

## Production of estimates of Construction New Orders

New Orders is a monthly series of new contracts and orders for new building, renovation or alteration work placed by clients outside the construction industry. Press notices are published on the first Thursday of the month, except where this would clash with the publication of Output, when it becomes the second Thursday of the month.

New Orders figures include:

*All new contracts and orders for new construction work or renovations and alterations work obtained in the month from clients and contractors outside the construction industry;*

*Extensions to existing contract orders;*

*The value of new construction work to be done during the contract on serial, run-on or measured term contracts and package deals;*

*New construction to be undertaken at the contractor's own initiative;*

*Total value of contracts where the responder is the appointed management contractor.*

The following are excluded:

*Contracts for repair and maintenance;*

*Sub-contracts awarded by other contractors in the construction industry;*

*Contracts obtained from management contractors;*

*Additional costs for work in an existing contract, eg on variation of price contracts.*

### **Sampling and collection of all New Orders information.**

The monthly construction new orders information for Great Britain is based on monthly returns from a sample of around 5,500 firms taken from the New Orders universe of around 27,000 construction contractors. This universe is kept up-to-date through quarterly exchanges of information with the **Inter-Departmental Business Register** as well as information from data suppliers.

Construction firms on CISTATS (our bespoke statistical software package) are assigned to value groups (VGs) based on their annual level of new work, which are used to produce a stratified rotational sample, with a rotation period of 24 months.

Rotational sampling is explained in **Appendix A**. The table below shows the value groups (or "strata") and the sampling ratios used:

Value Group	Value (£)	Sampling Ratio
1	Nil	1 in 8
2	1 - 99,999	1 in 8
3	100,000 – 299,999	1 in 6
4	300,000 – 999,999	1 in 2
5	1,000,000 – 4,999,999	1 in 1
6	5,000,000 – 99,999,998	1 in 1
7	99,999,999 and over	1 in 1

The overall response rate at the provisional stage is 60-70% rising to 70-75% for final figures. The lower value groups tend to have a response rate around 60%, whereas VGs 6 and 7 frequently have response rates above 80 %.

DTI collects detailed information for all contracts over £25,000 ("classified" contracts), including nature of work (eg agriculture, shops or housing), work type (new construction or renovations and alterations), class (private, public or new

speculative) and total value (excluding VAT, site or land value, and architects fees). We also collect the total number and value of jobs under £25,000 (“unclassified” contracts), as well as the nature of work, value and class of the first (or only) and last jobs.

### **Grossing and other production processes**

Approximately one week prior to publication the processing of New Orders returns is closed down so that a result can be produced. The primary process run is that of “grossing”; multiplying up the results so that they represent the whole population. The first stage is the identification of outliers (unusually high responses) and lead-ins (potential outliers) so that the reporting firm can be moved to a more relevant VG for the calculation of the grossing factor. Outliers and lead-ins are identified automatically, according to pre-set limits, but must all be accepted manually before grossing can take place.

Each contract is grossed according to the VG and region of the reporting company. The grossing factor is calculated using the size of the universe, the sample size, the number of live returns and the number of closedowns in that VG and region. The precise formula is:

Round  $[U/(L+(\text{Round}((1+\text{Round}((L+C)/n))/2)*C))]$  where

U = No. of companies in the Universe

L = No. of live returns (i.e. those with contracts or nil return, but NOT closedowns)

C = No. of closedowns or goneaways

n = No. of firms sampled

Rounded to 6 decimal places.

A job weight and trade weight are also applied. The job weight depends on the value of the contract, the type of work and class. The trade weights are:

Trade Type	Weighting
General	
Construction (1,2,3)	1
Specialist Construction	0.96

There are exceptions to this: contracts greater than £20 million and all VG7 companies have a grossing factor = 1.

Classified and unclassified contracts are grossed separately. Classified contracts are grossed individually, using the following formula:

Value \* grossing factor \* job weight \* trade weight = grossed value

Unclassified jobs have a more complicated grossing process. First the total value and number of jobs are grossed using the grossing factor appropriate to the relevant firm, and then the trade weight appropriate to the firm is applied. The partially grossed total in each cell is then “spread”, or split, into region, type of work and class using the information provided by each company about the first and last jobs. These spread totals are then multiplied by the relevant job weights.

Following grossing, a results table (known as the NO40) giving current new orders by region, type of work and class is produced from CISTATS, and is the basis for producing the published results. A listing of all classified contracts is used to check the details of large contracts (over £2 million) and whether there are outstanding

returns from VG7 companies which need to be chased. Details of returns awaiting validation are also checked. The results of these checks are added to the results table to give current price New Orders figures by region, type of work and class.

### **Deflation**

New Orders are deflated, or adjusted for the effects of inflation, using construction price indices applicable to the relevant sector (eg private housing, infrastructure etc). The indices used are:

MATHO	New Housing Materials Producer Prices
INDHP	House prices at mortgage approval stage
LABS	Cost of skilled labour
LABU	Cost of unskilled labour
HAV	Cost of heating and ventilation labour
ELEC	Cost of electrical installation labour
PIPSHF	Price index for Public Housebuilding (fixed)
PIPSHV	Price index for Public Housebuilding (variable)
SDDF	Price index for Scottish Public Housebuilding (fixed)
SDDV	Price index for Scottish Public Housebuilding (variable)
RCPIV	Price Index for Road Construction (fixed)
PUBLDF	PSA Public Sector Value Weighted Index (fixed)
PUBLDV	PSA Public Sector Value Weighted Index (variable)
BCISPRVF	BCIS Private Sector Index (fixed)
BCISPRVV	BCIS Private Sector Index (variable)
BCISPRIF	BCIS Private Industrial Value Weighted Index (fixed)
BCISPRIV	BCIS Private Industrial Value Weighted Index (variable)
BCISPRCF	BCIS Private Commercial Value Weighted Index (fixed)
BCISPRCV	BCIS Private Commercial Value Weighted Index (variable)

Most of the cost indices are supplied by **Price and Cost Indices Branch**, based on their surveys of tender prices and labour costs. MATHO is supplied by the Office for National Statistics, and INDHP by the Office of the Deputy Prime Minister. For example, Private Housing New Orders are deflated using a combination of the House Prices At Mortgage Approval Stage index, the New Housing Materials Producer Prices index, and the various labour cost indices.

### **Seasonal Adjustment**

The constant price figures are then seasonally adjusted, again by sector, using factors produced using standard seasonal adjustment software called X11ARIMA. This process smoothes the series so that seasonal effects such as weather conditions, holidays and the beginning and end of the financial year do not affect comparisons across time. For example, the level of Public Housing orders rises significantly during February and March, the end of the public sector budget year, and if this effect was not removed it would appear that Public Housing orders were rising.