OXFORD ECONOMICS

CPA

THE ECONOMIC IMPACT OF THE UK CONSTRUCTION PLANT-HIRE SECTOR

2024

8 Bishopsgate
8 Bishopsgate
lendlease
HARE

TABLE OF CONTENTS

Foreword 4

Executive summary 6

1. Introduction 10
1.1 The construction plant-hire sector 10
1.2 Economic benefits of the sector 13

2. Construction plant-hire's direct contribution to the UK Economy 16
2.1 Direct contribution to GDP 16
2.2 Direct contribution to employment 16

3. Total contribution of the construction plant-hire sector 20
3.1 Indirect contribution 20
3.2 Induced contribution 21
3.3 Total contributions 22

Appendix: Methodology 26
Sizing the market 26
Estimating the economic impact 28

FOREWORD

Since the CPA commissioned our colleagues at Oxford Economics to research and write this report into the size and scope of the UK's plant-hire sector, it has provided us with an opportunity to look forward but also reflect on, what makes this sector so unique. It has showcased the people who work in it and the passion they bring to what they do. It shows why it is important we do more to raise the profile of plant-hire and celebrate its vital contribution to the wider construction sector.

This is the first fully comprehensive study of the UK's plant-hire sector, and it makes a compelling read for both those employed in the sector, but also for policymakers and stakeholders – the people we are looking to influence and inform, about why it matters. It also helps put into perspective the breadth and scope of the sector and why it remains a key destination for highly skilled jobs and roles. From plant equipment operators, mechanics and logistical support to back-office roles and administration, the report shows that the sector only operates because of the people who work in it.

While the report is an opportunity to showcase the state of plant-hire, it also acts as a chance to review the progress made over recent years and the contribution our members make to the wider UK economy. Over the course of the last few years, plant-hire businesses have had to navigate their way through a variety of potentially seismic issues, each of which have meant companies have had to adapt and evolve, in order to survive. The pandemic threw up a unique set of challenges and opportunities for plant-hire businesses, both in how to survive the immediate shock, but also taking advantage of new technologies and ways of working. Our members played a vital role in the national effort to support the NHS and essential services, and it is something we look back on proudly.

The wider economic downturn showed the resilience and professionalism of the sector, with companies doing their best for their clients and customers, providing a first-class service, in challenging economic circumstances.

While recent years have been tough, companies have learnt the importance of drawing upon experience, communication, innovation, and planning for the future. Put simply, without the plant-hire sector, the construction sector itself cannot operate in its present form.

As we look to the future, it is one full of opportunities, growth, new technologies and innovations. Decarbonisation and the move to a net zero economy has been at the forefront of policymakers' plans – it is important that our sector plays its part in this process, as the move away from diesel and fossil fuels gathers pace. This, alongside the rise of AI and digitalisation, will all have a profound impact on plant-hire companies in the coming decades. Across this time, the role of the CPA will also change as we meet these future challenges and opportunities, working hand in hand with our members in supporting them, providing guidance, and standing up for them in the corridors of power.

This economic impact study helps set the foundations for moving forward for the CPA across every facet of our work and engagement and celebrating 90 years of supporting the UK's construction plant-hire sector. It has only been possible because of the contribution our members have made to our continuing success.

Steve Mulholland
Chief Executive

Shutterstock.com/IR Stone

EXECUTIVE SUMMARY

£14.0 billion

GVA contribution of the construction plant-hire sector to the UK economy in 2022.

The construction sector is an important component of the UK economy, employing 7% of the UK workforce, and making activity in all other sectors of the economy possible through the infrastructure, offices, and factories that it builds.

However, an important enabling sector that sits behind construction and allows it to function in an efficient way is the construction plant-hire sector. From its beginnings during World War II, this sector includes all the companies that hire out construction plant and equipment to the construction firms carrying out building projects.

This report looks at the economic benefits the construction plant-hire sector brings to the UK. These benefits arise through three channels: the **direct** impact, which includes the impact of the companies themselves; the **indirect** impact, which occurs through the supply chain spending of these companies; and the **induced** benefits, which arise from workers in the sector and its supply chains spending their wages.

£218

added to the UK economy for every £100 directly generated by the construction plant-hire sector.

CONSTRUCTION PLANT-HIRE ACTIVITIES SUPPORT UK GDP

In this report we have estimated the size of the UK construction plant-hire sector at £10.5 billion in revenue in 2022. This includes the revenue of companies whose sole function is hiring out construction equipment, but it also includes the plant-hire revenues of larger firms that also offer other products and services.

From this revenue, we estimate the construction plant-hire sector directly contributed more than £6.4 billion to UK GDP in 2022. This is chiefly through the wages the sector pays its workers and the profits it generates.

The remainder of the revenue is used to purchase goods and services from the supply chain. We estimate the share of this spending that occurs in the UK helped to support a further indirect GDP contribution of £3.2 billion in 2022, across sectors such as construction and manufacturing.

Lastly, we estimate a third impact on GDP, as the workers of the plant-hire sector and its supply chains spend their wages in the UK economy. We estimate this induced effect at more than £4.4 billion in 2022.

Altogether, this means the construction plant-hire sector is estimated to contribute a total of £14.0 billion to UK GDP in 2022. The total GDP impact is 2.18 times the direct impact alone. This means that for every £100 contributed to GDP directly by construction plant-hire, the sector supports a total of £218 around the economy.

191,500

Employment contribution of the construction plant-hire sector to the UK economy in 2022.

THE SECTOR ALSO CONTRIBUTES TO UK EMPLOYMENT

The construction plant-hire sector itself employed an estimated 88,600 workers in 2022. This includes those who actually work for plant-hire firms and operators hired in on a temporary basis.

These workers are estimated to be approximately 25% more productive than workers on average in the UK, with a higher share being company managers or directors than in the broader labour market, and also being marginally more qualified.

25%

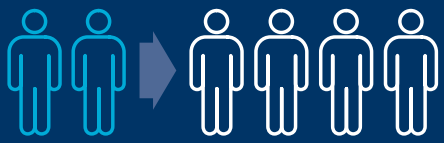
Construction plant-hire workers were 25% more productive than the UK average in 2022.

However, the sector's employment impact goes beyond this. The supply chain activity supported by the sector and described above also supports an estimated 44,800 jobs around the economy. And lastly, the effect of workers spending their wages supported an estimated 58,200 jobs.

In total this means that we estimate the construction plant-hire sector supported a total of 191,500[1] jobs in 2022. The total employment impact is 2.16 times the direct impact alone. This means that for every 100 people directly employed by construction plant-hire, the sector supports a total of 216 jobs around the economy.

216 jobs

supported across the UK economy for every 100 people directly employed by the construction plant-hire sector.



[1] Note: figures do not sum due to rounding.

VAB
EXPIRY
DATE
PTL 3215
99709912336-5
RR 14 EVO 2
Pod-Trak Ltd
PLATFORM

Pod-Trak Ltd
PLATFORM

1. INTRODUCTION

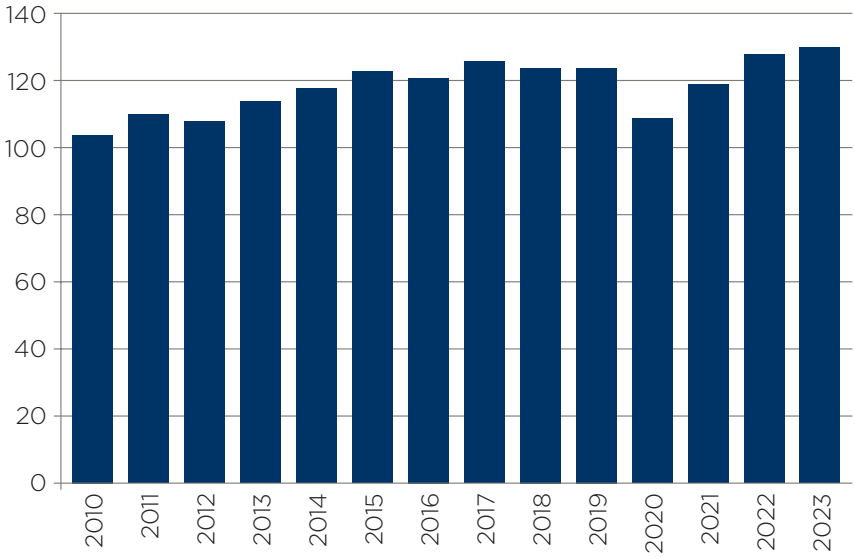
The construction industry is a large part of the UK economy, employing about 7% of the overall UK workforce. Aside from disruptions caused by the Covid-19 pandemic, which affected construction to less of an extent than other parts of the economy, the industry has also been steadily growing over the last 10 years, as Fig. 1 illustrates.

