

The economic impact of the construction sector

Construction Industry Federation

Reliance Restricted

08 July 2020 Final Report



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Economic Impact Assessment of the Construction Industry

08 July 2020

Dear Hubert,

In accordance with the terms of our engagement letter signed by you on 19 June 2020, we have prepared an Economic Impact Assessment for the construction industry.

Limitations of Scope

We have not, except to such extent as you requested and we agreed in writing, sought to verify the accuracy of the data, information and explanations provided by yourselves, and you are solely responsible for this data, information and explanations. We have therefore relied on the information provided by you to be accurate and complete in all material respects.

The report has been provided to you for the above Purpose only and should not be used or relied upon for any other purpose, nor should it be disclosed to, or discussed with, any other party without our prior consent in writing.

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The figures published in this report were derived assuming a non-Covid-19 environment. While it is acknowledged that the Irish economic landscape has changed markedly since early March 2020 with unprecedented disruption brought on by Covid-19, there appears to be a consensus view that the economy will recover in 2021 and reach its pre-pandemic level in 2022 (Department of Finance, April 2020).

We appreciate the opportunity to have provided EY's services to the Construction Industry Federation. Should you have any queries or comments regarding this report or if we may be of any further assistance, please do not hesitate to contact me on +353 1 221 2611.

Yours sincerely

Simon MacAllister

Partner



Dashboard

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Executive Summary





1 Executive Summary

Total economic output generated by the construction industry was €50.88bn in 2019, contributing €3.84bn to the Irish Exchequer

1 Executive Summary

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Total economic output
in 2019

€50.88bn

In 2019 the construction industry generated output of €27.6bn, which resulted in total output of €50.88bn across the Irish economy

This output generated a total Gross Value Added (GVA) of €18.82bn. This represents the industry's contribution to Irish GDP (and represents the profits and wages generated).

More on page 12

Total jobs supported
the industry

332,242

In 2019 the industry generated 147,100 direct jobs as well as an additional 185,142 FTE jobs across the economy.

These 185k jobs generated total wages of €9.9bn at an average wage of €29,854. This €9.9bn does not include the payments to self-employed contractors meaning it underestimates the total employment payments.

More on page 13

Total taxes generated
by the industry

€3.84bn

The total output of €50.88bn generated €3.8bn in taxes including payroll and profit taxes. Development levies and planning permission fees have not been included in this value as figures for 2019 have not yet been released.

Payroll taxes generated €2.82bn, while profits and consumption generated the remaining €0.99bn.

The total raised in development contributions in 2018 (latest available) was €237.5m.

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Total economic impact
of public sector works

€18.7bn

EY-DKM estimates show that 37% of all work is associated with public sector projects, including road and other transport related projects.

This €18.7bn of output is associated with GVA of €7bn and 123,000 FTE jobs across the economy

More on page 14



1 Executive Summary

Construction output is forecast to fall considerably in 2020 but will continue to be a significant contributor to GDP

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Construction multipliers for every €1m spend

Output	GVA	Employment
Direct	Direct	Direct
1.00	0.30	5.34
Indirect	Indirect	Indirect
0.58	0.23	4.36
Induced	Induced	Induced
0.26	0.16	2.35
Total	Total	Total
1.85	0.68	12.05

