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TWENTY YEARS ON:
THE ECONOMIC SIGNIFICANCE OF PRINCIPALITY STADIUM

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FOREWORD

On behalf of our many partners in Wales, we are pleased to publish an updated economic impact report outlining Principality Stadium's financial contribution to the Welsh economy.

We are conscious that much of what is achieved in Principality Stadium isn't possible without the help of our public service and business partners. We would like to thank you all for your ongoing and valued support.

The simple facts are that events held at Principality Stadium are a catalyst for creating inward investment and for creating jobs in Wales. We are very proud of that. We are also proud that ultimately any profits made are re-invested into rugby which is our primary purpose as a rugby organisation.

This is a good news story for Wales. We look forward to the next chapter in the history of the stadium, one that will hopefully be packed with more world class events that put the city, and Wales, on the global stage. We recognise that jobs and businesses rely on the trade that we create – long may that continue.

Finally, thank you to the teams and individuals in the Welsh Rugby Union and Principality Stadium that make this all possible.

Diolch yn fawr

Martyn Phillips
Group Chief Executive


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EXECUTIVE SUMMARY

This report provides an estimate of the economic impact of Principality Stadium ("Stadium") in Cardiff, building on previous reports in 2007 and 2013. The methodology captures the output, gross value added and employment generated across Wales by events at the Stadium, both as the Stadium itself employs people and purchases goods and services to support events, and as visitors spend money across the City Region.

In key financial terms, over the period from 1999 we estimate the Stadium has generated:

- **£1.95bn in visitor spending in the region,**
- **Creating £2.75bn of Welsh economic output,**
- **£1.32bn of gross value added**
- **50,275 person years of employment.**

On average, the Stadium has supported around £135m of output and 2,500 FTE jobs in each year of operation. In the 2017-18 financial year, the Stadium and visitor spending generated an estimated £190m in regional economic output, £93m of gross value added and supported 3,650 jobs across the region.

The UEFA Champions League Final was held in 2016-17. Our economic impact model suggests that the June 3rd Final – in terms of ticketed visitors alone – generated £11.8m in regional economic output, £5.8m in gross value added and supported the equivalent of 250 person-years of employment across the region (albeit clearly concentrated into a short period). These numbers show the quantifiable economic impact of a single, hallmark event, which are of course additional to any reputational or other benefits.

The last financial year (2017-18) was a particularly good one for the Stadium, with the hosting of two Anthony Joshua title fights, and a number of world class artists including the Rolling Stones and Ed Sheeran. Stadium events generated 1.23 million ticket sales and generated almost £125m in regional spending away from the Stadium. The performance in the last financial year builds on almost two decades of economic impact.

Stadium activity is important at city scale, supporting around **one in ten tourism jobs** and exposing fans of a wide range of sports and performing artists to Cardiff's wider visitor offer. The Stadium provides these benefits from a modest £130m investment: comparable stadia built across the UK in recent years have construction costs typically approaching £1bn.

Although the Stadium has a record of continued market and financial success, year-to-year revenue remains volatile, and the Stadium does not have access to the hotel, retail and parking revenues of other stadia. It will need the financial headroom to invest to respond to its competitive market, especially as technology becomes more important in the event experience.

The current operational model, where the Stadium captures only around 15% of the expenditure its events generate, and whereby its surpluses (in good years) support investment into Welsh rugby may make this difficult. As new entrants to the broadcasting landscape potentially make staying at home to watch events more attractive, to remain competitive, the Stadium may need to (i) upgrade existing facilities and (ii) investigate (again) the development of complementary activities. In order to stay ahead, the Stadium could explore:

- upgrading the existing technology to enhance the fan experience and attract new events such as e-sports and American football
- a heritage centre to attract day in day out visitors to showcase the varied history of the events held, as has been successfully proven at Nou Camp and Old Trafford
- upgrading the food and beverage offer
- driving fringe events on the back of Stadium events; and
- access to a top end hotel which would complement Central Square and attract more affluent consumers

To further support the Stadium in its ability to drive the Welsh Economy, consideration should be given to improving the supporting and surrounding travel infrastructure – particularly rail. Services and facilities at Cardiff Airport have improved very considerably since coming under the control of the Welsh Government. The airport is an important gateway for global stadium events and, of course, benefits itself from the custom Stadium activities bring.

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1. PRINCIPALITY STADIUM, CARDIFF AND WALES

1.1 Principality Stadium in Retrospect and Prospect

Since 1999 the Stadium has been an important part of Wales' cultural identity, and the Cardiff visitor economy. Developed to host the 1999 Rugby World Cup, in the almost two decades since it has been home to an incredibly wide range of events. Traditional international rugby events have been joined by international and club football, rugby league, speedway, boxing, and even motorsports, and with these events often of global reach. Meanwhile some of the world's most famous rock and pop performers including The Rolling Stones, Madonna, Beyoncé and most latterly Ed Sheeran have appeared onstage.

This widening of market reach has helped the Stadium build an operational model that is resilient to circumstance – for example, as the number of 'core' events increases or falls following the vagaries of sports competition schedules, or as new competitors such as Wembley enter the market. As important is the increased ability of the Stadium to offer an attractive, flexible and reliable location for range of event promoters and sports governing bodies: Stadium events draw visitors from across the UK and far beyond, exposing tourists to Cardiff's wider offer of and providing important revenue for the cities' businesses.

As the Stadium approaches its 20th birthday, this report quantifies the economic impact of its operations on Wales, arising from its own turnover and employment and then along its supply chains; and from the spending of event visitors 'offsite' during their trip to the City Region. We report initially on the financial year 2017-18, a period of particular success, and then summarise the overall impact of the facility on the city and region since Stadium redevelopment in 1999, showing how over time, and unlike for 'one off' sporting events, the Stadium has become a reliable and important generator of economic impact and visitation.

1.2 What is in this Report

This is the third in a series of reports that estimate the economic impact of the Stadium. As before, we estimate the impact of stadium activities in terms of identifiable expenditure in the local and Welsh economy, rather than by allocating notional value to benefits that arise from stadium-related city visibility and media coverage: even though these effects may be important, they are very difficult to measure.

Our estimates of stadium benefits are therefore only cover part of the benefits the Stadium brings to the region – and the most defensible and easily estimated part. They separate into three elements:

- Onsite Stadium value-added and employment (including stewards, catering etc)
- Value-added created and employment supported in Stadium supply chains, and by the wage spending of employees working along the supply chain
- Value added and employment supported (directly and in supply chains) as visitors to the Stadium spend money in the wider economy, in hotels, restaurants, pubs and in transport services etc.

We report on the total economic impact created in 2017 -18, and then in operations since the Stadium's first match in June 1999 until June 2018, then rolling forward based on booked future events to June 2019 hence covering twenty years of activity. Unlike many on other impact studies[1], we do not include development-phase construction impacts highlighting the conservative nature of this assessment. We draw on the results of previous econactive reports, covering 1999-2007 and 2007-2013, suitably inflated to £2018.

Our economic model relates to value-creation and employment generated and supported across Wales. However, previous econactive reports have suggested over 85% of economic impact accrues within Cardiff, and we would expect well over 90% of the economic impact we detail to accrue across the ten authorities that comprise the Cardiff Capital City Region. Around 93% of the Stadium's Welsh spend (including on Wages) is within the City region.

Our modelling approach is comparable with a number of Welsh Government and other studies that have examined the economic impact of sports events and facilities, including the 2010 Ryder Cup, Swansea City FC in the Premiership and Wales Rally GB. Moreover, we use analytical approaches – specifically the levering of tourism satellite accounts – that are internationally compliant, but bespoke to Wales, and backed by over a decade of peer-reviewed academic study. We therefore consider our analysis to be the approach that delivers the most reliable and contextualised results within immovable resource and data constraints.