More importantly however, the sector builds the infrastructure that enables all other parts of the economy to function, from the factories and offices that produce products, through the transport networks needed for connecting customers and suppliers, to the communications networks that allow even remote workers to operate.

Construction activities involve many tasks that require only a worker and hand tools, such as bricklaying, framing, and roofing. However, many more tasks require the use of larger equipment and as such, the industry makes heavy use of construction-specific and more general plant and machinery. This includes equipment from the small scale of mini diggers and dumpers used on individual residential projects up to the tower cranes and articulated dump trucks used in skyscrapers and large site projects.

Fig. 1: UK construction sector's contribution to GDP over time

£ million, 2019 prices



Source: Office for National Statistics

This is where the construction plant-hire sector comes in. In many cases, it is not an efficient use of capital for construction firms to own all the plant and equipment that they may need on any given job, and so they hire in from businesses that specialise in owning the equipment and renting it out.

1.1 THE CONSTRUCTION PLANT-HIRE SECTOR

1.1.1 The sector's history and its importance today

The history of construction plant hire in the UK dates back to World War II, when the British government had taken ownership of considerable quantities of construction plant and equipment, and controlled both hiring rates and who could purchase new equipment.[2] The post-war years then saw the formation of the plant-hire companies that have been so important to the construction industry since,[3] saving the construction firms that were rebuilding Britain from the need to purchase capital equipment themselves.

In the 21st century, construction plant-hire in the UK is considered a more-established sector than in its European neighbours, with companies more likely to own their own fleet in countries such as Germany.[4] This is partly shown by industry association statistics: the UK's Construction Plant-hire

[2] Keith Potts, University of Wolverhampton, Construction During World War II: Management And Financial Administration
[3] Construction News, *From the shovel to the backhoe*, 1996
[4] Route One Publishing Ltd. , *The Trend Towards Construction Machine Rental In Europe*, 2016

Association represents 1,900 companies in the UK, while the continent-wide European Rental Association represents approximately 5,000,[5] including the UK companies.

It can also be estimated using national statistics by looking at the size of the construction plant-hire sector compared to the size of the construction industry itself. While truly accurate detail does not exist for this comparison, we can take the closest available information as a proxy.

Based on this, across the EU-27, GDP contributions by the construction plant-hire sector were 1.8% of the GDP contributions of the construction industry itself in 2021. By comparison, this figure was 3.6% in the UK, highlighting the significantly more important contribution that plant hire makes in the UK.[6]

1.1.2 Construction plant-hire is a diverse sector

The construction plant-hire sector is a diverse set of businesses that range from very large international companies whose annual revenues are in the hundreds of millions of pounds and whose offering covers the entire range of construction equipment, down to family-owned firms that have a small number of vehicles in their rental fleet.

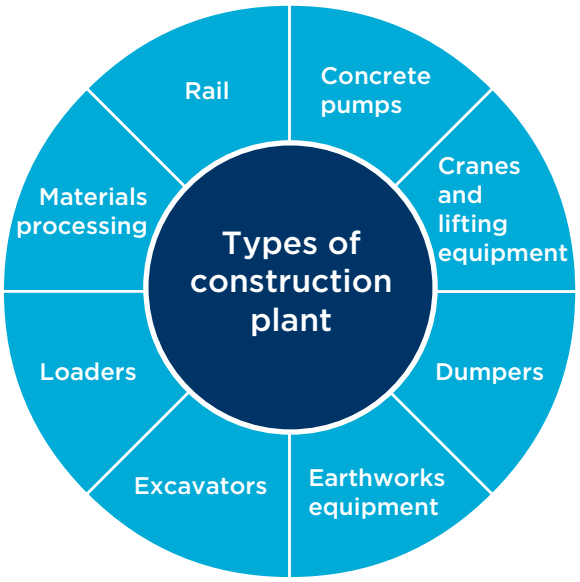
The sector's businesses are also diverse in their areas of focus:

- Some firms specialise in a single type of specialist equipment, such as tower cranes or concrete pumps, while others have a broader range, sometimes including other types of equipment like agricultural machinery.
- Some companies may focus purely on hiring out equipment, while for others that may be one area of activity alongside others such as sale of equipment, sale of construction materials, or even construction services.[7]
- Some firms may offer "self-drive" hire only, where the company provides only the equipment, while others will offer operated hire, where both the equipment and the operator are provided. Others will offer both options.

Because construction plant-hire activity is spread across the economy in this way, official statistics do not offer a complete picture of the sector's scale. Instead, a more bespoke approach must be applied, which is what this analysis sets out to do.[8] Further details on this approach are given in the Appendix.

In this report, we define the sector by focusing on the areas of equipment detailed in Fig. 2.

Fig. 2: Definition of the UK construction plant-hire sector

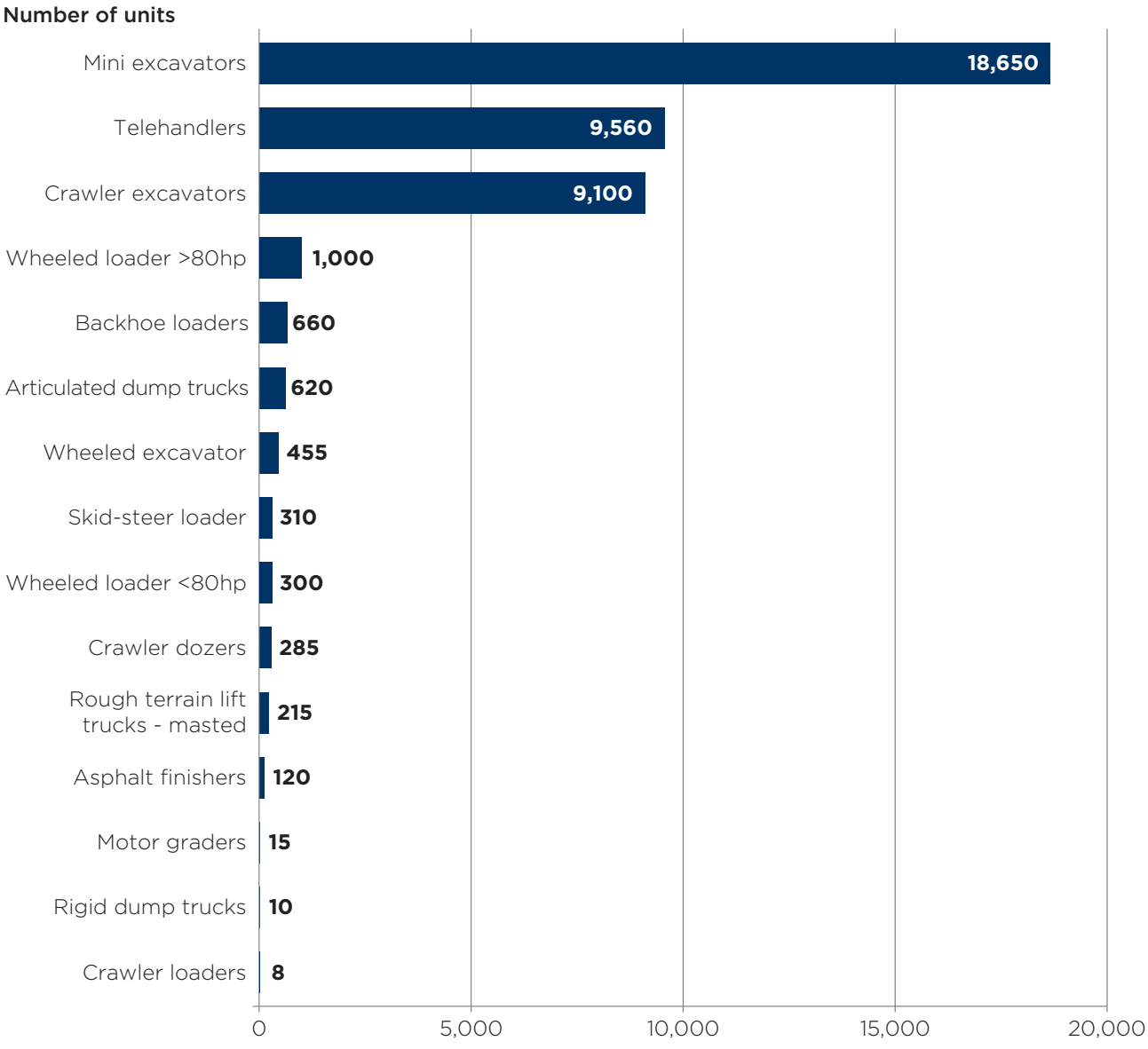


[5] European Rental Association *website front page*
[6] Calculations based on Eurostat Structural Business Statistics, comparing "value added" by firms in the "77.32 Renting and leasing of construction and civil engineering machinery and equipment" sector to value added by firms in the Construction sector in 2021. Datasets sbs_ovw_act and sbs_sc_ovw respectively.
[7] Some large companies, also known as prime contractors, have in-house construction equipment rental companies. However, as these are subsidiaries of the parent company and tend to rent solely to the parent company rather than the wider market, we do not consider these as part of the sector for the purposes of this report.
[8] The International Standard Industrial Classification used by national statistics agencies around the world, including the UK's Office for National Statistics, has a sector that is close to what we are trying to capture. This is "*77.32: Rental and leasing of construction and civil engineering equipment.*" However, statistics associated with this classification will capture revenues of these companies that are from other activities, such as materials sales or construction services. Similarly, this classification will not capture construction plant-hire revenues at companies that are classed under a different heading. As such, we take a more bespoke, bottom-up approach.