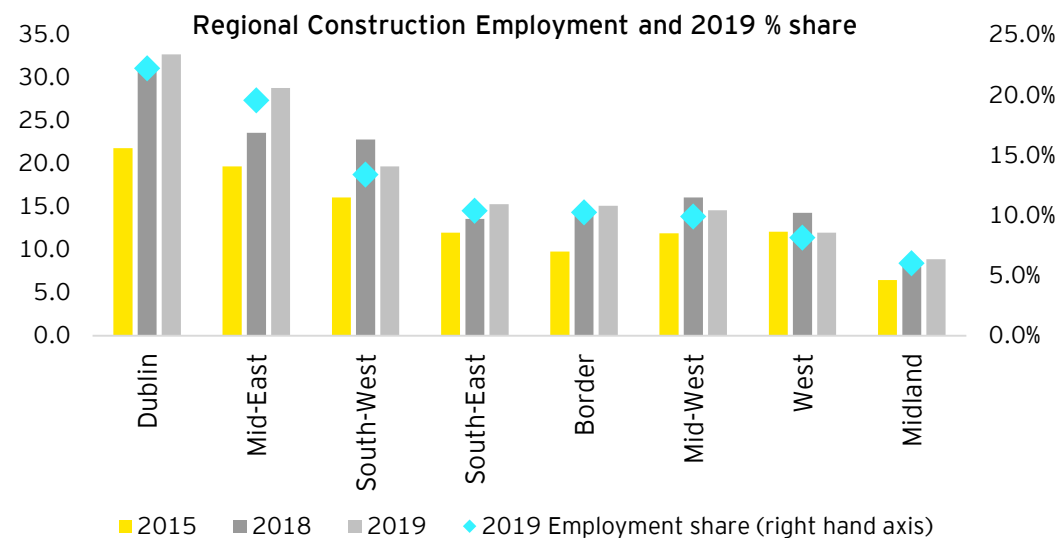
Figures may not sum due to rounding.

- ▶ Construction output represented 7.9% of GDP in 2019
- ▶ Total direct employment was 147,100 in Q4 2019
- ▶ Employment is concentrated in Dublin and the Mid-East region, accounting for 41.8% of total construction employment
- ▶ Construction imports represent 28% of total construction output
- ▶ Public sector estimated to account for 37% of total construction output

Key Macroeconomic and Construction Metrics

	2015	2018	2019	2020E	2021	2022
Current Prices, €bn.						
GDP	262.8	324.0	347.2	312.4	338.3	358.8
GNI*	162.7	197.5	N/A	N/A	N/A	N/A
Construction output	14.17	24.20	27.56	18.33	22.74	25.68
Construction as % of GDP	5.4%	7.5%	7.9%	5.9%	6.7%	7.2%
Construction as % of GNI*	8.7%	12.3%	N/A	N/A	N/A	N/A
Constant 2017 Prices						
Real GDP %	25.2%	8.2%	5.5%	-11.1%	6.7%	4.5%
Construction output - volume % change	7.0%	12.5%	6.8%	-37.7%	17.6%	7.6%

Source: CSO, EY, Euroconstruct



Source: CSO

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Background and context



2 Background and context

At 7.9% of GDP the construction industry is a vital sector of the economy, but has the potential to represent 12% of GDP, given the pipeline of projects in the NDP

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Context for this Economic Impact Assessment

The construction industry is a vital sector of the Irish economy. The industry is responsible for providing the housing, social and productive infrastructure required to sustain economic growth and competitiveness and attract foreign direct investment. It is one of the most labour-intensive forms of economic activity and thus is also an important contributor to job creation and long-term productivity. In the past seven years, since employment in construction reached its lowest level (Q1 2013), the industry has generated the highest proportion of the total jobs created across the economy, at 15%. Moreover, other firms throughout the supply chain also contribute to the economy through various output and employment multipliers, as the additional wages and profits generated in these firms are spent on goods and services in the wider economy.

