

The Millennium Stadium, Cardiff and Wales



The Economic Impact

Final Report

September 2007

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E C O N A C T I V E
sport • tourism • culture • regeneration

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1 Background and Introduction

1.1 The Millennium Stadium

The Millennium Stadium, in the heart of Cardiff, was first proposed in 1994, partly in response to the opportunity for Wales to host the 1999 IRB Rugby World Cup, and partly to provide a long term home for Welsh Rugby in place of the 30-year old National Stadium. The new stadium was completed in time for the World Cup, hosting its first game in the summer of 1999. Stadium capacity is some 15,000 higher than the old ground at 72,500. The stadium project cost around £130m with £46m granted through Millennium Commission Lottery Funding, and the remainder through commercial loans.

Since completion, the Stadium has been at the centre of Cardiff and Wales' sporting life, home to the international Welsh rugby and football teams and, critically, attracting the most prestigious UK-national and international sporting events. Additionally, the stadium comprises an important cultural and business venue, hosting music and other concerts, trade fairs and shows.

The high profile enjoyed by the Stadium and its associated events have led to a focus on the economic impact of the stadium on the City and on Wales, firstly through the short-term expenditure impacts associated with the millions of visits that the stadium has generated in its short life, and secondly following the extensive media exposure that the Stadium has brought through coverage of major events – media exposure that is assumed to generate longer term visitation and investment to Cardiff and Wales.

1.2 In This Report

This report will estimate the economic impact of the Millennium Stadium on Cardiff and on Wales, separating the impacts at these different spatial scales. The next section will 'set the scene', providing a robust debate on the economic role of stadia, and the extent to which stadia and their events are thought to have implications for the economic development of their host cities and regions. Section Three will then focus more closely on Cardiff and Wales, establishing the economic development priorities of Cardiff County Council and Assembly Government, and showing how sport and events (and their impacts) fit within these strategies.

Section Four outlines the nature of stadium operations, and profiles the event diary. Much of this material provides inputs for the economic modelling undertaken as part of this report. In

Section Five we provide an account of the methodology used to explore the economic effects of the Stadium and supported sports and other events. A short introduction will reveal that the modelling methodology used is commonly used for such analysis, and uses extensive 'bespoke' Welsh data. Moreover, the methodology adopted for the quantitative elements of the report has been widely used in Wales to assess the economic impact of both major events and tourism infrastructure, meaning that the results presented here will be largely comparable with those presented in other studies.

The results are presented in terms of the additional output and gross value added associated with stadium operations and visitation in the Cardiff and Wales economies. Additionally, a broad estimate of additional employment created in Cardiff and Wales is given, although this should be treated as indicative only due to difficulties in measuring employment impacts in visitor-facing industries.

We have already noted the importance of 'softer' and more difficult to measure elements of stadium and event impacts – such as on place marketing, sports development, community enhancement, media coverage, and consequent on tourism, re-visits by spectators. Section Six then discusses the nature of these impacts and contextualises them within the economic policy debate outlined in Section Three, establishing the central role that the Stadium has played in presenting Wales as a modern and outward looking nation. Section Seven comprises brief conclusions and assesses how far the Stadium's operation has been maximised in terms of leveraging local benefits.

2 Stadia and Economic Development

2.1 Introduction

The economic effects of stadia have become a matter of intense debate. On the one hand are a series of studies that demonstrate how stadia work to boost local economies as a result of additional event-related visitation, on the other is research that questions the additionality of stadia, the methods used to assess impacts, and the veracity of softer impacts claimed by proponents. In this section we review this literature critically. There is value for the Stadium operators in understanding elements of the negative analysis, not least because we believe the Millennium Stadium is well placed to counter elements of this critique.

2.2 Do Stadia Matter to an Economy?

Inevitably within an economic evaluation it is difficult to divorce the stadium infrastructure from the events supported by that infrastructure. As a consequence much of the literature on stadia (and convention centres etc.) is actually as much about events as the physical structure. However, to begin with, we focus on debates surrounding stadium infrastructure in particular.