Although data on rentals by type are not readily available, we can look at sales of certain construction equipment to all customer types to get an understanding of the relative popularities of each. Of the types of equipment typically rented out by construction plant-hire firms, mini excavators are by far the most numerous, followed by telehandlers and crawler (i.e., tracked) excavators, as shown in Fig. 3.[9]

Cranes and lifting equipment also form a key part of the construction plant-hire market, although data on sales of these are not available.

Fig. 3: UK sales volumes of new construction equipment by equipment type, 2022



Source: Construction Equipment Association/Off-Highway Research

[9] Note: due to data availability, this chart represents sales volumes (i.e. units sold) rather than sales values (i.e. pound cost). As larger equipment like articulated dump trucks have a higher unit value than smaller equipment like mini excavators, this skews the display to some extent. Please also note that this chart represents sales of new equipment, but a large second-hand market also exists.

1.2 ECONOMIC BENEFITS OF THE SECTOR

In this report we assess the size of this important economy-enabling sector in terms of its **direct** impact or footprint, i.e., how many staff it employs and how much it contributes to the UK economy in terms of gross domestic product (GDP).

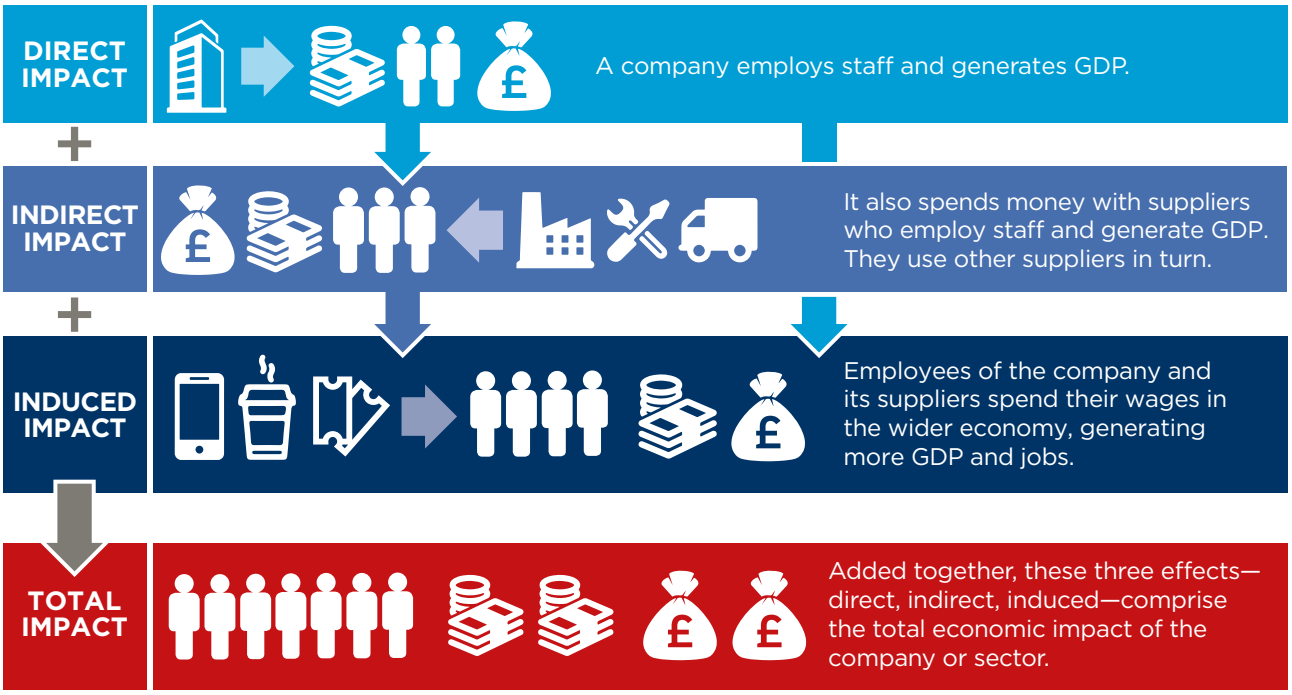
However, the benefits the sector brings go further than this immediate footprint. Construction plant-hire firms also make purchases in UK supply chains, both for construction equipment but also for all the other inputs needed to run a business, such as fuel, energy, and office supplies. This is known as the **indirect** impact.

Lastly, the sector's employees and firms in its supply chains spend their wages in the consumer-facing economy, at retailers, restaurants, and entertainment venues. In turn, these establishments make their own supply chain purchases, supporting further economic activity. This is known as the **induced** impact.

Further details on this approach are given in the Appendix.

In the rest of this report, **Chapter 2** provides our assessment of the sector's direct impact on GDP and employment. **Chapter 3** then gives our estimates of the indirect, induced, and total impacts that the sector has on the UK economy. This is followed by a **methodology appendix**, which provides more detail on the approaches we have used.

Fig. 4: The channels of impact in our model



2. CONSTRUCTION PLANT-HIRE'S DIRECT CONTRIBUTION TO THE UK ECONOMY

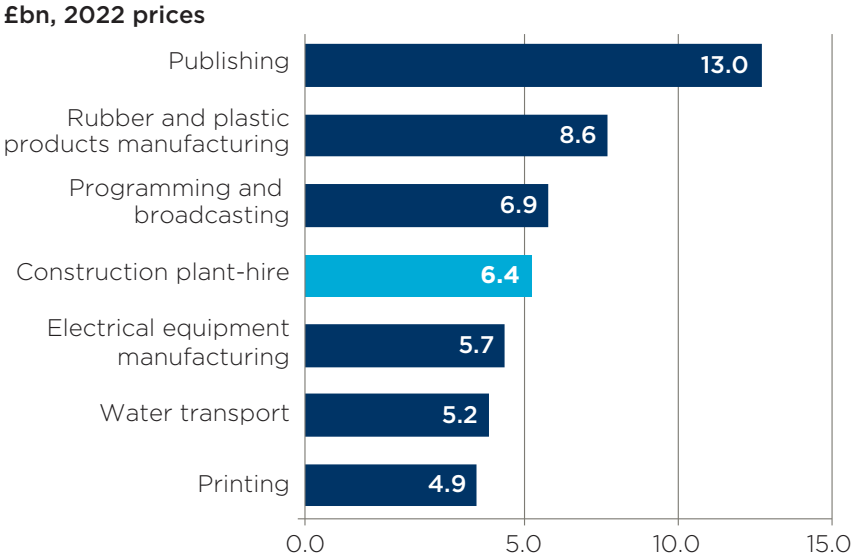
The first impact channel that we analyse is the direct contribution of the construction plant-hire sector to the economy.

2.1 DIRECT CONTRIBUTION TO GDP

In 2022, we estimate UK firms earned £10.5 billion in revenue from construction plant-hire activity.[10] **These revenues supported a £6.4 billion direct contribution to UK GDP**, in the form of employee wages and salaries, business profits, and taxes on production such as business rates.

This is the construction plant-hire sector's direct contribution to GDP, equivalent to 0.3% of the UK economy. To provide context, the sector's contribution was greater than that of the water transport and electrical equipment manufacturing sectors in 2022.