Further information on our modelling approach and data sources is provided in the Technical Appendix, as are relevant further readings and academic references.

[1] See for example Regeneris (2017) on Circuit of Wales

2. PRINCIPALITY STADIUM AND ITS ECONOMIC CONTEXT

2.1 Stadia, Cities and Economic Development

The provision of a wide range of leisure amenities has become increasingly important in cities' economic development offer. Increasingly this has been identified with the need to attract and retain 'high value' but footloose companies and workers – especially in the latter case, younger Millennials. As part of this city offer, large sporting arenas – often performing multiple functions that include conferences and cultural events – have become a key element[2].

However, the embedding of stadia into urban development processes is not easy – and indeed development plans based around sports, stadia and the often-related property development have been subject to much criticism. There are, to summarise a number of reasons for this:

- Stadium development often involves a significant subsidy from the public purse for uncertain return;
- Privately owned sports clubs and non-local team owners (in North America especially but latterly in Europe) can extract profits and other value (for example related to branding) from the region hosting their stadia;
- Stadium expenditure is usually a 'switching' from other local companies and activities rather than being additional spend for the region;
- Developments and owners can have inappropriate sway over the politics of the places where they are not really an 'embedded part';
- Teams and sports are insufficiently linked with host cities to drive 'branding synergies';
- Stadiums do not deliver the city or regional economic growth they promise[3].

An underlying problem – that it is very difficult to make a financial return on a stadium that allows payback of capital as well as funding operational costs – continues to underpin significant public subsidy of private stadia (often twinned with large sports events). This then adds complexity and conflict to city development strategies.

In the UK for example, London is faced with not one but two large stadia (in the Olympic Park and at Wembley) that have given rise to considerable criticism whilst working towards a viable financial model – and of course with this causing tension and uncertainty for fans[4]. Closer to home, despite a strong partner in a local University, Bristol Rovers were unable to find a location and financial model to build a new stadium[5].

[2] Florida, 2014; Moos et al 2017. Gerretsen & Rosentraub, 2015

[3] For a summary of these arguments see Jones et al 2010.

[4] For example the public purse ended up footing almost the entire £300m bill when the Olympic stadium was converted for use by West Ham; https://www.theguardian.com/sport/2017/dec/01/sadiq-khan-west-ham-london-stadium

[5] https://en.wikipedia.org/wiki/UWE_Stadium

Whilst, then, there is reason to be sceptical about the benefits that cities can achieve from stadium and large sports events, negative impacts arise from identifiable issues around subsidy and economic impact that may apply differently – or not at all – across different places and facilities.

For example, numerous significant investments in rundown East Manchester – including 1,000 new houses, Sport City and new leisure facilities – would not have occurred without the partnership between Manchester City Football Club (and its Abu Dhabi Group owner) and the local Council, with this building on the earlier Commonwealth Games.

Meanwhile, it is difficult to see Barcelona gaining its eminent position as a European destination without the regeneration that was based around the 1992 Olympic Games[6]. As this report (and those for previous periods) shows, Principality Stadium has several key characteristics – notably around ownership, location and operations – that means the foregoing criticisms do not apply. As Table 1 shows, the Stadium attracts visitors for a variety of event types. Whilst Rugby Union internationals (largely the Six Nations and Autumn Internationals) are most important, the Stadium has attracted around 720,000 visitors for pop concerts (with Ed Sheeran's 4-night sell-out run in June 2018 notable), and 360,000 for non-Rugby professional sports events.

[6] Brunet, 2017

2.2 The Stadium, Cardiff and Wales

Since its construction, to both host the 1999 Rugby World Cup and provide a long-term home for Welsh Rugby, the Stadium has been the key iconic Cardiff City landmark and at the centre of Wales' sporting life. It is unusual in ways that drive economic impact and socio-cultural importance;

Principality Stadium Key Facts

Capacity	74,500
Cost	£130m
Funding	Lottery Funding (£46m) & commercial loans

- A city-centre location means it is (unlike most other stadia placed in city peripheries) closely identified with Cardiff and is within minutes' walk of Wales most extensive retail and hospitality offer, as well as the nation's most important Central Business District;
- Run as a part of the Welsh Rugby Union, the Stadium is effectively an extremely large and nationally-important social enterprise;
- The high-quality event offer, with few competitors within easy travelling distance, means that the Stadium attracts a large number of high-profile UK-national, European and global events across both sport and culture;
- There is a close cultural association of the Stadium with Wales, particularly given its opening at the same time as the National Assembly for Wales in 1999. The Stadium is very much 'of and for' Wales in a way that is less true of other national stadia;
- All stadium surpluses (with the exception of some contracted hospitality services) stay in Wales to support rugby developments across the country.

As previous econactive reports have suggested, this mix of characteristics has driven a far higher level of economic impact than might be expected given the evidence from stadia in other places. For example, our 2007 economic impact assessment estimated the facility generated over £100m in economic impact for Wales each year, and by 2013 we estimated that this number had grown to £130m pa. Since that report, the presence and performance of the Stadium has improved even further, with the Stadium hosting key events, including the 2015 Rugby World Cup (in part), the 2014 Heineken Cup Final and the 2017 UEFA Champions League Final (featuring, albeit belatedly, local hero Gareth Bale).

Recently, the Stadium has welcomed Anthony Joshua for two sold out heavyweight boxing world title fights, developing a very new (and anecdotally, financially very high value) audience, many from outside Wales. The attraction of the very top pop and rock performers has continued to be notable, reaching new heights in 2017 – 18.

It is the intention of this report to quantify – as far as it practicable – the economic impact of the Stadium in terms of the expenditures driven by stadium activity, both onsite and in the wider regional economy. Although there is an argument to be made that stadia have far wider benefits – for example for city marketing, the attraction of high value individuals, or in terms of 'psychic income' (or the 'feel-good factor') for local residents, we do not include those elements here as they are conceptually complex and very difficult to measure.

2.3 Elements of Economic Impact

The report replicates the methodology of the previous econactive studies for 2007 and 2013 (and indeed includes and builds on their results). It is also comparable to Welsh Government and other studies that have examined the economic impact of sports events and facilities, including the 2010 Ryder Cup and Wales Rally GB. Here, the Stadium can be seen properly situated within its regional economic context.

We use an economic modelling approach – Input-Output Analysis – that is bespoke to Wales and captures both the 'direct' or onsite economic impact of the Stadium and those that accrue across Cardiff and more widely as multiplier effects create additional jobs and value. We report in detail on our methodology and approach in the Technical Appendix, but summarise as following:

- Our model presents impact estimates in terms of jobs (full time equivalents or FTEs), economic output and gross value added (GVA), the last two in £2018;
- We formally report impact on Wales but the vast majority of employment and economic impact will be generated within the Cardiff Capital City Region;
- Our method covers impacts onsite, in businesses supplying the WRU to support Stadium activity, in the businesses of Cardiff (and more widely) where visitors spend money, and in the supply chains serving those businesses. We discount onsite Stadium income from visitor expenditure to avoid double counting;
- We distinguish as far as data allow between income earned from Welsh-resident entities and those outside; the latter then comprising a net additional impact for Wales (i.e. we include an assessment of the Stadium as a regional 'exporter');

This expenditure impact of visitors is by far the most important quantifiable economic impact: there have been around 18 million visits generated since its opening in Summer 1999, merely counting direct ticket sales with many of these non-Welsh residents, and with an unknown number of accompanying visitors. The Stadium is a primary driver of trips to Cardiff, unlike many other elements of tourist infrastructure which do not in themselves persuade a visitor to come to Cardiff.

