on site are performed. The increased complexity of plant and machinery can significantly impact on the skill requirements of the workforce over time.

c) One US source highlights that: (i) good management practices can result in less time wasted on site and lead to more projects being completed on time and within budget, and (ii) a reduction in the proportion of unionised labour on-site can improve productivity.[45]

d) The construction workforce tends to be highly mobile. Some of the literature suggests that as a result of this, contractors are reluctant to invest in training for workers who may move on to be someone else's employee. This could result in reduced average capability levels among the workforce over time.

3.6.3: Productivity in the Irish construction industry

Armed with the employment data set out in this section, and the measure of (gross) construction output, we can analyse one aspect of construction productivity – labour productivity. Unfortunately we have no data on capital utilisation in the Irish construction sector, so we cannot comment on capital or total factor productivity, or even be prescriptive about labour productivity.

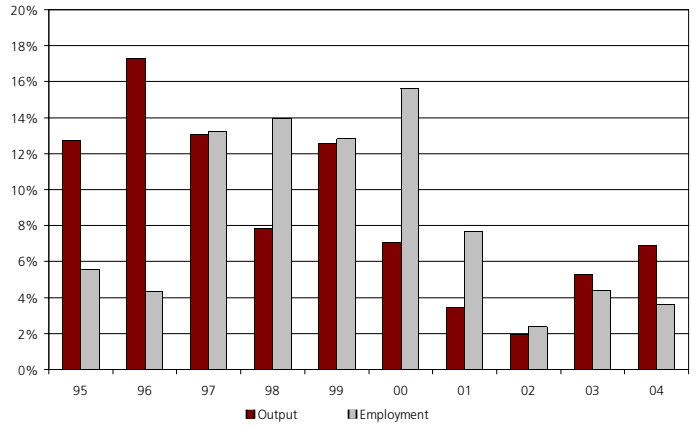
42 "US Construction Labour Productivity Trends 1970–1998", Centre for Construction Studies, Report No. 7, University of Texas, Austin, USA, March 1999.
43 In the US there are two primary types of productivity statistics used in economic analysis: (i) labour productivity measures or output per hour of labour, and (ii) multifactor productivity measures or output per unit of combined inputs.
44 "Measuring Productivity and Evaluating Innovation in the US Construction Industry", Building Futures Council, Virginia, 2005.
45 University of Texas, 1999 (op. cit.).

There has been a strong increase in construction employment numbers in the last year (over 15% in the year to Q1 2005), as well as in average hours worked (+2.8% over the same period). One would expect that construction output would also have increased considerably, but this apparently has not been the case: The CSO's Quarterly National Accounts indicate that building and construction output in Q1 2005 was only 0.6% higher than in Q1 2004. Notwithstanding the limitations of such comparisons (not least the scope for weather to affect output in the December to February period), the implication is that labour productivity in the sector has fallen sharply in the last twelve months. Is this really the case?

A number of other factors need to be taken into consideration, including:

- As stated, we have no data on capital utilisation in construction, so the apparent reduction in labour productivity may be masking changes in capital productivity.
- Housebuilding is by its nature is more labour intensive than other segments of the construction sector, and hence the apparent reduction in labour productivity may reflect the increasing proportion of the sector accounted for by housebuilding,
- The fall in labour productivity may reflect a fall in the skill profile of the workforce. Unfortunately, we have no breakdown of employment between sectors or occupations.
- Comparing output and employment at only two points in time to measure productivity is not ideal. It is more appropriate to consider trends over a longer period of time. Figure 3.5 below compares annual growth in construction output per the estimates produced in the Review and Outlook with annual growth in construction employment, since 1995.[46]

Figure 3.5: Annual growth in construction output and employment, 1998–2004 (%)



Source: Estimate for construction output in constant prices from the Review and Outlook; QNHS, annual employment based on average of four quarters each year from 1998–2004; old Labour Force Survey figures for April in each year used for 1995, 1996 and 1997.

The chart shows the very strong increase in construction output over the period 1995 to 2000 – a period during which the construction industry was exceptionally buoyant, all sectors were growing strongly, construction inflation was at an historically high level and capacity constraints had begun to emerge over the late 1990s. Output growth was higher than employment growth in 1995 and 1996, indicating an increase in labour productivity. However, employment growth was higher than output growth in 1997, 1998, 1999 and 2000, indicating a reduction in labour productivity in those years.

46 Annual employment growth is the average level of employment over the four quarters of one year compared with the average level over the four quarters of the previous year for the period 1998 to 2004. The employment data used for the period 1995-1997 is taken from the old Labour Force Survey which measured employment once a year in April.

The performance of the construction industry was more subdued over the period 2001–2004, reflecting a moderation in economic growth from the celtic tiger years of the late 1990s. In 2001 and 2002 labour productivity declined as employment increased by more than output. In 2003 and 2004, output growth was higher than employment growth, indicating an increase in labour productivity. This is surprising, given the relative importance of housebuilding in construction output in 2003 and 2004 – the share of housebuilding increased from 56% of total output in 2002 to 65% in 2004 (Figure 2.1), having been relatively constant over the period 1995 to 2001 (the housebuilding share increased modestly from 51% of the total in 1995 to 55% of the total in 2001).

The following Table summarises the overall position in terms of the cumulative change in output and employment over the two periods:

Table 3.5: Cumulative change in construction output and employment 1995–2004

	Cumulative percentage change (%) output	Employment
1995–2000	+72.4%	+75.6%
2000–2004	+18.6%	+19.2%
1995–2004	+104.5%	+109.4%

Thus labour productivity in the construction sector declined marginally over the period 1995–2004. It is important to note that productivity is also a function of capital inputs. It would be reasonable to assume that there was significant increase in the capital stock (plant and machinery) in the construction industry over this period, given the growth in public capital spending on infrastructure investment. If this was the case, labour productivity measured on its own should have shown a strong improvement. This suggests that labour productivity may actually have been weaker than we have suggested above.

The most recent quarterly data discussed above imply that labour productivity may have fallen in 2005 compared to 2004, but this would be a sharp reversal of the recent trend, and we feel there is a possibility that either recent quarterly output will be restated, or the coming quarters may record a sizeable increase in output to reflect the strongly growing employment. It is difficult, however, to be conclusive given the weakness in the data and methodology.

The foregoing highlights that there is a need to ensure that estimates of employment and output are adequately detailed and accurate. Employment data are based on a quarterly household survey, and should be reasonably accurate, although there is no breakdown available between the sub-sectors of construction.

The estimate of construction output, on the other hand, needs to be more firmly based. We have acknowledged that there are substantial output data gaps for the construction sector. It is important that the industry cooperates with the CSO in completing the survey on production and orders in the construction industry and that this survey is published as soon as possible in order to establish a firmer basis for measuring output in the sector.

In summary, estimating construction productivity is a complex task, and Ireland is not alone in having difficulties in this regard. It requires among other things agreement as to the definition of productivity and reliable data on inputs and outputs. It is also important to measure productivity trends over time and on a consistent basis. We have made a preliminary attempt to measure recent labour productivity trends in the Irish construction sector, but there are a number of weaknesses in the methodology, and one cannot be prescriptive about the results. Improved data from the CSO survey mentioned should make it possible to generate better measurements in the future.

Section 4: Medium-term prospects to 2007

The expansion currently underway in the global economy is very dependent on the United States and China, while growth in the euro area is projected to be weak in 2005 with a very modest recovery expected in 2006. The rise in oil prices will restrain global growth somewhat but the impact could be significant in the Euro area given the underlying weakness in its economy.

Irish economic prospects are good. The composition of growth is expected to shift from housing, the main driver to date, to consumption expenditure and non-residential construction. There are a number of downside risks, however, which could jeopardise future economic growth, including a further loss of competitiveness, persistent high oil prices or an appreciation of the euro.

From a construction perspective, the key risk is the downward adjustment to housing output which is expected over the medium-term. Depending on the magnitude and timing of this adjustment the economy is vulnerable as it has become very dependent on housing. With completions forecast at 65,000 in 2007, construction output is projected to contract by 2.5% over the next two years, causing a drag on growth, unless other components of GNP manage to offset the negative impact.

Considerable public sector investment is expected in social and productive infrastructure over the medium-term. It is essential that such funds are efficiently allocated and that projects are selected based on sound economic analysis and evaluation. This is particularly important in the context of the significant expenditure on infrastructure which is likely to be announced in the next National Development Plan by the end of 2006.

4.1: Medium-term economic prospects

4.1.1: International economic prospects

Global economic expansion was reported in April 2005[47] to be broadly on track. Indicators available at that time were consistent with an expansion in global GDP in 2005, although rising oil prices would restrain global growth to 4.3%, compared with the 5.1% in 2004. Since April, crude oil prices have increased by just over 20%, leading possibly to a more marked slowdown in global growth in 2005 than these forecasts suggest. The preliminary assessment carried out in April of the prospects for 2006 suggested that global GDP would increase by a further 4.4% in 2006.

The overall picture hides growing divergences between the different regions. Global growth is dependent on the United States and China while growth in the euro area and Japan has been disappointing. According to the most recent OECD forecasts,[48] growth prospects are expected to differ widely across the world economy, ranging from solid in Asia to back on trend in the United States to weak and uncertain in Europe. Real GDP growth in the euro area is projected to drop from just below 2% in 2004 to 1¼% in 2005 before recovering to around 2% in 2006. The latter assumes that the oil price hike peters out and that the global environment supports exports and investment, leading to a gradual recovery in the labour market, which in turn is expected to support consumer spending. The key risks for the euro area are further and sustained increases in oil prices or a further appreciation of the euro, both of which would jeopardise the very modest recovery expected to take hold early in 2006.

47 World Economic Outlook, International Monetary Fund, April 2005.
48 OECD Economic Outlook No. 77, May 2005.

Outside of the euro area there has been a sharp fall-off in consumer spending in the UK economy, where the housing market has slowed and the manufacturing sector remains weak – all of which have contributed to the slowest annual rate of real GDP growth in Q2, 2005 (+2.7%) since Q4, 2003. As a result the Bank of England cut interest rates by quarter of a point to 4.5% and further cuts have not been ruled out. The OECD has forecast real GDP growth of 2.4% per annum in the UK in 2005 and 2006, following growth of 3.1% in 2004.

4.1.2: Irish economic prospects

As acknowledged in Section 1, changes to the national accounts methodology for estimating economic growth have resulted in significant revisions to economic growth estimates for the Irish economy. The adoption of a chain weighted methodology, which involves using previous years' weights to calculate the contributions of the various components of GDP and GNP to economic growth instead of the weights from a fixed-base year (1995), have resulted in reported GNP growth being higher in 2002 and 2003 than previously estimated. The main effect of the changed methodology is that by using previous years' weights, the economic growth measure takes account of up-to-date economic conditions. Thus as the weight of housing in total has increased significantly since 1995, the pace of growth in recent years is now higher than estimated using the old methodology. Thus real GNP expanded by 2.7% in 2002 and by 5.1% in 2003 compared with 1.5% and 2.8% estimated previously.

The net impact of revisions to the preliminary estimate for 2004 suggests that growth was lower than previously estimated. Real GNP expanded by 4% on average last year. The main factor driving growth in 2004 was investment spending, which expanded by 8%. Residential construction once again recorded the strongest growth, expanding by 13%, followed by investment in machinery and equipment (+5%). Other non-residential construction investment was almost unchanged (-0.5%) on the 2003 level. The other stimulus to growth in the domestic economy came from consumption expenditure, up by just below 4%, the fastest pace of growth in expenditure since 2001. In terms of external trade, exports recovered (+7%), while stronger growth in imports (+7.6%), due to exceptional growth in imports of transport equipment (+24%), caused a drag on growth.

The most recent labour market data indicates that employment continued to grow at an exceptionally fast rate up to Q1, 2005. Total employment in the economy increased by 72,400 or by 3.9% compared with Q1, 2004. The construction sector recorded the most remarkable gains, increasing by almost 31,000 or more than 15% and accounting for 43% of the entire increase in employment over the twelve months. The unemployment rate is likely to remain below 4.6% up to 2007 while employment growth should moderate over the medium-term to around 2.5% per annum.[49]

The Exchequer position showed tax receipts up over 6% in the first seven months of 2005 on the same period in 2004, well ahead of the Governments forecast, thanks to the boost from special one-off investigations. Expenditure was up 6.5% over the same period. Once again the favourable trends to date in 2005 suggest that public finance targets for the year will be ahead of budget forecasts. We believe that the outturn for the Exchequer deficit, projected at €3bn for 2005, could now be closer to €2bn or less.

49 *Davy on the Irish Economy*, August 10th 2005

This year, the economy is expected to grow in line with its potential this year, despite a disappointing performance in Q1, 2005. Our construction forecast expects housing output to decline in 2006 and 2007 (Section 4.3). Thus housing, as the main driver of economic growth in the past, is expected to be replaced by other components of GNP, notably consumer expenditure and non-residential construction.

The general consensus is that there will be a marked acceleration in consumer spending, due to growth in real incomes, employment and lower inflation, provided recent developments with regard to oil prices are not sustained, a development which would lead to weaker consumer confidence. There will be some further stimulus from maturing Special Savings Investment Accounts (SSIAs) in 2006 and 2007, which should boost expenditure in those years, although 2005 should also benefit, if consumers spend in anticipation of future gains. Thus the volume of consumer spending is projected to increase by 5% this year, followed by 5% in 2006 and 5.5% in 2007.

The net trade position (exports-imports) at the end of June was one showing imports growing faster than exports. This situation is likely to exert a drag on growth in the first half of the year. Whether this weakness in exports signals a more prolonged slowdown remains to be seen. If import volumes pick-up in response to the anticipated higher growth in consumer expenditure, the net trade position could exert a negative influence on growth again in 2005.

Consumer price inflation reached its highest point in July this year (+2.4%) although in terms of the European common measure,[50] it was in line with the euro area average in July (2.2%). The recent upturn reflects increases in energy prices and higher mortgage interest repayments as a result of higher house prices. Higher oil and energy prices are expected to add to inflation over the remainder of the year. CPI inflation is forecast to average 2.5% in 2005.[51] We expect at least a similar level in 2006, assuming no further substantial rise in oil prices.