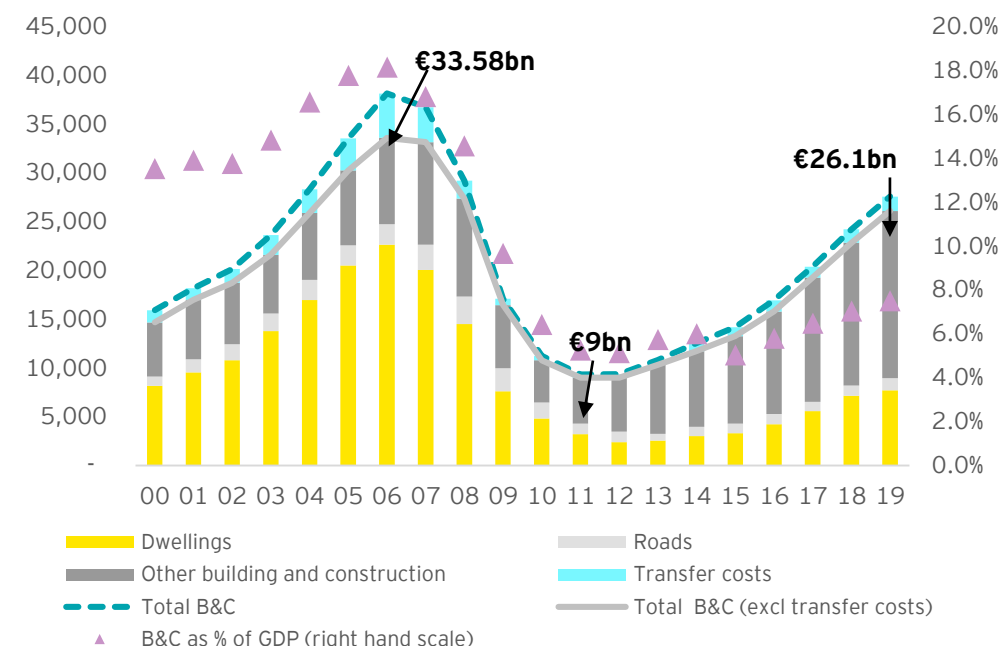
Over the past two decades, output in the construction industry has ranged from between 5.5% of GDP, at the trough of the last recession in 2011-2012, to 20.6% of GDP in 2006. In 2019 the construction industry accounted for 7.9% of GDP, compared with an average of 10.4% across 19 European countries, ranging from 5.8% in Poland to 15% in Denmark. *

Due to the backlog of infrastructure projects, including those which are publicly funded in the National Development Plan 2018-2027, it is possible the construction industry should be larger than the European average, for a period at least. Based on an optimum level of around 12% of GDP over the medium-term, the industry has been operating below this level for the past decade. If the industry was to increase to 12% of GDP from 7.9% currently, its contribution to the wider economy would be even greater than currently estimated in this report.

What is an Economic Impact Assessment?

The Construction Industry Federation (CIF) wishes to establish the economic impact assessment of the construction industry. An Economic Impact Assessment is an approach used to estimate the cumulative economic benefits that, in this case, the construction industry, generates through the wider economy.

Building & Construction Gross Domestic Fixed Capital Formation and as a Percentage of GDP



EY-DKM have developed an Economic Impact Model which is based on the CSO's Input-Output tables for the Irish economy. The model shows how the output of each sector of the economy is used as inputs for other sectors of the economy. It therefore captures the full supply chain impacts of spending in every sector.

Economic impact assessments typically use financial and economic data to generate standard measures of economic activity: output/GDP, Gross Value Added (GVA), employment and tax revenues associated with the specific sector being analysed. The methodology and results is set out in Section 3.

In addition to the EIA, the CIF have requested a review and costing, where appropriate, of three of the recommendations in the CIF Draft Budget Submission for 2021. These are set out in Section 4.

* Source: Euroconstruct, June 2020.. For further information see www.euroconstruct.org

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Economic impact





3 Economic impact

Methodology: The impact on the economy of an additional €1 million spend on construction can be calculated using a set of multipliers

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Multipliers can be demonstrated through a hypothetical example

- ▶ Assume €1m of construction is undertaken. Of this, the construction company pays €600k for the materials to construct the building and in turn these suppliers import €200k of raw materials to fill this order.
- ▶ In addition to the €1m of output generated by the construction contract itself, the Indirect multiplier adds in the output across the supply chain. In this case, the €600k purchased from the material supplier and the €200k that the material supplier purchased from the importer.
- ▶ This results in total output of €1.8m and the indirect output multiplier is therefore 1.8.
- ▶ The output multiplier is important as it is used to calculate employment. If we assume average productivity of €150k per FTE, then 12 jobs would have been supported by this output of €1.8m, giving an employment multiplier of 12 (for every €1m spent).
- ▶ As can be seen, however, the output multiplier involves an element of double counting as the total contract value was only worth €1m. The Gross Value Added (GVA) multiplier represents the true value to the Irish economy.
- ▶ GVA represents profit and wages only. In this case the construction company generated €400k of GVA (the output minus purchases). Equally the material supplier generated €400k (the €600k of output they generated minus their purchases of €200k). Therefore, the total GVA impact is €800k, giving a GVA multiplier of 0.8
- ▶ The induced multiplier follows the same logic, but also includes the output generated in businesses due to spending by all those in the supply chain above.