Table 1 – Approximate Event Attendance, 2013 – 2018		
International Rugby Union	2,580,000	62.3%
Other Rugby Union	380,000	9.2%
Football	70,000	1.7%
Other Professional Sport (Speedway, Boxing etc.)	290,000	7.0%
Concerts	720,000	17.4%
Other Cultural & Entertainment	100,000	2.4%
Total Ticket Sales	**4,140,000**	**100.0%**

As Table 1 shows, the Stadium attracts visitors for a variety of event types. Whilst Rugby Union internationals (largely the Six Nations and Autumn Internationals) are most important, the Stadium has attracted around 720,000 visitors for pop concerts (with Ed Sheeran's 4-night sell-out run in June 2018 notable), and 360,000 for non-Rugby professional sports events.

Ticket sales of 1.2m in the most recent financial year (July 2017 – June 2018, a 'bumper' year) made the Stadium the most popular paid visitor attraction in Wales by some distance – Swansea's LC leisure complex is the next most attractive with just under 800,000 visits, and Folly Farm completes the top-three with 490,000 visits. Indeed, the most visited free attraction in Wales, the Millennium Centre – attracted fewer (and one suspects largely more fleeting) visits than the Stadium in 2017, at 1.08m[7].

Table 2 – Selected Key Events, 2017 – 2018	
Event (100,000+ sales)	**Ticket Sales**
Coldplay (2 nights)	125,000
Anthony Joshua Title Fights (2 nights)	150,000
Autumn Under Armour Series Internationals 2017	250,000
NatWest Six Nations 2018	210,000
Ed Sheeran (4 Nights)	240,000

The attraction of non-Welsh residents to Stadium events is important as it comprises a 'net additional' impact on the Welsh economy[8]. Whilst it is not possible to be definitive regarding the numbers of non-Welsh attendees, we have estimated this total based on the nature of the event in question including elements such as;

- whether either or both sporting teams were non-Welsh;
- whether a concert date/cultural event was the natural venue for South West and/or Midlands-based fans.

For recent international rugby events, we have definitive data from the WRU that suggests around 28% of ticket sales are to visitors resident outside Wales. Combined with other intelligence (including ticket sales data and primary surveys for a number of events) we estimate that approximately 35% of visitors over the 19-year operational period were from outside Wales. Stadium visits total 18.25 million visits across 400 events, with the Stadium then attracting around 6.4 million people to Wales – with these visitors, and especially those from overseas staying longer and spending more in Wales[9].

As indicated earlier, this element of non-Welsh origin visitation is both directly important in driving expenditure impacts that are a Welsh 'export', and indirectly important in exposing a Wales and Cardiff visitor offer to attendees who would not otherwise have come to the city or region. Importantly, visitors from outside Wales are more likely to stay overnight, and hence spend more per trip – with this particularly true of visitors from overseas. Based on information from a variety of survey and published sources[10], we estimate within-region visitor expenditure per trip, net of ticket and within-stadium expenditure as reported in Table 3.

[7] https://gov.wales/docs/caecd/research/2018/180823-visitor-attractions-survey-2017-summary-en.pdf

[8] As indeed is the case should a Welsh-resident visit the Stadium instead of taking a trip to an event outside Wales; i.e. avoiding economic leakage

[9] See econactive, 2007 and, 2013 for more detail. As an extreme example, an estimates 92% of visitors to the 2017 Champions League Final were resident outside Wales.

[10] See Technical Appendix

Table 3 – Estimated Regional Spend per trip 2017-18				
Visit Type	**Regional Gross Offsite Spend per trip**	**Estimated Ticketed Visits**	**Gross Regional Offsite Spend**	**Notes**
Day trip by Wales & South England Resident	£60	1,020,000	£61.0m	Majority (~66% of visitors Wales-resident but both sporting events & concerts attract day visitors from outside Wales)
Staying Visit by UK Residents	£205	105,000	£21.5m	Will also include a number of overnight trips by Wales residents.
Staying Visit by Overseas Resident	£390	105,000	£41.0m	Largely NatWest 6 Nations
Total Ticketed Visitation	–	1,230,000	£123.5m	

Notes:

- Authors' own estimates. Will not sum due to independent rounding.
- Gross regional spend includes elements – such as excise taxes and non-Welsh goods – that do no comprise regional economic impact.
- All overseas visitors assumed staying at least one night.

Sources:

- Updated & reflated from prior estimates for events detailed in econactive (2013) plus expenditure estimates for 2017 RBS 6 Nations and the 2017 UEFA Champions League Final.
- Proportion of non-Welsh resident day trips estimated from econactive (2013) and Welsh Government (2017) See Technical Appendix for full detail.

These visitor expenditure impacts, together with those for Welsh-resident visitors, form the basis for our results section following. We start by examining the turnover and visitor-related economic impact of Stadium operations in 2017-18, before moving on to summarise the economic impact of the Stadium since its opening in 1999.


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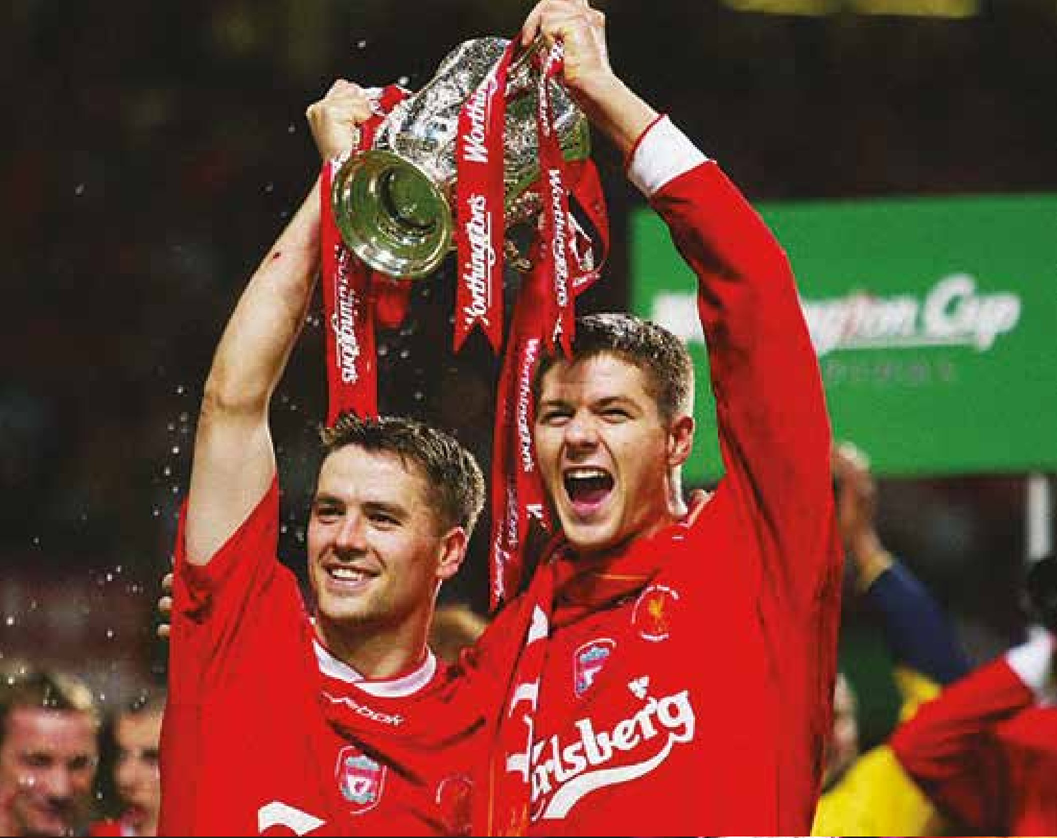



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3. THE ECONOMIC IMPACT OF PRINCIPALITY STADIUM 2017-18

3.1 Turnover-Related Impact

Although the spectator related economic effects of stadium operation are the most visible and high profile, it should not be forgotten that the Stadium is itself a business, with its own 'multiplier' effects, consequent on its purchases of goods and services and its payment of staff (who then spend their wages partly in Cardiff and across South Wales more generally). In this section we estimate these 'turnover-related' impacts. It is also important to undertake this process to fully understand the split between on-site and off-site accrual of monies to avoid double counting of expenditure and hence impact.