4.1.3: Macroeconomic forecasts for Irish economy

The most recent forecast from the Department of Finance (August 2005) highlights the main downside risks that could jeopardise the economy's growth performance:

- A further loss of competitiveness if pay increases are out-of-step with our trading partners, leading to job losses, unless those pay increases are offset by higher productivity.
- The possibility of a sharp dollar correction leading to an appreciation in the euro, which the Department claims has not receded despite the recent fall in the value of the euro.
- Persistent high oil prices which could pose a serious threat to Irish growth and prices.
- Eurozone growth, which is already low, could turn out to be lower.
- The pace at which new housing output adjusts downwards to more sustainable levels given the sector's importance in terms of real growth in the economy.

Competitiveness remains the key economic priority going forward. The lower value of the euro against the dollar and sterling in the first six months of the year will have a positive influence on competitiveness developments. However, strong wage pressures in some sheltered sectors of the economy where regulations limit the scope for competition could revive inflation, leading to a loss of competitiveness.[52]

50 The EU Harmonised Index of Consumer Prices (HICP) which uses the same methodology as that used for the national CPI but differs in respect of the coverage of certain goods and services.
51 *Economic Review and Outlook*, Department of Finance, August 2005.
52 OECD Economic Outlook No. 77, May 2005.

Table 4.1 contains short-term macroeconomic growth forecasts for the medium-term from the Department of Finance, the Central Bank, the ESRI and the OECD.[53]

Table 4.1: Macroeconomic projections for Irish economy 2005-2006 (%)

	Actual	Dept. of Finance	Central Bank		ESRI		OECD	
	2004	2005E	2005E	2006F	2005E	2006F	2005E	2006F
Consumer expenditure	3.8	5.0	4.25	5.75	5.3	5.6	4.3	4.9
Government expenditure	2.4	3.0	4.75	2.25	3.4	3.8	3.1	3.5
Fixed investment	8.0	6.2	5.5	3.0	5.6	4.1	4.4	2.9
of which								
Building and construction			6.0	2.25	2.6	1.4	na	na
GDP	4.5	5.1	5.5	5.5	6.0	5.1	5.3	5.0
GNP (1)	**4.0**	**5.0**	**5.25**	**5.25**	**5.4**	**5.0**	**5.3**	**5.0**
Consumer price inflation (2)	2.2	2.4	2.5	2.75	2.2	2.4	2.5	2.7

Source: Central Statistics Office, Annual National Accounts, 28th July 2005; Economic Review and Outlook 2005, Deaprtment of Finance, 18th August 2005; Quarterly Bulletin Number 3, July 2005; ESRI Quarterly Economic Commentary, Summer 2005; OECD Economic Outlook no. 77, May 2005

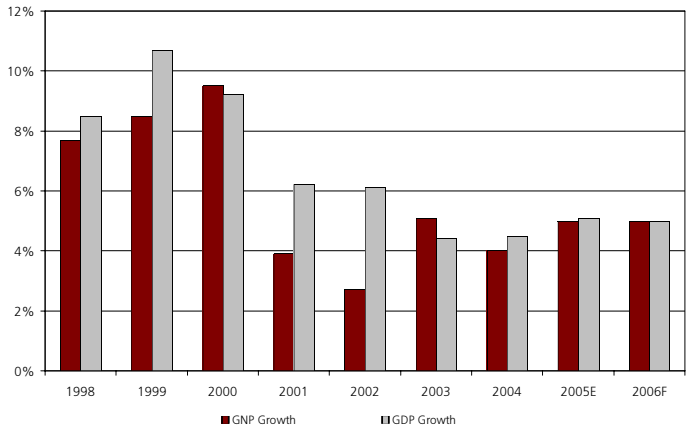
(1) The OECD does not provide GNP forecasts. Figures quoted are the OECD's GDP forecasts

(2) Figures from the OECD are for the Harmonised Index of Consumer Prices (HICP)

It is worth noting that only the Department of Finance's projections are consistent with the revised national accounts published at the end of July. Thus the other GNP forecasts in Table 4.1 will need to be revised the next time they are published, to take account of the CSO methodological changes. A more recent projection published by Davy,[54] for example, has suggested that real GNP will be 4.7% in 2005, followed by 3.8% in 2006 and 4% in 2007.

Beyond 2005, the last medium-term projection from the ESRI Medium Term Review 2003–2010 (MTR) (Benchmark Scenario), prepared in July 2003, forecast real GNP at 5.7% and 5.6% in 2006 and 2007 respectively. Although the MTR underestimated growth in 2003 and 2004, its Benchmark expectations for 2005 (real GNP of 4.7%) are close to most short-term forecasts. The MTR expected a somewhat deeper slowdown in 2003 and 2004 than has actually occurred.

Figure 4.1: GNP and GDP real growth 1998–2006F (%)



Source: CSO; 2005 estimate from Department of Finance; 2006 forecast from OECD

53 The Department of Finance projections reflect the methodological changes adopted by the CSO and were published on August 18th 2005. All of the other projections were published before the CSO published the revised annual national accounts for 2004.

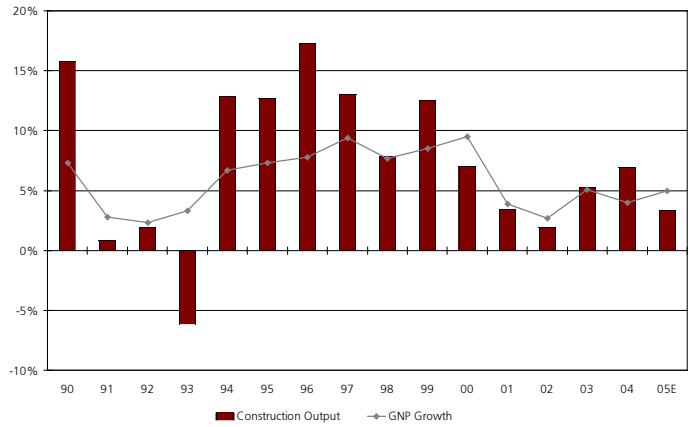
54 *Davy on the Irish Economy,* August 10th 2005.

4.2: Medium-term prospects for construction output

We present our preliminary assessment of the prospects for construction output in 2006 and 2007 by looking at the prospects for the individual sub-sectors.

Figure 4.2 shows volume changes in construction output against real GDP over the period since 1990, including current projections for 2005. The chart excludes the projections beyond 2005 as they are not consistent with each other. The GNP forecasts discussed above for 2006 and 2007 are around 5%. The forecasts for construction output presented in Table 4.3 are DKM estimates and would generate real GNP growth closer to 4% per annum in 2006 and 2007, all other components of GNP unchanged.

Figure 4.2: Construction output and real GNP, annual volume changes 1990–2005F (%)



Source: CSO; 2005 estimate from Department of Finance; 2006 forecast from OECD

4.3: Residential construction

The last *Review and Outlook*[55] included a lengthy discussion on the prospects for residential construction. Our overall assessment of the medium-term prospects now, one year later, remains broadly unchanged. In summary our view remains that the current rate of housebuilding is unsustainable over the medium-term.

However, the indicators that are available on the housing market are not always consistent with each other:

- The level of new housing supply reached new heights in 2004 at close to 77,000, which we now believe will be the peak level of housebuilding output. Figures just published for the first seven months of 2005 show house completions were 0.9% lower than in the same period of 2004.
- House price inflation has moderated from 11.4% yoy in June 2004 to 6.2% in June 2005,[56] probably in response to the increased supply level. As a result, we suspect that equilibrium may have been re-established in housing markets outside of the Greater Dublin Area.
- Private housing rents have been on a downward trend since peaking in Q1, 2002 but have recovered slightly in the first half of 2005.
- The benchmark eurozone interest rate has remained unchanged at 2% since June 2003, leaving average Irish mortgage rates unchanged over this period at around 3.46%. The anticipated upward move in eurozone rates expected last year did not happen. Uncertainty about economic growth in the eurozone suggests that eurozone interest rates are likely to remain at current levels until the second-half of 2006.

55 Review of the Construction Industry 2003 and Outlook 2004-2006, Department of the Environment, September 2004 available on www.environ.ie.
56 Permanent-tsb data.

- Total planning permissions in the pipeline stood at 101,600 in the 12 months to March 2005, indicating that housing completions could increase again in 2005 and 2006.

Projecting housing demand has been difficult in recent years. We have consistently forecast a downward adjustment to housing supply in the past but have been proved wrong on each occasion. We have assumed an unchanged level of house completions in 2005 (Section 2.1) compared with 2004. However, we continue to expect some downward adjustment over the medium-term given estimates of long-run housing demand.

This view is predicated on our assumption that the normal rate of household formation is of the order of 45,000 per annum, leaving 32,000 houses out of the total number constructed last year. Thus, more houses were built than were needed to cater for new households. The difference represents demand arising from the replacement of dwellings (obsolescence) plus second and vacant homes. Even allowing for further population growth and continued inward migration, it is difficult to explain the record level of building activity, unless headship rates are projected to rise substantially.[57] The difficulty is predicting the turning point and the extent of the decline when it comes. We believe that 2004 will represent the peak in terms of new supply nationally.

There are a number of factors which could cause activity levels to fall in the housing market, such as increases in either mortgage rates and/or the unemployment rate, neither of which is expected to rise by much over the next twelve months.

However, while it is not the magnitude of any individual increase at any one point in time which matters, the impact of the combined increases in mortgage rates over say, a two-year period, on mortgage repayments could have a serious impact on the housing market and housebuilding activity. There is also the risk that the Department of Finance's review of property and area-based tax incentive schemes may lead to the possible abolition of some tax schemes in the 2006 Budget. The latter would eliminate a high proportion of the investor demand which is driven by tax incentives. A recent report concluded that the total demand from investors accounted for 30% of properties traded during Q1, 2005,[58] although not all of these would qualify for tax incentives.

Our preliminary assessment of the prospects for 2006 and 2007 is that total completions will be 70,000 in 2006 and 65,000 in 2007. These levels remain exceptional, especially when compared with either the levels of housebuilding at the beginning of the 1990s or corresponding housebuilding rates in other Western European countries. Depending on the outcome of the review of tax incentives and the response to it, there is a risk that the reduction in 2007 could be greater than we have assumed.

Such an adjustment to a lower level of housing output could pose difficulties for the Irish economy when mortgage rates finally start to rise again. Higher mortgage rates would cause a knock to confidence levels and house prices across the general economy. This would probably cause builders to reduce supply even more, thus keeping house price higher than they would otherwise be. However, given the low probability that mortgage rates will increase significantly in the short run, this should result in a soft landing for the housing market.

57 Headship rates measures the proportion of people in the population who form an independent household. There is no evidence to suggest that headship rates are rising. The 2002 Census showed surprisingly that headship rates between the Census years 1996 and 2002 had remained relatively stable, increasing from 31% in 1996 to 33% in 2002.

58 Irish Residential Market, DTZ Sherry FitzGerald, Spring 2005

4.4: Private non-residential construction

The prospects for economic and employment growth will dictate the pace of non-residential construction in the private sector. The estimates for 2005 suggest that the volume of non-residential construction activity picked up in 2004 with that recovery gathering momentum in 2005.

Our preliminary assessment of the prospects in 2006 and 2007 assumes that employment growth across the economy will be slower compared with 2005, resulting in a volume growth in construction output marginally below that estimated for 2005. The somewhat less positive assessment for the medium-term also reflects the fact that the Dublin suburban office market continues to be oversupplied, with very little new-build activity taking place outside of city centre locations. Accordingly the volume of new private non-residential construction is projected to increase by just over 7% in 2006 and by almost 9% in 2007.

4.5: Public sector construction

The prospects for public sector construction over the medium-term will be influenced by two factors:

(1) The capital allocations for productive and social infrastructure in the PCP. In the absence of detailed PCP provisions beyond 2005, the multi-annual capital envelopes for 2005–2009[59] provide an indication of capital spending over the medium-term. Provisions from 2006 onwards will be dependent on the level of Exchequer revenues which may not benefit to the same extent as they have done to-date from special one-off investigations by the Revenue Commissioners. Moreover, the very strong contribution from stamp duties to date may be less prevalent over the medium-term if the number of housing transactions is lower.

(2) The next National Development Plan (NDP) will cover the seven-year period 2007–2013. There is no information on the content at this stage other than that there will be a full-scale consultation process will commence in the Autumn.[60] The next NDP is expected to focus on the priorities for investment in productive and social infrastructure in the transport, environmental services, housing, education, health and childcare areas. It will also be prepared against the objective of maintaining competitiveness within a sustainable economic and budgetary framework. Although the commitment to investment is provided in the multi-annual capital programme, the publication of a successor to the current NDP will reinforce this commitment, and may boost the prospects for public sector construction further in 2007 and beyond.

4.5.1: Multi-annual capital envelopes 2005–2009

In respect of the multi-annual capital envelopes it should be noted that:

(1) They only refer to the Exchequer provisions for capital spending; there are other non-Exchequer (semi-States and local authorities) funds which accounted for €3.7bn of the total published PCP figure of €9.87bn in 2005.

(2) The figures are only published in current prices and tend to be derived on a no policy change basis. Thus the very significant increase in nominal terms in 2005 (+25.6%) is followed by very modest increases over the period 2006–2009, when adjusted for construction inflation, estimated at around 4% per annum. These figures for 2006–2009 will undoubtedly be subject to revision when the 2006

59 See Public Capital Programme 2005, Department of Finance, February 2005.
60 National Development Plan (2007–2013) press release, Department of Finance, August 4th 2005.

PCP and the revised multi-annual capital envelopes for 2006–2010 are published early next year. The estimates in this report suggest that the 2005 growth projection is likely to be ambitious, based on the expectation that the public capital allocation may be underspent for the third year in a row.

(3) There is a second reason as to why the provisions for the medium-term are likely to be revised: the figures in Table 4.2 suggest that the Exchequer provisions as they stand account for less than 5% of GNP, which is the target set by Government for spending on capital projects over the medium-term. Thus some upward revision to the spending envelopes is likely.