Input-Output Analysis

Any spending during the construction phase, or in the supply chain, will have a considerably larger effect on the economy than the initial amount spent. This is because there is an entire economic supply chain being supported by this spend, not only in the construction industry but across a wide range of sectors such as energy and building materials. It is therefore important to estimate the total economic impact of construction activities, rather than just estimating the total amount that the industry and its suppliers spend directly in the economy.

The standard economic methodology used to calculate such impacts is known as the Input - Output (IO) Method. This can be used to calculate economic 'multipliers' specific to construction operations. It is a methodology used to examine the linkages between different sectors in an economy. The CSO defines the economy, for the purposes of the IO analysis, as comprising 58 industry groups (one of which is construction), and 58 product groups (one of which is construction), thereby giving a detailed picture of the transactions of all goods and services by industries and final consumers in the Irish economy.

Economic Multipliers

Every time there is an injection of new demand into the economy, there is a multiplier effect. This is because an injection of extra income leads to more spending, which creates more output, and so on. The multiplier effect refers to the increase in final output arising from any new injection of spending.

The IO methodology can be used to calculate three different types of multipliers:

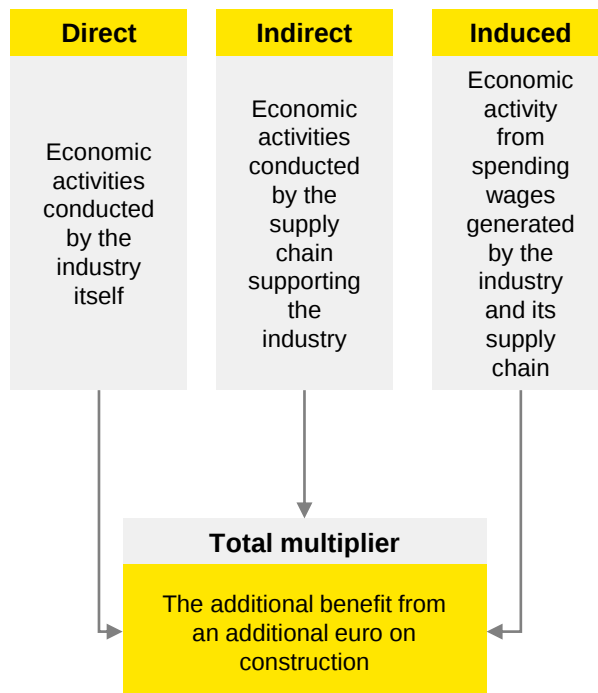
1. **Output multiplier:** This shows the total output across all sectors of the economy associated with an €1 increase in spending during construction.
2. **Gross Value Added (GVA) multiplier:** This shows the total impact on GDP. GDP is comprised of GVA plus taxes. The GVA multiplier is lower than the output multiplier due to output multiplier having an element of double counting (i.e. it includes intermediate consumption).
3. **Employment multiplier:** This shows the total impact on employment and is calculated by dividing the output by average productivity.

Each of these three multipliers can be calculated based on the current output of the construction industry.

3 Economic impact

These multipliers can be separated into three separate components to allow for a more detailed understanding of the impact of the industry on the wider economy

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Direct impacts

The direct economic effect of the industry's activity on its local economy can be quantified as:

- ▶ The number of individuals directly employed by the industry
- ▶ The wages and salaries these workers are paid
- ▶ The value of purchases directly attributable to construction activity

Measuring only the direct impacts captures the minimum economic significance of a given activity, as it excludes the linkages which a business activity has with other sectors of the economy. These linkages can be described in terms of indirect and induced economic impacts and constitute the downstream economic effects which create business, support jobs, and provide wages for other sectors of the economy. These downstream effects are analysed and quantified using the IO method.

Indirect impacts

Indirect impacts result primarily from related economic activities that are conducted by service providers other than the construction industry itself. The distinguishing feature of indirect impacts is that the activity can be attributed to the operation of the entire supply chain associated with the industry, even though the actual activity is conducted outside of it. An example would be a cement company producing materials for use on site.

