

Production in Building and Construction Index

Introduction to Series (Base: year 2000 = 100) and methodological notes

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Introduction

Introduction to New Series

(Year: 2000 = 100)

Background

Given the economic importance of the construction industry there has been a growing need for short-term indicators on the output of the sector. The CSO's new Quarterly Survey of Production in Building and Construction (QSC) aims to provide such indicators. The primary purpose of the survey is to measure changes in the value of output in the sector. The survey also provides statistics for EU comparison as specified by Council Regulation (EC) No. 1165/98, which deals with short-term economic statistics.

Coverage

The survey is designed to cover all the construction sector as defined by NACE Rev.1.1 Division 45. The NACE Rev.1.1 classification defines the construction sector (i.e. division 45) as "general construction and special trade¹ construction for buildings and civil engineering, building installation and building completion. It includes new work, repair, additions and alterations, the erection of pre-fabricated buildings or structures on the site and also constructions of a temporary nature."

The sampling register used for the QSC includes all enterprises classified to Division 45 of NACE Rev 1.1.

The EU requirement is for three indicators of production in the sector:

- Building (excluding Civil Engineering)
- Civil Engineering
- · Total Building and Construction

¹ Special trade construction includes the construction of parts of buildings and civil engineering works or preparation for this purpose. It is usually specialized in one aspect common to different structures, requiring specialized skills or equipment. Activities such as pile-driving, foundation work, water well drilling, concrete work, brick laying, stone setting, scaffolding, roof covering, etc are covered.

Data Collection

Data is collected for 16 categories of Building and Construction output distinguishing separately *New Construction* work and *Repair and Maintenance* work. Respondents are asked to supply data for these categories on the value of work done in the quarter and also on the value of new contracts and orders obtained. The QSC is a statutory survey, conducted under Statistics Order 2004, Number 182, made under the 1993 Statistics Act.

Results

Results are published in index form to base: year 2000 = 100. The indices are calculated using a matched sample of respondent companies between quarters. The advantages of publishing the results in index form include:

- · Ease of comparability with other indicators
- · Ease of calculation of change between two time periods
- Assists in ensuring confidentiality of data providers

The results from 2003 onwards have been calculated from the survey returns. In the absence of survey data prior to 2003, a retrospectively derived series was calculated using a combination of data sources. See appendix 3 for a detailed description of the derived series prior to 2003.

The QSC results are presented in the form of indices. Five sets of indices are produced quarterly. See appendix 1.

The five indices are:

Production in Total Building and Construction
Production in Total Building (excluding Civil Engineering)
Production in Total Civil Engineering
Production in Total Residential Building
Production in Total Non-Residential Building

A back series commencing with 2000 has been included. See appendix 2.

Index formula

The QSC Index is calculated using a modified fixed weight Laspeyres index:

$$\left[\left(\frac{\sum W_{q-1} \left(\frac{CT_q}{CT_{q-1}} \right)}{\sum W_0} \right) \right] \times 100$$

Where:

 W_0 and W_{q-1} are the base weights and updated values respectively.

 CT_q and CT_{q-1} are the category values of production (or output) for the current and previous quarter respectively.

In the case of the QSC, 16 base weights are used, one for each category of construction work. The compilation of the index for the current quarter (q) is based on the percentage change in the value of quarterly production (based on a matched sample) over the previous quarter.

Volume Indices (Constant prices)

Volume of production indices exclude the effects of price changes. They are calculated by deflating the value indices using price indices derived from the Capital Goods Price Index for Building and Construction. *See appendix 6*.

Confidentiality

The data provided by respondents is treated as strictly confidential in accordance with Part V of the Statistics Act, 1993. Data on respondent companies are not disclosed by the CSO to any other Government Department or outside body. The CSO wishes to express its appreciation for the co-operation and assistance received from respondents.

Limitations

The QSC is designed as a short-term indicator, so while it provides good estimates of quarter-on-quarter change, it should not be used to examine long term or structural changes in the construction sector.

This is a new survey and the CSO currently considers the results to be experimental. Table B below compares these new survey results with some other indicators for the sector. The CSO will continue to monitor the quality and comparability of this new data series.

Table B: Comparison of Building and Construction sector indicators

	New CSO Series Other Indicators					
	New C3O Series			Other indicators		•
				Persons In		
	Volume of	Volume of	Volume of	Employed in		
	production in	production in	production in	the		House
	building and	civil	residential	Construction	House	Commence-
	construction	engineering	building	Sector ¹	Completions ²	ment Notices ³
	Index	Index	Index	No.	No.	No.
	2000=100	2000=100	2000=100			
2000	100.0	100.0	100.0	166,200	49,812	n/a
2001	107.1	112.2	104.7	180,000	52,602	n/a
2002	111.3	129.3	106.1	182,200	57,695	n/a
2003	117.6	131.0	117.9	191,400	68,819	n/a
2004	130.3	129.7	138.5	206,000	76,954	77,691
2005	146.7	148.8	160.1	242,400	86,188	77,709
2006	148.3	166.5	152.7	262,700	88,188	75,602

¹ Quarterly National Household Survey, March - May quarter.

 $^{^{2}}$ The 2005 figure incorporates an upward adjustment by the CSO of about 5,200 units.

The adjustment takes account of work in progress which had not been included in the DoEHLG data for 2005.

The 2006 figure incorporates a corresponding adjustment downwards.

³ Source DoEHLG. Data not available prior to 2004.

Chapter One

Survey Questionnaire, Sample Selection and Editing Procedures

Questionnaire

The questionnaire was designed following consultation with external and internal users. The data is categorised into new construction and repair and maintenance, and the composition of each is classified into sixteen categories. See table below and see also appendix 4 – QSC Survey form and instructions.

Residential	Local Authority and Voluntary Housing Affordable Housing Private Housing
Non-Residential	Public Private - Commercial Industry Tourism, Sport & Recreation Agriculture Other
Civil Engineering Works	Transport - Roads - Public Transport - Seaports/Airports Water Sanitary Energy Telecommunications Other

The QSC survey form and instructions are also available in Irish.