Key elements of the research agenda on stadia have been set in the United States where there has been a great deal of criticism on the way in which major sports teams and franchises have worked to lever public funds for new or redeveloped stadia. In these cases major teams (football, baseball, ice hockey and basketball) may threaten to relocate to another city without public support for stadium development. In making the economic case impacts become inflated by proponents (see for example, Baade, 1994; Noll and Zimbalist, 1997; Crompton, 2004). The 'standard' economic case for stadia is then built on an analysis of the direct and indirect spending likely to be levered by the facility, and then with additional consideration of short term impacts on the local economy during the developmental stage. The direct spend is the money spent by the stadium operator, its employees, and visitors. Some percentage of these funds is spent on locally produced goods and services, which then create further rounds of spending in the local economy (indirect effects). Then in economic developmental terms the presence of the stadium and associated events is seen to support output, incomes, and employment directly and indirectly in the local economy. A critical element of assessment is then firstly, the estimation of the direct effects of the 'stadium' and secondly, the relationship between the direct and indirect, with concerns that in the *ex ante* development case, multiplier effects are serially overstated. We investigate these and more general problems briefly in the following sections because they are also relevant to our consideration of the Millennium Stadium case.

2.3 Additionality & displacement

Critical research in the US and the UK stresses the need in evaluation to consider what element of spending, and then impact, is genuinely 'additional'. The challenge facing the economist is to consider what would have happened without the construction of the reference stadium.

Unfortunately there have been many cases where economic impacts have been inflated precisely because there is insufficient account taken on spending in a local economy prior to stadium construction. Baade (1994) provides a useful synopsis of the problems with respect to stadia. There can only be a benefit to a regional economy when the stadium levers new expenditure from residents outside the reference area. This clearly counts as a new regional 'export'. Another positive economic benefit could come about if the stadia and supported events mean that local residents consequently spend less money on imported goods and more locally instead (import substitution) – for example, not having to visit a stadium in another city/state. However, there can often be a problem in that the presence of a major sporting team can cause people to spend more on goods that have to be imported in to the local economy (franchised goods). Matheson (2002) demonstrates that revenue from ticket sales often leaks out of the local economy to national or international organisations.

In consequence of the above, there is a real danger that proponents of stadia development use gross estimates of spending to model indirect effects as opposed to net additional spending. The presence of stadia and the resulting event visitation can cause visitor displacement particularly where the new infrastructure is placed close to retail centres. For example, some people will simply delay their shopping visits, whilst others will switch to alternative retail centres on event days. Matheson (2002) shows for example, that many large sporting events are staged in communities that are already strong tourism destinations and then with contests simply acting to "supplant rather than supplement the regular tourism economy" (p.1). This is obviously again related to the issue of additionality noted above and should be discounted from gross effects.

2.4 Stadia - Positive economic impact?

The combination of problems identified above in section 2.2, combined with the difficulties in assessing the net impacts of stadia result in a disappointing evidence base. The following quotes are representative:

“Independent work on the economic impact of stadiums and arenas has uniformly found that there is no statistically significant positive correlation between sports facility construction and economic development” (Siegfried & Zimbalist, 2000)

“In city after city wealthy sports franchises and their allies in government use flawed economic principles, inflated numbers, and creative accounting to argue that sports stadiums will create millions of dollars of additional tax revenue and are thus worthy of significant investment” (McConnell, 2000)

“A lack of empirical evidence to support economic benefits has directed stadium proponents toward alternative justifications of stadium construction” (Mason & Buist, 2006)

Amongst the most rigorous studies of stadium development and economic development effects is Baade (1994). Baade investigated economic growth experienced in 36 metropolitan US areas before and after the introduction of professional sports teams, new stadiums and new arenas. Of the areas where there was a change in the number of sports teams there was no relationship between this and local income growth. Baade also suggested that in over 60% of cases there was a tendency for stadiums “to push rates of economic growth below the average”. His conclusion was that state governments in particular would not find new stadia a sound civic economic investment.

The European situation is somewhat different, for example with stadia and their associated teams and fans far more closely allied to a single city location – and hence unable to easily move. The evidence here suggests that city marketing can be positively influenced by stadium-based activities – but that a city has to actively seek to take advantage of those activities. For example Econactive Ltd (2003) found that whilst the continuing activities of FC Barcelona had helped cement the position of Barcelona as a top sporting city following the 1992 Olympics, other case studies were not so positive, with Turin (Juventus), Manchester and Liverpool perhaps not taking full marketing advantage of the success of their football teams. It is of course difficult to place a value on the role of stadia in developing destination marketing, in providing a boost to property markets (Davies, 2005), or in improving sports and community development

prospects. Moreover, the above has focused on stadia and sport teams as opposed to the more discrete events that characterise the Millennium Stadium (see below).

