

# Fraser of Allander Institute

The economic contribution of Celtic FC

November 2018



### Disclaimer

The analysis in this report has been conducted by the Fraser of Allander Institute (FAI) at the University of Strathclyde. The FAI is a leading academic research centre focussed on the Scottish economy.

The report was commissioned in 2018 by Celtic Football Club. Celtic FC asked the FAI to provide an estimate of the economic contribution of Celtic FC to the Scottish economy.

The technical analysis, methodology and writing-up of the results was undertaken independently by the FAI.

The FAI is committed to informing and encouraging public debate through the provision of the highest quality analytical advice and analysis. We are therefore happy to respond to requests for factual advice and analysis. Any technical errors or omissions are those of the FAI.



# **Executive summary**

The economic contribution of Celtic FC

- This report examines the economic contribution of Celtic FC to the Scottish economy. It was commissioned by Celtic FC and prepared independently by the Fraser of Allander Institute, at the University of Strathclyde.
- Celtic FC is a leading professional football club in Scotland, playing matches in Glasgow and participating in domestic and European competitions.
- In 2016/17, the most recent year available when this study was prepared, Celtic FC's turnover was £90.6 million. The club directly employed 507 people (on a full-time equivalent basis) across a range of activities, from professional services through to football-related staff.
- With Holyrood's budget soon to be determined by tax revenues raised in Scotland, such activities are also important for funding public services. For example, the wages that Celtic FC's activities supports help to raise income tax revenues for the Scottish Government while spending will also generate VAT revenues.
- As a major sporting club, however, the economic impact of Celtic FC extends beyond the footprint of the club itself. Over the course of season 2016/2017, almost 2 million people attended matches involving Celtic FC. These spectators, in turn, represent a boost to the local economy through their spending power in hotels, on transport and on food and drink.
- To capture the economic impact of such activities, we undertook our largest ever survey of supporters. This enabled us to obtain detailed information on the amount spent around Celtic FC matches in Glasgow, Scotland and Europe.
- In addition to direct economic and sporting activities, Celtic FC's activities include a variety of socioeconomic activities, primarily through the work of Celtic FC Foundation.
- In our analysis of economic impact, we take one season's worth of activity (2016/17) as an illustration. We assess not only the direct impact of Celtic FC activities, but also the wider spill-over effects into the Scottish economy.
- Our analysis finds that
  - For the 2016/17 season, Celtic FC's activities plus all spending by spectators at Celtic matches contributed £165 million to Scottish GDP, helping to support 2,820 jobs.
  - On a net basis i.e. adjusting for the impact of spending which is not additional to the Scottish economy we find a contribution to Scottish GDP of £95 million, helping to support around 1,780 jobs.
- It is important to note that whilst we focus upon the 2016/17 season, similar levels of economic activity will be supported each and every year.
- We find that much of this economic boost is located within the local region. An increasing number of national and local governments are seeking to use regular sporting events including football as a lever to help support economic development.

# Introduction The purpose of this report



£95 million net contribution to the Scottish economy.



1,780 net jobs supported in Scotland.



### hosted 1.3 million

attendances at matches in Glasgow.

Celtic FC is a leading professional football club in Glasgow, Scotland, founded in 1888 and participating in domestic and European competitions.

The club has enjoyed considerable "on field" success and has become a significant business in its own right with a strong financial record from ticket sales, merchandise, and broadcasting rights.

During the course of a season, the club's matches draw significant attendances, the bulk of which are in Glasgow but also further afield. Millions more will be aware of Celtic FC from broadcasting of matches through various media outlets.

Whilst the majority of people attending Celtic FC matches will be from Scotland, a significant number of attendees reside outside Scotland.

The clubs "reach" therefore spans not only the domestic market but – like many major clubs – extends internationally. Increasingly, major football clubs are becoming a visible representation of a town, city or region on a global scale. Celtic is no different.

In the financial year 2016/17, the club recorded turnover of over £90 million, hosted around 1.3 million attendances at matches in Glasgow, and competed in matches where almost two million people attended.

In addition to its traditional football and business activities, Celtic FC Foundation works to progress wider socio-economic objectives in the areas of health, equality, learning and poverty.