The WRU in 2017-18

Turnover **£97.0m**

Reinvestment in the game **£42.8m**

Retained profit **£2.3m**

Debt **£6.1m**

Employees **341**

In 2017-18 the Stadium achieved a turnover of £27.9m (net of VAT), a record amount that underpinned a record turnover of £97m for the WRU as a whole (WRU, 2018). Success in attracting non-rugby events, was a key factor in this performance. Onsite full-time equivalent permanent employment totalled 60, with anything up to 2,500 stewarding and hospitality staff involved on event days. We estimate this casual employment to be equivalent to around 115 full time employees in this year.

Table 4 – Principality Stadium Turnover-Related Economic Impact 2017 – 2018

Element		Impact
Onsite	Turnover	£27.9m
	Gross Value Added	£13.0m
	Employment	175 FTEs
In the Supply Chain	Turnover	£13.6m
	Gross Value Added	£6.5m
	Employment	255 FTEs
Total	Turnover	£41.5m
	Gross Value Added	£19.5m
	Employment	430 FTEs

Notes:

- Authors' own estimates
- Onsite includes all hospitality merchandise and security activities & all casual employment.

Sources:

- See Appendix for full detail.

In addition to the £27.9m of onsite turnover, the Stadium operational spending created a further £13.6m of economic output across Wales, thus totalling an impact of £41.5m across the country in 2017-18. Although Output or turnover is typically used as an impact measure in sports and event studies, a better measure is gross value added, GVA, which strips out raw material costs and other elements (such as excise duties and imports across the supply chain) that do not add to local incomes and profits. We estimate that total GVA creation amounted to £19.5m in 2017-18.

Employment generation through stadium operations totalled 430 FTEs in total – with 255 FTEs created in the Stadium supply chain, and via wage-spend effects, adding to the 175 full time equivalent employment (permanent and casual) onsite[11]. As noted earlier, these impacts are additional to those which occur as Stadium visitor spend money offsite, away from the Stadium itself but still in Wales. The following section quantifies these impacts

3.2 Visitor Expenditure Impacts

Our best estimate is that ticketed event visitors to the Stadium in 2017 – 18 spent around £123m in the wider regional economy (Table 3)[12]. Some of this expenditure 'leaks' from the regional economy (or comprises VAT and other non-regional taxes), but the bulk of this spending then goes on to ripple through City-Region and Welsh supply chains, thus supporting jobs not just directly in hospitality, transport and entertainment, but also in the many sectors – ranging from agriculture and food through to specialist professional services – that support these visitor facing industries.

As Table 5 shows, we estimate that the economic impact associated, offsite, with Stadium-driven spending at £149m, based on our Input-Output modelling approach. This output is associated with £73m of gross value added created in 2017 – 18. We estimate that the offsite spending of visitors to the Stadium supported the equivalent of 3,210 FTE jobs across the city and wider region.

Table 5 – Visitor-Related Economic Impact 2017 – 2018

	Wales – Day trip	Rest UK – Day trip	Rest UK – Staying	Overseas	Total	Non-Welsh Visitors
Output (£m)	46.8	10.6	29.3	62.3	149.1	102.3
GVA (£m)	21.7	4.9	15.0	31.6	73.2	51.5
Employment (FTE)	860	200	700	1,450	3,210	2,350

Notes:

- Authors' own estimates
- FTE jobs will include full time and part time permanent posts, temporary employment around busy event days and overtime for existing staff.

Sources:

- See Appendix for full detail

[11] This very high offsite employment creation (a high 'employment multiplier) is typical of facilities that are very capital intense. Turnover per permanent employee at the Stadium is extremely high; around £500,000

[12] With this not then including the expenditure of those un-ticketed who visited the city because an event was on, either accompanying family/friends with tickets or to simply experience Cardiff on an event day. For example, Jaimaigal-Jones et al suggest over 100,000 were drawn to Cardiff for the UEFA Champions League final and the associated activities.

Notably, and important for regional development, the majority of this economic impact derived from spending by non-Welsh resident visitors. Around 70% of output and 73% of employment was dependent on non-Welsh resident spending, highlighting the way in which the Stadium acts as an 'export driver'[13].

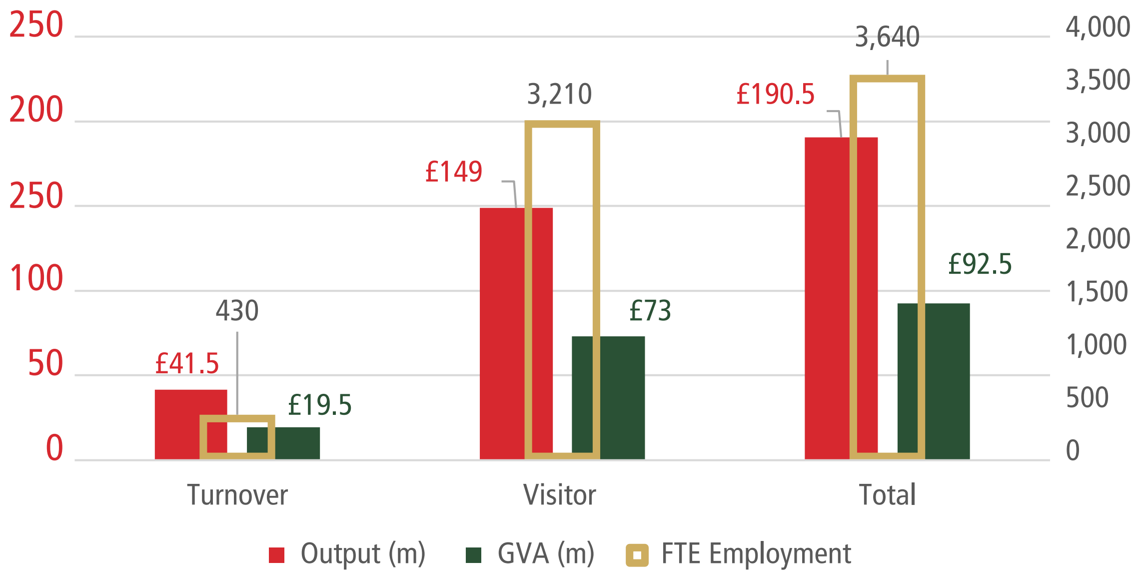
This performance is notable in scale compared to both other stadium facilities and the past performance of the Stadium. Both the number of visitors (1.23m), and a set of events that attracted high spending visitors from outside Wales have driven this result.

3.3 The Total Economic Impact of Principality Stadium

As we have discounted ticket, and onsite merchandise and hospitality spending from our visitor expenditure estimates, we can sum the results of Table 4 and Table 5 to arrive at an estimate of total Stadium impact in 2017 – 18. Figure 1 below summarises this impact.