Sample Selection

The QSC is a sample survey. Approximately 2,000 companies are surveyed each quarter. The Building Register provides the sampling frame from which the companies are drawn. A Nehmann Allocation is used to optimally select the samples by size class and NACE Rev 1.1 Group. *See chapter 2 for definition of a size class*.

Response rate

The QSC is a postal, pen and paper survey. All outstanding respondents receive a reminder letter, which may, depending on available resources, be followed up by phone calls, a visit from a field officer or both.

The QSC was initiated in the fourth quarter of 2003. At the beginning of the survey response rates were quite low, however the response rate has now levelled out at approximately 60% both in terms of number of companies and of employment covered.

Data Capture and Editing

A number of edit procedures are in place. Note that these have evolved through the course of the survey and that editing procedure on the commencement of the survey was less comprehensive. Firstly the returned survey forms are scrutinised. Following this the data is inputted into the processing system by means of scanning. Comparison checks are run for each category of work done and for new orders against previous returns and data values exceeding certain thresholds are queried.

Possible double counting of the value of work done is a concern. The survey seeks to collect the value of work done which should include work carried out by labour-only sub contractors but not non labour-only sub contractors. Respondent companies can sometimes include the value of this work but it should be picked up in the scrutiny procedures. When queried respondent companies often indicate that they find this difficult to report and hence often have to approximate results.

Chapter Two

Output Categories, Size Classes & Cells

Keywords:

- Output Categories
- Size Classes
- Cells

The description of the methodology of the QSC makes reference to (a) Output Categories, (b) Size Classes and (c) Cells.

These are defined as:

(a) Output Categories

There are 16 categories of work done (also referred to as production or output) identified in the QSC. These Output Categories correspond to the categories appearing on the QSC survey. These Categories aggregate into 3 main output "Classes", namely *Residential* building, *Non-Residential* building and *Civil Engineering* works.

The 16 Output Categories and 3 Classes are:

Residential	Local Authority and Voluntary Housing Affordable Housing Private Housing
Non-Residential	Public Private - Commercial Industry Tourism, Sport & Recreation Agriculture Other
Civil Engineering Works	Transport - Roads - Public Transport - Seaports/Airports Water Sanitary Energy Telecommunications Other

(b) Size Classes

Within each Category there are 4 Size Classes. These Size Classes are defined according to number of employees i.e. enterprises are categorised into 4 groups (or size classes) according to the number of employees engaged in the company.

The 4 size classes are:

Size Class	Number of Employees		
Α	0 - 4		
В	5 - 19		
С	20 - 99		
D	100 +		

(c) Cells

Information provided by enterprises in the same Output Category and same Size Class is collectively known as a cell. For example, all information on the value of work done on affordable housing by enterprises with between 5 and 19 employees belongs in the same cell. A cell total is calculated by summing the value of work done for all enterprises in that cell.

Chapter Three

Calculating Weights and Values

Keywords:

- · Base Weights
- Updated Weights

Base Weights

As discussed in the introduction, the base year for the QSC was the year 2003. The weights that correspond to the base period are referred to as base weights. By convention, base year weights are expressed as 100 (i.e. Base Year = 100). The base weights are derived from the 2003 annual value of construction output figures as per the DKM Economic Consultants Review of the Construction Industry 2005 and Outlook 2006-2008 report. *See appendix 5.*

Updated Values

Base Weights are updated every quarter to give an updated value of the base weight. Updating is done by applying the appropriate relative (*See chapter 4*) to the updated weight for the previous period. An updated weight is generally referred to as an Updated Value. So by convention, "weights" typically mean base weights and "updated values" mean any updated weights thereafter.

$$W_{0}(R_{1}) = W_{1}$$

$$\vdots$$

$$W_{q-1}(R_{q}) = W_{q}$$

Where:

 $W_{\ 0}$ is the base weight

 $R_{\ 1}$ is the relative for the first quarter 1.

 $W_{\ _{1}}$ is the updated value for the first quarter 1.

 $W_{-q\,-1}$ is the updated value for the previous quarter.

 R_{q} is the relative for the current quarter q.

 W_{q} is the updated value for the current quarter q.

Chapter Four

Calculating a Relative

Keywords:

- · Cell Relative
- · Matched Samples
- Output Category Relative

What is a relative?

The ratio of the value of production for a single output category (group or cell) between two particular time periods is called a relative. For the QSC indices, the relatives in question are ratios of the value of production output in successive quarters.

Calculation of the Cell Relative

Before an output category relative can be calculated, the 4 cell relatives (or size class relatives) must first be calculated for that output category.

Once production cell totals are calculated they can be compared with previous periods. A cell total for the current quarter CTq is compared with the cell total for the previous quarter CTq-1 to produce the cell relative Rc.

$$R_{c} = \left(\frac{C T_{q}}{C T_{q-1}}\right)$$

Where:

 R_c is the cell relative

 $C\ T_{\ q}$ is the current cell total

and

 $C \ T_{q-1}$ is the previous cell total.

Example 1: Quarter 1 2006 compared with Quarter 4 2005

Business Group - Private Housing
Size Class - A

There are 4 enterprises in this cell.

Private Housing – Size Class A Quarter 4 2005				
Enterprise Name Value of Production (€				
AAA	11,000			
MMM	20,000			
ccc	9,000			
XYZ	19,000			
	59,000			

The total value of production for this cell is €59,000

Private Housing – Size Class A Quarter 1 2006				
Enterprise Name Value of Production (€				
AAA	13,000			
MMM	24,000			
CCC	10,000			
XYZ	21,000			
	68,000			

The total value of production for this cell is €68,000

Then:

$$CT_q = 68,000$$

and

$$CT_{q-1} =$$
 \in 59,000

$$R_{c} = \left(\frac{68,000}{59,000}\right) = 1.1525424$$

Matched samples

Cell totals are calculated on a matched sample basis. This means an enterprise will only be included in the calculation of the cell total if there are figures for both current and previous quarters.

In other words, if in the first quarter 2006 there are only 3 returns instead of 4 in the cell, then only the same 3 enterprises will be included when calculating a matching *CT*q-1 for the fourth quarter of 2005.