2.5 Discrete and irregular events economic appraisal

Studies of the economic impacts of discrete events face many of the same problems as studies used to justify new physical infrastructure for sports. The short run economic effects of sports and other events have normally developed within frameworks that deal poorly with the genuine additionality of the activity, with just a token or zero allowance for deadweight and displacement effects. More often than not event studies major on a tally of gross attendee spending, but with selected analyses developing more complex frameworks of analysis. UK Sport sponsored a range of research (see UK Sport, 2004) examining the additional spending attributable to UK-hosted events including the World Badminton Championship (Glasgow, 1997), European Show Jumping Championships (Hickstead, 1999), and World Indoor Athletic Championships (Birmingham, 2003). These studies also explored the wider public profile of events, and the value of associated media coverage. In 14 out of 16 UK-hosted events reviewed in UK Sport (2004) the additional spending generated in the reference location was less than £4m. The main conclusion made here is that what is 'major' in terms of sporting profile might not necessarily be 'major' in terms of local economic impact (for other recent UK studies see for example, Gratton et al., 2005; McQuaid and Greig, 2002; Jones, 2001).

Economics-based impact studies of major sporting and other events have been subject to a number of criticisms, very similar to those directed at Stadia development proposals. For example, impact assessments are often sponsored *ex ante* by stakeholding groups. This 'moral hazard' comes to light with economic effects being inflated to gain additional public support, or to reinforce regeneration coalitions (see for example, Cochrane et al., 1996). There has also been criticism that studies focus on the short run as opposed to the longer term effects of events. This is a particular problem with 'mega' events such as the Olympic Games where longer run economic consequences on host locations, and long term infrastructure use *ex post* are heavily discounted (see for example most recently Preuss, 2004, and for an evaluation of the Athens games, PWC, 2004).

Moreover studies have been guilty of ignoring a series of broader fiscal effects with a proportion of visitor spending resulting in tax revenues to central authorities as opposed to host areas. Finally, there is the common problem that studies include residential and organisational spending that would have occurred whether the event had taken place or not. Allied to this is the non-accounting of cases where 'event' based activity 'crowds out' other business activity.

2.6 Stadia & Events – other issues

The focus on economic impacts of stadia and events may ignore equally relevant developmental issues. 'Standard' impact assessments of events only provide a partial picture. Studies are rarely part of a comprehensive and objective cost-benefit analysis covering a range of welfare issues. The primacy in impact studies of visitor expenditure as the main economic benefit driver encourages a focus on the short-term, and less attention to legacy and more general developmental effects. Ruiz (2004) in a detailed review shows that events can assist community development, strengthen future tourism prospects (re-visitation), create productivity spillovers for local firms, and increase activity rates (see also Jones, 2001). Cochrane et al. (1996) demonstrate how even the process of bidding for major events (Manchester's Olympic bids) can be a means of mobilizing people and capital around new growth coalitions. Cambridge Policy Consultants (2002) in an evaluation of the 2002 Commonwealth Games held in Manchester also showed that the city council was successful in integrating the games and its infrastructure into the more general regeneration process featuring physical renewal, community involvement in sport, and induced investment. They highlighted that without the Games:

"there would have been no unifying theme against which to justify bids for a wide range of regeneration programmes now running in the area".

However, against any potential benefits of hosting sports events are likely to be a series of 'costs' that are rarely considered in economic event assessments. These might include the effects of overcrowding and noise pollution, increased crime rates, and 'hidden' costs associated with policing and security, 'removal of undesirables', sanitisation, and property cost inflation around venues. Finally, and becoming increasingly relevant in wider evaluation are local and global environmental impacts of event visitation (see for example, Cashman and Hughes, 1999; Holden, 2000). There are contemporary duties towards sustainable development at international, national and local level, and the successful London 2012 bid featured planned eco-friendly transport modes, use of brown field sites, and plans for waste reduction.

2.7 Event benefits and economic development?

The review suggests that the economic effects of stadia and events are understood as a demand-side shock where the event, by way of the new infrastructure, draws visitor spending which stimulates local demand and employment. At the same time the media exposure generated by events is seen to enhance place marketing which can encourage additional

rounds of visitation and perhaps garner support for further investment. The wider welfare effects of events are more poorly researched.