Fig. 5: Direct contribution to GDP of the construction plant-hire sector in 2022

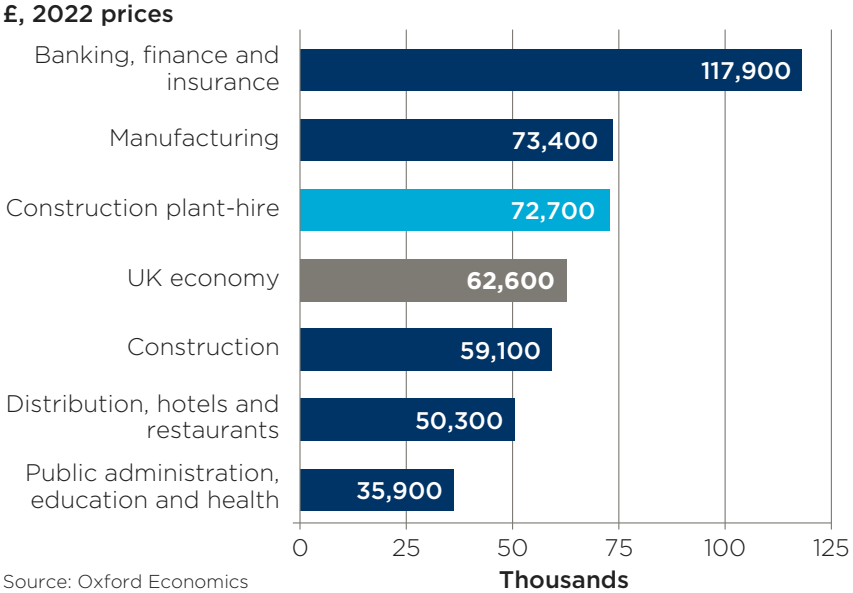


Source: Oxford Economics, ONS

2.2 DIRECT CONTRIBUTION TO EMPLOYMENT

Through its economic activity, the construction plant-hire sector directly supported employment of 88,600 people. Combining this with the estimated direct GDP contribution of £6.4 billion gives an average contribution to GDP per worker, or labour productivity, of £72,700. This puts the productivity of the sector roughly in line with the manufacturing sector, and 25% above the national average of £62,600.

Fig. 6: GDP contribution per employee in selected industries, 2022



Source: Oxford Economics

[10] Our estimate is based on a detailed review of public financial statements of construction plant-hire firms, and calculations made using sector-specific data from the Office of National Statistics. Please refer to the methodology appendix for a full description.

This direct employment includes those who work directly for companies offering plant hire, including owners and managers, administrative staff, mechanics, plant operators who are employed directly by the company, and operators that plant-hire companies employ on an ad hoc basis for individual customer contracts.

2.2.1 Demographic breakdown of sector workforce

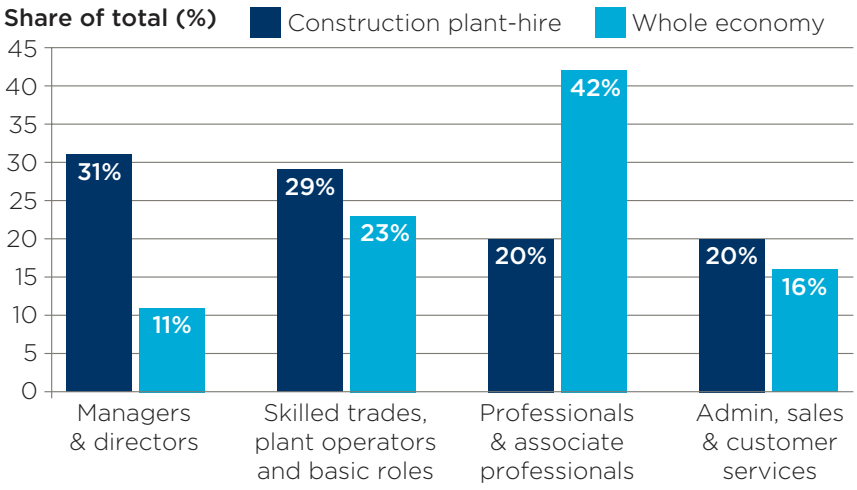
Looking at the type of roles that workers in the construction plant-hire sector fill, the most prominent category is managers and directors at 31% of the total. This compares to just 11% across the economy as a whole, reflecting the large number of small businesses in the industry with owners who also run the firm.

The construction plant-hire sector also has a larger share of workers in skilled trades and plant operator roles than the broader economy, reflecting the need for machinery mechanics. By contrast, the industry has fewer people working in professional and associate professional roles, such as solicitors, IT, scientists, etc.

We next look at the sector's workforce by highest qualification earned. The largest category is those with degrees and other higher education qualifications, at an estimated 35% of the total, perhaps reflecting the high share of those in manager and director roles.

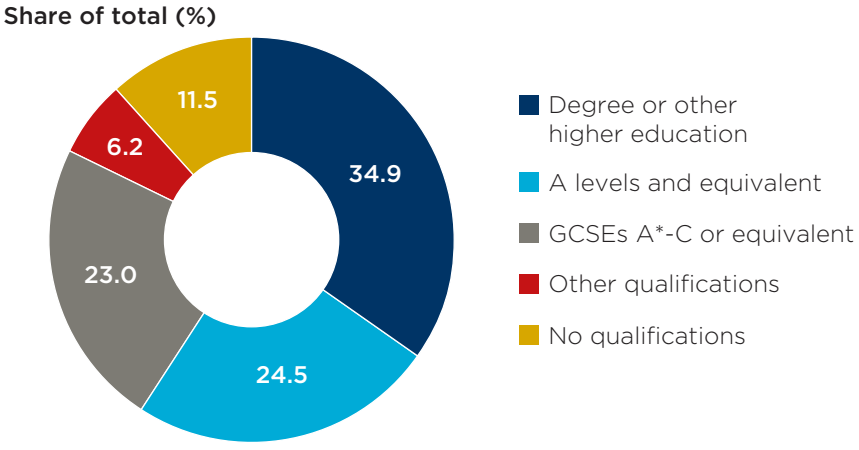
The next-largest category is those with A levels or equivalent, at 25% of the total. Both of these figures are higher than across the economy as a whole, which are 31% and 21% respectively, pointing to a more highly-educated workforce in the construction plant-hire sector than across the wider workforce.

Fig. 7: Occupations of construction plant-hire sector workforce[11,12]



Source: ONS

Fig. 8: Qualifications of construction plant-hire sector workforce[13]



Source: Office for National Statistics

Data do not sum due to rounding

[11] Based on Office for National Statistics Annual Population Survey (APS) data on the workforce in the broader *Renting & leasing of machinery, equipment & tangible goods* sector, as the closest available data. Employment in rental and leasing of construction equipment makes up approximately half of this broader sector, which also includes the rental and leasing of agricultural equipment; air and water transport equipment, and office equipment.

[12] Note, figures for "whole economy" do not sum to 100% as a further category called "personal services" (e.g., hairdressing) has been excluded from the chart as irrelevant to the construction plant-hire sector.