Its activities take place in both the UK and overseas. Some are undertaken by the Foundation itself, others in collaboration with government, charities or third-sector organisations. This sets the club slightly apart from many others, where football club foundations tend to focus upon youth development and more football-related activities. The aim of this report is to estimate the contribution of Celtic FC to the Scottish economy.

This contribution is the sum of two elements: i) the economic footprint of the club itself plus ii) the economic boost from supporters attending matches (home and away) involving the club.

In order to make such an assessment, we firstly take information provided to us by Celtic FC to measure their day-to-day spending.

Secondly, to capture the economic impact of the wider supporter base, we undertook our largest ever survey of fans. This enabled us to obtain detailed information on the spending and economic activity that is supported by Celtic matches in Glasgow, Scotland and Europe.

We then use a detailed economic model to capture the direct impact of such activities and the wider spill-over effects into the Scottish economy. Our analysis finds that –

- For the 2016/17 season, Celtic FC's activities, plus all spending by spectators at Celtic matches, contributed £165 million to Scottish GDP, helping to support 2,820 jobs.
- On a net basis i.e. adjusting for the impact of spending which is not additional to the Scottish economy we find a contribution to Scottish GDP of £95 million, helping to support around 1,780 jobs.
- More than 40 per cent of Celtic FC's day-to-day spending was with Scottish firms.
- The club is particularly important to the Glasgow economy with a net inflow into the city of over one million people over the course of the season.

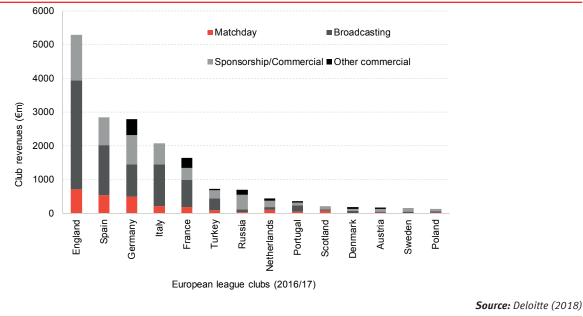
# **Celtic FC and Scottish football**

### Setting the scene

### Football in context

Scotland is a football nation. Attendance at top-tier football matches on a per capita basis in Scotland was the highest in Europe between 2010/11 and 2016/17 (Deloitte, 2018).

In 2018, Scotland's top tier league is the 10th wealthiest by revenue in Europe, behind the "big five" leagues of England, France, Germany, Italy, and Spain, as well as leagues in Turkey, Russia, Netherlands and Portugal. Total Scottish league revenues in 2016-17 were €211 million, with only €44 million from Broadcasting sources (Deloitte, 2018).





### **Celtic FC brand in context**

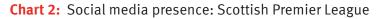
Football clubs have significant presence nationally and internationally through their brand and wider visibility.

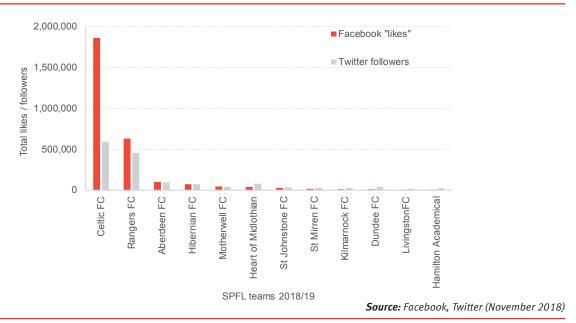
The value of a sporting brand is strengthened by an international presence. This brand reflects a club's history, financial wealth, "on-field" performance and fan engagement.

The brand of Celtic FC has been recognised as being the 25th strongest in world football (Brand Finance, 2018).

A vibrant social media offering is an increasingly popular method to engage with sporting fans. On current social media visibility, Celtic FC has the widest reach of Scottish football clubs. UEFA reported that the Celtic FC website was the 24th most popular in football in September 2017 (UEFA, 2018).