We estimate that in the last financial year the Stadium generated around £190m in Welsh economic output, over £90m in gross value added and supported around 3,640 FTE jobs across the region. Between 80% – 90% of financial and employment impact was generated from offsite spending activity, emphasising the key role of the stadium as a driver of economic demand for the city at large.

Figure 1 The Economic Impact of Principality Stadium 2017–18



[13] Staying visitors support more jobs per £ spent due to their relatively greater purchases of regionally supplied, labour-intense services such as hotels and serviced meals

3.4 The 2017 Champions League Final

On June 3rd 2017 the Stadium hosted the final of the Champions League, which saw Real Madrid beat Juventus to win their 12th Final. This event was indicative of the global reach of the stadium, and of ways in which such events can be developed and extended beyond the match itself, including both the Women's final on the previous night, and a number of participatory events across the city.

Evidence from projects undertaken by both Cardiff Met and Cardiff University suggests that over 100,000 people visited the city – and that the major proportion were staying, non-local and indeed international trips. Estimates of gross expenditure for staying visitors ranged from £400 – £600 with half or more of this on local accommodation, goods, services and transport (Jumaingi-Jones et al, 2018).

Using these broad study estimates as an input into our economic impact model suggests that the June 3rd Final – in terms of ticketed visitors alone – generated £11.8m in regional economic output, £5.8m in gross value added and supported the equivalent of 250 person-years of employment (albeit clearly concentrated into a short period). These numbers show the quantifiable economic impact of a single, hallmark event, which are of course additional to any reputational or other benefits.

3.5 The Economic Impact of Principality Stadium 1999 –2019

econactive has undertaken assessments for the Stadium that cover its entire operational period, from Summer 1999 to Summer 2018, and have detail on upcoming events to June 2019. Although event profiles and Stadium financial structures have changed, our conceptual, modelling and data approach have remained reasonably consistent. The quality of data has varied over time: for example, we have somewhat more survey data for events earlier in the Stadium's operational period, but on the other hand statistical structures – and particularly our ability to derive visitor-specific 'multipliers' via input-output and tourism satellite account approaches – has improved substantially over time[14].

The above means that we can estimate with reasonable accuracy the aggregate economic impact of the Stadium over its lifetime, and forecast to 2019 represent two decades of successful operation, across three periods of analysis[15]. Table 6 presents the results of this analysis, in all cases presenting the impacts on Wales[16].

Our best estimate is that the Stadium will have generated £2.75bn in economic output across the region in its first twenty years. This economic output is associated with £1.32bn in regional gross value added – that is, wages and profits for people and companies in Wales. Over 50,000 person years of employment have been generated to service events and visitors over this period, and £1.95bn has been spent by visitors, offsite in the wider city-region economy

Table 6 – The Aggregate Economic Impact of Principality Stadium 1999 – 2019	
Output	£2,750m
Gross Value Added	£1,320m
Employment (person-years)	50,275
Regional Expenditure (offsite)	*£1,950m*
Estimated total ticketed visits	*18,850,000*
Estimated non-Welsh ticketed visitors	*6,625,000*

Notes:

- Authors' own estimates. All £2018. All onsite plus offsite except where noted.
- Person-years of employment jobs will include full time and part time permanent posts, temporary employment around busy event days and overtime for existing staff – at the Stadium and beyond.
- Regional expenditure excludes monies spend onsite at Principality/Millennium Stadium

Sources:

- In part adapted from econactive (2007, 2013)

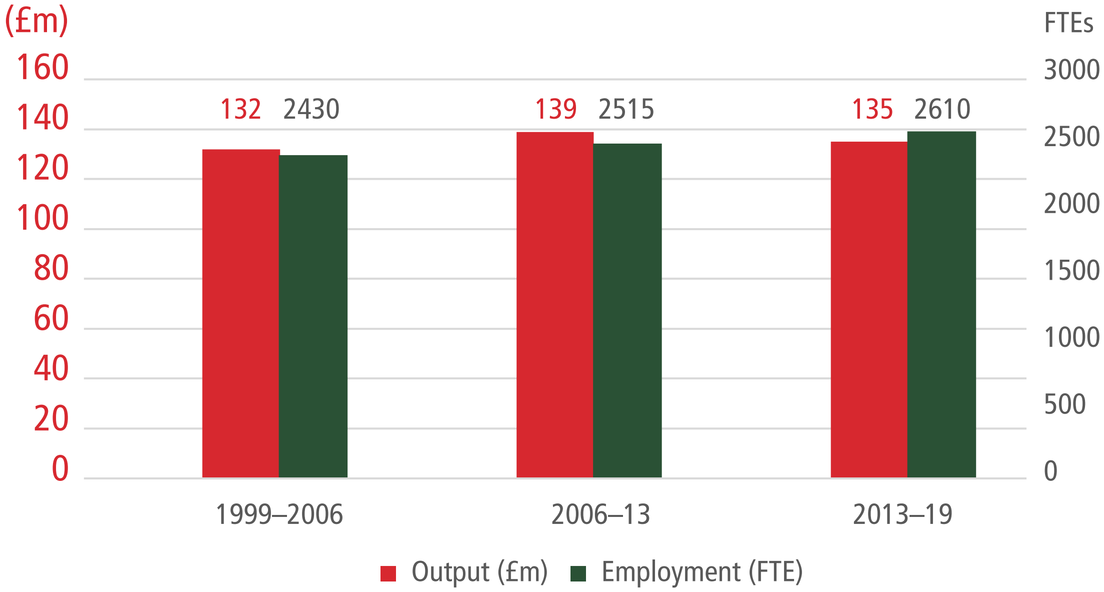
[14] For technical detail see Jones et al (2009) and Roberts et al (2016)

[15] With financial estimates suitably inflated to £2018.

[16] For fuller detail readers should consult econactive (2007) and econactive (2013). Note that due to minor changes in methodology & the difficulties inherent in regional & sectoral re-flation, comparisons between time periods are to be made with care.

The ability of the Stadium to attract events and deliver economic impact across the three periods of analysis has remained remarkably consistent. As Figure 2 shows, both the support for employment and regional output was almost identical across 1999-2006, 2006-2013 and 2013-19 – at least in terms of annual averages (and once inflated to current £). The Stadium has consistently delivered, on average, over £130m of output, around £60m of gross value added[17] and 2,500 FTE jobs every year for two decades.