Jones (2005) argues that the analyses of the economic effects resulting from major events do not always connect well with contemporary debates on the processes through which regions grow and develop. This may be one reason why the evidence base on stadia, events, and economic growth reveals some disappointing results. The overarching problem is summarised in Figure 2.1 below. Regional economic ‘success’ is generally held to depend upon more than the level of demand for regional goods and services. Whilst impact studies of stadia and events major on visitation, spending, tourism, media coverage and physical structures, the debate on how regions grow and prosper majors on issues of innovation, knowledge economy, partnerships and learning. The links between the two are far from explicit. Jones (2005) concludes that few event economic impact assessments have anything to say regarding the consequences of event hosting for the development of social capital or intra-regional networks which are held as particularly important in contemporary developmental debates.

Figure 2.1 Events, Stadia and Economic Development: Dichotomy	
Impacts of events and stadia? <ul style="list-style-type: none"> • Visitation • Spending • Increased tourism • Business investment • Media coverage • Destination marketing • New physical infrastructure 	What matters in regional economic development? <ul style="list-style-type: none"> • Innovation & spillovers • Knowledge economy • High value added employment • Virtual infrastructure • Social infrastructure • Partnerships • Learning

2.8 Summary – Implications for the Millennium Stadium

The above general review reveals a series of issues that are relevant for the economic evaluation of the activity of the Millennium Stadium.

- The role of stadia and associated events in improving economic development prospects of cities is far from clear.
- Care is required in estimating the economic additionality of stadia development and associated events.
- The ‘softer’ roles of stadia and events in improving destination marketing, media profile, and in improving social and community prospects are very difficult to measure.
- Positive economic effects resulting from new stadia and events may not be the same as an increase in local welfare.
- There is a need to link events and stadia development to what is important in economic development terms.

In particular, the review, particularly the material for the USA, suggests several reasons why stadia are not found to have a significant impact upon the economic development prospects of their host region or city. To summarise, the reasons that stadia are not strong economic performers in this regard include:

- Many stadia do not typically attract much 'out of town' or 'out of state' spending, meaning that they result in expenditure switching rather than additional expenditure,
- US stadia are characterised by their isolation in a 'sea of car parks', meaning they are not integrated into the wider socio-economy,
- Where stadia are not locally owned there can be a high level of leakage from the region following ticket sales and other revenues,
- Many stadia, both in the US and Europe are not closely linked in wider public consciousness with their host city, limiting the spin-off benefits of media coverage.

As one might gather from the above the extent to which these limitations apply to the Millennium Stadium is debateable. We return to these issues in the next section and then in the final sections of this report to show that the Millennium Stadium, both *a priori* and in terms of the economic modelling undertaken, might in many ways be considered a 'best case' scenario and have a more substantial economic impact.

3 Regional development priorities, the Millennium Stadium and major events.

3.1 Introduction

This section focuses more closely on the Cardiff case. The section examines the city economic context before establishing the economic development priorities of the County Council and Assembly Government. This reveals how stadia, sport and events (and their impacts) fit within the economy and these strategies. The section concludes with a brief review of Welsh studies that have examined the impacts of major events, and which have formed much of the evidence base for regional strategic development.

3.2 The Economic context of Cardiff

Cardiff is the strongest growing part of the Welsh economy. Gross Value Added (GVA) per head in Cardiff and the Vale of Glamorgan was 16% above the UK average in 2003 making this by far the wealthiest part of the regional economy. This is also evidenced by healthy employment growth, exceeding 1%pa between 2000 and 2004. Recent city growth has been supported by a strong financial and business services base. Several financial and business services providers have seen employment levels damaged by UK wide restructuring and rationalisation programmes. The largest Cardiff sector is public administration, education and health currently accounting for almost 60,000 jobs in the city area (32% of total city employment). High levels of non-market sector employment partly explain the relatively high level of earnings in Cardiff. City manufacturing, however, is in difficulty. In 2004 manufacturing accounted for just 6.5% of city employment. Between 2000-04 employment in manufacturing and electricity, gas and water fell by 5.0% per annum. A recent blow was the closure in 2005 of the NEG-Schott Glaswerk plant in Cardiff Bay with the loss of 500 manufacturing jobs.