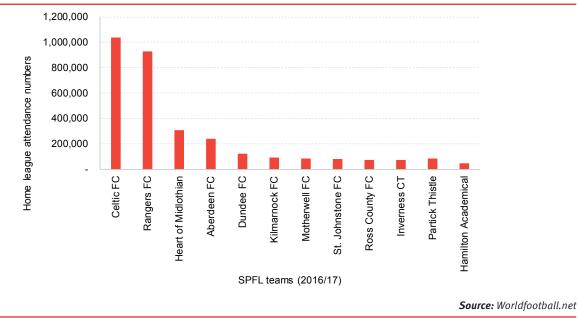




### Attendances

Celtic FC's home league attendances were the highest in Scotland in 2016/17, with spectators travelling from across Scotland and beyond.





Celtic FC's brand value is, however, significantly lower than clubs in the "big five" leagues with comparable average attendance figures. Clubs such as Liverpool FC, Manchester City FC, Paris Saint-Germain, Club Athletic de Madrid and FC Internationale Milano have larger brand value despite a smaller home attendance over the course of a season. This highlights the dominance of broadcasting revenues for clubs in the "big five" leagues and the challenge that Celtic FC face when competing at the highest level.

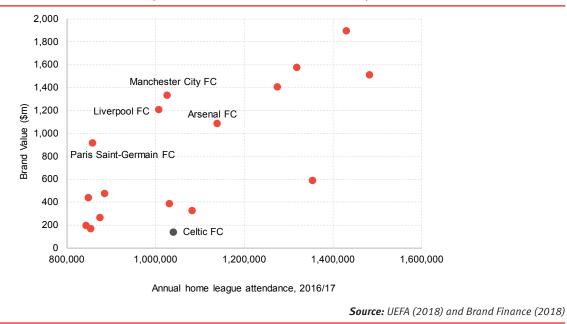


Chart 4: Brand value and annual home league attendances for selected European clubs (2016/17)

### **Economic profile**

Celtic FC's accounts show in 2016/17 the club had a total turnover of £90.6 million. Sources of revenue included, football related activities (including ticket sales) – worth over 36% of revenue; Multimedia (including broadcast and rights sales) – 40% of revenue; with 18% of revenue from Merchandise.

Of the total income of the club, our analysis finds that this is shared broadly evenly geographically; 53% of revenues come from Scotland, with the remainder from outside.

The connectivity of the club with the Scottish economy can be measured from the purchases it makes from suppliers of local goods and services.

From an examination of Celtic FC's invoicing history over the season 2016/17, we find that £15 million - more than 40% of the club's non-wage spending - was placed with Scottish firms.

Looking at these Scottish suppliers, by number and volume of contracts, we find that 178 different Scottish companies – ranging from financial institutions to ground maintenance firms, from retailers to AV firms – had contracts worth more than £10,000 with Celtic FC.

These – as we will see later – comprise the supply chain for Celtic FC.

This is, of course, in addition to the wages paid to Scottish-resident workers: the club's wage payments were £52 million in this year, some 58% of club turnover.



### Non-financial activities of Celtic FC

In addition to financial and economic metrics, Celtic FC – like other Scottish football clubs – have a wider role in its local geography and community.

For instance, in the training of footballers, Celtic FC contributes to raising the quality of domestic players. Since 2000, Celtic FC report that 181 people have signed professional terms after developing through the Celtic Academy system. This includes those signing with Celtic as well as those moving to other professional clubs.

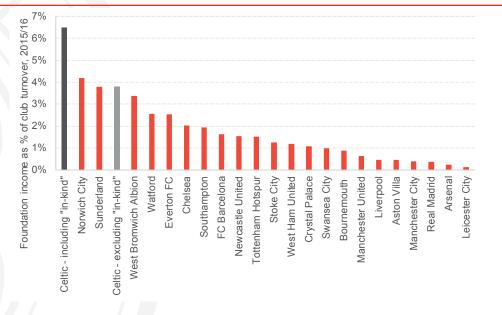
Of course, most supporters of a sporting club do not support the club for financial reasons. Instead, it is the enjoyment and entertainment that this provides. There is evidence of sport having a knock-on effect to community development, social participation and civic engagement (Zhou and Kaplanidou, 2017).



Through our study we learned that Celtic FC has Investor in People accreditation. All permanent staff members are paid in excess of the current Living Wage.

In addition to these activities, Celtic FC Foundation is a significant part of the non-sporting activities of the Club. While many football clubs operate foundations, Celtic FC Foundation is different in both scope and scale. Box 1 describes some of the features and activities of the foundation.