(4) In terms of public sector spend on construction, the multi-annual capital envelopes do not tell us a great deal as the capital provisions for the individual categories of infrastructure (example roads, education, hospitals etc.) are not provided beyond 2005. It is necessary to look elsewhere at separate statements from Government departments and implementing agencies regarding their future capital spend.[61]

In this regard the Department of Transport has prepared a draft 10-year transport investment programme which is currently under consideration by the Cabinet Committee on Infrastructure, Housing and PPPs. The draft framework takes account of the work already done on investment priorities under the current capital envelope to end-2009. It also takes account of the various strategic studies completed by the Department and its agencies, including 'A Platform for Change' by the Dublin Transportation Office (DTO).

(5) Table 4.2 estimates capital provisions for the largest construction related components of the PCP, based on their proportions in the 2005 Exchequer capital provision. The estimates for 2006–2009 are only indicative (DKM estimates) and are derived assuming that the main categories (roads, water services, housing etc.) account for the same percentages of the total capital envelopes in the respective Departments in each year as in 2005. These provisions will include, for example, provisions for land costs (under roads) and equipment (under hospitals). It is worth noting that the ten areas accounting for the largest allocations, listed in table 4.2, represent three-quarters of the total Exchequer provision in 2005 and almost one-half of the total PCP.

4.5.2: Public sector construction prospects

In considering the prospects for public capital spending on construction related projects:

- all non-construction related expenditure must be excluded from the Exchequer capital provisions;
- any private sector investment which is likely to arise under productive and social infrastructure headings should be included;
- any non-Exchequer capital expenditure by local authorities and semi-State companies needs to be included; and
- the figures need to be adjusted for inflation, assumed to be around 4% per annum on average in 2006 and 2007.

Following adjustments for all of the above, the levels of construction related investment under each heading have been estimated in 2006 and 2007. Accordingly our projections for total public sector construction investment is set out in Table 4.3. When all public sector categories are aggregated, the volume of public sector construction related investment is forecast to be up by 4.1% in 2006 and by 6%

61 For example, the three-year rolling Water Services Investment Programme published by the Department of the Environment, Heritage and Local Government.

in 2007. This aggregate forecast assumes continued strong investment in public housing and a healthy increase in investment in social and productive infrastructure. The dominant categories, in terms of growth, over the next two years are airports – reflecting continued work at Dublin and Cork and the possible commencement of the second terminal at Dublin before the end of 2007 – and roads, where modest growth is projected, resulting in a total investment in the national and non-national road network of just over €2bn in 2007. Based on this projection, the total construction related investment in new productive infrastructure projects in 2007 reaches €5bn in value terms, almost twice the corresponding level in 2000. The total construction related investment in public sector projects is projected to reach €8.7bn by 2007.

It is essential, given the scale of this investment that public sector funds are efficiently allocated to those projects that yield the highest economic and social return. Decisions regarding the allocation of funds should be based on sound economic analysis and evaluation techniques, which ascertain the full costs and benefits associated with each project expected to compete for the funds available. Other areas of concern involve the planning and management of the projects selected to ensure value for money and the speedy delivery of infrastructure projects. In this regard the initiative,[62] recently announced, aimed at accelerating the delivery of PPPs for key capital infrastructure projects in three key Government departments is a welcome development. All of the relevant skills and capacity required to support PPP procurement are to be consolidated into a single "Centre of Excellence" which will be responsible for the procurement of PPP projects in the three departments initially.

Such issues to do with project selection, implementation, management and delivery processes are particularly important in the context of the significant expenditure on infrastructure which is likely to be announced in the next National Development Plan by the end of 2006.

62 See press release from Department of Finance (26th July 2005) on 'New initiative to accelerate delivery of Public Private Partnerships for key capital infrastructure projects'. The three departments involved in the initiative are Education and Science, Health and Children and Justice, Equality and Law Reform.

Table 4.2: Projected Exchequer capital allocations in multi-annual capital envelopes

(Current prices, €m)	2004	2005E	Change (%) at Feb 2005
Total PCP (1)	8,422	9,874	+17.2%
carryover from 2004	237		
Total PCP (2)	8,185	10,111	+23.5%

	2004	2005E	2006F	2007F	2008F	2009F
of which						
Total direct Exchequer (3)	4,975	6,349	6,232	6,438	6,561	6,797
PPP/NDFA	150	90	545	640	750	655
Unallocated reserve	0	0	90	199	441	910
Total Exchequer envelope	5,125	6,439	6,867	7,277	7,752	8,362
Annual change (%)	-4.3%	25.6%	6.6%	6.0%	6.5%	7.9%
GNP current prices (est)	124,250	133,724	143,921	154,592	165,265	176,674
Exchequer envelope as % of GNP	4.1%	4.8%	4.8%	4.7%	4.7%	4.7%
PCP as % of GNP	6.8%	7.4%				

Main components of Exchequer provision in 2005 that impact on construction and estimates for 2006–2009 (4)

	2005E	2006F	2007F	2008F	2009F
Road improvement (national roads)	1,361	1,451	1,538	1,638	1,767
Local authority and social housing	1,133	1,208	1,281	1,364	1,471
Educational buildings	558	595	631	672	725
Hospital building and equipment	492	524	555	592	638
Water services	434	463	490	522	563
Public transport, safety and development	426	454	482	513	553
OPW new buildings, alterations	185	198	209	223	241
Public sports facilities	94	100	106	113	122
Prisons	60	64	68	72	78
Non-national road improvements	54	58	62	66	71
Sub-total of above	4,797	5,116	5,422	5,776	6,230
% of total Exchequer envelope	75%				
% of total PCP	47%				

Note: E-estimate; F-forecast

(1)The PCP figures are those published in the 2005 Public Capital Programme and exclude any carryover effect

(2)Adjusted for carryover of €237m. from 2004 to 2005

(3)Adjusted for carryover of €237m. from 2004 to 2005: the adjustment results in a nominal increase in the total direct Exchequer allocation in 2005 of 27.6% compared with 17.3% before the adjustment

(4)The 2006-2009 figures are indicative only and are derived by assuming that the main categories (roads, water services, housing, etc.) account for the same percentages of the total capital envelopes in their respective Departments each year as in 2005 (DKM estimates)

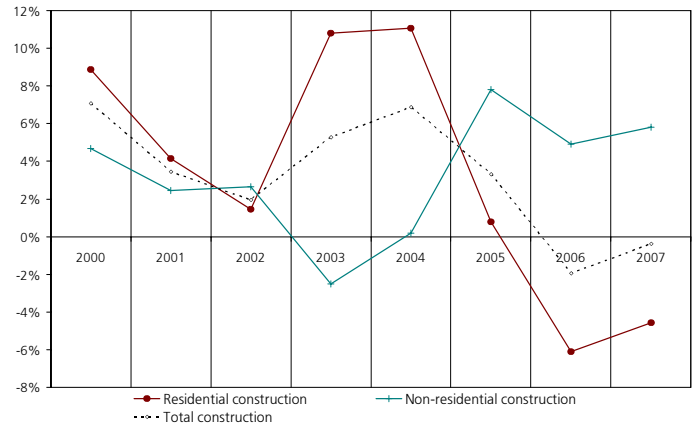
Source: Public Capital Programme 2005 (published February 2005 by Department of Finance) and DKM

4.6: Overall construction output prospects

Table 4.3 sets out the projection over the period to 2007. Based on the medium-term projection the total value of construction output is forecast at around €31.5bn in 2007 in nominal terms. Once again overall prospects are determined by the prospects for residential construction, which have a significant impact on the performance of the sector as a whole, given that it currently accounts for 64% of total output in the sector.

Based on the forecast for each sub-sector, the overall volume of construction output is forecast to decline modestly (-2%) in 2006 with an almost unchanged volume of output projected for 2007 (-0.4%). The modest contraction overall reflects the dip in housing output which is almost offset by growth in the volume of activity in the non-residential construction sector. If the level of housing output was sustained at 2004 levels over the period 2005–2007, the volume of construction output would record further growth, equivalent to 2.4% in 2006 and 2.8% in 2007, all other sectors unchanged.

Figure 4.3: Residential and non-residential construction – annual percentage change in volume (%)



Source: DOEHLG, DKM

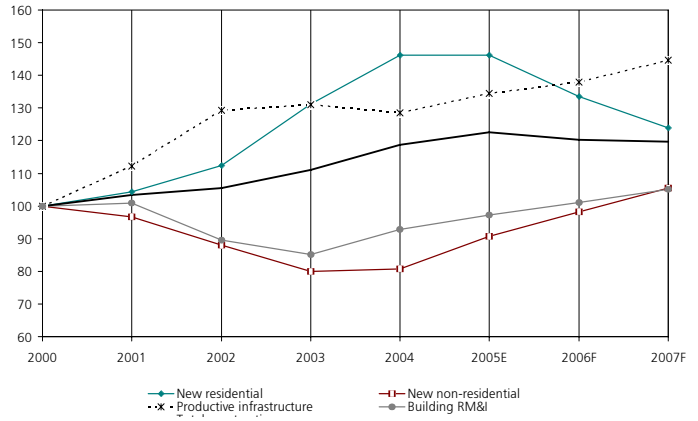
Overall construction tender price inflation was in excess of 8% in 2004. The continued moderation in house-price inflation to around 5% per annum is expected to contribute to a moderation in tender price inflation to an estimated 4% per annum on average over the next two years. While many factors will impact on the rate of tender-price inflation, it is assumed that the events of 2004 in terms of building materials inflation are not sustained and that building material prices over the next two years are not adversely affected by the rise in oil prices. However, given the size of the construction sector, estimated at close to €30bn in 2005, and the extent of investment in public sector construction projects in particular expected over the next two years, every effort needs to be made to ensure that the capacity exists within the industry to meet the demands on it, without fuelling construction inflation further. The anticipated decline in housing output, if it materialises, will help to control building inflation by releasing labour and material resources for the non-residential construction sector.

Table 4.3: Medium-term projection for construction output volume growth rates, 2004-2007F (%)

	2004 output (€m)	2004 share (%)	2004	2005E	2006F	2007F
			volume growth rates per annum (%)			
New housing						
Private sector	13,762	50	13.1	-1.5	-10.0	-8.6
Public sector	910	3	-7.1	21.0	6.0	8.0
Total new housing	14,672	53	11.5	0.0	-8.7	-7.1
RM&I housing	3,383	12	9.5	3.9	4.0	4.0
Total housing	**18,055**	**65**	**11.1**	**0.8**	**-6.1**	**-4.6**
New non-residential construction						
Private sector	2,142	8	2.8	10.2	8.7	6.8
Public sector	1,417	5	-1.4	15.7	7.3	8.6
Total new non-residential construction	3,559	13	1.1	12.4	8.1	7.5
RM&I non-residential construction	2,005	7	7.4	7.2	4.0	4.0
Total non-residential construction	**4,709**	**17**	**2.6**	**11.1**	**7.1**	**6.7**
Building						
Sub-total building new	18,231	66	9.1	2.6	-4.9	-3.3
Sub-total building RM&I	4,533	16	9.0	4.8	4.0	4.0
Total building	**22,764**	**82**	**9.1**	**3.0**	**-3.0**	**-1.7**
Productive infrastructure						
New productive infrastructure	3,976	14	-4.0	5.1	2.3	5.0
RM&I productive infrastructure	0,856	3	8.4	2.3	4.0	4.0
Total productive infrastructure	**4,831**	**18**	**-2.0**	**4.6**	**2.6**	**4.9**
Total construction output	**27,595**	**100**	**6.9**	**3.3**	**-2.0**	**-0.4**
of which						
Public sector	7,772	28	-2.0	8.3	4.1	6.0
Private sector	19,823	72	11.1	1.2	4.6	-3.5

Source: DOEHLG, DKM

Figure 4.4: Construction output by sector, 2000–2007F (constant prices, 2003=100)



Source: DOEHLG, DKM

4.7: Medium-term prospects for construction employment

The exceptional performance of the construction sector in terms of employment has been highlighted in Section 4. The total number of persons employed in construction reached 233,100 in the December–February 2005 quarter – one person for every 8 employed in the economy.

There are five sub-sectors within construction which are identified by the categories comprising Division 45 of the NACE classification:[63]

45.0	All construction, comprising:
45.1	Site preparation
45.2	Buildings, civil engineering
45.3	Building installation
45.4	Building completion
45.5	Renting of construction equipment

While there is no breakdown of employment across these individual categories, one suspects that all sectors have recorded strong growth in employment over the past decade. There is also the possibility that new positions have been created arising from various directives at EU level in regard to, for example, health and safety, environmental issues including environmental impact assessment, and EU public procurement rules. The whole liberalisation of energy and telecommunication markets, for example, also driven by EU legislation, has attracted new players into those markets, thus opening up the market for construction opportunities. New methods of procuring construction projects such as the Public Private Partnerships, may also have resulted in an increase in the number of construction-related occupations.

However, while all of the above may have contributed to some increase in construction employment, the one sector that has supported construction employment over the past decade has been housebuilding. Given the absence of any breakdown on employment across the sector, it is not possible to ascertain the number of person employed in housebuilding, general contracting (non-residential building) or civil engineering. While there will be some overlap across all three sub-sectors, it can be said that housebuilding is the most labour intensive of the three sub-sectors while civil engineering is likely to be the least labour intensive sector but the most capital intensive. Thus the upward trend in new dwellings completed over the past decade would suggest that housebuilding has underpinned the growth in construction employment numbers.

Hence the weaker outlook for residential construction in 2006 and 2007 must generate lower levels of employment at some stage but it is difficult to predict when this might happen. The lower housing output will not just impact on construction employment directly but there will be other effects – less home-related purchases implying a lower level of consumers' expenditure, less requirement for financial services and other services associated with housebuilding and housing transactions, and a lower level of income as fewer persons are employed – all of which will have a negative effect on consumers' and builders' confidence levels. The overriding effect will be to cause economic growth to be lower than it would otherwise be and to reduce overall employment numbers. Tax revenues in the form of stamp duties, which have made a significant contribution to-date, would also suffer. Such a development could result in lower public capital provisions for infrastructure.