Retail, hotels and catering have seen strong recent growth. Cardiff's retail offer is set to increase substantially. The key development is the Land Securities £350m St David's 2 redevelopment. The project began during November 2006, and will be completed by Christmas 2009. Around 80% of the new retail space created will be additional, and with the prospect of 4,000 new retail jobs. Adjacent to the St David's 2 redevelopment, Helical Bar is planning to redevelop the David Morgan shopping complex. Other developments include those at the International Sports Village, and at Cardiff City Football Club. Cardiff is placed amongst a fast growing retail catchment area with over 600,000 shoppers.

Cardiff maintains its profile as a location for major events. The city again successfully hosted the FA Cup final in 2006, together with the final of the Heineken Rugby Cup, and hosts the UK round of the World Rally Championship in the autumn. Test cricket is coming to the capital, with a refurbishment of Sophia Gardens and the creation of an 18,000-seat stadium. Parallel to these developments was the successful opening of the new Millennium Centre for Arts in Cardiff Bay during 2005. There has also been a strong trend in new hotel construction around Cardiff in the period 2003-2006. Current employment in the Cardiff hotels and restaurants sector is a little under 14,000 people.

A recent report by Cambridge Econometrics suggests that the Cardiff economy will grow by an average 3.1%pa between 2004-10. This would put Cardiff amongst the upper quartile of main European city growth rates. Over this period the growth of Cardiff is expected to exceed that of London (2.8%pa), Birmingham (2.1%pa), and Manchester (2.2%pa).

In conclusion, the Millennium Stadium is positioned in a relatively fast growing local economy. Moreover, the city area is expected to continue to grow at rates above the Welsh and UK average to 2010. The presence of the stadium undoubtedly supports this growth and complements other physical developments in the local economy. For example, recent improvements in numbers of quality bed-spaces in Cardiff hotels, together with the growing profile of the city as a visitor attraction (recent estimates place annual visitor spending at around £430m per annum), are partly connected to events held in the Stadium. The presence of the stadium also complements more general physical infrastructure development in Cardiff Bay, and should be considered as supporting new retail investment. Stadium events bring in a spending public from a wide constituency, many of whom are exposed to the high quality Cardiff retail offer for the first time.

3.3 The Stadium and regional development strategies

Welsh Assembly Government: WAVE

The Assembly Government's National Strategic Framework for Economic Development (*Wales: A Vibrant Economy*, 2005) sets the objective of developing prosperity by building on regional strengths including: an increasingly skilled, innovative and entrepreneurial workforce; an advanced technology and knowledge base; strong communities; a stunning natural environment; and an exceptional quality of life. The overarching objective sits in a context of relatively high levels of regional inactivity in people of working age. As a consequence the headline WAVE aims comprise:

- New job creation and helping people overcome barriers to work;
- Investing to regenerate communities and stimulate economic growth;
- Helping firms to grow and to increase earnings;

- Supporting businesses with growth potential (with a flagship Knowledge Bank for Business initiative being launched);
- Continuing the focus on competitiveness drivers such as innovation, entrepreneurship, skills, investment and trade;
- Ensuring that economic development programmes support sustainable development.

WAVE posits that large cities and well connected urban areas can act as powerful centres to drive economic growth, and that firms can gain from the agglomeration effects of cities and urban areas, but that benefiting from the effects of agglomeration will be a difficult challenge for parts of Wales. The strategy shows that investment in the transport infrastructure to improve physical linkages will be of vital importance.

The activities of the Millennium Stadium can be seen to link to elements of the national development strategy. The presence of the landmark stadium, and the character of the events hosted has provided a boost to city development prospects, and added to the stock of high quality physical infrastructure that one would expect to find in a capital city. The strength of the capital city is a key component of national development strategy, and the stadium reinforces the image of Cardiff as a serious competitor to cities in adjacent regions, and reinforces agglomeration advantages highlighted in the strategy. The stadium plays a role in job creation, although with questions remaining on the level of full time or higher-skill employment supported in the wider visitor economy.

People, Places, Futures: Wales Spatial Plan

“People, Places, Futures” sets a new policy framework based around an integrated approach to the needs of six parts of Wales, which do not match with pre-existing sub-regional structures, but which reflect patterns of social and economic interaction. The Spatial Plan areas are designed to permit flexibility in spatial development. The overarching aim of the Spatial Plan is to:

“sustain communities by tackling the challenges presented by population and economic change; we will grow in ways which will increase our competitiveness while spreading prosperity to less well-off areas and reducing negative environmental impacts; we will enhance our natural and built environment for its own sake and for what it contributes to our well-being; and we will sustain our distinctive identity”.