In particular, Celtic FC Foundation has a wider role – beyond encouraging football development or supporting local community projects – which includes a focus on improving heath, promoting equality, encouraging learning and tackling poverty. Many of the programmes are organised and financed by the Foundation. Others are run in partnership with local government, charities and third sector organisations.



### Chart 5: Foundation income as percentage of club turnover (2015/16)

### Box 1. Celtic FC Foundation (information provided by the Foundation to the FAI)

Guiding the work of Celtic FC Foundation is a commitment to four key principles, with the acronym "H.E.L.P.": "Improving Health"; "Promoting Equality"; "Encouraging Learning" and "Tackling Poverty".

The Club believes it is well placed to provide a unique route into such programmes through its presence and reputation in Glasgow, and its ability to engage with some of the most vulnerable and marginalised groups to which the work of the Foundation is targeted.

Celtic FC Foundation undertakes some projects on its own, and others in partnership with other organisations, at "home" in the UK or overseas, including Asia, Africa and the Americas.

Example projects include:

"Cashback gateway to employment": funded by the Scottish Government (worth £550,000 over six years), acknowledges the role that employment and training can play in reducing criminality, and is targeted at ex-offenders, those at risk of reoffending or those living in areas of high crime. In its first four years, 176 individuals have engaged with the programme, with 7 in 10 going on to employment, training or further education.

"Ability counts": started in 2011, this project supports those living with Downs Syndrome, providing companionship and inclusivity. Expanded in 2015 with a second strand for supporters with Autism, Celtic FC Foundation aims to develop confidence and wellbeing. A third element under the Ability Counts banner was launched recently, targeted at the development of work-based skills for adults.

"Mary's Meals": a project delivered internationally with the support of Celtic supporters clubs across the world through the "67 kitchens" programme has (as of May 2018) supported the construction of 47 kitchens in Malawi.

Direct fundraising of almost  $\pm$ 700,000 over the last five years through the Christmas Appeal has directly supported 1,424 families, 175 pensioners as well as the work of 56 charities.

### **Match attendances**

Over the course of the 2016/17 season, Celtic FC played matches at home and away in domestic (Scottish league, as well as cup) competitions and home and away in European competitions.

Celtic FC provided total attendance figures for home matches during the 2016/17 season. In addition, for home matches information was provided on the split of season tickets, tickets bought at the gate, and tickets purchased by opposition supporters. Information on Celtic FC supporter numbers at away matches was also provided by the club, with total attendance figures for such matches confirmed by published external sources.

Our analysis finds that over the 2016/17 season, more than 1.9 million attendances were recorded at matches involving Celtic FC. Almost 1.6 million were recorded in Glasgow<sup>1</sup>, including home games, matches at other Glasgow-based clubs in league competition, as well as matches in cup competitions at the National Stadium (Hampden).

### Table 1: Attendances at Celtic games, 2016/17 season

Celtic match type	Celtic fans	Other team fans	Total
Home games in domestic competition	875,700	21,450	897,150
Home games in European competition	353,100	9,800	362,850
Away games in Glasgow	113,800	200,300	314,100
Away games in Scotland	55,400	99,500	154,950
Away games in European competition	13,000	203,850	216,900
Total*	1,410,950	534,950	1,945,900
		Source	: Celtic FC; FAI analy

\* Numbers rounded to the nearest 50; Totals may not sum due to rounding

By their place of residence, we find significant inflows of spectators to Glasgow and Scotland to watch matches involving Celtic FC (Table 2).

In total, just under 12,000 Scottish-residents left Scotland for away matches involving Celtic FC during 2016/17, while almost 112,000 non-Scottish residents attended matches in Scotland.

Thus, around 100,000 more people travelled to than left Scotland. From an economic perspective, this represents a 'net' boost to the Scottish economy. It is effectively tourism spend driven by attendances at Celtic FC football matches.

<sup>&</sup>lt;sup>1</sup> The total attendances at Celtic FC stadium over the course of this season was 1.259 million. This would place it 7th on a list of top (paid or free) visitor attractions in Scotland (BBC, 2018).