Figure 2 Annual Average Regional Economic Impact 1999-2019



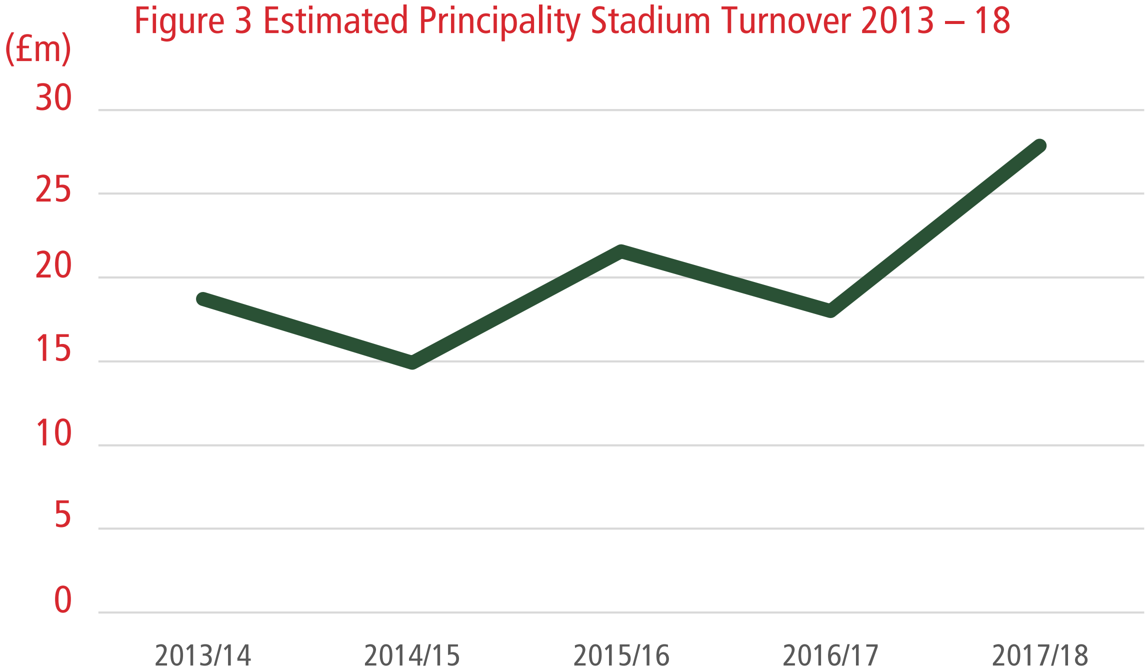
[17] Not shown here

This aggregation of annual impact into three time periods is necessary for reasons of data scarcity – we do not of course have survey data for all events in all years, and aggregation presents a more reliable and useful result for policy and evaluation purposes. However, such aggregation hides the significant volatility within these periods in the Stadium's core markets, and hence turnover, visitor numbers and economic impact. Some volatility relates to sport championship schedules, for example the hosting of two or three home Six Nations games in any given year, and the need to host World Cup warm up games every 4 years which crowds out concerts. Other financial drivers include success (or otherwise) in bidding processes for professional sports events (boxing, rugby football etc.), and for concerts, in very competitive markets.

Figure 3 illustrates the impact of such volatility on annual Stadium turnover, which shows growth 2013 to 2018 but with dips in 2014-15 and 2016-17. Visitor number variation is even more stark across the period since 1999, ranging from a low of around 500,000 in 2006-07 to the current high of 1.23m. The number of events, visitors and turnover is predicted to fall significantly during 2019 as Rugby World Cup 2019 warm up matches require the pitch to be re-instated in July 2019, fewer large concert tours are expected, and Wales will host one fewer Six Nations home match (WRU, 2018).

Whilst, then, the Stadium shows consistent and significant financial and economic performance over the two decades of its operation, its core markets remain uneven and to some degree uncertain. This fact should not be forgotten and is returned to in discussion in Section 4 following.

Figure 3 Estimated Principality Stadium Turnover 2013 – 18

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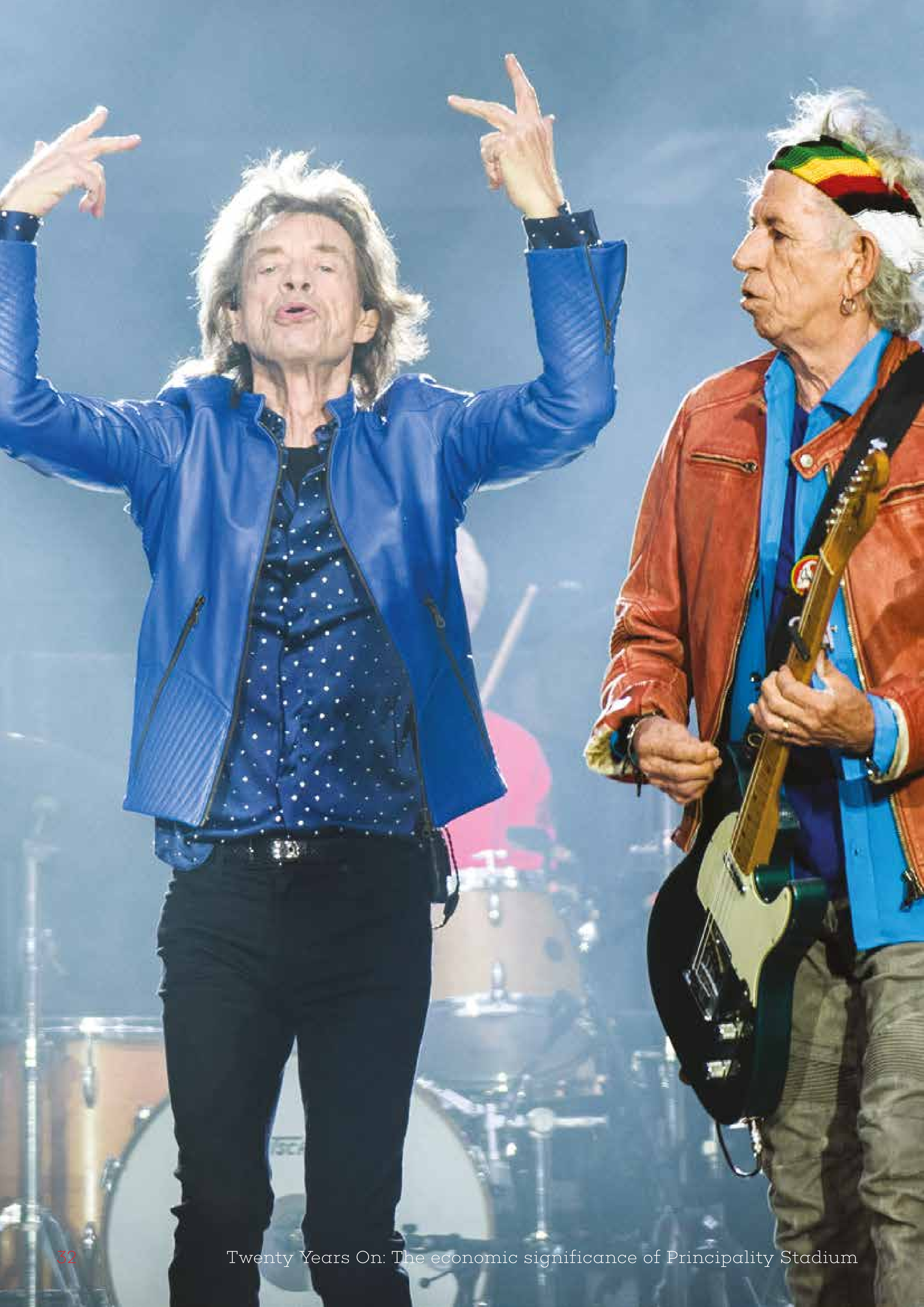

4. PRINCIPALITY STADIUM IN RETROSPECT AND PROSPECT

4.1 The Economic Impact of the Stadium in Context

This report has emphasised and reinforced the findings of previous reports in 2007 and 2013: The Stadium remains an important and consistent economic presence in the Cardiff Capital City Region, and a critical element of the city's visitor offer. We would estimate, albeit with some caveats, that the Stadium is responsible for supporting around one in ten tourism jobs in Cardiff[18].

More widely, but much less amenable to quantification, has been the impact of the Stadium on City profile. Spectators of sports as varied as club and international football and rugby (union and league), speedway, boxing, and rallying have come to the city as have the fans of acts such as Beyoncé, Madonna, the Rolling Stones and Ed Sheeran. The students of Cardiff and Swansea Universities have enjoyed Varsity matches that will stay with them for life and, likewise school children will have played in schools' finals with the same effect. The Stadium has showcased Wales, and hosted national celebrations, at key times in both sport and culture.