63 For further detail on the composition of these categories see the separate methodology paper on the DOEHLG website, www.environ.ie

Medium-term forecasts from the ESRI (July 2003) suggested that construction employment would fall back by 9% from its peak level by the end of the decade. A 9% reduction from current levels would imply that construction employment would fall back to around 212,000 by the end of the decade, which would leave employment back at mid-2004 levels. The central projection in Table 4.3 expects new housebuilding to decline by 15% between 2005 and 2007. A pro-rata reduction in the numbers employed would generate construction employment of 198,000, bringing the total back to Q4, 2003 levels.

However it is likely that with other sectors continuing to expand, notably non-residential and civil engineering construction, this will lessen the impact of the downturn in housebuilding on total employment in the sector.

Appendix 1: Derivation of price indices

This appendix sets out the price deflators used for calculating output in constant prices since 2001. Price deflators are used to deflate the current price estimates of the value of output in each sector into constant prices. For the purposes of calculating output in constant prices, the base year used this year is 2003, which is consistent with the base year used for National Accounts purposes.

While every effort is made to reflect a realistic view on the level of tender price inflation in the construction industry, by paying attention to published tender price indices available from Bruce Shaw, Davis Langdon PKS (DLPKS) and the Society of Chartered Surveyors (SCS), and consulting with the various Government departments and the industry, there is no regular tender price index published by sub-sector of activity for the industry. The variation in tender price inflation across the various sub-sectors in the Review and Outlook this year indicates the importance of calculating an individual tender price index for each segment of the industry, where activity levels can vary significantly in any given year.

A1.1: Construction cost indices

A number of construction cost and tender price indices are available, which are referred to in Section 1.

A1.1.1 CSO Indices

The CSO publishes the Wholesale Price Index for Building and Construction Materials (WPIBCM) and the Capital Goods Price Index for Building and Construction Materials and Wages (CGPIBCM). In the past the CSO indices were used as deflators for non-residential work and their limitations as a measure of tender price inflation over the buoyant period of construction activity years have been previously noted.

A1.1.2 DOEHLG House Building Cost Index

This index is calculated by the Department of the Environment, Heritage and Local Government (DOEHLG). It measures labour and material costs only and does not include items such as overheads, profit, interest charges, land development etc. It has tended to move closely in line with the SCS Building Cost Index over time. The index has included all phases agreed following reviews of rates of pay and grading structures for the Construction Industry as well as increases under the successive social partnership agreements. The average annual increase in the index peaked at 14.5% in 2001 but subsequently moderated to 2.7% in 2003. The index was up by 2.8% on average in 2004 and early data for 2005 shows the cost of housebuilding was up by 3.2% on average in the first six months of the year.

A1.1.3 SCS Building Cost Index

The SCS Building Cost index (SCSBCI) is, again, merely a construction cost index as opposed to a tender price index. It is compiled from, and reflects actual changes in, the cost of labour, materials and other construction inputs for building projects. It does not include items such as profit, interest charges or land development. In this respect, it is similar to the first two wholesale price indices in that it only relates to construction costs. According to this index, construction costs increased by 6.4% between January 1st 2004 and December 31st 2004 or by an average of 4.4% in 2004 following an average increase of 2.5% in 2003. Data for the first six months of 2005 shows building costs up on average by 3.9%.

A1.2: Tender Price Indices

All of the available tender price indices are derived based on projects in the general contracting sector of the industry. Thus they cannot be used for the purposes of estimating the real volume of output for housebuilding and civil engineering projects.

A1.2.1 SCS Tender Price Index

The SCS first published its Tender Price Index in May 1999 and reported an increase in tender prices of 3.8% on average in the second-half of 1998 compared with the first-half of the year. This was probably indicative of an average rise of approximately 8% for 1998 as a whole.

The index is based on new build projects, excluding housing, with tender values in the range of €0.5m to €10m. The projects are a mixture of Government and private sector contracts. The size of sample used to derive the index relates to the number of completed forms returned from SCS members. Typically, around 50 completed forms are returned in a half-year period.

The latest index value for 2004 shows tender prices increased by 4.6% in the first-half of the year and by 3% in the second-half, bringing the total increase for the year to 7.1% on average, compared with an average decline of almost 3% in 2003. First half figures for 2005 are not available but the Society expects some further recovery this year.

A1.2.2 Bruce Shaw Tender Price Index

The Bruce Shaw Tender Price Index reflects changes in prices charged for construction. It is compiled from a large database of tenders for diverse types of construction (excluding civil engineering) projects. The 2004 tender price index, for example, reflects tender price levels on circa €550 million worth of diverse Irish construction projects across all general contracting sectors of the industry.

The average tender price index was up by 4% in 2004 following a decline of 4% in 2003. A moderation is projected for 2005 (+3.5%).

A1.2.3: The DLPKS Tender Price Index

The DLPKS index is based on a smaller sample of tenders in the general contracting area. According to this index, average tender prices for general building work was up by 4% in 2004. DLPKS acknowledge that tender levels have been very erratic but expect tender levels to be up by a further 4% by the end of 2005.

A1.3: Construction Price Deflators by Category of Work

Sections A1.4 to A1.7 set out in detail the deflator methodology used for each type of work to measure overall construction price inflation. The measure of construction output in value terms is a proxy for the value of contracts. Thus, to ascertain the volume increase in construction output we use a measure of construction tender prices by sector of work.

The deflators are used to deflate the current price estimate of the value of output in each sector into constant prices, to ascertain the volume changes in output. The overall construction price deflator reflects the composition of construction output.

We continue to distinguish this year between inflation in private and public sector projects, new and repair and maintenance work and between the different categories of work, where possible.

Each deflator is discussed in turn below. We believe that the improved deflator methodology provides a true reflection of current market conditions and reflects the current very competitive market in construction contracts.

A1.4: New Residential Construction Output

Two different price deflators are used to estimate the value of output in constant prices for the residential sector, one for new private housing output and one for new social housing output.

A1.4.1 New private housing output

The basis for calculating the price index used to determine the constant price value of new private housing output has been revised since 1990 to reflect the increasing proportion of apartments in the overall housing mix. This change in methodology, introduced in the Review and Outlook for 1994/95, is considered to provide a more accurate measure of private housing output than heretofore.

The methodology employed is based on adjusting the average new house price (as published in the Annual Housing Statistics Bulletin of the Department of the Environment, Heritage and Local Government) for land acquisition costs and for the change in the size of dwellings completed. The adjustment for size of dwellings assumes that that size is a reasonable proxy for all the quality factors that affect the price of a house.

The average new house price supplied to the Department of the Environment, Heritage and Local Government by the main lending agencies is based on new house purchase loans approved by them. Up to 1994, house prices were adjusted by lagging them by one-quarter to reflect the gap between loan approval and house purchase. However, since 1995, the average new house price only is used to facilitate the estimation of housing output. A further adjustment is made to deduct site acquisition costs from the sales price, as undeveloped site costs are not considered part of building output. Estimated site acquisition costs are extremely tentative. It has been assumed that they represented 10% of the sales price between 1991 and 1994.

Over the period 1995 to 2000, the average site cost has been increased as a percentage of the average house price to reflect the upward pressure on land prices which has been a feature of the recent housing boom. Land acquisition costs are assumed to increase from 13% of the average house price in 1995 to 24% in 2000. While there is no official data on land prices in 2001, we understand, following discussions with industry representatives, that development land prices weakened during 2001, declining to around 23% of the average house price in that year. We have assumed that site costs remain at around 23% of the average house price since 2001.

The Annual Housing Survey of estate and non-estate houses provided data on the average size of dwellings. From 1990, the methodology has introduced data on the average size of apartments to reflect the increasing proportion of house completions accounted for by apartments since that time. Data on the average size of apartments is based on the average size of registrations supplied by HomeBond and on the average floor area of apartments for which planning permission was granted over this period. The average sizes used for single and estate houses are cross-checked with planning permission data and Homebond data.

The proportion of house completions by type is reported in the Annual Housing Statistics Bulletin for the period 1992 to 2004. The split of the balance between estate and one-off houses is derived by referring to the breakdown of completions by house type and from discussions with industry representatives.

The average size index is calculated from information on the average size and weight for each category. It is apparent that the average size of dwellings increased over the period to 2000 (except in 1998) due mostly to changes in the split between estate and one-off houses but also to a decreasing proportion of apartments in the overall mix. In contrast, the increased proportion of apartments and estate houses in the mix between 2001 and 2004 caused the average size of dwellings to fall in each year. The proportion of apartments, estate houses and single houses assumed for 2003 and 2004 causes the average size of dwelling to fall by 1.8% in each year. The price deflator is calculated by adjusting the net sales price index for the change in the size of dwellings since 1995.

The deflator for new housing output is forecast to increase by 5% in 2005. With the site cost unchanged at 23% of the total house price in 2005 and the average size of dwelling unchanged from 2004, the deflator for new housing output is forecast to increase in line with the estimated average increase in new house prices (+5% in 2005). The corresponding new housing output deflator in 2004 was 13%, a year during which average new house prices increased by 11% and the average size of dwellings declined by 1.8% .

Table A1.1: Calculation for deflator for new private housing output

	Average new house price €	% change	Land as % of house price % change	Land cost est (est)	Net sales price €	Net sale price index (2003=100) €	% change
2001	182,863	8.1%	23%	42,058	140,804	81.429	9.5%
2002	198,087	8.3%	23%	45,560	152,527	88.208	8.3%
2003	224,567	13.4%	23%	51,650	172,917	100.000	13.4%
2004	249,191	11.0%	23%	57,314	191,877	110.965	11.0%
2005E	261,651	5.0%	23%	60,180	201,471	116.513	5.0%

	Estimated size (m^2)			Estimated weight in mix (%)		
	Estate size	Single house	Apartment	Estate house	Single house	Apartment
2001	103	142	73	43%	37%	20%
2002	103	142	73	50%	30%	20%
2002	103	142	74	53%	25%	22%
2003	103	142	72	58%	21%	21%
2005E	103	142	71	58%	21%	21%

	Average dwelling size (m^2)	Index (2003 =100)	% change	Derived house price index - price/size (2003=100)	Deflator % change
2001	111.140	104.30	-0.6%	78.1	10.1%
2002	108.540	101.86	-2.3%	86.6	10.9%
2003	106.556	100.00	-1.8%	100.0	15.5%
2004	104.621	98.18	-1.8%	113.0	13.0%
2005E	104.621	98.18	0.0%	118.7	5.0%

Source DoEHLG, DKM

A1.4.2 New social housing output

An implicit deflator for new local authority housebuilding output carried out by private contractors for the years 1980 to 1985 was derived by dividing the current price value of output, which is based on expenditure on house construction, by the constant price or volume series, which was based on completions. However, since 1986, it has not been possible to calculate a volume series based on completions because of significant changes in the output mix between greenfield developments and infill schemes. In 1985 and 1986, the deflator was based on the Department's estimate of the increase in the price of new local authority housebuilding by private contractors after allowance was made for changes in the type of developments being undertaken.

From 1987 to 1995 the average annual increase in the Capital Goods Price Index for Building and Construction (materials and wages) published by the CSO as part of the Wholesale Price Indices has been used as the deflator for new social/local authority housebuilding by private contractors. This index is adjusted to take account of changes in the building services rate of VAT. It is, therefore, similar to the deflator used for new non-residential private construction output. The assumption in the past which resulted in an increase of 1% in 1990 and 1994 to reflect margin recovery in those years has been dropped as there is considered to be no basis for building in margin recovery in particular years.

Following improvements to its database on tender levels for new local authority housing, the Department of the Environment, Heritage and Local Government has provided more accurate deflators since 1996, which are based on an analysis of tender prices for the respective programmes in each year. A comparison of tender sums on social housing contracts by the Department of the Environment, Heritage and Local Government suggests the following increases since 1998.

Based on the expectation of lower inflation in 2005, the tender price deflator for new social housing output is assumed to be 4% in 2005, compared with 5% in 2004.

Table A1.2: Price deflator for new social housing output

	Index value (2003=1.0)	% change
2001	0.952	9.0%
2002	0.980	2.0%
2003	1.000	1.0%
2004	1.050	5.0%
2005E	1.092	4.0%

A1.5: General contracting output

In 1997, we introduced a price deflator for general contracting output to capture the increasing workload in the general contracting area and the associated increase in tender levels. The price deflator derived for general contracting output is applied to the current price estimates of output for all categories of new private non-residential output, to calculate the value of output in constant (1995) prices.

Prior to 1988, this price index was based on the National Building Price Indices published by the Department of the Environment, Heritage and Local Government. From 1988, the average annual increase in the Capital Goods Price Index for Building and Construction (materials and wages) published by the CSO as part of the Wholesale Price Indices is used to deflate the current value of output. This index figure, which excludes VAT, is adjusted to take account of the effects of changes in the building services rate of VAT. It is, therefore, similar to the deflator used for new local authority housing output.

The use of the capital goods price index, adjusted for VAT, assumes that construction price increases are similar to cost increases, and that, therefore, there is no change in builders' margins. In the past, the deflator was increased by 1% in 1990 and in 1994 to reflect the estimated increases in margins in those years. However, there is no basis for building in margin recovery in particular years and the deflator, therefore, assumes a linear relationship between construction price increases and construction cost increases.

The moderation in construction output growth over the period 2001–2003 has been accompanied by a reduction in the rate of tender price inflation, particularly in relation to private non-residential construction work. As a result tender prices for *private non-residential work* declined in 2002 and 2003. We estimate tender levels for private sector non-residential projects (excluding agricultural building projects), based on published tender price indices available from Bruce Shaw, PKS and the SCS (see Section 1) declined by 2% in 2002 and by 3% in 2003. For 2004, we have assumed that tender price inflation moved back into positive territory (+4%). A further 4% increase is projected for this year.