		Glasgow		Rest of Scotland	Outside Scotland		
Residence of attendee	Home domestic	Home European	Away game in Glasgow	Away game in Scotland	Away game in European competition	Total	
Glasgow	303,200	110,600	81,700	17,350	4,100	516,950	
Rest of Scotland	545,000	214,150	211,900	133,150	7,900	1,112,150	
Outside Scotland	48,900	38,000	20,500	4,450	204,900	316,800	
Total*	897,150	362,850	314,100	154,950	216,900	1,945,900	
				Source: Celtic FC; FAI analysis			

### Table 2: Attendances at Celtic games by residence and match type, 2016/17 season

\* Numbers rounded to the nearest 50; Totals may not sum due to rounding

Of course, such tourism creates a knock-on economic impact.

As an example, Celtic FC report a noticeable increase in official retail outlet sales on match days, suggesting greater economic activity takes place around fixtures. Evidence provided by the club suggests, for example, that retail outlets near the stadium can be between 3 and 10 times busier than normal on game days.

This confirms that for a full analysis of the economic contribution of Celtic FC, we should look not only at the club itself but the wider economic activity generated from spectators attending matches involving Celtic.

# **Economic modelling**

### Overview

In order to assess the economic contribution of Celtic FC to the Scottish economy, a number of steps are required. In particular, we model the impacts of the club's activities under two measures; the "gross" and "net" economic impacts.

The gross economic impact examines the economic contribution of the spending associated with the existence of Celtic FC in the Scottish economy. This is made up of two elements, first, the economic contribution of the club itself, and second, the (non-club) spending by spectators at Celtic FC matches over the course of a season ("sport tourism").

The "net" economic impact adjusts this "gross" effect by removing the impact of Celtic FC and "sport tourism" spending by Scottish residents. We follow the approach of Allan et al (2007) by adjusting for the possibility that spending associated with supporting Celtic FC 'crowds-out' other activities (e.g. people may choose to spend money on a cinema ticket rather than a match-day ticket).

The net economic impact, therefore, could be either positive or negative, depending on a number of factors such as: 1) any non-domestic sources of income (which are not displaced in the calculation of net effect), and 2) the multiplier effects of sports tourism spending relative to that of typical household spending.

To do this we use a novel disaggregation of an economic model for Scotland to identify the economic linkages of Celtic FC and spending by attendees at Celtic FC matches. Three pieces of information were used to undertake this analysis.

- Purchase and revenue data from Celtic FC related to the 2016/17 financial year;
- Attendance figures for all Celtic FC matches during the 2016/17 season; and
- A survey of spectator expenditures (Box 2).

This approach thus allowed the most detailed economic analysis of Celtic FC's activities to date.



### **Understanding the results**

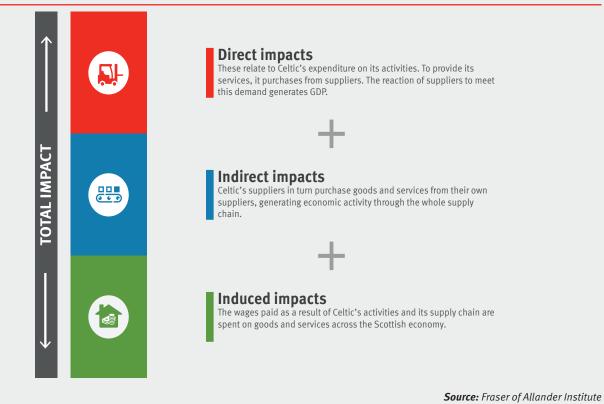
This report looks at the economic contribution of Celtic FC on Gross Domestic Product (GDP) and employment in Scotland.

GDP is the value of all final goods and services produced within the economy in a given period of time. It is the key measure used to assess economic growth.

Employment in this report refers to full-time equivalent (usually shortened to FTE) employment. One FTE job is equivalent to one person working full-time for one year; two people working half the hours of a full-time worker for one year, and so on.

A study of the impact of Celtic FC needs to look beyond the spending by Celtic itself. It needs to ask: who is supplying goods and services to Celtic FC? What do those suppliers spend their revenues from Celtic FC on? What is the economic contribution of those employed as a result of Celtic FC's activities on the Scottish economy?