So, even though there are 4 returns in the cell for the fourth quarter of 2005, because there are only 3 in the first quarter of 2006, only the matching 3 enterprises will be included in the calculation for q1 2006 and q4 2005 to ensure a meaningful comparison. If this matching isn't done, then non-response could lead to a negative cell relative *R*c where no actual decline has occurred. *See example 1b below.*

Example 1b: Q1 2006 compared with Q4 2005 again

Business Group - Private Housing

Size Class - A

This time assume Enterprise CCC doesn't return a production of private housing figure for the first quarter of 2006, then the total cell production figures *CTq* is €58,000 instead of €68,000.

Private Housing – Size Class A Q1 2006				
Enterprise Name Value of Production (€				
AAA	13,000			
MMM	24,000			
ccc	10,000			
XYZ	21,000			
	58,000			

If €58,000 is compared with the Q4 2005 total (€59,000) on a non matched sample basis, we get a cell relative of 0.983051 which clearly doesn't make any sense as the value of production has increased for every enterprise where we have comparable data. Therefore, the corresponding cell total must be calculated for Q4 2005 by excluding the production value for Enterprise CCC.

Private Housing – Size Class A Q4 2005				
Enterprise Name Value of Production (
AAA	11,000			
MMM	20,000			
CCC	9,000			
XYZ	19,000			
	50,000			

Excluding Enterprise CCC data, we get a cell total of €50,000.

Then:

$$R_c = \left(\frac{58,000}{50,000}\right) = 1.16$$

Output Category Relatives

Each Output Category relative (R_{oc}) is calculated as the weighted average of its 4 size class or cell relatives R_{c} . The weights used are employment proportions by size class, derived from the Quarterly National Household Survey (QNHS) results. Three separate sets of weights are used which correspond with the three main classes of output category.

$$R_{oc} = \left[\frac{\sum w.R_c}{\sum w} \right]$$

Where:

 $R_{\it o\,c}$ is the category relative

 $R_{\scriptscriptstyle C}$ is the cell relative.

 ${\cal W}_{-}$ are the size class weights (These weights are based on the size class proportions derived from QNHS results).

Chapter Five

Calculating and Updating Value Indices

The quarterly base year weights are calculated at the beginning of the series and a set of base year indices is constructed.

The formula for calculating an output category value index is

Where:

$$VAL_q = \frac{W_q}{W_0} \times 100$$

 VAL_q is the output category value index for current period

 W_{q} is the updated value for the current quarter q.

 W_{o} is the base weight

A modified version of this formula is used for calculation purposes, namely:

$$VAL_{q} = \left[\frac{W_{q-1} \times R_{oc}}{W_{o}}\right] \times 100$$

Which can be expressed more simply as

Where: $VAL_q = (VAL_{q-1} \times R_{oc})$

 W_{a} is a the base weight

 W_{-q-1} is the updated value for the previous quarter.

 VAL_{q} is the output category value index for current period

 VAL_{a-1} is the output category value index for previous period

 $R_{_{o\,c}}$ is the output category relative for current period

Chapter Six

Calculating and Updating Volume Indices

Value indices are a function of price and quantity. Consequently, interpretation of value indices can be difficult, as a change in the value of production may be the result of an actual increase or decrease in production, the result of inflation or deflation or a combination of both.

Volume indices exclude the effects of price changes and so may be thought of as quantity indices i.e. price effects are held constant. Volume indices are calculated by deflating value indices using specially constructed price deflators **P**. In the case of the QSC, the price deflators **P** are derived from the CSO Capital Goods Price Index for Building and Construction (see appendix 6).

The base year volume indices are calculated at the beginning of the series. Thereafter, the volume indices are updated for each quarter. The formula for updating a volume index is:

$$VOL_q = \frac{W_{q-1}}{W_o} \times \left[R_{oc} \times \left(\frac{P_{q-1}}{P_q} \right) \right]$$

Which can be expressed more simply as

$$VOL_q = VOL_{q-1} \times \left[R_{oc} \times \left(\frac{P_{q-1}}{P_q} \right) \right]$$

Where:

 VOL_{q-1} is the volume index for previous period.

 W_{-q-1} is the updated value for the previous quarter.

 $W_{_{o}}$ is the base weight

 $R_{\it oc}$ is the output category relative for current period.

 $P_{q} \;\;$ and $P_{q-1} \;$ are the price deflators for the current and last period respectively.

 $VOL_{\scriptscriptstyle q}$ is the volume index for the current period.

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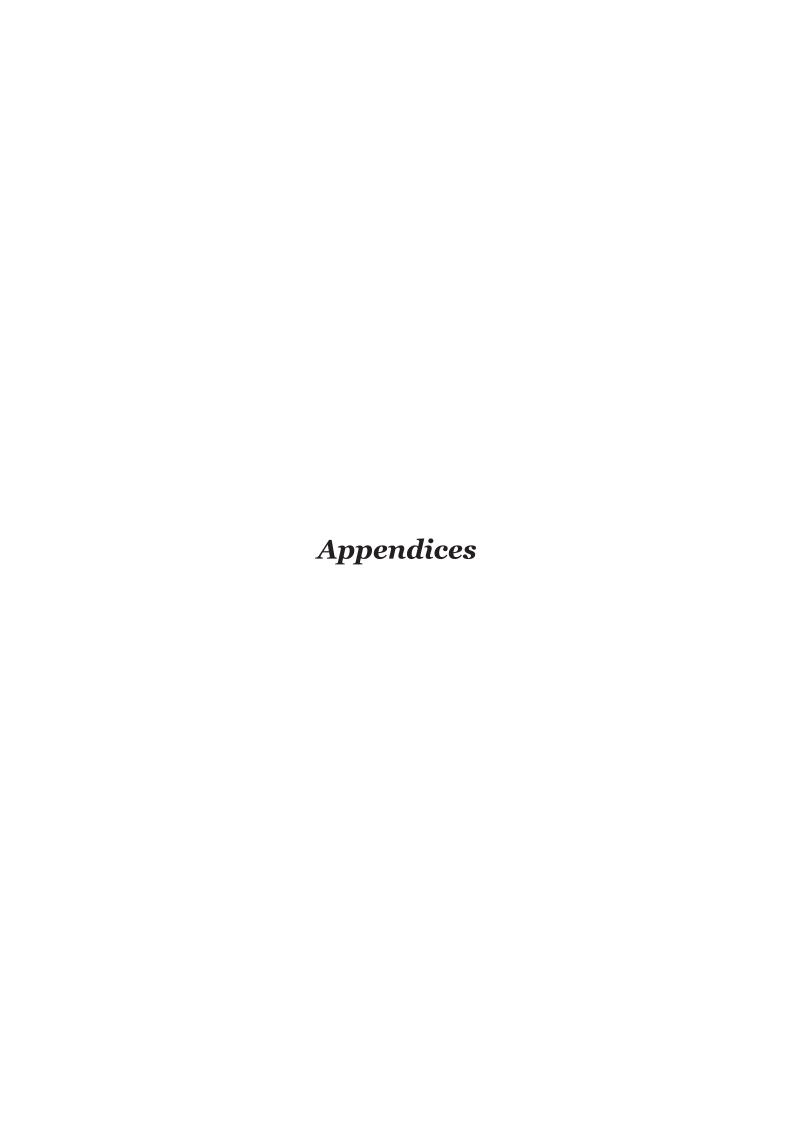
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Appendix 1