Agricultural building work is also included under general contracting. The rate of tender price inflation for agricultural building work reflects the weak levels of investment in agricultural buildings over the period to 2003. Following a decline in tender levels in 2002 (-2%) and in 2003 (-4%), we estimate tender price inflation for agricultural building work at 4% per annum over the two-year period 2004–2005, reflecting the recovery in agricultural building investment in 2004.

We continue this year to use a separate price deflator for *social infrastructure* projects in the public sector. Based on the available information on tender prices, building material prices and the cost of labour, we have assumed – following discussions with the respective Government departments and various industry representatives – that tender levels for all new general contracting work increased by around 4% on average in 2004. We expect tender levels to increase by the same amount in 2005. This deflator is a weighted average of all of the individual components under new general contracting work, namely private industrial, commercial, tourism and agricultural building work as well as public sector projects covering educational, hospital and public building projects.

With regard to publicly-funded projects, we have been advised that a reasonable estimate of the increase in tender levels for hospital buildings in 2004 is 1% with a projection of 4% for 2005. Tenders for hospital projects do not necessarily follow the overall industry trend as the infrastructure is procured through a limited number of contractors with the appropriate resources and particular expertise. Moreover, different market forces can affect tenders for hospital buildings compared with other sectors of the industry. With regard to educational buildings, we have been advised that tender levels were up by 6% in 2004 with a projection of 5% for 2005. For all other headings under social infrastructure, it is assumed that tender levels are up by 4% per annum in 2004 and 2005.

Table A1.3: Price deflator for general contracting output

	General contracting – overall index value 2003=1.0	% change	Private non-residential construction – tender price inflation (%)	Public social infrastructure – tender price inflation (%)
2001	1.033	8.4%	8.8%	8.2%
2002	1.019	-1.3%	-2.0%	1.6%
2003	1.000	-1.9%	-3.0%	0.0%
2004	1.040	4.0%	4.0%	3.8%
2005e	1.082	4.0%	4.0%	3.8%

Source: DoEHLG; DES; DOHC; DKM

A1.6: Productive infrastructure output

The deflator used for new productive infrastructure is similar to that used for general contracting up to 1995.

The project covers a range of infrastructure including roads, water services, airports, seaports, public transport, energy and telecommunications. In the absence of any published tender price indices for each category of work, we use separate deflators for new road investment and water services investment, based on information obtained from the National Roads Authority and the Department of the Environment, Heritage and Local Government and an overall deflator for all other productive infrastructure work.

Accordingly, this year we estimate tender price inflation as follows:

- Based on information from the National Roads Authority concerning *national road* projects and information from the Department of Transport in relation to *non-national road* projects, we estimate that the overall inflation in road construction increased by 4% in 2004 compared with 3% in 2003. A further increase in tender levels of 4% is projected for 2005. We understand that tenders did not reflect increases in the costs of materials and labour in 2004. Some of the cost increases faced by contractors, notably for steel and reinforcing metal, concrete, fuel and bituminous products, were absorbed by contractors. Although cost inflation exceeded tender price inflation in 2004, other factors worked to reduce the cost of projects, such as the new design and build procurement rules and the fact that contracts are larger than they used to be – both generated savings and economies of scale for contractors.
- In contrast, there was very little increase in tender prices for *water services* projects in 2004 according to the Water Services Section of the Department of the Environment, Heritage and Local Government. The latter has suggested an increase of 1% in 2004, based on tenders received, and we expect a similar increase this year.
- For other *productive infrastructure* work, notably public transport, airports, seaports, energy and telecommunications, we have assumed that tender levels were up by 4% in 2004 with a similar increase projected for 2005.

We have assumed that tender levels for productive infrastructure projects will increase by 3.7% in 2005 following a similar increase in 2004.

Table A1.4: Overall deflator for new productive infrastructure output

	Index value (2003 = 1.0)	Change (%)
2001	0.918	9.0%
2002	0.974	6.1%
2003	1.000	2.7%
2004	1.036	3.6%
2005E	1.074	3.7%

Source NRA; DoEHLG; DKM

A1.7: Repair and maintenance construction output

The price deflator used for all categories of work to derive repair and maintenance construction output at constant prices up to 1995 is derived from two published indices. The CSO Wholesale Price Index for Building and Construction Materials is combined with the index of average weekly earnings for skilled construction workers from the CSO quarterly inquiry. The derived index is based on a 50/50 split between materials and wage costs.

The deflators assumed for repair and maintenance construction output are as follows:

- *general contracting*: private and public non-residential repair and maintenance work – 4% inflation in 2004 and in 2005.
- *productive infrastructure*: approximately 3% per annum in 2004 and 2005.
- *private and public housing*: tender levels increase by 5% in 2004 and 4% in 2005.

A1.8: Conclusions

Overall construction inflation averaged 7.2% over the period 2001 to 2004. The overall rate of construction price inflation slowed from 11% in 2000 to 4.8% in 2002. The higher rates of house price inflation in 2003 (+13%) and in 2004 (+11%) compared with 2003 (+8%) were responsible for an acceleration in construction inflation again in 2003 (+6.3%) and in 2004 (+8.4%). Excluding private housing, construction inflation was less than 1% in 2003 but accelerated to 4% in 2004, reflecting the recovery in tender price inflation for private non-residential work in particular. Overall construction inflation, including private housing, is expected to moderate significantly again in 2005 to 4.3%, reflecting the slow-down in house-price inflation.

Tables A1.5 and A1.6 show the output price deflators and the corresponding percentage changes for each sector over the period 2001 to 2005E.

Table A1.5: Construction output price deflators 2001–2005E (2003=1.000)

	2001	2002	2003	2004	2005E
Residential construction					
New private	0.781	0.866	1.000	1.130	1.187
New public	0.971	0.990	1.000	1.050	1.092
Sub-total	**0.797**	**0.878**	**1.000**	**1.125**	**1.179**
RM&I private	0.952	0.980	1.000	1.050	1.092
RM&I public	0.952	0.980	1.000	1.050	1.092
Sub-total	**0.952**	**0.980**	**1.000**	**1.050**	**1.092**
Total residential	**0.841**	**0.903**	**1.000**	**1.110**	**1.162**
New non-residential construction					
New private non-residential construction					
Industry	1.052	1.031	1.000	1.040	1.082
Semi-state industry	1.052	1.031	1.000	1.040	1.082
Commercial					
Office development	1.052	1.031	1.000	1.040	1.082
Retail, wholesale	1.052	1.031	1.000	1.040	1.082
Total commercial	1.052	1.031	1.000	1.040	1.082
Agriculture	1.063	1.042	1.000	1.040	1.082
Tourism	1.052	1.031	1.000	1.040	1.082
Worship	1.052	1.031	1.000	1.040	1.082
Sub-total	**1.053**	**1.032**	**1.000**	**1.040**	**1.082**
New productive infrastructure					
Roads	0.925	0.971	1.000	1.040	1.082
Water and sanitary services	0.920	0.976	1.000	1.010	1.020
Airport development	0.912	0.976	1.000	1.040	1.082
Ports and harbours	0.912	0.976	1.000	1.040	1.082
Energy including new power stations	0.912	0.976	1.000	1.040	1.082
Transport	0.912	0.976	1.000	1.040	1.082
Telecommunications	0.912	0.976	1.000	1.040	1.082
Sub-total	**0.918**	**0.974**	**1.000**	**1.036**	**1.074**
New social infrastructure					
Education	0.980	1.000	1.000	1.060	1.113
Health	0.980	1.000	1.000	1.010	1.050
Public buildings	0.980	1.000	1.000	1.040	1.082
Local authority services	0.980	1.000	1.000	1.040	1.082
Sport	0.980	1.000	1.000	1.040	1.082
Gaeltacht	0.980	1.000	1.000	1.040	1.082
Sub-total	**0.980**	**1.000**	**1.000**	**1.041**	**1.087**
Total new non-residential	**0.980**	**0.996**	**1.000**	**1.038**	**1.079**

Table A1.5: Construction output price deflators 2001 to 2005E (2003 = 100) continued…

	2001	2002	2003	2004	2005E
Non-residential repair and maintenance					
Private non-residential					
Industry	1.000	1.000	1.000	1.040	1.082
Semi-state industry	1.000	1.000	1.000	1.040	1.082
Commercial					
Office development	1.000	1.000	1.000	1.040	1.082
Retail, wholesale	1.000	1.000	1.000	1.040	1.082
Total commercial	1.000	1.000	1.000	1.040	1.082
Agriculture	1.000	1.000	1.000	1.040	1.082
Tourism	1.000	1.000	1.000	1.040	1.082
Worship	1.000	1.000	1.000	1.040	1.082
Sub-total	**1.000**	**1.000**	**1.000**	**1.040**	**1.082**
Productive infrastructure					
Roads	0.934	0.980	1.000	1.040	1.082
Water and sanitary services	0.925	0.980	1.000	1.010	1.020
Airport development	0.916	0.980	1.000	1.040	1.082
Ports and harbours	0.916	0.980	1.000	1.040	1.082
Energy	0.916	0.980	1.000	1.040	1.082
Transport	0.916	0.980	1.000	1.040	1.082
Telecommunications	0.916	0.980	1.000	1.040	1.082
Sub-total	**0.926**	**0.980**	**1.000**	**1.030**	**1.061**
Social Infrastructure					
Education	1.000	1.000	1.000	1.040	1.082
Health	1.000	1.000	1.000	1.040	1.082
Public buildings	1.000	1.000	1.000	1.040	1.082
Local authority services	1.000	1.000	1.000	1.040	1.082
Sport	1.000	1.000	1.000	1.040	1.082
Sub-total	1.000	1.000	1.000	1.040	1.082
Total RM&I non-residential	**0.971**	**0.992**	**1.000**	**1.036**	**1.073**
Total construction output					
New construction output	0.879	0.929	1.000	1.094	1.142
Repair and maintenance	0.958	0.984	1.000	1.045	1.085
Total construction output	0.898	0.941	1.000	1.084	1.130

Table A1.6: Construction output price deflators (2001–2005E) (annual change, %)

	2001	2002	2003	2004	2005E
Residential construction					
New private	10.1%	10.9%	15.5%	13.0%	5.0%
New public	9.0%	2.0%	1.0%	5.0%	4.0%
Sub-total	10.7%	10.2%	13.9%	12.5%	4.8%
RM&I private	11.0%	3.0%	2.0%	5.0%	4.0%
RM&I public	11.0%	3.0%	2.0%	5.0%	4.0%
Sub-total	**11.0%**	**3.0%**	**2.0%**	**5.0%**	**4.0%**
Total residential	**10.8%**	**7.3%**	**10.8%**	**11.0%**	**4.6%**
New non-residential construction					
New private non-residential construction					
Industry	9.0%	-2.0%	-3.0%	4.0%	4.0%
Semi-state industry	9.0%	-2.0%	-3.0%	4.0%	4.0%
Commercial					
Office development	9.0%	-2.0%	-3.0%	4.0%	4.0%
Retail, wholesale	9.0%	-2.0%	-3.0%	4.0%	4.0%
Total commercial	9.0%	-2.0%	-3.0%	4.0%	4.0%
Agriculture	6.0%	-2.0%	-4.0%	4.0%	4.0%
Tourism	9.0%	-2.0%	-3.0%	4.0%	4.0%
Worship	9.0%	-2.0%	-3.0%	4.0%	4.0%
Sub-total	**8.8%**	**-2.0%**	**-3.0%**	**4.0%**	**4.0%**
New productive infrastructure					
Roads	9.0%	5.0%	3.0%	4.0%	4.0%
Water and sanitary services	9.0%	6.0%	2.5%	1.0%	1.0%
Airport development	9.0%	7.0%	2.5%	4.0%	4.0%
Ports and harbours	9.0%	7.0%	2.5%	4.0%	4.0%
Energy including new power stations	9.0%	7.0%	2.5%	4.0%	4.0%
Transport	9.0%	7.0%	2.5%	4.0%	4.0%
Telecommunications	9.0%	7.0%	2.5%	4.0%	4.0%
Sub-total	**9.0%**	**6.1%**	**2.7%**	**3.6%**	**3.7%**
New social infrastructure					
Education	9.0%	2.0%	0.0%	6.0%	5.0%
Health	9.0%	2.0%	0.0%	1.0%	4.0%
Public buildings	9.0%	2.0%	0.0%	4.0%	4.0%
Local authority services	9.0%	2.0%	0.0%	4.0%	4.0%
Sport	9.0%	2.0%	0.0%	4.0%	4.0%
Gaeltacht	9.0%	2.0%	0.0%	4.0%	4.0%
Sub-total	**9.0%**	**2.0%**	**0.0%**	**4.1%**	**4.5%**
Total new non-residential	**8.2%**	**1.6%**	**0.4%**	**3.8%**	**3.9%**

Table A1.6: Construction output price deflators (2001–2005E) (annual change, %) – continued

	2001	2002	2003	2004	2005E
Non-residential repair and maintenance					
Private non-residential					
Industry	9.0%	0.0%	0.0%	4.0%	4.0%
Semi-state industry	9.0%	0.0%	0.0%	4.0%	4.0%
Commercial					
Office development	9.0%	0.0%	0.0%	4.0%	4.0%
Retail, wholesale	9.0%	0.0%	0.0%	4.0%	4.0%
Total commercial	9.0%	0.0%	0.0%	4.0%	4.0%
Agriculture	6.0%	0.0%	0.0%	4.0%	4.0%
Tourism	9.0%	0.0%	0.0%	4.0%	4.0%
Worship	9.0%	0.0%	0.0%	4.0%	4.0%
Sub-total	**8.6%**	**0.0%**	**0.0%**	**4.0%**	**4.0%**
Productive infrastructure					
Roads	9.0%	5.0%	2.0%	4.0%	4.0%
Water and sanitary services	9.0%	6.0%	2.0%	1.0%	1.0%
Airport development	9.0%	7.0%	2.0%	4.0%	4.0%
Ports and harbours	9.0%	7.0%	2.0%	4.0%	4.0%
Energy	9.0%	7.0%	2.0%	4.0%	4.0%
Transport	9.0%	7.0%	2.0%	4.0%	4.0%
Telecommunications	9.0%	7.0%	2.0%	4.0%	4.0%
Sub-total	**9.1%**	**5.9%**	**2.0%**	**3.0%**	**2.9%**
Social Infrastructure					
Education	9.0%	0.0%	0.0%	4.0%	4.0%
Health	9.0%	0.0%	0.0%	4.0%	4.0%
Public buildings	9.0%	0.0%	0.0%	4.0%	4.0%
Local authority services	9.0%	0.0%	0.0%	4.0%	4.0%
Sport	9.0%	0.0%	0.0%	4.0%	4.0%
Sub-total	**9.0%**	**0.0%**	**0.0%**	**4.0%**	**4.0%**
Total RM&I non-residential	**8.6%**	**2.2%**	**0.8%**	**3.6%**	**3.6%**
Total construction output					
New construction output	9.4%	5.8%	7.6%	9.4%	4.4%
Repair and maintenance	10.2%	2.8%	1.6%	4.5%	3.8%
Total construction output	**9.5%**	**4.8%**	**6.3%**	**8.4%**	**4.3%**

Appendix 2: Construction output by sector, 2001–2005E

The following tables present information on the value of construction industry output in current and constant (2003) prices.