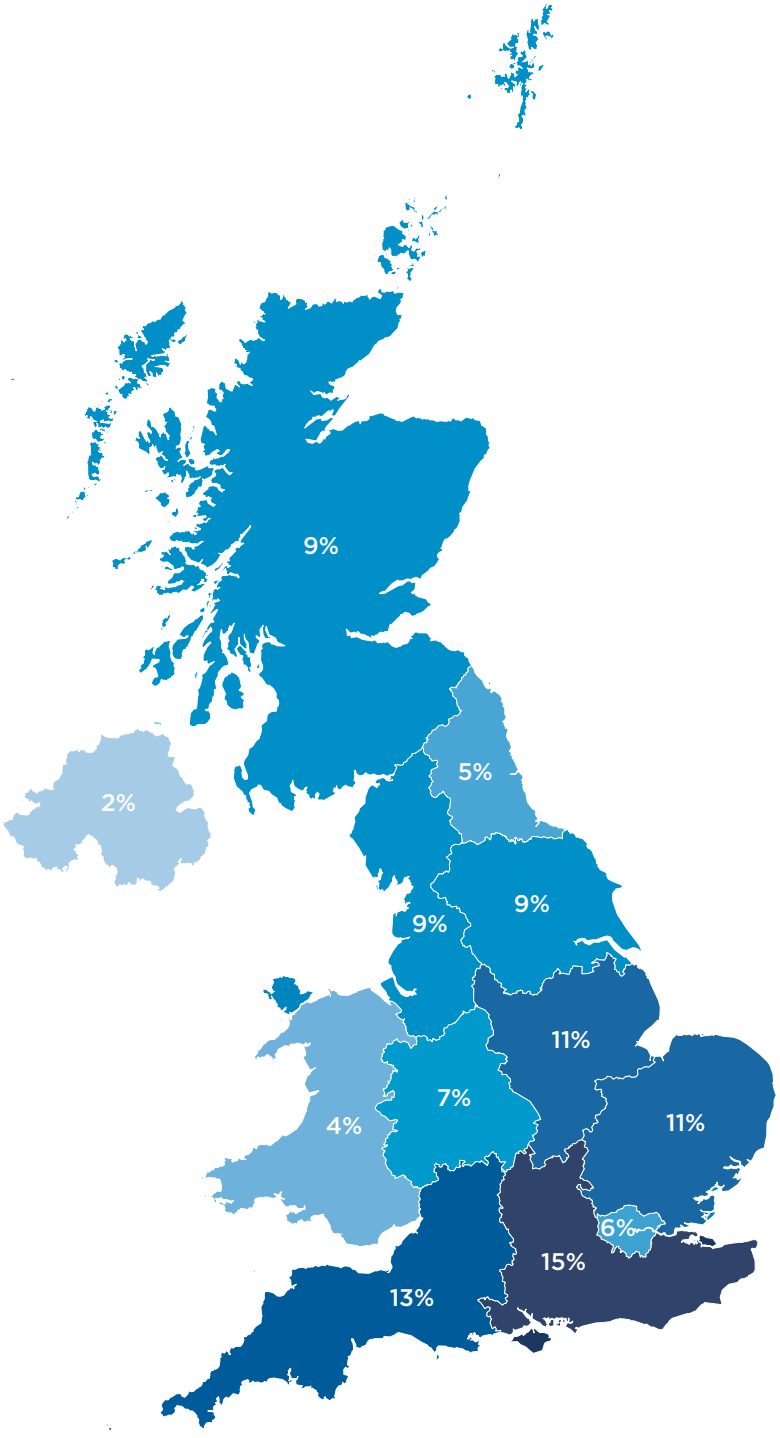
[13] Based on Oxford Economics estimates using ONS APS data on both the specific *Renting and leasing of construction and civil engineering equipment* sector, and the broader *Renting & leasing of machinery, equipment & tangible goods*.

2.2.2 Geographic split of sector workforce

We estimate the geographic split of the sector's direct workforce based on data from the Office for National Statistics, finding that just under half (45%) of the total are based in the southern regions of South East, South West, London, and East of England. This largely reflects the population distribution of the UK, with approximately the same share of the working age population living in these regions. However, the main difference is that a large share of people live in London, whereas by comparison it is a smaller region for construction plant-hire employment.

A similar pattern is seen across the other parts of the UK, with Wales, Northern Ireland, and the North East all representing a small share of the construction plant-hire direct workforce, reflecting the relatively smaller populations in these geographies. Scotland represents roughly a tenth of the sector's workforce, as well as roughly a tenth of the UK's working age population.

Fig. 9: Estimated geographic split of construction plant-hire sector direct workforce, 2022



Note: figures do not sum due to rounding

Shutterstock.com/Ceri Breeze

3. TOTAL CONTRIBUTION OF THE CONSTRUCTION PLANT-HIRE SECTOR

In this chapter, we explore the wider benefits that the construction plant-hire sector brings to the UK economy through its indirect and induced impacts on GDP and employment, and what this means for the sector's total impact.

3.1 INDIRECT CONTRIBUTION

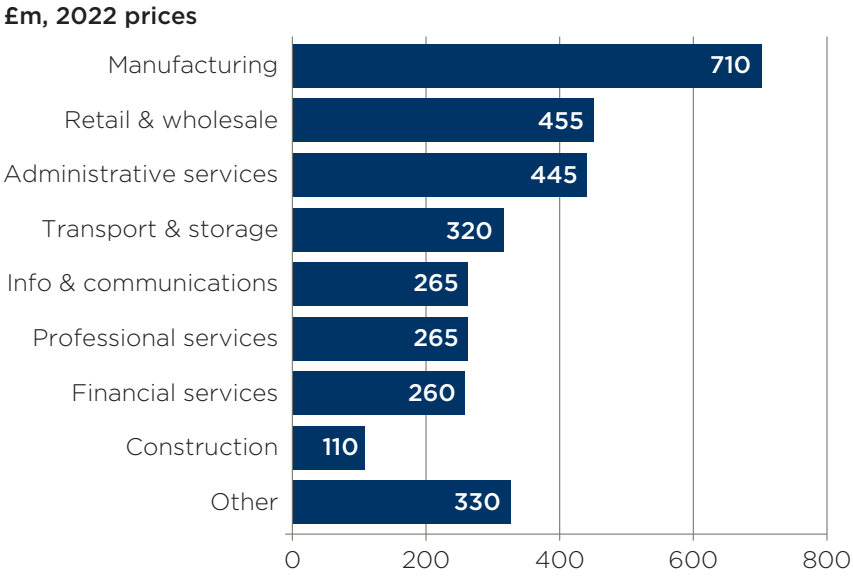
3.1.1 Indirect GDP contribution

The construction plant-hire sector makes significant purchases from suppliers in the UK each year. This includes the construction equipment that is hired out, most of which is manufactured overseas, as well as spare parts and maintenance tools. However, it also includes many other categories of goods, such as fuel, office supplies, computers, and services such as legal and accounting.

We estimate the sector supported a GDP contribution of £3.2 billion in 2022 through this supply chain spending. The sectors where this impact was the largest were the manufacturing sector at £710 million, reflecting spending on UK-made equipment, parts, and other manufactured products, and the retail & wholesale sector at £455 million, representing the impact of materials being supplied to construction plant-hire firms.

Notable impacts were also felt in the administrative services sector, which includes the renting of road vehicles needed to transport construction equipment, and the transport & storage sector, transporting materials and equipment to construction plant-hire firms.

Fig. 10: Indirect contribution to GDP of the construction plant-hire sector in 2022, by sector



Source: Oxford Economics

3.1.2 Indirect contribution to employment

The construction plant-hire sector supports further employment across a wide range of industries through the supply chain purchases that it makes. We estimate that in total, the sector supported 44,800 jobs in 2022 through this channel.

This includes a large number of jobs supported in the manufacturing industry, part of which represents workers at UK manufacturers of construction machinery, as well as service parts needed for those manufactured vehicles.

Aside from these sectors with notable links to plant hire, the sector's supply chain spending supports jobs in other areas of the economy, such as in the professional and administrative services needed to help support business activity.

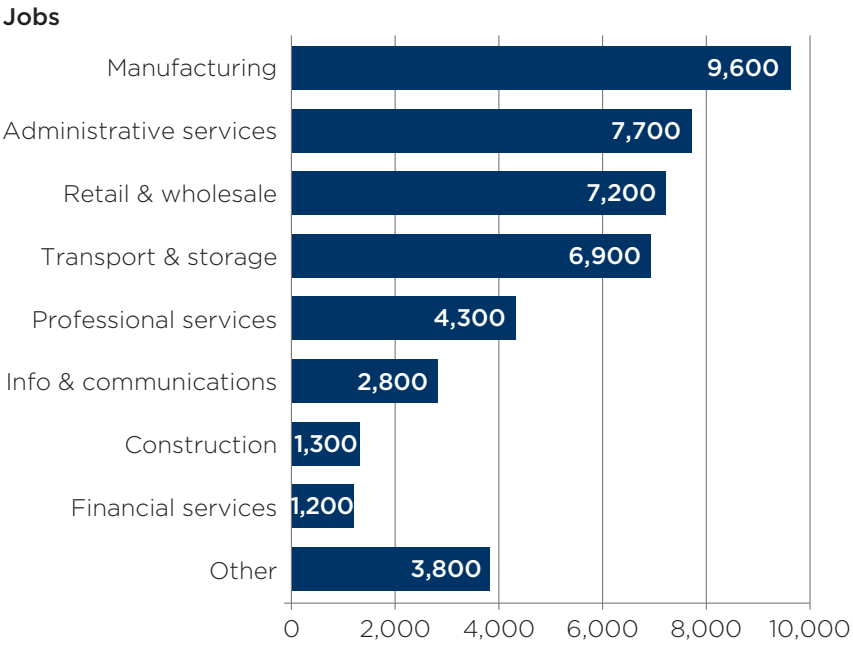
3.2 INDUCED CONTRIBUTION

3.2.1 Induced contribution to GDP

Workers employed by the construction plant-hire sector spend their wages in the consumer-facing economy, as do employees in the supply chains of the plant-hire sector. This wage spending in businesses such as shops and restaurants supports further economic benefits, as those businesses then make supply chain purchases and pay their own staff. Altogether, this wage spending supports an induced contribution to GDP, which we estimate at £4.4 billion in 2022.