An economic impact study aims to answer these questions by examining three channels of activity: direct, indirect and induced impacts.



**Diagram 1:** Direct, indirect and induced impacts explained for Club spending

We also need to capture the impact of spectators attending Celtic FC matches – e.g. travel, accommodation, food and drink etc.

We do this via a detailed analysis of attendees at all matches involving Celtic during the 2016/17 season. This was the largest survey ever by the FAI.

The gross economic impact is therefore the sum of both activities.

# Direction 2. Direction, indirect and indeceed inplaces exprained to spectation spectation perioding For the part of the

### Diagram 2: Direct, indirect and induced impacts explained for spectator spending

### Direct, indirect and induced impacts

An economic impact assessment examines three channels of activity.

The first channel is the direct impact. This measures the contribution from the actual spend which underpins Celtic FC's own day-to-day activities. For example, Celtic or spectators spend money on food and drink, services, merchandise, administration and other activities. All of this helps to create a stimulus to the economy.

But this only captures part of the story.

The second avenue through which Celtic FC has an impact is from what are referred to as indirect and induced effects.

We know that behind Celtic FC or the industries receiving direct spending of attendees is a complex supply chain of different businesses across Scotland (and beyond). We also know that employees do not just hold on to their wages and salaries but spend them on goods and services.

Therefore, there are two further economic effects which can be captured:

Indirect – the economic benefits from Celtic FC's suppliers, and their supply chain, using the revenues from trading with Celtic FC to, in turn, make expenditures on staff and other goods and services; and

Induced – the economic benefits from the wages which are paid as a result of these activities being spent on goods and services across the Scottish economy.

To obtain an accurate picture of Celtic FC's total economic impact, it is important to capture the direct, induced and indirect impacts.

To do this, we make use of an economic model for Scotland - the Scottish Input Output model.

The model we use provides a complete picture of the flows of goods and services in the economy for a given year. It details the relationship between producers and consumers and tracks the interdependencies of industries.

By capturing the complex interlinkages that exist in an economy, these tables can help obtain a picture of the 'multiplier' effects of Celtic FC's spend and employment on the wider economy.

### Box 2. Survey to capture spending by spectators at all Celtic FC matches

As part of this study, we needed to identify spending by spectators at matches involving Celtic FC during the course of a season. We developed, tested and implemented an online survey which was sent to individuals who had previously purchased a ticket for a home match.

The survey asked respondents to identify their place of residence and their expenditure in different categories related to types and location of matches they had attended recently – i.e. home and away games in domestic and European competition respectively, separately identifying away matches in Glasgow and those elsewhere in Scotland.

Expenditures related to five different match types were captured:

- Home games in domestic competition;
- Home games in European competition;
- Away games in domestic competition in Glasgow;
- Away games in domestic competition outside of Glasgow, but in the rest of Scotland;
- Away games in European competition.

Fans could select matches that they had experienced in the last two years, and then – for each match type – were asked to provide information on their transport choice (and cost); food and drink and retail purchases; and accommodation behaviours (including in paid hotels or B&Bs).

A link to the survey was distributed by the club with surveys received between 25th and 29th June 2018, with anonymous survey responses analysed by the FAI team. In total, this was the largest ever response to an FAI survey, with 10,657 useable responses.

In the absence of a survey of non-Celtic fans at Celtic FC matches, we used the results from the survey for comparable Celtic FC spectators by location.

For instance, for spending in Glasgow by "away" supporters playing matches at Celtic Park, we assumed these had the same expenditures as Celtic fans from the same location of residence.

This information, plus the number of attendances by match type, by location of residence, meant that survey results could be aggregated up to the appropriate totals of spending associated with each match type.

## Results Gross results

In this section, we look at the economic impacts related to the existence of Celtic FC in 2016/17.

### Direct, indirect and induced impacts

The total gross economic impact (in 2016/17 prices) of Celtic FC's activities in Scotland in 2016/7 was:

- £165 million in GDP contributed to the Scottish economy;
- An additional 2,820 jobs supported.

Chart 6 shows that around 50% of Celtic's gross contribution to Scotland's GDP comes from the direct expenditure by Celtic FC and spectators attending matches involving Celtic FC. A further 18% was supported by the spillover effects on Celtic's supply chain and the supply chain for provision of goods associated with match-day attendances. The remaining 33% is attributed to spending associated with the additional incomes directly and indirectly supported by the activities related to Celtic FC and match-related expenditures.