Table A2.1: Value of construction output in current prices, 2001–2005E (€m)

	2001	2002	2003	2004	2005E
Residential construction					
New private housing	6,663.8	7,860.0	10,770.3	13,762.2	14,233.9
New public housing					
New local authority	616.9	775.7	720.3	725.3	905.6
New voluntary	145.2	166.6	212.9	184.8	239.4
Total new public housing	762.1	942.3	933.2	910.1	1,145.1
Sub-total	7,425.9	8,802.3	1,1703.5	14,672.3	15,379.0
RM&I private	3,391.2	2,954.2	2735.9	3,175.2	3,434.3
RM&I public	137.2	171.3	205.1	207.7	222.7
Sub-total	3,528.4	3,125.5	2,941.0	3,382.9	3,657.0
Total residential	**10,954.3**	**11,927.8**	**14,644.5**	**18,055.2**	**19,036.0**
New non-residential construction					
New private non-residential construction					
Industry	871.4	640.8	528.6	549.8	606.0
Semi-state industry	69.9	48.1	39.3	59.8	97.3
Commercial					
Office development	1,146.0	786.1	533.8	543.9	633.6
Retail, wholesale	480.0	446.9	450.8	492.3	588.9
Total commercial	1,626.0	1,233.0	984.6	1,036.2	1,222.5
Agriculture	155.7	143.4	128.4	171.1	187.7
Tourism	392.6	300.0	340.1	367.3	420.2
Worship	3.6	4.4	22.4	17.8	18.3
Sub-total	**3,119.1**	**2,369.7**	**2,043.4**	**2,202.1**	**2,551.9**
New productive infrastructure					
Roads	1,131.5	1,363.2	1,444.2	1,442.1	1,732.0
Water and sanitary services	547.5	559.6	536.0	472.5	491.6
Airport development	102.4	116.1	46.8	82.2	111.5
Ports and harbours	37.5	71.5	61.2	43.6	53.0
Energy including new power stations	796.3	1,178.1	1,103.6	1,316.6	1,397.7
Transport including LUAS	326.0	399.6	554.4	353.4	264.4
Telecommunications	193.6	257.9	249.3	265.3	282.2
Sub-total	**3,134.8**	**3,945.9**	**3,995.4**	**3,975.6**	**4,332.3**
New social infrastructure					
Education	440.6	577.1	478.8	520.9	672.5
Health	231.5	319.3	329.2	306.0	359.8
Public buildings	331.6	269.1	341.7	282.7	286.1
Local authority services	96.8	181.6	92.7	95.4	149.7
Sport		57.1	83.8	115.8	113.1
Gaeltacht	8.2	22.7	14.6	36.1	33.8
Sub-total	1,108.6	1,426.7	1,340.9	1,356.8	1,615.1
Total new non-residential	**7,362.5**	**7,742.4**	**7,379.7**	**7,534.5**	**8,499.4**

Table A2.1: Value of construction output in current prices, 2001-2005e (€m) – continued

	2001	2002	2003	2004	2005E
Non-residential repair and maintenance					
Private non-residential					
Industry	115.6	110.7	171.5	179.6	199.2
Semi-state industry	22.3	14.1	11.5	12.8	13.9
Commercial					
Office development	191.5	175.4	180.8	186.3	217.5
Retail, wholesale	80.2	99.7	152.7	168.7	202.1
Total commercial	271.7	275.1	333.5	355.0	419.6
Agriculture	66.9	74.5	74.6	79.3	82.7
Tourism	78.5	61.3	68.0	83.7	99.2
Worship	36.0	57.0	28.0	46.0	55.0
Sub-total	**591.0**	**592.6**	**687.2**	**756.5**	**869.5**
Productive infrastructure					
Roads	255.5	255.3	252.8	266.9	287.5
Water and sanitary services	172.2	194.6	214.3	266.1	294.9
Airport development	21.0	24.8	26.4	26.1	29.5
Ports and harbours	2.3	5.0	8.9	7.1	6.6
Energy	44.1	85.4	133.4	179.0	168.9
Transport	63.0	47.6	113.9	96.2	98.2
Telecommunications	51.6	22.3	16.6	14.2	15.8
Sub-total	**609.6**	**634.9**	**766.1**	**855.6**	**901.3**
Social infrastructure					
Education	168.4	144.6	83.5	138.3	140.1
Health	124.7	135.0	130.2	154.0	150.1
Public buildings	91.8	96.1	109.0	90.7	110.4
Local authority services	23.5	15.6	5.5	2.1	3.4
Sport		4.3	14.5	8.3	8.2
Sub-total	408.5	395.6	342.7	393.4	412.2
Total RM&I non-residential	1,609.1	1,623.1	1,795.9	2,005.5	2,183.0
Total construction output					
New construction output	14,788.4	16,544.7	19,083.2	22,206.8	23,878.4
Repair and Maintenance	5,137.5	4,748.6	4,737.0	5,388.4	5,840.0
Total construction output	**19,925.9**	**21,293.3**	**23,820.2**	**27,595.2**	**29,718.4**

Table A2.2: Value of construction output in constant prices, 2001-2005E (constant 2003 prices, €m)

	2001	2002	2003	2004	2005E
Residential construction					
New private housing	8,535.7	9,076.7	10,770.3	12,177.0	11,994.7
New public housing					
New local authority	635.5	783.4	720.3	690.8	829.3
New voluntary	149.6	168.3	212.9	176.0	219.2
Total new public housing	785.1	951.7	933.2	866.8	1,048.6
Sub-total	9,320.8	10,028.4	11,703.5	13,043.8	13,043.3
RM&I private	3,562.8	3013.3	2,735.9	3,024.0	3145.0
RM&I public	144.2	174.7	205.1	197.8	203.9
Sub-total	3,707.0	3,188.0	2,941.0	3,221.8	3,348.9
Total residential	13,027.7	13,216.4	14,644.5	16,265.6	16,392.2
New non-residential construction					
New private non-residential construction					
Industry	828.3	621.6	528.6	528.7	560.3
Semi-state industry	66.4	46.6	39.3	57.5	90.0
Commercial					
Office development	1,089.4	762.6	533.8	523.0	585.8
Retail, wholesale	456.3	433.5	450.8	473.4	544.4
Total commercial	1,545.7	1,196.1	984.6	996.4	1,130.3
Agriculture	146.4	137.7	128.4	164.6	173.5
Tourism	373.2	291.0	340.1	353.1	388.5
Worship	3.4	4.2	22.4	17.1	16.9
Sub-total	2,963.5	2,297.2	2,043.4	2,117.4	2,359.4
New productive infrastructure					
Roads	1,223.7	1,404.1	1,444.2	1,386.6	1,601.3
Water and sanitary services	594.9	573.6	536.0	467.9	481.9
Airport development	112.3	119.0	46.8	79.1	103.1
Ports and harbours	41.1	73.2	61.2	41.9	49.0
Energy including new power stations	873.4	1,207.5	1,103.6	1,266.0	1,292.3
Transport including LUAS	357.5	409.6	554.4	339.8	244.5
Telecommunications	212.3	264.4	249.3	255.1	260.9
Sub-total	3,415.2	4,051.4	3,995.4	3,836.2	4,032.9
New social infrastructure					
Education	449.4	577.1	478.8	491.4	604.3
Health	236.1	319.3	329.2	302.9	342.6
Public buildings	338.3	269.1	341.7	271.8	264.6
Local authority services	98.7	181.6	92.7	91.8	138.4
Sport		57.1	83.8	111.4	104.6
Gaeltacht	8.3	22.7	14.6	34.7	31.3
Sub-total	**1130.8**	**1,426.7**	**1,340.9**	**1,303.9**	**1,485.6**
Total new non-residential	**7,509.4**	**7,775.3**	**7,379.7**	**7,257.5**	**7,877.9**

Table A2.2: Value of construction output in constant prices, 2001–2005E (constant 2003 prices, €m) – continued

	2001	2002	2003	2004	2005E
Non-residential repair and maintenance					
Private non-residential					
Industry	115.6	110.7	171.5	172.7	184.2
Semi-state industry	22.3	14.1	11.5	12.3	12.8
Commercial					
Office development	191.5	175.4	180.8	179.2	201.1
Retail, wholesale	80.2	99.7	152.7	162.2	186.8
Total commercial	271.7	275.1	333.5	341.3	387.9
Agriculture	66.9	74.5	74.6	76.2	76.5
Tourism	78.5	61.3	68.0	80.5	91.7
Worship	36.0	57.0	28.0	44.2	50.8
Sub-total	**591.0**	**592.6**	**687.2**	**727.4**	**803.9**
Productive infrastructure					
Roads	273.6	260.4	252.8	256.6	265.8
Water and sanitary services	186.2	198.4	214.3	263.5	289.0
Airport development	22.9	25.3	26.4	25.1	27.3
Ports and harbours	2.6	5.1	8.9	6.8	6.1
Energy	48.1	87.1	133.4	172.1	156.1
Transport	68.7	48.6	113.9	92.5	90.8
Telecommunications	56.3	22.8	16.6	13.7	14.6
Sub-total	**658.3**	**647.6**	**766.1**	**830.3**	**849.7**
Social infrastructure					
Education	168.4	144.6	83.5	132.9	129.5
Health	124.7	135.0	130.2	148.1	138.8
Public buildings	91.8	96.1	109.0	87.3	102.0
Local authority services	23.5	15.6	5.5	2.0	3.2
Sport		4.3	14.5	8.0	7.6
Sub-total	408.5	395.6	342.7	378.3	381.1
Total RM&I non-residential	**1,657.8**	**1,635.8**	**1,795.9**	**1,936.0**	**2,034.7**
Total construction output					
New construction output	16,830.2	17,803.7	19,083.2	20,301.3	20,921.2
Repair and Maintenance	5,364.8	4,823.9	4,737.0	5,157.8	5,383.6
Total construction output	**22,195.0**	**22,627.5**	**23,820.2**	**25,459.1**	**26,304.8**

Table A2.3: Change in the volume of construction output, 2001–2005E (%)

	2001	2002	2003	2004	2005E
Residential construction					
New private housing	1.7%	6.3%	18.7%	13.1%	-1.5%
New public housing					
New local authority	50.1%	23.3%	-8.1%	-4.1%	20.1%
New voluntary	35.3%	12.5%	26.5%	-17.3%	24.6%
Total new public housing	47.0%	21.2%	-1.9%	-7.1%	21.0%
Sub-total	4.4%	7.6%	16.7%	11.5%	0.0%
RM&I private	3.7%	-15.4%	-9.2%	10.5%	4.0%
RM&I public	-2.8%	21.2%	17.4%	-3.6%	3.1%
Sub-total	3.4%	-14.0%	-7.7%	9.5%	3.9%
Total residential	**4.1%**	**1.4%**	**10.8%**	**11.1%**	**0.8%**
New non-residential construction					
New private non-residential construction					
Industry	4.0%	-25.0%	-15.0%	0.0%	6.0%
Semi-state industry	40.6%	-29.9%	-15.7%	46.4%	56.4%
Commercial					
Office development	3.0%	-30.0%	-30.0%	-2.0%	12.0%
Retail, wholesale	5.0%	-5.0%	4.0%	5.0%	15.0%
Total commercial	3.6%	-22.6%	-17.7%	1.2%	13.4%
Agriculture	-33.7%	-6.0%	-6.7%	28.1%	5.4%
Tourism	-47.9%	-22.0%	16.9%	3.8%	10.0%
Worship	-41.9%	23.6%	429.2%	-23.5%	-1.0%
Sub-total	**-9.6%**	**-22.5%**	**-11.0%**	**3.6%**	**11.4%**
New productive infrastructure					
Roads	21.2%	14.7%	2.9%	-4.0%	15.5%
Water and sanitary services	1.7%	-3.6%	-6.6%	-12.7%	3.0%
Airport development	25.2%	6.0%	-60.7%	68.8%	30.4%
Ports and harbours	-41.0%	78.0%	-16.4%	-31.5%	16.9%
Energy including new power stations	18.1%	38.3%	-8.6%	14.7%	2.1%
Transport including LUAS	19.5%	14.6%	35.4%	-38.7%	-28.0%
Telecommunications	1.9%	24.5%	-5.7%	2.3%	2.3%
Sub-total	**13.8%**	**18.6%**	**-1.4%**	**-4.0%**	**5.1%**
New social infrastructure					
Education	3.5%	28.4%	-17.0%	2.6%	23.0%
Health	6.5%	35.2%	3.1%	-8.0%	13.1%
Public buildings	38.5%	-20.5%	27.0%	-20.5%	-2.7%
Local authority services	97.0%	84.0%	-48.9%	-1.0%	50.8%
Sport				32.9%	-6.1%
Gaeltacht	42.4%	171.7%	-35.5%	137.2%	-9.8%
Sub-total	**18.3%**	**26.2%**	**-6.0%**	**-2.8%**	**13.9%**
Total new non-residential	**3.8%**	**3.5%**	**-5.1%**	**-1.7%**	**8.5%**