What is particularly notable is that the facility was delivered at what in retrospect is revealed at extremely low cost; around £130m construction costs, with some £7m additional infrastructure spend, and with around a third of money granted via the National Lottery Millennium Fund.

Whilst this financing model caused some concern early in the operational period due to the level of commercial debt (since assuaged as debt has reduced), the relatively modest level of public investment – certainly from within Wales – is unlike for most other stadia

Firstly, stadia are typically much more expensive to build; for example, the final Wembley Stadium cost – albeit built some years after the Stadium, and with 15,000 more seats – was in the region of £975m[19], and without a fully enclosing roof. Cost estimates for Tottenham's new 62,000 capacity stadium range from £750m – £1bn[20] and the Olympic Stadium cost London £300m for conversion to a football stadium alone.

This modest construction cost makes employment generation even more notable. For example, the aborted Circuit of Wales promised around double our estimate of stadium-dependent employment in operational 'steady state', but only following an investment of £575m[21] At the other end of the nation, and in a very different economic context, a new nuclear plant at Wylfa would contribute somewhat more GVA per annum to Wales than the Stadium – around £83m – albeit fewer jobs overall, and requiring capital investment of at least £14bn[22].

[18] See Visit Wales (2018) although methodologies & spatial scale differ from this report.

[19] https://www.theguardian.com/uk/2006/oct/15/football.wembleystadium

[20] https://www.football.london/tottenham-hotspur-fc/news/new-tottenham-stadium-name-cost-14966989

[21] Regeneris (2017)

[22] https://www.walesonline.co.uk/business/business-news/once-lifetime-57bn-boost-welsh-8989250

Moreover, the role of the Stadium as a driver of Welsh exports – or more properly as an attractor of money into Wales – should not be under-estimated. Most stadia lever a largely local audience, whether club or international focussed, with away/overseas audiences very rarely in the majority, even at global events such as the Summer Olympics[23]. Conversely in the Cardiff case both this and previous reports have found that the Stadium consistently drives spectator spending that is largely non-Welsh in origin, adding real, net-additional income.

Add the above to the local ownership model of the Stadium, where surpluses on business activity stay within the WRU Group and hence are spent largely across Wales, and it is clear that the Stadium remains an incredibly important resource in terms of sports and leisure infrastructure.

4.2 Stadium Prospects in Summary

The strong financial performance of the Stadium has been built upon success in servicing and growing core Welsh Rugby events (internationals, Judgement Day etc.), attracting sports events in competitive bidding processes and in proving the natural home for the largest pop and rock concerts South-West of Birmingham and London. Its unique offer was reinforced by the sight of Anthony Joshua fighting Alexander Povetkin at a 'rain sodden' Wembley[24]. The competitive landscape is however dynamic and there are a number of issues that might impinge upon Stadium success in the future, and which demand consideration:

The Scope of Activity – Despite a number of prior discussions, the Stadium remains largely a stadium, with a modest conferencing and/or exhibition offer. There are good reasons for this: conferences and exhibition centres demand large capital investment, are complex to run and find it hard to make money[25], although the development of co-located stadium and conference/exhibition spaces such as (partially successful) Arena MK[26] is worth consideration. The relatively narrow scope of activity at the Stadium also means the Stadium firstly, captures a very small proportion (around 15%) of total visitor expenditure for the WRU and secondly, renders income volatile and dependent almost wholly upon large events. New stadia in development – for example, for David Beckham's MLS team in Florida – often include retail, hotel and other attractions[27] (as well as chargeable parking) which increase and smooth revenue, enable cross subsidy and drive footfall.

[23] https://www.researchgate.net/publication/237504439_Economic_dimension_of_the_Olympic_Games

[24] https://www.mirror.co.uk/sport/boxing/anthony-joshua-povetkin-punch-stats-13294280

[25] Liu & Wilkinson (2014)

[26] http://www.arenamk.com/organise/live-events/

[27] https://www.thenextmiami.com/beckhams-miami-stadium-set-include-hotel-retail/

As new entrants to the broadcasting landscape potentially make staying at home to watch events more attractive, to remain competitive, the Stadium may need to (i) upgrade existing facilities and (ii) investigate (again) the development of complementary activities. In order to stay ahead, the Stadium could explore:

- upgrading the existing technology to enhance the fan experience and attract new events such as e-sports and American football
- a heritage centre to attract day in day out visitors to showcase the varied history of the events held, as has been successfully proven at Nou Camp and Old Trafford
- upgrading the food and beverage offer
- driving fringe events on the back of Stadium events; and
- access to a top end hotel which would complement Central Square and attract more affluent consumers

Capital Investment and Renewal – Two decades ago the rationale for the development of the Stadium included a lack of revenue-generating hospitality boxes at the old Arms Park. Since then the requirements for a modern stadium have moved apace. The Stadium has invested in a number of systems to ensure the quality of its product across its range of activities, particularly related to pitch quality. However, technological developments are likely to make demands on stadium operators in other ways. This might include game-related investments such as goal-line technology, augmenting the experience of visitors to the Stadium with e-delivered bespoke commentary and statistics and virtual exposure to different viewpoints; or offering services to events rights-holders that include sophisticated virtual-reality event delivery to non-attending fans[28].

Many of these technologies are in the very early stages, and with demand and business models uncertain. However, other 'offer' elements of clear existing need include within-stadium connectivity/Wi-Fi, ever-more sophisticated security systems and (virtual) on-pitch advertising[29]. The ability to continue investing, flexibly, to respond to changing customer and rights-holders requirements, as well as investing in the physical fabric of the Stadium itself is therefore key – but must be weighed against the short-term-volatile income stream and need to deliver investment into Welsh Rugby. As indicated above, an upgrade of the existing within-stadium connectivity/Wi-Fi technology would enhance the fan experience and attract new events such as e-sports and American football.

To further support the Stadium in its ability to drive the Welsh Economy, consideration should be given to improving the supporting and surrounding travel infrastructure – particularly rail. Routes, services and facilities at Cardiff Airport have improved very markedly since coming under the control of the Welsh Government, and the Airport is an important gateway for international Stadium events, and itself benefits from custom generated by Stadium activities.

[28] http://uk.businessinsider.com/tribeca-film-festival-vr-ar-live-sports-2018-4?r=US&IR=T

[29] http://www.sportspromedia.com/special_reports/special_report_stadium_technology

The Competitive Environment – The Stadium has weathered a number of competitive storms, including the re-opening of Wembley, and more local competition for specific events and conferences from the Cardiff City Stadium. However, the conversion of the Olympic Stadium in London for West Ham at a public cost of around £300m and the (aborted) sale of Wembley to Fulham's Shahid Khan, together with a number of capacity increases across English stadia suggest a context where stadium operators in the UK will be looking to recoup costs of investment by entering (or redoubling efforts in) the market for large events.

Meanwhile, the completion of the International Conference Centre at Celtic Manor[30] provides limited direct competition for the Stadium, but reduces the likelihood of a Cardiff based conference/exhibition space that might have complemented stadium activities. It also comprises a significant equity investment by the Welsh Government (via a Joint Venture) whereas the Stadium can only gain public support for specific investments, and then only after demonstrating consequent economic impact. Notably, the Wales Millennium Centre continues to make losses and receives annual public support of around £4m[31].