Classification of Types of Construction

The five indices published on a quarterly basis are:

- 1 Production in Total Building and Construction
- 2 Production in Total Building (excluding Civil Engineering)
- 3 Production in Total Civil Engineering
- 4 Production in Total Residential Building
- 5 Production in Total Non-Residential Building

These groupings have a hierarchical structure.

Total Building and Construction comprises total Building (excluding Civil Engineering) and total Civil Engineering. Total Building (excluding Civil Engineering) comprises total Residential Building and total Non-Residential Building.

Appendix 2

Value and Volume Indices of Production in the Building and Construction Sector

Table 1(a) Value and Volume Indices of Production in all Building and Construction

Base: Year 2000 = 100

Total Production in all Building and Construction

Period Value of Production		Volume of Pr	oduction	
	Index	Annual % change	Index	Annual % change
2000	100.0		100.0	
2001	120.9	20.9	107.1	7.1
2002	134.0	10.8	111.3	3.9
2003 2004	145.1 171.6	8.3 18.3	117.6 130.3	5.7 10.8
2005	202.4	17.9	146.7	12.6
2006 1	217.9	7.7	148.3	1.1
2000 1st quarter	91.0		94.4	
2nd quarter	97.3		99.6	
3rd quarter	103.0		104.8	
4th quarter	108.6		101.1	
2001 1st quarter	109.0	19.7	100.7	6.6
2nd quarter	118.2	21.5	107.1	7.5
3rd quarter	125.7	22.0	109.7	4.6
4th quarter	130.8	20.4	111.1	9.9
2002 1st quarter	123.7	13.5	104.6	3.9
2nd quarter	127.7	8.0	107.1	0.0
3rd quarter	143.8	14.5	118.2	7.8
4th quarter	140.9	7.7	115.3	3.7
0000 1-4	100.0	0.0	100.0	4.0
2003 1st quarter	132.3	6.9	108.8	4.0
2nd quarter	141.3	10.6	114.2	6.7
3rd quarter	159.4	10.9	128.8	9.0
4th quarter	147.6	4.8	118.6	2.9
2004 1st quarter	161.9	22.4	127.3	17.0
2nd quarter	181.3	28.4	138.7	21.4
3rd quarter	172.6	8.2	129.4	0.5
4th quarter	170.7	15.7	125.8	6.0
2005 1st quarter	170.6	5.4	125.4	-1.5
2nd quarter	204.5	12.8	148.9	7.4
3rd quarter	222.9	29.1	161.7	25.0
4th quarter	211.5	23.9	150.5	19.7
2006 1st quarter	207.9	21.8	146.0	16.4
2nd quarter	210.7	3.0	144.7	-2.9
3rd quarter	209.6	-6.0	141.7	-12.4
4th quarter ¹	243.5	15.1	161.0	7.0
·				

¹ Provisional

Data prior to 2004 based on existing annual data from the Department of the Environment, Heritage and Local Government prepared by DKM Economic Consultants series, with quarterly breakdown estimated by CSO. Series from 2004 onwards based on the new CSO survey

Table 1(b) Value and Volume Indices of Production in Building (excluding civil engineering)

Base: Year 2000 = 100

Total Production in Building (excluding civil engineering)

Period	Value of Pro	duction	Volume of Pro	oduction
	Index	Annual % change	Index	Annual % change
2000	100.0		100.0	
2001	119.8	19.8	106.1	6.1
2002	129.6	8.2	107.6	1.4
2003	141.7	9.4	114.8	6.7
2004	172.0	21.4	130.6	13.7
2005	202.0	17.4	146.4	12.1
2006 1	212.2	5.1	144.6	-1.2
2000 1st quarter	91.1		94.6	
2nd quarter	97.0		99.3	
3rd quarter	103.5		105.3	
4th quarter	108.4		100.9	
2001 1st quarter	107.4	17.8	99.2	4.9
2nd quarter	117.1	20.7	106.0	6.8
3rd quarter	124.7	20.6	108.8	3.4
4th quarter	129.8	19.8	110.3	9.3
2002 1st quarter	118.3	10.2	100.1	0.9
2nd quarter	121.6	3.9	101.9	-3.8
3rd quarter	139.8	12.1	114.9	5.5
4th quarter	138.5	6.7	113.4	2.8
2003 1st quarter	127.8	8.0	105.1	5.0
2nd quarter	137.0	12.6	110.7	8.6
3rd quarter	158.3	13.2	127.9	11.3
4th quarter	143.8	3.8	115.6	2.0
2004 1st quarter	164.1	28.4	129.0	22.8
2nd quarter	182.1	33.0	139.2	25.8
3rd quarter	170.3	7.6	127.6	-0.2
4th quarter	171.6	19.3	126.4	9.4
2005 1st quarter	178.6	8.8	131.3	1.8
2nd quarter	208.3	14.3	151.6	8.9
3rd quarter	212.9	25.0	154.4	21.0
4th quarter	208.1	21.3	148.1	17.2
2006 1st quarter	212.8	19.1	149.4	13.8
2nd quarter	207.8	-0.2	142.7	-5.9
3rd quarter	199.4	-6.3	134.8	-12.7
4th quarter ¹	228.9	10.0	151.4	2.2

¹ Provisional

Data prior to 2004 based on existing annual data from the Department of the Environment, Heritage and Local Government prepared by DKM Economic Consultants series, with quarterly breakdown estimated by CSO.