Table A2.3: Change in the volume of construction output, 2001–2005E (%) – continued

	2001	2002	2003	2004	2005E
Non-residential repair and maintenance					
Private non-residential					
Industry	-20.4%	-4.3%	55.0%	0.7%	6.6%
Semi-state industry	-9.8%	-36.9%	-18.7%	7.5%	4.3%
Commercial					
Office development	3.2%	-8.4%	3.1%	-0.9%	12.2%
Retail, wholesale	5.2%	24.3%	53.2%	6.2%	15.2%
Total commercial	3.8%	1.3%	21.3%	2.3%	13.6%
Agriculture	-17.6%	11.3%	0.2%	2.2%	0.3%
Tourism	-47.9%	-21.9%	10.9%	18.4%	13.9%
Worship	-9.2%	58.3%	-50.8%	57.7%	14.9%
Sub-total	**-16.0%**	**0.3%**	**16.0%**	**5.8%**	**10.5%**
Productive infrastructure					
Roads	15.0%	-4.8%	-2.9%	1.5%	3.6%
Water and sanitary services	3.7%	6.6%	8.0%	23.0%	9.7%
Airport development	-10.2%	10.8%	4.0%	-4.7%	8.6%
Ports and harbours	116.8%	99.3%	74.1%	-22.7%	-10.9%
Energy	-28.5%	81.0%	53.2%	29.0%	-9.3%
Transport	4.8%	-29.3%	134.4%	-18.7%	-1.8%
Telecommunications	3.5%	-59.5%	-27.2%	-17.6%	6.6%
Sub-total	**4.3%**	**-1.6%**	**18.3%**	**8.4%**	**2.3%**
Social infrastructure					
Education	2.2%	-14.2%	-42.3%	59.2%	-2.6%
Health	7.5%	8.3%	-3.6%	13.7%	-6.3%
Public buildings	18.0%	4.6%	13.5%	-20.0%	17.0%
Local authority services	18.0%	-33.6%	-65.0%	-62.5%	54.4%
Sport				-44.9%	-5.1%
Sub-total	7.9%	-3.2%	-13.4%	10.4%	0.7%
Total RM&I non-residential	**-3.2%**	**-1.3%**	**9.8%**	**7.8%**	**5.1%**
Total construction output					
New construction output	4.1%	5.8%	7.2%	6.4%	3.1%
Repair and Maintenance	1.3%	-10.1%	-1.8%	8.9%	4.4%
Total construction output	**3.4%**	**1.9%**	**5.3%**	**6.9%**	**3.3%**

Appendix 3: Review of construction output by region, 2004

The regional breakdown of construction output in 2004 is broadly in line with the regional population distribution for the country as a whole. The dominance of the residential sector stands out in all regions - in three regions (Border, Mid-west and South-east) residential construction accounted for 70% or more of the total regional construction market.

In terms of investment by sector of work, the Greater Dublin Area (Dublin and Mid-east region) accounted for 60% of social infrastructure investment and 52% of private non-residential construction but only 37% of both productive infrastructure investment and residential construction.

Just under three-quarters (72%) of total construction output was generated in the Southern and Eastern (S&E) region compared with just over one-quarter (28%) in the Border, Midlands and West (BMW) region. Construction output per capita stood at €6,824 with only three regions below the State average – Dublin, South-west and South-east.

Estimates of the composition of construction output by region were first presented in 1995. We continue this year with our presentation of regional estimates for construction output for 2004 .

The requirement to produce a regional breakdown of construction output stems from a Central Statistics Office (CSO) requirement in relation to the preparation of National Accounts in the future. The data compiled in the Review and Outlook is used by the CSO in preparing National Accounts estimates of investment.

A3.1: Definition of regions

The relevant regions used to breakdown construction output for 2004 are the eight planning regions as follows:

- Border:Cavan, Donegal, Leitrim, Louth, Monaghan, Sligo;
- Dublin:Dublin City, Dun Laoghaire-Rathdown, South Dublin and Fingal;
- Mid-East: Kildare, Meath and Wicklow;
- Midland: Laois, Longford, Offaly and Westmeath;
- Mid-West: Clare, Limerick and North Tipperary;
- South-East: Carlow, Kilkenny, South Tipperary, Waterford and Wexford;
- South-West: Cork City, Cork County and Kerry;
- West: Galway, Mayo and Roscommon.

In addition we present estimates of construction output for the two new regions negotiated by Ireland in the context of the Agenda 2000 Agreement for Structural Fund purposes:

(a) the Border, Midlands and Western (BMW) Region, which has retained Objective 1 status for the full-period to 2006, and

(b) the Southern and Eastern (S&E) Region which qualifies for a six-year period phasing-out regime for Objective 1 Structural Funds up to the end of 2005.

A3.2: Regional breakdown of construction output/population

The total value of construction output in 2004 has been estimated at €27.6bn. Table A3.1 provides estimates for the regional composition of total output including repair and maintenance expenditure in 2004. The estimated regional breakdown of the total population in 2004 is shown for comparison .

The regional breakdown of construction output is broadly in line with the regional population distribution for the country as a whole. Figure A3.1 illustrates the regional split showing the Dublin construction market four-times larger than the smallest market (Midlands) in 2004.

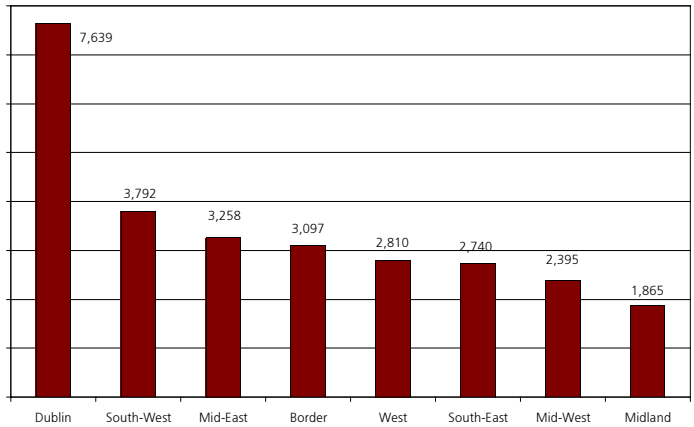
Other notable characteristics from Table A3.1 and Figure A3.1 are as follows:

- 72% of the total output was generated in the Southern and Eastern (S&E) region compared with 28% generated in the Border, Midlands and West (BMW) region.
- Just under 30% of the total output was generated in the Dublin region in 2004, where the value of construction output was just over twice the value of output in the next biggest region, the South-west (14%).
- Only two regions represented less than 10% of the total: Midland (7%) and Mid-west (9%). The Mid-east, Border, South-east and West regions each represented between 10% and 12% of the total.

Table A3.1: Value of construction output by region, 2004

	Output (€m)	Share of output (%)
Border	3,097	11%
Dublin	7,639	28%
Mid-east	3,258	12%
Midland	1,865	7%
Mid-west	2,395	9%
South-east	2,740	10%
South-west	3,792	14%
West	2,810	10%
Total output	27,595	100%
S&E	19,824	72%
BMW	7,772	28%

Figure A3.1: Value of construction output by region, 2004 (€m)

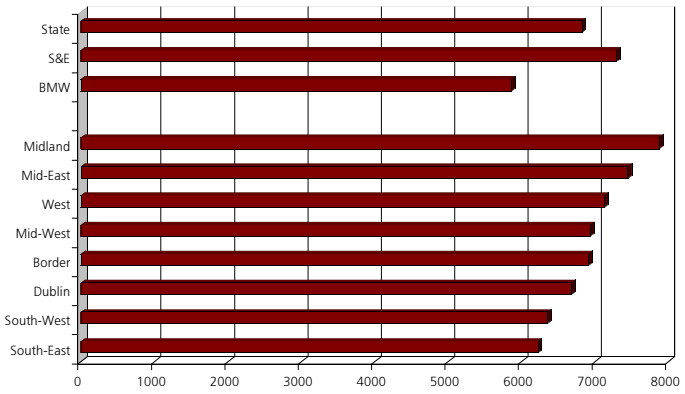


Source: DOEHLG, DKM

A3.2.1: Construction output per capita

Figure A3.2 illustrates the level of construction output per capita in 2004 by region and for the State as a whole.

Fiigure A3.2: Construction output per capita by region, 2004 (€)



Source: DOEHLG, DKM

The average construction output per capita for the State as a whole was €6,824 in 2004. Output per capita in the BMW region was behind S&E region (-24%). Output in the S&E region is approximately 2.5 times the value of output in the BMW region but it has only twice the population of the BMW region.

Construction output per capita levels were in excess of €7,000 in four regions – Midland, Mid-east and West – the South-east region had the lowest output per capita in 2004 (€6,223).

A3.3: Composition of regional construction output

The composition of regional output in 2004 is set-out in Table A3.2 together with the percentage shares for each category of work.

Table A3.2: Regional construction output in 2004 (€m)

Residential	Private construction	Productive non-Residential	Social infrastructure	Regional infrastructure	Output
Border	2,162	190	616	129	3,097
Dublin	4,525	1,230	1,240	644	7,639
Mid-east	2,214	320	552	171	3,258
Midland	1,226	117	413	108	1,865
Mid-west	1,703	211	345	135	2,395
South-east	1,976	271	396	99	2,740
South-west	2,461	423	595	313	3,792
West	1,787	197	674	152	2,810
Total output	**18,055**	**2,959**	**4,831**	**1,750**	**27,595**
S&E	12,880	2,454	3,128	1,362	19,824
BMW	5,175	505	1,703	388	7,772
Border	70%	6%	20%	4%	100%
Dublin	59%	16%	16%	8%	100%
Mid-east	68%	10%	17%	5%	100%
Midland	66%	6%	22%	6%	100%
Mid-west	71%	9%	14%	6%	100%
South-east	72%	10%	14%	4%	100%
South-west	65%	11%	16%	8%	100%
West	64%	7%	24%	5%	100%
Total output	**65%**	**11%**	**18%**	**6%**	**100%**
S&E	71%	83%	65%	78%	72%
BMW	29%	17%	35%	22%	28%

Note that:

- The extent to which residential construction output dominates across each region, representing 65% of total construction output in 2004, ranging from 70% of the total in the Border region to 59% in the Dublin region.
- Private non-residential output was highest in absolute and percentage terms in the Dublin region, equivalent to €1.2bn or 16% of the total. The lowest shares were recorded in the Border and Midland regions, at 6%. Only 11% of construction output in 2004 comprised building projects in the private non-residential sector.
- The value of productive infrastructure in 2004 was €4.8bn or 18% of the total. The West had the highest share (24%), reflecting developments in the power generation sector.
- The final category of work, social infrastructure, accounted for only 6% of total output in 2004, ranging from 8% in Dublin to only 4% in the Border and South-East regions.

In terms of the two larger regions, the S&E and the BMW, total construction output was split in the ratio 72% to 28%. In terms of the individual market segments, the private non-residential construction sector split 83% (S&E) to 17% (BMW) while 29% of the residential construction market was located in the BMW region compared with 71% in the S&E region.

The corresponding shares for the productive and social infrastructure segments were 65% and 78% respectively in the S&E region as against 35% and 22% respectively in the BMW region.

A3.4: Categories of construction work by region

Figures A3.3 to A3.6 illustrate how the broad categories of work split by region in 2004, using residential, private non-residential, productive infrastructure and social infrastructure as the four main categories of construction work.

A3.4.1: Residential construction

The shares of residential construction output by region match closely the shares of overall dwellings completed by region in 2004 except for the Dublin region: Border – 12% of residential output (13% of dwelling completions), Mid-east – 12% (12%), Midland – 7% (8%), Mid-west – 9% (9%), South-east – 11% (11%), South-west – 14% (14%), West – 10% (11%). The Dublin and Mid-east regions (a proxy for the Greater Dublin Area) represented 37% of the total value of residential construction output in 2004 compared with 34% of total completions. Approximately one-half of the total investment in public sector housing was in the Greater Dublin Area (GDA).

A3.4.2: Private non-residential construction

The GDA accounted for over half (52%) of the total private non-residential construction output in 2004 followed by the South-west (14%) region. All other regions represented less than 10% of the total: South-east (9%), Mid-west (7%), West (7%) and Border (6%) with the Midland region accounting for just 4%. The GDA accounted for 66% of new commercial building output and 55% of new industrial output.

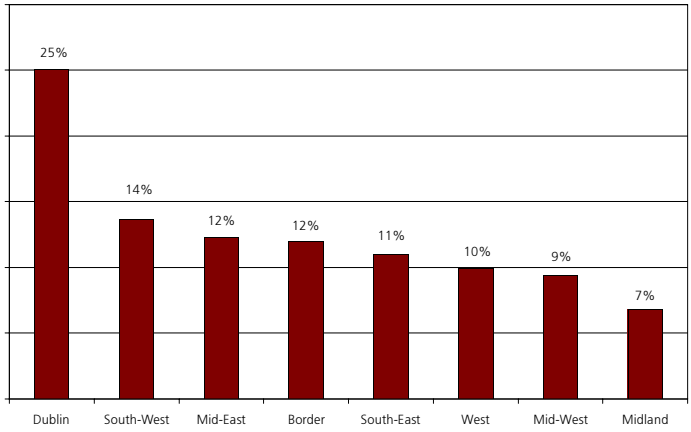
A3.4.3: Productive infrastructure

Dublin accounted for 26% of total productive infrastructure output, followed by the South-west (14%) region. Approximately 37% of all productive infrastructure investment took place in the GDA including 83% of public transport investment and 41% of total road investment. Three regions – West, Border and South-west – each accounted for around 12% to 14% of total productive infrastructure output, followed by the Midland (9%), South-east (8%) and Mid-west (7%) regions.