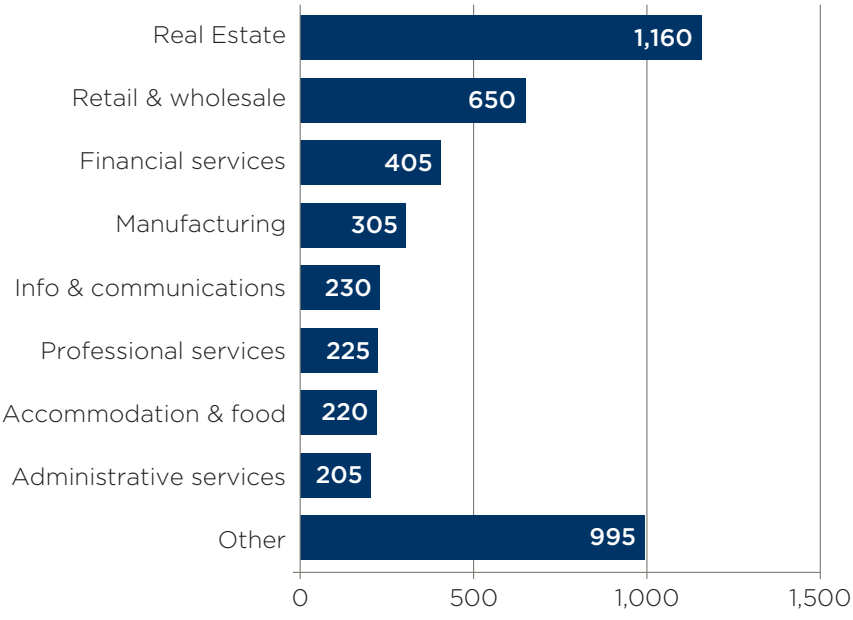
The sector where this impact is most pronounced is the real estate sector, which reflects spending on household rent and mortgage payments, at nearly £1.2 billion. Beyond this, the retail & wholesale sector saw an estimated benefit of £650 million, representing the wages and profits of shops selling to consumers.

Fig. 11: Indirect contribution to employment of the construction plant-hire sector in 2022, by sector



Source: Oxford Economics

Fig. 12: Induced contribution to GDP of the construction plant-hire sector in 2022, by sector



Source: Oxford Economics

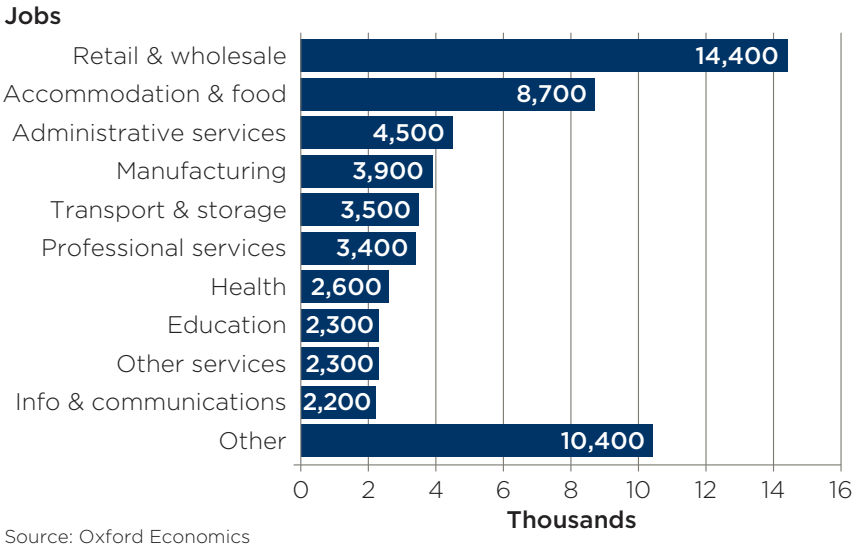
3.2.2 Induced contribution to employment

Consumer spending by the workers in the construction plant-hire sector and in firms in its supply chains supported an estimated 58,200 jobs in the UK in 2022.

The largest impacts were felt in consumer facing sectors such as retail and wholesale, with 14,400 workers supported, and accommodation and food services, with 8,700 workers supported. These sectors have a much larger employment impact compared to others than seen in the GDP impact, due to the relatively lower levels of worker productivity in these sectors.

Further effects were also felt around the economy in sectors away from consumers, such as administrative services and manufacturing. These jobs supported represent the supply chains of the businesses where consumers directly spend their money.

Fig. 13: Induced contribution to employment of the construction plant-hire sector in 2022, by sector



Source: Oxford Economics

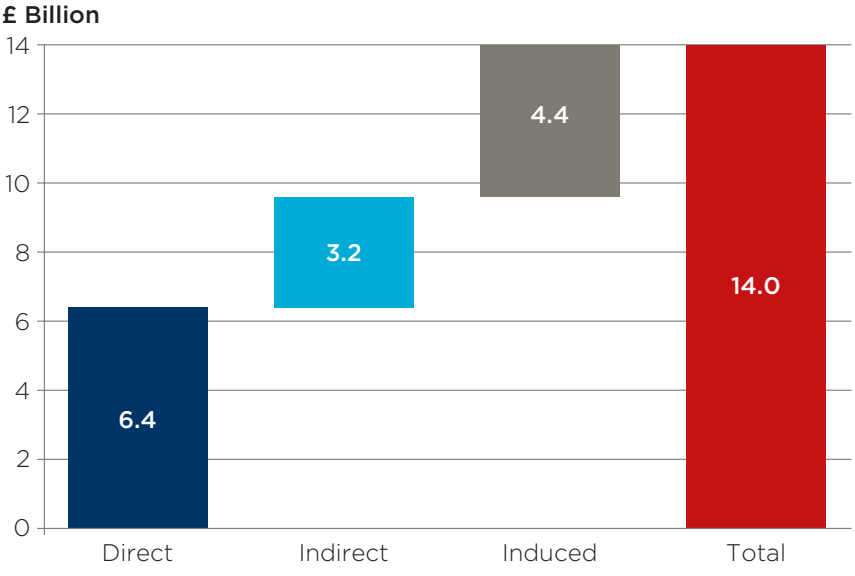
3.3 TOTAL CONTRIBUTIONS

3.3.1 Total contribution to GDP

Across the three channels described in this report, we estimate the construction plant-hire sector supported a £14.0 billion contribution to UK GDP in 2022.

This result means that **for every £100 contributed to GDP directly by construction plant-hire, the sector supports a total of £218 around the economy** as a whole.

Fig. 14: Total contribution to GDP of the construction plant-hire sector in 2022



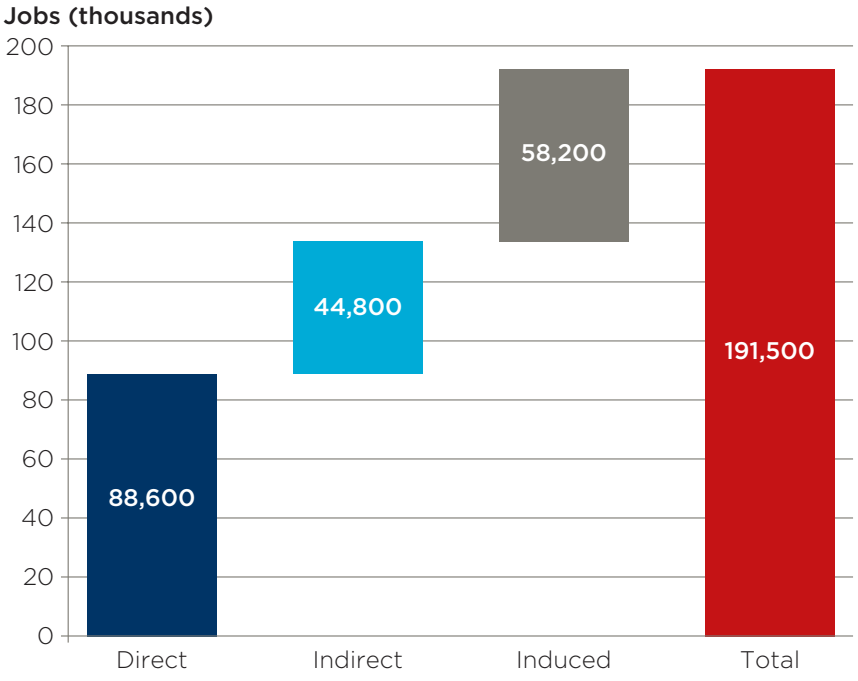
Source: Oxford Economics

3.3.2 Total contribution to employment

In total across the three channels of impact described above, we estimate the construction plant-hire sector supported over 191,500 jobs in 2022.