### Net results

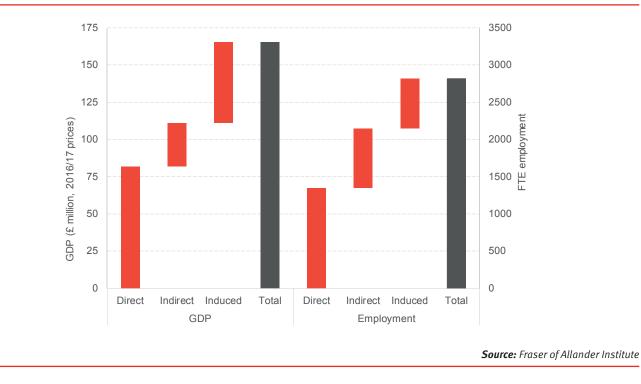
To get the net economic contribution of Celtic FC's activities, we remove – from the gross impact above - the impact that Scottish residents spending would have had, if it had not been spent attending matches involving Celtic FC. That is, if Scottish residents chose not to spend on Celtic FC and on attending Celtic FC matches, but on other activities, this spending would have created an impact in Scotland. The hypothetical amount of activity which that spending would have supported in Scotland needs to be removed from the gross impact to capture the "net" economic contribution of Celtic FC.

The net effect is therefore the sum of the (positive) impacts of Club and spectator spending and the (negative) impacts of activity in Scotland which would have been supported by spending which would have otherwise taken place. Spending associated with the Club or attending matches which is external to Scotland – such as overseas income from broadcasting deals, retail outlets, or spending by residents from outside Scotland – are considered additional to Scotland and so not displaced in the calculation of the net effect.

### Direct, indirect and induced impacts

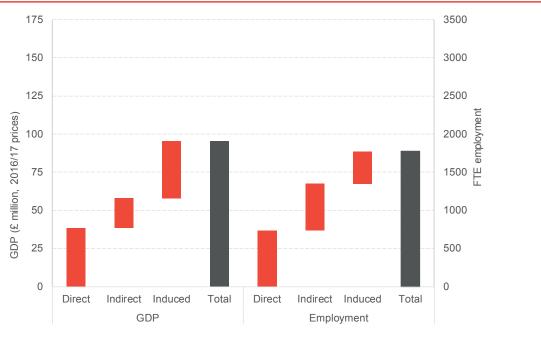
The total net economic impact (in 2016/17 prices) of Celtic FC's activities in Scotland in 2016/17 was:

- £95 million in GDP contributed to the Scottish economy;
- An additional 1,780 jobs supported.



### Chart 6: Economic impact of Celtic on Scottish GDP and FTE employment - gross

### Chart 7: Economic impact of Celtic on Scottish GDP and FTE employment - net



Source: Fraser of Allander Institute

# Recommendations

### Next steps

This short report has documented the economic contribution of Celtic FC to the Scottish economy.

Similar effects – though not on the same scale – will also be evident for other Scottish football clubs.

The economic impact is significant, with a large number of jobs being supported, both directly and indirectly by the existence of Celtic FC.

While there is often significant policy interest in "one-off" major events<sup>2</sup>, this report demonstrates that regular season events such as football also offer significant economic opportunities. Importantly, not only do such activities take place each and every year, they typically use existing infrastructure, take place outside of peak tourism seasons and may offer a path to a sustainable form of tourism offering.

An increasing number of local and national governments are recognising the contribution to economic development that major supporting clubs can make. Here, in Scotland, with Holyrood's budget soon to be determined by tax revenues raised in Scotland, such activities are also important for funding public services. For example, the wages that Celtic FC's activities supports help to raise income tax revenues for the Scotlish Government while spending will also generate VAT revenues.

Some of the contribution can be hard to pin down – even if economists know that it is likely to be important. For example, we know that major sporting clubs – such as Celtic FC – have a global reach with a world-wide fan base. This can add not just to the brand value of the club itself, but also to the city, region or country it is located in. This is something that is a strong feature of US sport (but also, increasingly, in football – e.g. Barcelona). Developing this takes time, and partnership working, but this is something that local government and individual clubs can work together on.