Series from 2004 onwards based on the new CSO survey

Table 1(c) Value and Volume Indices of Production in Civil Engineering

Base: Year 2000 = 100

Total Production in Civil Engineering

Period		Value of Pro	oduction	Volume of Production	
		Index	Annual % change	Index	Annual % change
2000		100.0		100.0	
2001		126.6	26.6	112.2	12.2
2002		155.5	22.9	129.3	15.2
2003 2004		161.6 170.9	3.9 5.7	131.0 129.7	1.4 -1.0
2004		205.5	20.2	148.8	-1.0 14.7
2006 1		245.1	19.3	166.5	11.9
2000 1st	t quarter	90.5		93.9	
2n	d quarter	98.8		101.1	
3rc	d quarter	100.8		102.6	
4th	quarter	109.9		102.3	
2001 1st	t quarter	116.6	28.9	107.8	14.7
	d quarter	123.8	25.3	112.1	10.8
	d quarter	130.2	29.1	113.6	10.7
	n quarter	135.7	23.5	115.3	12.7
2002 1	t augustas	149.6	28.3	126.5	17.4
2002 1st					
	d quarter	157.1	26.9	131.7	17.5
	d quarter	163.3 152.2	25.5 12.2	134.2 124.6	18.1 8.1
411	n quarter	152.2	12.2	124.6	0.1
2003 1st	t quarter	153.9	2.9	126.6	0.0
2n	d quarter	162.0	3.1	131.0	-0.5
3rd	d quarter	165.1	1.1	133.4	-0.6
4th	n quarter	165.5	8.8	133.1	6.8
2004 1st	t quarter	153.0	-0.6	120.4	-4.9
2n	d quarter	178.9	10.4	136.8	4.5
	d quarter	184.2	11.5	138.1	3.5
4th	n quarter	167.7	1.3	123.6	-7.1
2005 1st	t quarter	135.3	-11.6	99.5	-17.3
	d quarter	188.7	5.5	137.4	0.5
	d quarter	270.1	46.6	196.1	41.9
	n quarter	228.0	36.0	162.3	31.4
0000 4-	t augustas	400.0	00.4	404.0	04.0
2006 1st		186.9	38.1	131.3 154.7	31.9
	d quarter d quarter	225.2	19.4	154.7	12.6
	n quarter n quarter ¹	257.2	-4.8	174.0	-11.3
411	ı quarter	311.3	36.5	205.9	26.8

¹ Provisional

Data prior to 2004 based on existing annual data from the Department of the Environment, Heritage and Local Government prepared by DKM Economic Consultants series, with quarterly breakdown estimated by CSO.

Series from 2004 onwards based on the new CSO survey

Table 2(a) Value and Volume Indices of Production in Residential Building

Base: Year 2000 = 100

Total Production in Residential Building

Period	Value of Pro	duction	Volume of Pr	oduction
	Index	Annual % change	Index	Annual % change
2000	100.0		100.0	
2001	118.3	18.3	104.7	4.7
2002	127.9	8.1	106.1	1.3
2003 2004	145.6 182.5	13.9 25.3	117.9 138.5	11.1 17.5
2004	221.0	25.3 21.1	160.1	17.5
2006 ¹	224.1	1.4	152.7	-4.7
2000 1st quarter	91.0		94.4	
2nd quarter	97.2		99.5	
3rd quarter	104.4		106.2	
4th quarter	107.4		99.9	
2001 1st quarter	104.5	14.8	96.5	2.2
2nd quarter	115.8	19.1	104.8	5.3
3rd quarter	123.8	18.6	108.0	1.7
		20.2	109.6	9.7
4th quarter	129.1	20.2	109.6	9.7
2002 1st quarter	114.2	9.3	96.5	0.0
2nd quarter	118.1	2.0	99.0	-5.6
3rd quarter	140.0	13.1	115.0	6.5
4th quarter	139.3	7.9	114.0	4.0
2003 1st quarter	129.2	13.1	106.1	10.0
2nd quarter	140.1	18.7	113.2	14.4
3rd quarter	166.5	18.9	134.4	16.9
4th quarter	146.8	5.4	117.9	3.5
2004 1st quarter	175.2	35.6	137.7	29.7
2nd quarter	195.7	39.7	149.6	32.1
	177.3	6.5	132.8	-1.2
3rd quarter 4th quarter	181.9	23.9	134.0	13.6
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2005 1st quarter	198.0	13.0	145.5	5.7
2nd quarter	229.7	17.4	167.2	11.8
3rd quarter	231.3	30.5	167.8	26.3
4th quarter	224.8	23.6	159.9	19.4
2006 1st quarter	231.5	16.9	162.5	11.7
2nd quarter	223.4	-2.7	153.4	-8.3
3rd quarter	202.8	-12.3	137.1	-18.3
4th quarter ¹	238.6	6.1	157.7	-1.4
4				

¹ Provisional

Data prior to 2004 based on existing annual data from the Department of the Environment, Heritage and Local Government prepared by DKM Economic Consultants series, with quarterly breakdown estimated by CSO. Series from 2004 onwards based on the new CSO survey