A3.4.4: Social infrastructure

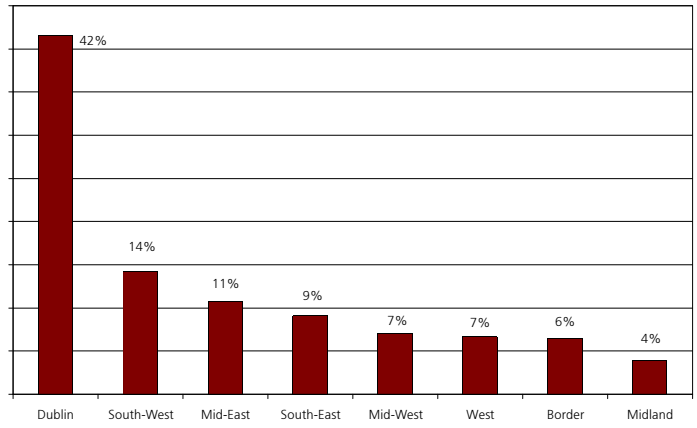
The Dublin and Mid-east regions combined accounted for almost 47% of the total investment in social infrastructure in 2004. The GDA accounted for 60% of the investment in public buildings, 44% of the total investment in hospital buildings and 43% of the investment in educational buildings.

Figure A3.3: Residential construction output by region, 2004 (%)



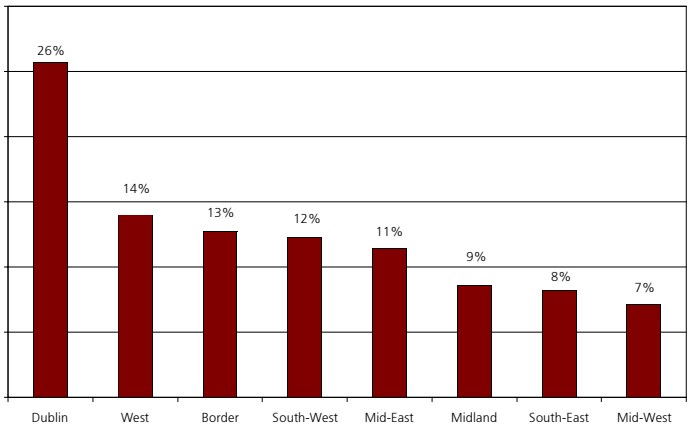
Source: DOEHLG, DKM

Figure A3.4: Private non-residential construction output by region, 2004 (%)



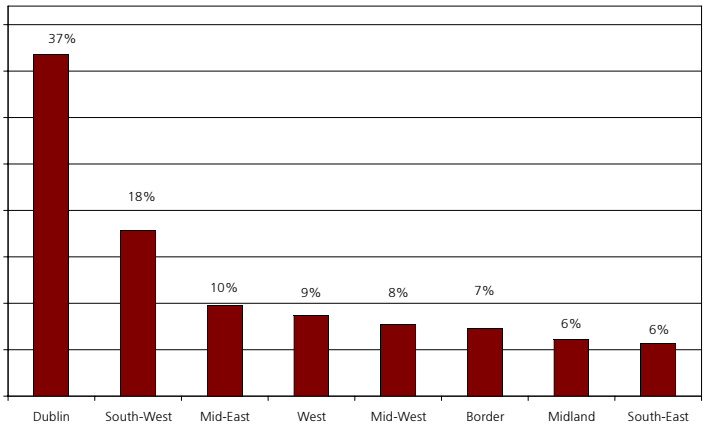
Source: DOEHLG, DKM

Figure A3.5: Productive infrastructure construction by region, 2004 (%)



Source: DOEHLG, DKM

Figure A3.6: Social infrastructure construction by region, 2004 (%)



Source: DOEHLG; DKM

Table A3.3: Construction output by region, 2004 (%)

	Border	Dublin	Mid-east	Midland	Mid-west	South-east	South-west	West	State total
Residential construction									
Private housing	65.7	53.0	65.6	62.7	68.3	68.3	61.4	61.1	61.4
Social housing	4.1	6.3	2.4	3.1	2.8	3.8	3.5	2.5	4.1
Sub-total	**69.8**	**59.2**	**68.0**	**65.8**	**71.1**	**72.1**	**64.9**	**63.6**	**65.4**
Non residential construction									
Private non-residential construction									
Industry	0.9	3.6	5.1	1.4	2.6	1.8	3.9	1.6	2.9
Commercial	2.0	11.1	2.2	2.5	2.6	4.1	3.2	2.2	5.0
Agricultural	1.1	0.0	1.3	1.3	1.3	1.9	1.5	0.4	0.9
Tourism	1.9	1.1	1.1	0.8	1.9	1.8	2.3	2.5	1.6
Worship	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.2
Sub-total	**6.2**	**16.1**	**9.8**	**6.3**	**8.8**	**9.9**	**11.2**	**7.0**	**10.7**
Productive infrastructure									
Roads	5.3	4.5	10.8	9.0	5.5	5.7	6.6	5.1	6.2
Water services	3.4	1.9	2.4	2.2	3.3	3.3	2.6	3.7	2.7
Airports and seaports	0.3	0.7	0.0	0.0	0.5	0.2	0.2	2.6	0.6
Energy	9.8	3.1	2.7	9.3	3.9	2.9	5.2	11.3	5.4
Transport	0.2	4.7	0.3	0.6	0.4	1.2	0.3	0.3	1.6
Communications	0.9	1.3	0.7	1.1	0.8	1.1	0.8	0.9	1.0
Sub-total	**19.9**	**16.2**	**17.0**	**22.2**	**14.4**	**14.4**	**15.7**	**24.0**	**17.5**
Social infrastructure									
Education	1.7	3.1	1.4	1.7	2.8	1.4	4.0	1.4	2.4
Health	1.1	2.1	1.3	2.3	1.0	1.2	2.5	1.1	1.7
Public buildings	0.5	2.0	2.3	1.4	0.9	0.5	0.7	1.6	1.4
Other social	0.8	1.3	0.3	0.3	1.0	0.5	1.2	1.2	0.9
Sub-total	**4.2**	**8.4**	**5.3**	**5.8**	**5.7**	**3.6**	**8.3**	**5.4**	**6.3**
Total all construction	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Note: The value of construction output includes repair and maintenance expenditure

Table A3.4: Regional construction output by category of work, 2004 (%)

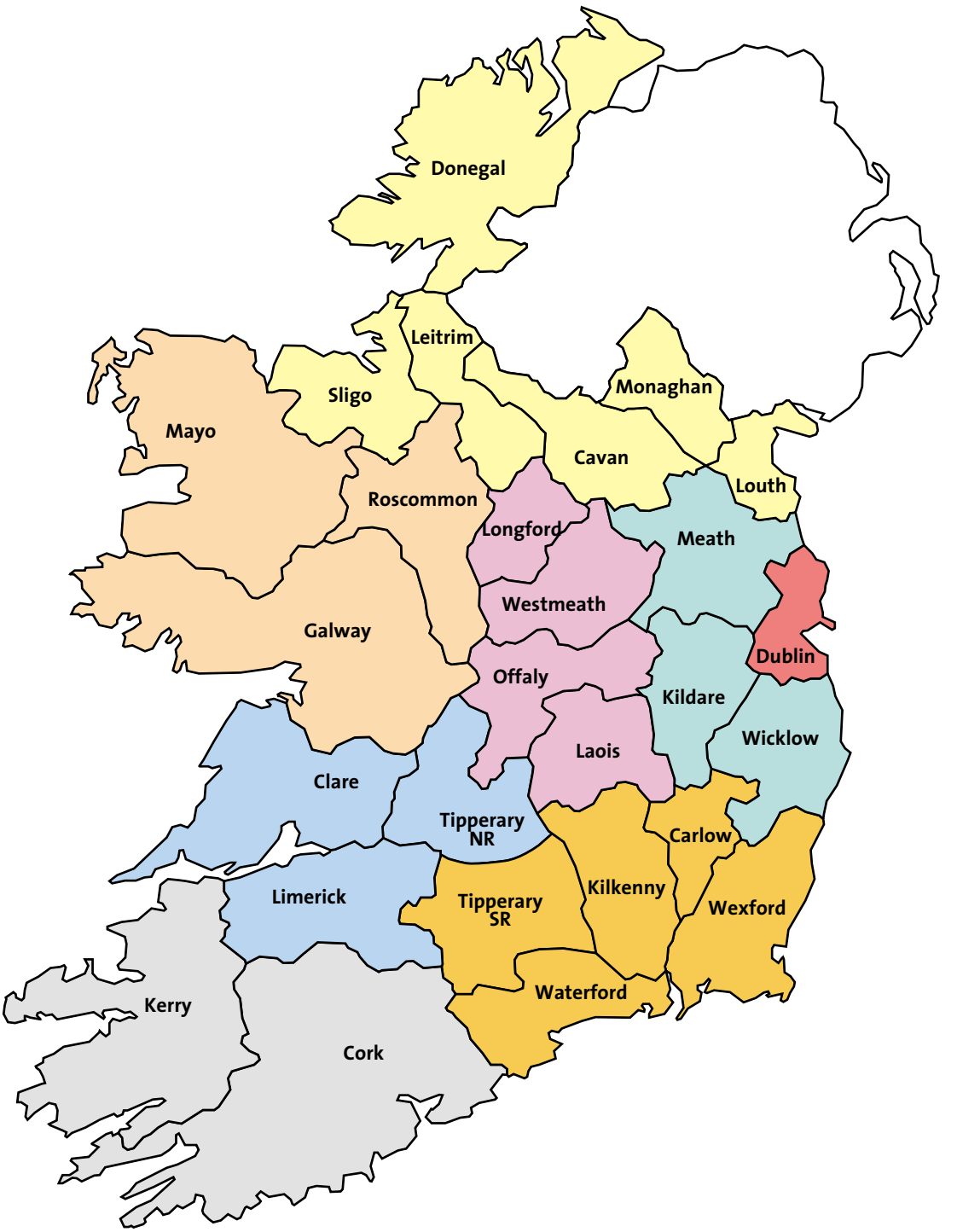
	Border	Dublin	Mid-east	Midland	Mid-west	South-east	South-west	West	State Total
Residential construction									
Private housing	12.0	23.9	12.6	6.9	9.7	11.1	13.8	10.1	100
Social housing	11.5	42.9	7.0	5.1	6.1	9.3	11.8	6.3	100
Sub-total	**12.0**	**25.1**	**12.3**	**6.8**	**9.4**	**10.9**	**13.6**	**9.9**	**100**
Non residential construction									
Private non-residential construction									
Industry	3.5	34.5	20.6	3.4	7.9	6.3	18.3	5.6	100
Commercial	4.4	61.2	5.1	3.4	4.5	8.0	8.8	4.4	100
Agricultural	13.5	0.0	16.8	9.8	12.5	20.6	22.4	4.5	100
Tourism	13.2	18.9	8.1	3.4	10.0	11.0	19.6	15.7	100
Worship	12.5	25.0	7.8	4.7	12.5	10.9	14.1	12.5	100
Sub-total	**6.4**	**41.6**	**10.8**	**4.0**	**7.1**	**9.1**	**14.3**	**6.7**	**100**
Productive infrastructure									
Roads	9.5	20.1	20.6	9.8	7.7	9.2	14.6	8.4	100
Water services	14.2	19.2	10.5	5.4	10.8	12.4	13.4	14.1	100
Airports and seaports	6.3	33.2	0.1	0.0	7.0	2.7	4.4	46.3	100
Energy	20.3	16.0	6.0	11.6	6.3	5.3	13.2	21.3	100
Transport	1.0	80.6	2.2	2.6	2.0	7.2	2.3	2.1	100
Communications	10.5	35.5	8.2	7.1	7.2	11.1	11.5	8.9	100
Sub-total	**12.7**	**25.7**	**11.4**	**8.6**	**7.1**	**8.2**	**12.3**	**14.0**	**100**
Social infrastructure									
Education	8.1	35.6	7.0	4.7	10.0	5.7	22.7	6.1	100
Health	7.6	34.2	8.9	9.5	5.2	7.4	20.2	7.0	100
Public buildings	4.5	40.0	20.2	7.2	5.6	3.4	6.8	12.3	100
Other social	9.1	39.7	3.4	2.4	9.5	5.5	17.4	13.1	100
Sub-total	**7.4**	**36.8**	**9.8**	**6.1**	**7.7**	**5.6**	**17.9**	**8.7**	**100**
Total all construction	**11.2**	**27.7**	**11.8**	**6.8**	**8.7**	**9.9**	**13.7**	**10.2**	**100**

Note: The value of construction output includes repair and maintenance expenditure

Table A3.5: Construction output in the S&E region and the BMW region, 2004 (€m)

	State total	S&E region	BMW region	S&E (%) share	BMW (%) share
Residential construction					
Private housing	16,937	12,018	4,919	60.6	63.3
Social housing	1,118	862	256	4.3	3.3
Sub total	18,055	12,880	5,175	65.0	66.6
Non-residential construction					
Private non-residential construction					
Industry	802	702	100	3.5	1.3
Commercial	1,391	1,221	171	6.2	2.2
Agricultural	250	181	69	0.9	0.9
Tourism	451	305	146	1.5	1.9
Worship	64	45	19	0.2	0.2
Sub total	2,959	2,454	505	12.4	6.5
Productive infrastructure					
Roads	1,709	1,234	475	6.2	6.1
Water services	739	489	249	2.5	3.2
Airports and seaports	159	75	84	0.4	1.1
Energy	1,496	700	796	3.5	10.2
Transport	450	424	26	2.1	0.3
Communications	279	206	74	1.0	0.9
Sub total	4,831	3,128	1,703	15.8	21.9
Social infrastructure					
Education	659	534	125	2.7	1.6
Health	460	349	111	1.8	1.4
Public buildings	373	284	90	1.4	1.2
Other social	258	195	63	1.0	0.8
Sub total	1,750	1,362	388	6.9	5.0
Total all construction	**27,595**	**19,824**	**7,772**	**100**	**100**

Construction output by region, 2004



Region	Output (€m)	Share (%) of output
Border	3, 097	11%
Dublin	7, 639	28%
Mid-east	3, 258	12%
Midland	1, 865	7%
Mid-west	2, 395	9%
South-east	2, 740	10%
South-west	3, 792	14%
West	2, 810	10%

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