Induced impacts

Induced impacts result from the spending of wages generated from activities directly and indirectly related to construction activities. Induced impacts are the knock-on impacts which occur as the construction workers, suppliers and others spend their wages creating further impacts through the economy.

The total economic impact is the sum of the direct, indirect, and induced impacts and represents the quantifiable economic contribution of the industry nationally and regionally.



3 Economic impact

Total economic output of the construction industry in 2019 was €50.88bn. This generated a total of €18.8bn towards GDP or 5.4% of total economic activity

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Total economic impact

€50.9bn



Impact of industry	Actual (€bn)	Multiplier
Direct output	€27.56	1.00
Indirect output	€16.03	0.58
Induced output	€7.28	0.26
Total output	€50.88	1.85

Output impact

For every €1m of additional output generated by the construction industry, €1.85m of output is generated across the economy.

The output generated by the construction industry has shown strong growth over the last number of years. Between 2013 and 2019, output has increased by almost €17bn from €10.8bn to €27.6bn.

As each construction project requires a significant supply chain to support it, an additional €16.03bn of output was generated across the supply chain. The industry also generated €7.28bn in the Irish economy, through the spending of the construction and supply chain workers (for instance on food shopping).

Total GVA impact

€18.8bn



Impact of industry	Actual (€bn)	Multiplier
Direct GVA	€8.23	0.30
Indirect GVA	€6.25	0.23
Induced GVA	€4.28	0.16
Total GVA	€18.82	0.68

GVA impact

For every €1m of additional output generated by the construction industry, €0.68m of GVA is contributed to GDP.

The Gross Value Added (GVA) is the sum of wages and profit and represents the contribution of the construction industry to GDP. Whilst construction industry GVA is published by the CSO, this includes all activity by construction firms, including on non-construction related activities, which amounted to €27.3bn in 2018 (latest available). Therefore it is not directly comparable to the €27.56bn of output which the industry generated in 2019. We have therefore used the relationship between this measure of output and GVA provided in the Input-Output tables to estimate a direct GVA of €8.23bn. Based on this estimate, the construction industry output adds a further €10.52bn to GDP per annum.

Multipliers

The multipliers shown in the tables represent the additional value that an extra €1m of spend would generate. For instance the table above shows that for every €1m of additional output, the supply chain would generate €0.58m of output and the wider economy €0.26m. The combination of the €1m in the construction industry plus the €0.58m in the supply chain and €0.26m in the wider economy gives the overall impact of €1.85m

3 Economic impact

This output generated 332k jobs with associated wages estimated at €9.9bn

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Total employment
332,242



Impact of industry	Actual (000's)	Multiplier
Direct jobs	147.10	5.34
Indirect jobs	120.29	4.36
Induced jobs	64.85	2.35
Total jobs	332.24	12.05

Total wages
€9.9bn



Impact of industry	Actual (€bn)	Multiplier
Direct wages	4,635	0.17
Indirect wages	3,433	0.12
Induced wages	1,851	0.07
Total wages	9,919	0.36

Total exchequer impact
€3.8bn



Impact of industry	Actual (€bn)	Multiplier
Direct taxes	€1.66	0.06
Indirect taxes	€1.24	0.04
Induced taxes	€0.91	0.03
Total taxes	€3.80	0.14

Figures may not sum due to rounding.

Employment impact

For every €1m of additional output generated by the construction industry, 12 FTE jobs and €0.36m in wages are created across the economy.

According to the CSO, the Irish construction Industry directly employed 147,100 persons in Q4 2019, 6.2% of the total persons employed in the economy. In addition to this direct employment, 120,291 FTE indirect jobs were created in the construction industry supply chain, with a further 64,851 FTE in induced jobs.

The total wages generated by the construction industry in 2019 are estimated at €4.6bn with an additional €5.28bn across the supply chain and wider economy.

Due to the high numbers of self employed contractors working in the construction industry this overall salary number under values the construction industries impact on wages. This is because self employed income is considered to be profit rather than wages within the CSO figures. This impact is therefore picked up within the GVA estimate provided on the previous page.

Exchequer impact

For every €1m of additional output generated by the construction industry, the government will gain €0.14m in tax revenue.