<sup>2</sup> For instance, economic impact estimates have been produced for golf tourism (SQW, 2017) and the XX Commonwealth Games (TNS et al, 2015). Like-for-like comparisons are difficult given different methodologies and assumptions, however they provide an illustration of the overall scale of impacts

Some of the policy options are a little clearer. One option is to consider how best to maximise the visitor spend associated with attending football matches. This could include working with government to improve the 'match-day' experience around a stadium (or within a city) so that more time is spent there by supporters<sup>3</sup>. In doing so, by increasing 'local-spend', the economic impact will be that much greater.

Another would be to explore opportunities to extend the length of time people spend in a city – e.g. Glasgow. This could include, for example, coordinating wider tourism activities and marketing with major footballing events. In this regard, such a strategy would have an opportunity to contribute to both Glasgow's "Tourism and Visitor Plan to 2023" (Glasgow City Marketing Bureau, 2017), which has the objective of increasing the number of overseas leisure tourism visits by one million by 2023.

Related to this, there is a growing interest in football tourism, much of which takes place outside of matchdays. An increasing number of clubs offer tourism services such as museum visits, stadium tours, retail etc. In many countries, these experiences are part of the overall tourism and marketing strategy of a locality and seek to tap-in to the international reputation of a football club. Celtic FC's stadium tours attracted over 36,000 visitors for the year ended 30th June 2018. This would put Celtic in the top 20 most visited European football club museums according to the European Club Association<sup>4</sup>.

Finally, there is evidence that interactions with mega-sport events raises sporting participation (e.g. Frawley & Cush, 2011; Frick and Wicker, 2016). This offers the possibility to use event attendance, and an existing relationship between spectator and club, to leverage fans' future interest in increasing sporting activity, contributing positively to areas across health (physical and mental), social as well as economic domains (UEFA, 2018).

<sup>3</sup> The survey revealed, for instance, that around 90,000 bed nights in hotels are associated with Celtic FC matches in Glasgow, with over half (54%) of all non-Scottish resident spectators attending matches in Glasgow staying in paid accommodation.
4 Studies from other football cities suggest that there are lessons to be learned in best employing local assets – in the form of football clubs – into their tourism marketing and promotion (e.g. Proctor et al, 2018).

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Celtic FC and the Fraser of Allander Institute would like to thank David Blane for providing the picture that features on the front cover of this report.

# **Annex** Spending and economic impact methodology

We include two elements of spending in our analysis; first, spending by Celtic FC and, second, spending by spectators at matches involving Celtic over the course of the 2016/17 season. Club expenditure was provided by Celtic FC and is consistent with the published Club accounts for the financial year relating to this season.

Spectator expenditure was estimated from three items: the aggregate match day attendance data, information on the place of residence for those purchasing tickets and the survey of spectators, which covered all expenditures associated with attending different types of games for residents of different locations (specifically, Glasgow, Scotland and outside Scotland). More details on the survey is provided in Box 3.

We use these data to disaggregate economic accounts for Scotland. We identify the incomes and purchases for Celtic FC itself, as well as the demands relating to attendees spending as "sports tourism" related to Celtic FC matches.

Having identified these items, by "extracting" the activities of Celtic and spending of attendees at Celtic matches, we identify the amount of economic activity and jobs that are supported by both elements together.

Note that some spending relating to "sports tourism" will be directly received by Celtic FC (e.g. ticket sales, merchandising and in-stadia sales) while others will not, e.g. expenditure on match day travel, accommodation and other food and drink purchases related to the match.

In our analysis of the "net" impact we consider the impact of both the spending by the Club and spectators, and subtract the impact of spending that would otherwise have been made in Scotland, but is forgone due to the existence of Celtic FC.

For instance, spending by Scottish residents on attending Celtic matches would have likely, otherwise, have been made. Some of the impact of that spending may have occurred in Scotland and so is "lost" by the existence of Celtic FC.

On the other hand, spending in Scotland by those living outside Scotland, or from external sources such as broadcasting revenues, is "additional" to Scotland and remains in the calculation of the net impact on Scotland.

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