This means that **for every 100 people directly employed by construction plant-hire firms, the sector supports a total of 216 jobs around the economy**.

Fig. 15: Total employment contribution of the construction plant-hire sector in 2022



Source: Oxford Economics

Note: figures do not sum due to rounding

Shutterstock.com/Ceri Breeze

SCHWING
S39SX
Summit Platforms
SELWOOD

APPENDIX: METHODOLOGY

This appendix section provides an overview of the methods and approaches that Oxford Economics has used to estimate the size and impact of the UK construction plant-hire sector.

First we explain the techniques used to calculate the size of the sector in terms of the companies involved and the scale of their revenues and employment.

We then set out the economic modelling framework that we use to estimate the direct, indirect, and induced contributions to GDP and national employment.

SIZING THE MARKET

The first step in estimating the scale of the impact that the construction plant-hire sector has on the UK economy is in gathering information on the companies involved.

Collecting a list of company names

This began with collecting the names of construction plant-hire companies from several sources, including:

- CPA membership list, provided by CPA;
- Desk research to look for other existing lists of the largest construction plant-hire companies in the UK;
- A search of the Companies House database for all companies that are listed as being in the Standard Industrial Classification code "77.32 Renting and leasing of construction and civil engineering machinery and equipment"; and
- A search of the Companies House database for all companies listed outside of the 77.32 sector but with key words in their name such as "plant hire", "tool hire", and different categories of plant such as "access" and "digger".

The latter point turned up many "false positives" where the company name included a key word but the businesses was unrelated to the sector, such as sales of horticultural plants. The company names were manually investigated, with these false positives removed.

The different sources were compiled into one list, with duplicates then removed.

Collecting existing financial information

The CPA membership data group members into categories based on their revenue. We used these data to collect further information from Companies House.

Companies whose activities are above certain thresholds (at least one out of £10.2 million revenue, £5.1 million balance sheet, or 50 employees) are required to report detailed financial accounts publicly, which are freely available on Companies House.

We gathered the latest accounts for all of the companies above these thresholds in the CPA members list above plus other large firms gathered by desk research and recorded the available data. These included revenue, headcounts, employee compensation, and capital investment in plant and machinery. In some cases, a split of revenue was provided between revenue from plant hire and from other business activities.

Companies that fall under these thresholds are required to publish a much more limited set of accounts, although typically do publish headcount. We collected this information for all identified companies that published it.

Lastly, we also collected data from the Office for National Statistics (ONS) on the "77.32 Renting and leasing of construction and civil engineering machinery and equipment" sector, including

the average headcount per firm, the average revenue per firm, and the average revenue per worker.

Estimating total revenues

We next need to estimate the total revenues of the companies identified as construction plant-hire companies.

Firms with revenues published in accounts: this is already collected, as described above.

CPA members without published revenues: we estimate their revenue from the membership band in which they are placed for the purposes of calculating CPA membership fees. For instance, if the band is for all firms with revenues £150,001 to £350,000, we use the midpoint of this group as our estimate, i.e. £250,000.

Non-members without published revenues:

- We have collected headcount data for firms in this group from published accounts where available. For these, we apply an average revenue per worker ratio calculated from ONS data.
- For the longer tail of smaller firms where we have been unable to collect headcount data, we assume revenue in line with the average per firm (excluding the largest firms) for the sector, taken from ONS data.

Estimating construction plant-hire revenues

We are trying to capture the size and impact of the construction plant-hire sector rather than that of all companies offering plant-hire services among other products and services. This means that we need to estimate the share of total revenues that represents construction plant-hire revenues.

As described above, some large companies provide a split in their accounts of revenue from plant hire separately from other activities. These accounts therefore allow us to calculate an average ratio of plant hire revenue to total revenue. We calculate this ratio for two groups of companies:

- those who list one of their primary activities as "77.32 Renting and leasing of construction and civil engineering machinery and equipment", which comes out as 75%,
- those who did not specifically list this as one of their primary activities, which comes out as 36%.

We apply these ratios to companies where we do not know the split, as follows.

We apply the first, higher, of these ratios to the revenues of CPA members who list 77.32 as one of their primary activities. This is on the basis that these firms are likely to be highly engaged in the construction plant-hire industry and as such, this activity is likely to make up the majority of their revenues.

We apply the second, lower, of these ratios to the revenues of CPA members who don't list 77.32; to non-members who do list 77.32; and to non-members who don't list 77.32 but do have "plant hire" in their name. This is on the basis that these firms are likely to be less engaged in the construction plant-hire industry and as such, this activity is likely to make up a lower share of their revenues.

Lastly, we apply an arbitrary low assumption of 10% to other identified firms that are not CPA members; do not list 77.32 as a primary activity; and do not have "plant hire" in their name. This is a conservative assumption for these firms for whom either little information exists, or the majority of their business is thought to be activity such as sales of materials or equipment, construction services as opposed to plant hire, or other activities.

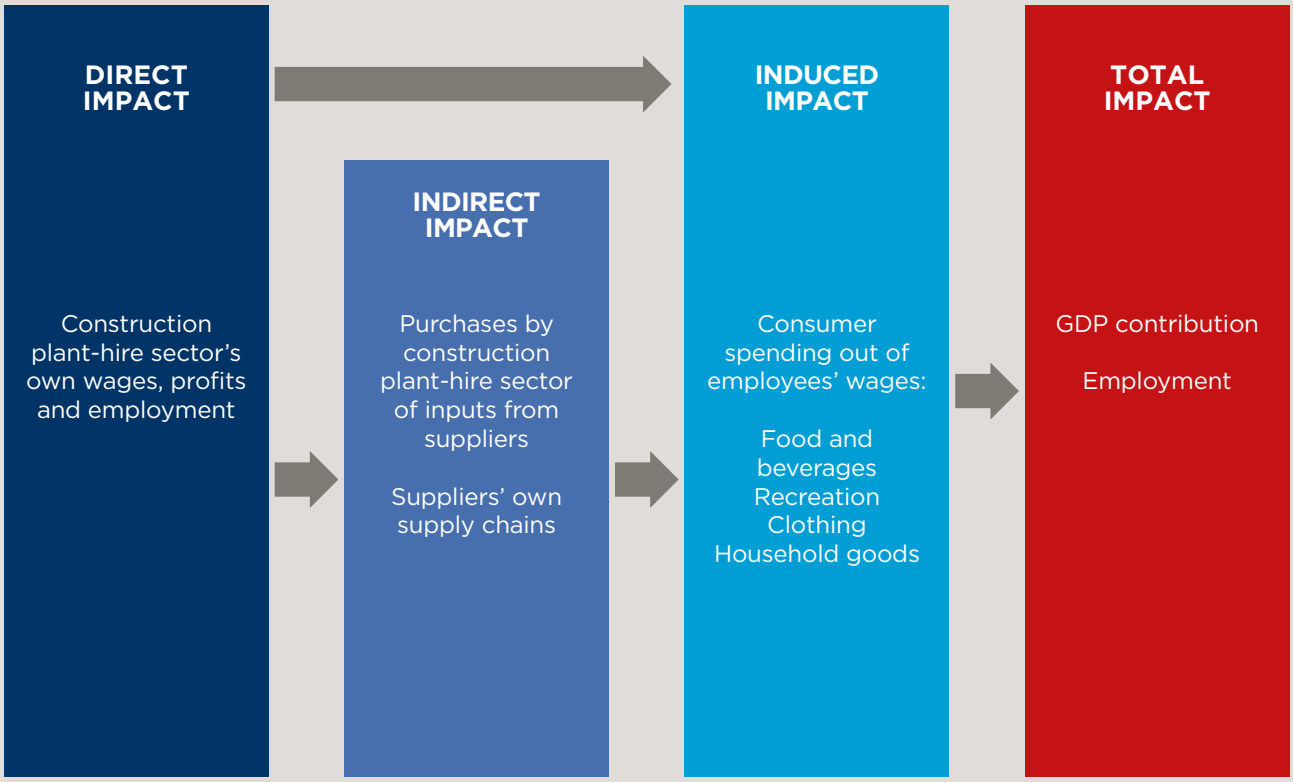
Further expert input was collected from CPA as to the plant hire share of revenues in the 100 largest identified companies, which we used to adjust the assumptions described above.