To summarise then, in this continually competitive environment the Stadium has continued to succeed but will need the ability to invest in its world class offer to protect this success. The current business model, whereby even in a 'stellar' year the Stadium benefits from only £28m of turnover whilst generating £123m of expenditure across the rest of the city (and also paying £800,000 in business rates), and providing funds to support Welsh rugby more widely, may not generate sufficient surplus enable this investment.

4.3 Conclusion

The Stadium remains Wales' top single site attraction, and by some way. It remains long term profitable despite only retaining around 15% of the revenue it brings to Cardiff. Despite its relatively established status and relatively low level of investment (compared to other stadia), it has remained a key location for sports events and concerts of international renown having hosted events with global reach including Champions League, RWC, Olympics and Anthony Joshua boxing bouts. It has an undisputed reputation to stage the world's biggest events

This performance has consistently supported thousands of jobs every year across South Wales, and generated hundreds of millions in expenditure and economic impact. Millions of visitors, who would not otherwise have visited Cardiff or Wales have done so, and many more than once. The Stadium is unquestionably a key part of the fabric of the city and looms large, for most, in the psyche of Wales.

It is easy in this context to see the Stadium, and the benefits it brings as unchanging, reliable and enduring. But it does not do to be complacent. Few now remember that the Stadium may not even have been redeveloped, with the project under pressure right until the last minute, or may have ended up at a lower-cost and far more 'logistically easy' site away from the City Centre, in some other part of South Wales. Such a decision may well have resulted in more modest visitor numbers but a more stable, 'captive' and manageable income stream for the WRU.

[30] http://www.iccwales.com

[31] http://apps.charitycommission.gov.uk/Accounts/Ends58/0001060458_AC_20170331_E_C.PDF

The placement of the Stadium away from the Arms Park, perhaps along the M4 would of course also have had significant net-negative effects on footfall and expenditure in Cardiff and hence on jobs and economic impact. Not unimportant, greenhouse gas emissions associated with its use would also have been far higher with visitors far less able to use public transport – from within our outside Wales – for their trip.

As the Stadium approaches its 20th birthday, it is useful to consider what the City would have been like without its presence, and for stakeholders consequently to give thought to how this important resource can be protected for the next twenty years.

There is both an overall risk and opportunity for the Stadium. Given the scale of the Economic Impact and job creation historically any regression will have a significant adverse impact on the Welsh Economy and employment prospects. Conversely, there is an opportunity to evolve and break new ground with the correct investments to further enhance the Stadium's ability to drive the Welsh Economy which should be supported.


STADIUM
UEFA CHAMPIONS LEAGUE
FINAL·CARDIFF·2017
CHAMPIONS LEAGUE
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5. TECHNICAL APPENDIX

5.1 Methodology

Measuring the direct economic contribution of a single organisation, company or activity is not, per se, a difficult task. However, there are many issues to consider when estimating the overall economic impact, particularly at small spatial scales. The methodology used to estimate contribution across the economy is Input-Output based.

This method accounts for supply chain impacts (e.g. as a business expands or event takes place, it will demand more goods from its suppliers, who then must also expand output); and income effects, where extra wages are spent with the economy, be this national, regional or local. Input-Output (I-O) approaches are usually accompanied by a discussion of ‘multiplier’ impacts relating to indirect impacts on employment, income or output.

Whilst I-O is a widely accepted method it has several drawbacks. Firstly, it does not account for any crowding out or displacement effects; for example if a successful Cardiff-based event causes other visitors to avoid the City Centre and shop elsewhere (rather than simply deferring their trip until a later date which would not result in any net loss). Research has suggested (see Andrews, 2002) revealed that major football matches on a Saturday in Cardiff was relatively modest. No further research has been undertaken into this issue.

Additional to the above, there are definitional aspects to consider. A company's (or sector's) ‘economic impact’ is often quoted when, in fact, the figures refer to gross output or turnover. The extent to which these figures constitute “real” additional wealth is debatable. An example is £50 spent by a tourist on Levi Jeans in Cardiff; although the shop will report a turnover increase of £50, the majority of the income will leave Wales as the jeans are imported; only part of the margin goes to support employment at the shop, and thence has multiplier effects in the rest of the economy.

Despite the above issues, I-O is the most useful tool for examining economic impacts at smaller spatial scales, particularly as in this case bespoke I-O tables exist for Wales. The methodology is bolstered by the availability of a Tourism Satellite Account for Wales, which enables finer detail of the impacts of visitors' spending to be assessed. This means that by properly discounting spend on non-Welsh goods and services (e.g the Levi's jeans example above), the economic modelling does not overestimate initial ‘economic impact’ and thus the scale of overall impact.

Key to an accurate representation of economic impact is an accurate assessment of spending by visitors to the Stadium – of different types, and for different events. Whilst we would expect expenditure patterns to be different for Welsh and non-Welsh attendees, research has shown that expenditure patterns differ even amongst non-Welsh visitors. For example, research into the impact of the Heineken Cup Final 2006 found spectators staying an average of 2 nights in Cardiff, with an expenditure per-adult that approached £300 in the City: Research by both Cardiff University (unpublished) and Cardiff Metropolitan University (Jumaingi-Jones et al, 2018) suggest that overseas visitors to the UEFA Champions League final spent anywhere between £400 – £600 on their trip, excluding tickets and air fares.

We have drawn upon a number of extant surveys to estimate the gross spending of spectators, developing a typology dependent upon the place of residence of the spectator and the event type in question. We have drawn on a variety of sources for this estimation. Our survey sources are presented in detail in econactive (2013) and have been supplemented with the above data for the Champions League Final, and for the RBS 6 Nations in 2017 along with general data on tourists spending from the GB Tourism Survey and GB Day Visitor Survey (see https://gov.wales/statistics-and-research/?topic=Tourism&lang=en)

Following the estimation of gross spending, a process is followed whereby this spend is discounted for both non-Welsh imports, and those which are assessed as part of the Stadium turnover; for example, in many cases ticket revenue is either counted as part of the Stadium's operating income, or in the case of Football Association events, largely comprises a leakage.

Following this process we use an I-O approach to provide this indication of impact; both that due to Stadium 'turnover' effects, and that consequent on visitor spending. Current methodological and data limitations mean that it is not possible to explicitly account for important displacement and other effects that may occur due to stadium operation. For example, there may be relative price changes as hotels increase room rates on event weekends, and, as earlier noted, some of the increased labour requirement will be serviced through overtime and higher productivity rather than 'new jobs'.

Estimates from earlier reports of expenditure and economic impact 1999-2006 and 2006-2013 are presented and rebased to account for the impact of inflation using ONS the consumer price index[32] (thus they will not match earlier publications).

5.2 Other Data & Frameworks

In addition to survey data, this report benefits from detailed information on stadium operations including CapEx, wage expenditure, total non-wage spending by commodity, and the geographic location of spending by commodity. These data allow us to build a sophisticated and bespoke 'multiplier' model to trace stadium supply chain and wage impacts.

Our visitor expenditure model translated gross expenditure into economic impact via manipulation of the Tourism Satellite Account for Wales within the framework of the Input Output Tables for Wales. This identifies the spending vectors of day trippers; short break visitors and overseas visitors to Wales as well as (unused) business tourists and long stay visitors) Both these accounts are for base year 2007 (see Bryan et al 2010 and Jones et al 2010): whilst this is not an issue for gross spending (which is estimated for 2017-18) the spending patterns will miss changes in visitor spending behaviours that have arisen in recent years – for example mobile telephony and Airbnb. We do not foresee significant errors occurring in respect of this untimeliness.

Full technical detail is available by request to calvin@econactive.co.uk

[32] https://www.ons.gov.uk/economy/inflationandpriceindices/timeseries/l522/mm23

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