The construction industry contributes significant tax revenue to the Irish Exchequer due to the employment, sales and profits that the construction industry generates. In 2019 total payroll taxes amounted to €2.82bn, with profits and consumption equating to €0.98bn. Combined, a total of €3.80bn in taxes was contributed to the Irish government.

The exchequer impact does not include the development levies and other related payments, such as planning fees, that County Councils receive. This is because 2019 figures are not currently available. The most recent figures available are for 2018 and show that the total revenue received by County Councils was €261.8m, with the majority (€237.5m) comprising development levies. Due to the growth in the construction industry between 2018 and 2019 (+6.8% in volume terms) this amount will almost certainly be considerably larger in 2019.

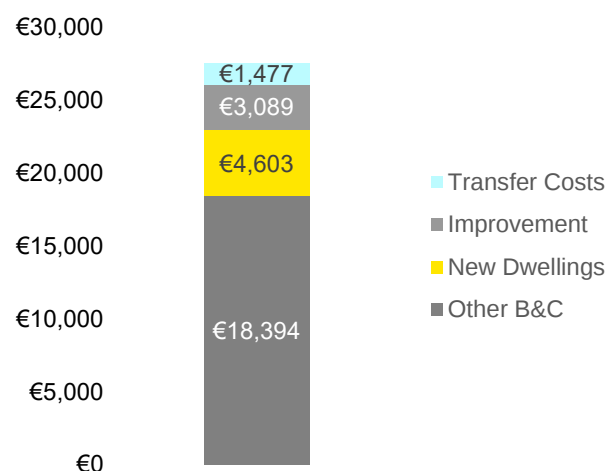


3 Economic impact

Of the total economic impact, 37% is associated with public construction projects, generating €18.7bn of total output

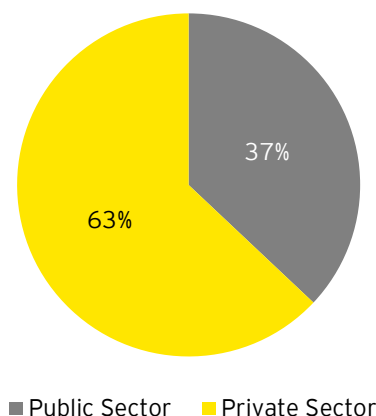
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Construction Output split by category, 2019



Source: CSO

Construction Output split between Public and Private, 2019



Source: EY analysis

The total output of €27.56bn corresponds to the Gross Domestic Fixed Capital Formation (GDFCF) in Building and Construction in 2019.* The CSO breaks the total figure into four main components. These are:

1. Improvements: This includes the output generated from upgrading or improving existing properties
2. New Dwellings: This includes the output generated from new residential construction
3. Other B&C: This other B&C category includes all private and publicly funded non-residential construction and civil engineering projects. This category captures:
 - Public investment on productive infrastructure, such as the national and non-national road network, water services, public transport, airports, seaports and broadband, as well as investment by the respective semi-State organisations responsible for transport, energy and telecommunications
 - Public investment on social infrastructure, such as social housing, educational buildings, hospitals, prisons, courthouses, garda stations, local authority offices and libraries
 - Private investment in non-residential buildings, which includes investment in industrial, offices, agricultural, retail and tourism buildings and student accommodation as well as in sports and leisure facilities.
 - Private investment by private companies operating in the energy and telecommunications sectors
4. Transfer costs: This includes all costs associated with transfers and purchases in the construction industry, such as auctioneers and solicitors fees and stamp duties.

The CSO do not provide a breakdown of output between private and public sector work. Based on EY-DKM's estimates derived for Euroconstruct, the shares have been estimated based on splitting the individual categories of work according to whether they are likely to arise in the public or private sectors. On this basis it has been estimated that 37% (€10.2bn) of all construction work in 2019 was funded by the public sector. The majority of this is associated with civil engineering projects, especially roads and public transport related projects.

Base on this analysis, the total economic impact of public sector construction projects is estimated at €18.7bn in 2019, with GVA of €7.0bn and employment of around 123,000 FTE jobs.

* The figure quoted in the chart on page 8 of €26.1bn is excluding transfer costs of €1.5bn

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