ESTIMATING THE ECONOMIC IMPACT

Economic impact modelling is a standard tool used to quantify the economic contribution of an investment or a company. As discussed in the introduction to this report, impact analysis traces the economic contribution of an investment through three separate channels:

- **Direct impact** refers to activity conducted directly by the construction plant-hire sector in the UK;
- **Indirect impact** consists of activity that is supported as a result of the procurement of goods and services by the construction plant-hire sector in the UK, purchases by those companies in turn, and so on.
- **Induced impact** reflects activity supported by the spending of wage income by direct workers and those in the supply chain.

Fig. 16: Direct, indirect, induced, and total economic impacts



Direct economic impact

Direct GDP contribution

The headline financial metric used in this report is the gross value added contribution to gross domestic product, referred to in this document as the GDP contribution of the construction plant-hire sector.

The GDP contribution differs from the revenue of the sector in that it subtracts supply chain spending from each company. This means that using GDP removes any issues associated with double-counting. For instance, if one construction plant-hire company leases equipment from another and then leases it to a customer, this would count as revenue for both companies. Using GDP removes this double-counting.

We use what is known as the "income approach" to calculating GDP, which is the sum of employee compensation and corporate profits (in the form of EBITDA, or earnings before interest, taxation, depreciation, and amortisation).

We have collected this information for the larger companies with full published accounts and therefore calculate the direct GDP contributions of these firms simply by adding these data points together.

We calculate estimates of direct GDP for the companies where this information is not available. We do this by estimating a GDP revenue to GDP contribution ratio for the plant-hire sector, using the average ratio from data collated from full published accounts. We then apply that ratio to the previously-estimated construction plant-hire revenue of the companies without full published accounts.

Direct employment contribution

As described in the previous sub-section, we have collected headcount data from all larger firms and estimated employment for smaller ones. This includes all those workers employed directly by construction plant-hire firms.

We also add an estimate of the number of self-employed operators the sector hires out alongside with its rental equipment. This is done by estimating the spend by the sector on contractors from ONS data (more detail below). This is converted to headcounts based on average wage data for construction plant operators. The wages of these workers are also added to the direct GDP contribution.

Indirect and induced economic impacts

Indirect and induced impacts are estimated using an input-output model, which gives a snapshot of the UK economy at a given point in time. The model shows the major spending flows from:

- final demand, which refers to consumer spending, government current and capital spending, business investment, and exports to the rest of the world;
- intermediate spending, i.e., what each sector buys from every other sector, also known as the supply chain;
- the distribution of income between employment and other forms such as corporate profits.

An input-output model represents a nation's economy as a table, which is used to calculate the effect of changes in spending by consumers, by an industry, or by others, on other industries and therefore on the economy as a whole. These input-output tables ultimately measure the multiplier effects of an industry by tracing the effects of its inter-industry transactions—that is the value of goods and services that are needed to produce the output of the individual sector being studied. These models can be used to measure the relationship between economic changes or shocks and the final outcome across the whole of the economy.

Oxford Economics used the input-output analytical table for the United Kingdom for 2019, published by the ONS in 2023, for this analysis. This was the most recent dataset available at the time of analysis.

Calculating supply chain spending

The first step for calculating the indirect economic impact using the input-output model described above is to estimate the supply chain spending of the construction plant-hire sector. That is, the total magnitude of spending in the UK by the sector and the breakdown of this into different products and services.

Total supply chain spending by each company can be worked out as revenue minus the direct GDP contribution, with the logic being that revenue is used to fund employee compensation, profits, and supplier purchases.

We can therefore calculate supply chain spending for the companies where we have collected full accounts by subtracting the GDP contribution from the revenue. We assume that the share of total supply chain spending that relates to the plant-hire part of each business is equal to the share of revenue that is plant-hire related.

We must also estimate the supply chain spending for other companies where this information is not available. We do this by calculating the average ratio of supply chain spending to revenue from the data collected from companies with full accounts, and applying this to the plant-hire revenue estimated for companies without full accounts.

We then estimate the sectors of the economy in which the supply chain spending takes place, i.e. which types of goods and services plant-hire firms buy, using data from the ONS and IMPLAN.[14] These data allow us to build a spend profile of a typical firm in the construction plant-hire sector. This gives us the set of inputs used to calculate indirect and induced GDP and employment impacts.

Calculating GDP and employment contributions

Indirect GDP impacts are calculated by inputting the supply chain spending estimated above into Oxford Economics' UK input-output model. This calculates GDP impacts for the UK as a whole as well as detail on the individual sectors that are benefitting from the impact.

The model calculates results for 105 different industries. For purposes of illustration, these have been pooled into broad industry categories. For example, the professional services industry amalgamates among others: legal and accounting services; market research; and engineering and management consultancy.

GDP impacts are converted into headcounts based on estimates of GDP per worker, which are calculated from data published by the ONS.

Direct, indirect, and induced employment figures in this report have been rounded to the nearest 100 full time equivalent (FTE) jobs. The multipliers quoted in the report represent the multiple of direct impacts that account for total impacts. For instance, if 20 FTE jobs were direct impacts and the total impact multiplier was 2, then the total impact (i.e. direct, indirect, and induced) would be 40 FTE jobs. These multipliers are calculated from the input-output model results.

[14] IMPLAN is a US-based provider of economic impact data which provides a granular industry breakdown of the US economy. Use of these data enables industry-specific insight to apply to the UK construction plant-hire sector as a proxy.

OXFORD ECONOMICS

Oxford Economics was founded in 1981 as a commercial venture with Oxford University's business college to provide economic forecasting and modelling to UK companies and financial institutions expanding abroad. Since then, we have become one of the world's foremost independent global advisory firms, providing reports, forecasts and analytical tools on more than 200 countries, 100 industries, and 8,000 cities and regions. Our best-in-class global economic and industry models and analytical tools give us an unparalleled ability to forecast external market trends and assess their economic, social and business impact.

Headquartered in Oxford, England, with regional centres in New York, London, Frankfurt, and Singapore, Oxford Economics has offices across the globe in Belfast, Boston, Cape Town, Chicago, Dubai, Dublin, Hong Kong, Los Angeles, Mexico City, Milan, Paris, Philadelphia, Stockholm, Sydney, Tokyo, and Toronto. We employ 700 staff, including more than 450 professional economists, industry experts, and business editors—one of the largest teams of macroeconomists and thought leadership specialists. Our global team is highly skilled in a full range of research techniques and thought leadership capabilities from econometric modelling, scenario framing, and economic impact analysis to market surveys, case studies, expert panels, and web analytics.

Oxford Economics is a key adviser to corporate, financial and government decision-makers and thought leaders. Our worldwide client base now comprises over 2,500 international organisations, including leading multinational companies and financial institutions; key government bodies and trade associations; and top universities, consultancies, and think tanks.

All data shown in tables and charts are Oxford Economics' own data, except where otherwise stated and cited in footnotes, and are copyright © Oxford Economics Ltd.

This report is confidential to the Construction Plant-hire Association and may not be published or distributed without their prior written permission.

The modelling and results presented here are based on information provided by third parties, upon which Oxford Economics has relied in producing its report and forecasts in good faith. Any subsequent revision or update of those data will affect the assessments and projections shown.

To discuss the report further please contact:

Rob Harbron, Associate Director, Economic Impact Consulting;
rharbron@oxfordeconomics.com

Jamie Charles, Lead Economist, Economic Impact Consulting;
jcharles@oxfordeconomics.com

Oxford Economics
4 Millbank, London SW1P 3JA, UK
Tel: +44 203 910 8061

OXFORD ECONOMICS

Global headquarters
Oxford Economics Ltd
Abbey House
121 St Aldates
Oxford, OX1 1HB
UK
Tel: +44 (0)1865 268900

London
4 Millbank
London, SW1P 3JA
UK
Tel: +44 (0)203 910 8000

Frankfurt
Marienstr. 15
60329 Frankfurt am Main
Germany
Tel: +49 69 96 758 658

New York
5 Hanover Square, 8th Floor
New York, NY 10004
USA
Tel: +1 (646) 786 1879

Singapore
6 Battery Road
#38-05
Singapore 049909
Tel: +65 6850 0110

Europe, Middle East and Africa

Oxford
London
Belfast
Dublin
Frankfurt
Paris
Milan
Stockholm
Cape Town
Dubai

Americas

New York
Philadelphia
Boston
Chicago
Los Angeles
Toronto
Mexico City

Asia Pacific

Singapore
Hong Kong
Tokyo
Sydney

Email:
mailbox@oxfordeconomics.com

Website:
www.oxfordeconomics.com

Further contact details:
www.oxfordeconomics.com/about-us/worldwide-offices