Table 2(b) Value and Volume Indices of Production in Non-Residential Building

Base: Year 2000 = 100

Total Production in Non-Residential Building

Period	Value of Pro	oduction	Volume of Pro	oduction		
	Index	Annual % change	Index	Annual % change		
2000	100.0		100.0			
2001	124.4	24.4	110.4	10.4		
2002	134.8	8.4	112.1	1.6		
2003 2004	129.5 140.2	-4.0	105.0 106.4	-6.4		
2004	144.8	8.3 3.3	106.4	1.4 -1.3		
2006	176.0	21.5	119.8	14.1		
2000 1st quarter	91.5		95.0			
2nd quarter	96.3		98.7			
3rd quarter	100.6		102.5			
4th quarter	111.6		103.9			
2001 1st quarter	116.7	27.5	107.8	13.5		
2nd quarter	121.1	25.7	109.7	11.2		
3rd quarter	127.7	26.9	111.5	8.8		
4th quarter	132.2	18.5	112.4	8.2		
2002 1 at quarter	131.5	12.7	111.3	3.2		
2002 1st quarter	131.5	9.6	111.4	1.5		
2nd quarter	132.7	9.6 8.9	111.4	2.6		
3rd quarter 4th quarter	136.0	8.9 2.9	114.4	-0.9		
•						
2003 1st quarter	123.6	-6.0	101.7	-8.6		
2nd quarter	127.2	-4.2	102.8	-7.6		
3rd quarter	132.5	-4.7	107.1	-6.4		
4th quarter	134.6	-1.1	108.3	-2.8		
2004 1st quarter	130.4	5.5	102.6	0.9		
2nd quarter	141.1	10.9	108.0	5.0		
3rd quarter	148.8	12.3	111.6	4.2		
4th quarter	140.4	4.3	103.5	-4.4		
2005 1st quarter	120.2	-7.8	88.5	-13.8		
2nd quarter	143.8	2.0	104.8	-2.9		
3rd quarter	157.3	5.7	114.2	2.3		
4th quarter	158.0	12.5	112.5	8.7		
2006 1st quarter	156.3	30.0	109.8	24.1		
	160.5	30.0 11.5	110.3	5.2		
2nd quarter						
3rd quarter 4th quarter ¹	188.2 199.2	19.7 26.1	127.3 131.8	11.5 17.2		
·		-		_		

¹ Provisional

Data prior to 2004 based on existing annual data from the Department of the Environment, Heritage and Local Government prepared by DKM Economic Consultants series, with quarterly breakdown estimated by CSO. Series from 2004 onwards based on the new CSO survey

Appendix 3

Description of the Derivation of the Production in the Building and Construction Series prior to 2003

The annual figures for the value of output in the construction sector as per the DKM Economic Consultants annual review of the Construction Industry were taken as a starting point. *These are presented in appendix 5*.

These are aggregated into three annual series

- Value of construction in residential construction
- Value of construction in building non residential construction
- · Value of construction in civil engineering

Residential Construction

The quarterly national accounts Gross Fixed Capital Formation (GFCF) residential data series was used to apportion the annual series into a quarterly series.

Non Residential Construction

The number of persons in employment in the construction sector as per the Quarterly National Household Survey was taken as starting point. This series was adjusted to create calendar quarters (the QNHS currently publishes data on a seasonal quarter basis). The adjusted series was used to apportion the annual value of non-residential output series into a quarterly series.

Civil Engineering

The same method was used as with the non-residential construction series.

Appendix 4

Quarterly Survey of Construction Survey Form, Instructions and Classification of Economic Activity

CONFIDENTIAL





Please amend if incorrect in any respect

Building Section Central Statistics Office Skehard Road Cork

Reply to:
THE DIRECTOR GENERAL
in the post-free envelope
enclosed

Phone enquiries to:

LoCall: 1890 313 414 Cork (021) 4535523/24/25 Fax No. (021) 4535553 quoting the Ref. No. shown Website www.cso.ie

QUARTERLY SURVEY OF CONSTRUCTION (including the Allied Trades)

Quarter

In accordance with the Statistics (Quarterly Survey of Construction) Order 2004, Number 182, made under the 1993 Statistics Act, your business must complete and return this statutory form to the Central Statistics Office. It is an offence for a person to refuse or fail to provide the information requested in this form.

This inquiry is used to obtain information on the value of construction work done and the value of new orders received. Your response is important so that we can produce accurate and up to date data on the construction industry. The information you provide will be treated as strictly confidential in accordance with section 33 of the Statistics Act, 1993 and with EU law, and cannot be accessed under the terms of the Freedom of Information Act, 1997.

It will be used for statistical purposes only and will not be disclosed to any other Government Department or body.

Please read carefully the enclosed instructions before completing the form. If you need clarification on any points, please contact us. The details on this form should correspond as closely as possible to the calendar quarter indicated. Please forward the completed questionnaire within the next 2 weeks to facilitate the early publication of results. An early reply will avoid reminders and visits from office representatives. The enclosed envelope, which need not be stamped, should be used for your reply.

Donal Garvey Director General

Please refer to Instructions be	efore completing this form.
1. Please describe the nature of your business: (e.g. CIV	IL ENGINEERING, etc.)
2. Number of Persons Engaged in the pay week ended	Persons
INCLUDE - Proprietor(s), salaried/wage employees	Full Time L
and "labour-only" subcontractors	
	Part Time

3. Value of Construction Work Done (round values to nearest 1,000)

Please enter information on the value of work done (as distinct from sales), excluding the value of the land on which the work is being carried out, during the period

Value Added Tax (VAT) should be excluded. Work done by non "labour only" subcontractors should also be excluded. Note: If exact figures are not available, careful estimates are acceptable.

Important: Enter figures to the nearest thousand. IF A FIGURE IS NIL, PLEASE LEAVE THE SQUARES BLANK.

	Example:	New	/ Con	struc	ction	€1,2		567 a Id be ei					tena	nce	€ 5	54,32	21
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	Tourism, Sport & Recreation			,_			,				,[],[
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	Other],[,				,[],[
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	- Other],[,				,[],[
	Please specify what "Other" refers to:																

4. Value of All New Contracts & Orders Obtained (round values to nearest 1,000)

Please enter information on the value of all new contracts and orders obtained during the period

Value Added Tax (VAT) should be excluded.

Important: Enter figures to the nearest thousand.

IF A FIGURE IS NIL, PLEASE LEAVE THE SQUARES BLANK.

Example:	New C	Cons	truc	tion	€1,.				ar e en	Re _l d as				ainte	enar	ice	€5	54,	321
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(ii) Number of Residential Units																			
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- Other],[,[] ,				,			
Please specify what "Other" refers to:																			

5. Details of Large Contracts and Orders (€ 1,000,000 and over)

For contracts and orders obtained during the period of €1,000,000 AND OVER (already included in Question 4), please supply the following details: (round values to nearest 1,000)

Value County
Brief Description
Expected Start Date Completion Date Start Date Partnership) project? Start Date No
Value County
Brief Description
Expected Start Date Completion Date Start Date Partnership) project? See No
Value County
Brief Description
Expected Start Date
Is this a PPP (Public Private Partnership) project? ☐ Yes ☐ No
Value County
Brief Description
Expected Start Date
CERTIFICATE
Name (block letters)
Status in business Phone
Email Address Date

QUARTERLY SURVEY OF CONSTRUCTION INSTRUCTIONS

Please read instructions carefully

Completion of form

This form should be completed if your business is engaged in any of the activities listed in the enclosed Classification of Economic Activity form.

DEFINITIONS

New Construction

Value of all new construction work, residential or non-residential, including demolition and site preparation. Include building installation work such as electrical wiring, plumbing etc. and building completion work such as plastering and painting etc. Also include the renting of construction equipment when operators are supplied. Include major alterations, extensions and improvements of structures.

Repair and Maintenance

Value of repair and maintenance work on non-residential structures, residential improvements, house/apartment conversions etc. Include external and internal painting, tiling, decorating, replacement of roofs, electrical fixtures and fittings, plumbing etc. on existing buildings or structures.

INSTRUCTIONS

1. Description of business

The nature of your business refers to your primary activity (ie. site preparation, building of complete constructions or parts thereof, civil engineering, building installation, building completion, renting of construction or demolition equipment with operator).

2. Persons Engaged

Enter the number of persons actually at work, on holidays or on sick leave with pay for the current quarter, with a breakdown between full and part time workers. Also include labour only subcontractors.

3. Value of Construction Work Done

Include - value or estimated value of work done during the quarter; not the value of sales during the quarter.

- work in Republic of Ireland
- materials your firm used, labour costs, overheads and profits
- value of work done by labour only subcontractors
- work on buildings which you hope to sell later for profit (speculative work)
- demolition & site preparation
- work done by your firm on its own business premises
- fixtures, equipment and tools your firm made and used in construction
- anything your firm supplied free to subcontractors

Exclude: - work done by subcontractors (other than labour only subcontractors)

- work in Northern Ireland, or overseas
- VAT
- the value of land (but include the value of improvements to land such as drainage, reclamation, pipe laying, site preparation etc.)
- payments your firm made to consultants or architects from other firms
- fixtures, equipment and tools your firm made for sale
- materials your firm sold

- materials other firms supplied free to your firm

4. Value of New Contracts and Orders Obtained

Include - work in Republic of Ireland

- all new contracts and orders for new construction, renovations and alterations including any new Public Private Partnership projects
- extensions to contracts which your firm has already started
- work without a customer at the moment, which your firm has started on, buildings which you hope to sell later for profit on land which your firm (or subsidiaries) already owned or leased at the time (speculative work)
- if the work is speculative housing, include only the value of houses/apartments whose foundations you started in the quarter
- the total value of contracts if your firm is the management contractor

Exclude: - the value of contracts and orders, which you are giving to subcontractors

- orders obtained for work in Northern Ireland or overseas
- VAT, professional fees and the value of land owned or leased by your firm

5. Large Contracts and Orders of €1,000,000 and over

Where the value of a new contract and order is €1,000,000 and over, please include details of the value, the location the work is to be carried out, a brief description, expected start and completion date and whether the project is a public private partnership or not.

Guidelines for completing scannable forms

The enclosed form will be scanned electronically.

In order to get the best possible results, it would be greatly appreciated if you follow the instructions below.

A correctly completed form will help avoid gueries.

NB Please do not separate the pages of this scannable form (i.e. cut, tear etc).

- Please write clearly in blue or black ink.
- Enter one letter or number in each box and print clearly within the lines.
- Do not make any stray marks on the scannable form e.g.
- If a box should be blank, please do not fill it with zeros or dashes.
- Do not include any commas or decimal points in boxes.
- Do not write text in place of numbers e.g.
- Please note: When entering numeric values for work done and for contracts, please round entries to the nearest thousand.

To correctly enter 2,197,924 you would enter e.g. 2 1 9 8 0 0 0

Thank you for your co-operation

Central Statistics Office Cork



QUARTERLY SURVEY OF CONSTRUCTION CLASSIFICATION OF ECONOMIC ACTIVITY



CENTRAL STATISTICS OFFICE SKEHARD ROAD CORK

Phone enquiries to: LoCall: 1890 313 414 Cork: (021) 453 5044/5528 Fax: (021) 453 5553

Please identify the exact NACE group in which your firm should be classified according to your PRIMARY activity.

45.1 SITE PREPARATION

45.11 Demolition and Wrecking of Buildings; Earth Moving

- (a) demolition or wrecking of buildings
- (b) clearing of building sites
- (c) earth moving, excavation, specialised rock blasting
- (d) drainage of agricultural or forestry land

45.12 Test Drilling and Boring

test drilling, test boring and core sampling for construction, geophysical, geological or any other similar purpose

45.2 BUILDING OF COMPLETE CONSTRUCTIONS OR PARTS THEREOF; (CIVIL ENGINEERING)

45.21 General Construction of Buildings and Civil Engineering Works

- (a) construction of all types of buildings
- (b) construction of civil engineering works
- (c) construction of pipelines, communication and power lines

45.22 Erection of Roof Covering and Frames

roofing, waterproofing and damp-proofing

45.23 Construction of Motorways, Roads, Airfields and Sports Facilities

45.24 Construction of Water Projects

- (a) hydraulic engineering rivers, canals, harbours
- (b) specialised construction work relating to water

45.25 Other Construction Work Involving Special Trades

- (a) construction of chimneys and furnaces
- (b) restoration and maintenance of outside walls
- (c) erection and dismantlement of scaffolding
- (d) shaft sinking
- (e) specialised work relating to water well drilling
- (f) bricklaying and stone setting
- (g) scaffolds and work platforms, including renting

Appendix 5

Annual Value of Construction Output

						€m
	2000	2001	2002	2003	2004	2005
Residential construction						
New private	5,948.0	6,663.8	7,860.0	10,770.3	13,701.6	16,525.2
New social housing	475.5	762.1	942.3	933.2	910.1	1,039.6
New voluntary	98.5	145.2	166.6	212.9	184.8	168.7
New local authority	377.0	616.9	775.7	720.3	725.3	870.9
Repair, maintenance and improvement (RMI)	3,073.0	3,528.4	3,125.5	2,932.2	3,375.8	3,802.6
RMI private	2,945.8	3,391.2	2,954.2	2,735.9	3,175.2	3,578.6
RMI social	127.2	137.2	171.3	196.3	200.6	224.0
Total residential	9,496.4	10,954.3	11,927.8	14,635.6	17,987.5	21,367.4
New non residential construction						
New private non residential construction						
Industry	768.4	871.4	640.8	528.6	549.8	606.0
Semi-state industry	45.6	69.9	48.1	39.3	59.8	87.5
Commercial						
Office Development	1,020.7	1,146.0	786.1	533.8	444.4	647.0
Retail, wholesale	419.4	480.0	446.9	450.8	539.4	701.2
Agriculture	221.4	155.7	143.4	128.4	171.1	179.2
Tourism	691.6	392.6	300.0	340.1	367.3	420.2
Worship	5.7	3.6	4.4	22.4	17.8	18.3
Total	3,172.8	3,119.1	2,369.7	2,043.4	2,149.6	2,659.4
Productive Infrastructure						
Roads	856.4	1,131.5	1,363.2	1,444.2	1,442.1	1,577.8
Water & Sanitary Services	493.8	547.5	559.6	536.0	472.5	474.0
Airport Development	75.0	102.4	116.1	46.8	82.2	94.1
Ports & Harbours	58.3	37.5	71.5	61.2	43.6	30.7
Energy, including new power stations	618.7	796.3	1,178.1	1,103.6	1,316.6	1,229.7
Transport, including LUAS	250.3	326.0	399.6	554.4	353.4	265.5
Telecommunications	174.2	193.6	257.9	249.3	265.3	207.8
Total	2,526.7	3,134.8	3,945.9	3,995.4	3,975.6	3,879.4
New social infrastructure						
Education	390.4	440.6	577.1	478.8	538.0	609.3
Health	199.5	231.5	319.3	329.2	306.0	338.1
Public Buildings	219.7	331.6	269.1	341.7	282.7	262.5
LA Services	45.1	96.8	181.6	92.7	95.4	155.6
Sport			57.1	83.8	115.8	77.8
Gaeltacht	5.3	8.2	22.7	14.6	27.1	21.9

Source: DKM Economic Consultants Review of the Construction Industry 2005 and Outlook 2006-2008

859.9

6,559.4

Total

Total new non residential

1,108.6

7,362.5

1,426.7

7,742.4

1,340.9

7,379.7

1,365.0

7,490.2

1,465.2

8,004.0

Value of construction output in current prices (continued)

	2000	2001	2002	2003	2004	€n 200
		2001	2002		2004	
Non residential repair and maintenance						
Private non residential						
Industry	133.3	115.6	110.7	171.5	179.6	195
Semi-state industry	22.7	22.3	14.1	11.5	12.8	16
Commercial	240.1	271.7	275.1	333.5	337.0	352
Office Development	170.2	191.5	175.4	180.8	152.2	169
Retail, wholesale	69.9	80.2	99.7	152.7	184.8	183.
Agriculture	76.6	66.9	74.5	74.6	79.3	83.
Tourism	138.3	78.5	61.3	68.0	83.7	103
Worship	36.4	36.0	57.0	28.0	46.0	55
Total	647.3	591.0	592.6	687.2	738.5	804
Productive infrastructure						
Roads	203.9	255.5	255.3	252.8	266.9	285
Water and sanitary services	152.3	172.2	194.6	214.3	266.1	298
Airport Development	21.4	21.0	24.8	26.4	26.1	29
Ports and Harbours	1.0	2.3	5.0	8.9	7.1	4
Energy	56.6	44.1	85.4	133.4	179.0	158
Transport	55.1	63.0	47.6	113.9	96.2	99
Telecommunications	45.7	51.6	22.3	16.6	14.2	48
Total	536.0	609.6	634.9	766.1	855.6	924
Social Infrastructure						
Education	151.2	168.4	144.6	83.5	138.3	136
Health	106.5	124.7	135.0	130.2	154.0	125
Public buildings	71.4	91.8	96.1	109.0	90.7	103
Sport			4.3	14.5	8.3	10
LA services	18.3	23.5	15.6	5.5	2.1	3
Total	347.3	408.5	395.6	342.7	393.4	379
otal non residential repair and maintenance	1,530.7	1,609.1	1,623.1	1,795.9	1,987.5	2,108
New construction output	12,982.8	14,788.4	16,544.7	19,083.2	22,101.9	25,568
Repair and maintenance	4,603.7	5,137.5	4,748.6	4,728.1	5,363.3	5,910
TOTAL CONSTRUCTION OUTPUT	17,586.5	19,925.9	21,293.3	23,811.3	27,465.2	31,479

Appendix 6

Capital Goods Price Index for Building and Construction

Capital Goods Price Index (Base: Year 2000=100) for Building and Construction

	M01	M02	M03	M04	M05	M06	M07	M08	M09	M10	M11	M12
2000	96.1	96.5	96.7	97.4	97.8	98.0	98.0	98.2	98.7	107.4	107.5	107.6
2001	108.0	108.4	108.5	110.4	110.4	110.6	112.6	115.6	115.7	117.8	117.8	117.7
2002	118.1	118.4	118.4	119.2	119.4	119.4	121.6	121.7	121.9	122.3	122.2	122.2
2003	121.5	121.7	121.9	123.8	123.8	123.7	123.7	123.9	123.9	124.3	124.5	124.6
2004	125.9	127.1	128.6	130.1	131.0	131.3	132.9	133.4	133.9	135.2	135.7	136.3
2005	136.2	136.0	135.9	137.1	137.4	137.5	137.7	137.8	138.0	140.1	140.6	140.8
2006	141.4	142.5	143.4	146.6	147.7	147.6	147.9	148.6	148.9	151	151.3	151.4
2007	151.5	151.6	152.3	153.3	153.4	153.7						

Source: CSO Capital Goods Price Index for Building and Construction