For each of the six areas the Spatial Plan provides a vision, a strategy, a set of propositions, a set of specific area actions and an appreciation of national actions relevant to the area. Cardiff is part of the Capital Network region under the Spatial Plan. The vision for the Capital Network area is:

“an innovative skilled area offering a high quality of life. It will compete internationally by increasing its global visibility through stronger links between the Valleys and the coast and with the UK and Europe, helping to spread prosperity within the area and benefiting other parts of Wales” (p49, Wales Spatial Plan).

Much of the strategy focuses on regeneration in the Valleys and transport integration. The vision and strategy are accompanied by ten propositions, two of which link closely to the economic activity and effects that can be associated with the Millennium Stadium. These are that:

- The success of the area relies on Cardiff developing its capital functions
- The tourism and leisure sector has the potential to contribute to a much greater extent to the area economy. This includes heritage, culture, events, and countryside based activities and destinations.

The presence and future development of the Millennium Stadium has provided Cardiff with a window to the world, and has reinforced the image of Cardiff as a fast growing city. Global capitals are characterised by success in winning international sports, cultural and political events. The presence of the Stadium has strengthened Cardiff’s potential as an event host.

Sports Tourism in Wales

The strongest correspondence between Stadium activities and regional development strategy comes in documents relating to tourism strategy. The Wales Tourist Board (now Visit Wales) has now been combined with the Welsh Assembly Government. *Sports Tourism in Wales* was launched as a framework for action for VW and its partners. The vision for sports tourism in Wales was that:

“Wales is recognised as an international sports tourism destination offering diverse and exciting opportunities for visitors through the quality and variety of our natural environment, facilities and distinct culture”.

Key markets underpinning the framework included not just active sports tourists, but *event* sports tourists. These categories are not necessarily mutually exclusive. An important element in the framework is the hosting of major sports events. The framework document recognised that:

“Wales...has been quick to build on the iconic image of the Millennium Stadium and to increase the profile as a nation capable of hosting successful major sporting events”

Then the framework notes key themes for the strategy as

- Improving the quality of the visitor experience
- Raising the profile of Wales as a sports tourism destination

The Millennium Stadium and associated events link closely to both of these themes.

Climbing Higher

Climbing Higher is the WAG Strategy for Sport and Physical Activity. This was released in January 2005. The overarching purpose in the strategy is that by 2025 sport and physical activity will be at the heart of Welsh life and at the heart of government policy. Much of the strategy, as a consequence, links through to a health agenda. However, there are targets in the scheme which are associated with infrastructure and sport-related tourism. Target 4 is that the sport and physical activity industries will come to support a further 12,000 jobs in Wales. However, there are also targets related to sporting achievement on the world stage. Specific targets relating to rugby and football achievement need to be supported by world class stadium infrastructures. *Climbing Higher* then provides an association between world class infrastructure (such as the Stadium), national sporting performance, and the overarching health improvement agenda also highlighted in the Wales: A Better Country strategy.

Cardiff: Economic Development Strategy 2001-06

A new Cardiff city developmental strategy is in preparation at time of writing. The existing strategy covers the period 2001-06. Parts of the strategy highlight the city's success in hosting major events including the World Rally Championship, FA Cup, and Rugby World Cup, and how these events have helped to promote the city to a global audience. Amongst the objectives of current strategy are to build upon Cardiff's existing strengths as a national and international visitor destination. Cardiff City note that this objective is *“vitaly important”* to city economic development prospects, and state that this is why they are seeking to bring more major events to the city in the period 2001-06.

The Strategy shows that the leisure and tourism sector support an estimated 12,000 jobs in Cardiff, with growth of the sector having played a role in city regeneration in the past, and leading to Cardiff becoming one of the top 10 destinations for tourists in the UK. The Cardiff SWOT analysis places major international event-hosting, and the city record as a visitor attraction, as important strengths.

3.4 The local evidence base of event impacts

The strategic overview suggests that sporting and other major events have played a role in economic development processes. There is a locally developed evidence base revealing the economic consequences of major events. The main studies are summarised in Figure 3.1 below.

Figure 3.1: Events: Cardiff University Led Research	
Event & date	Main findings
Rugby World Cup (1999)	Approx £50m additional activity supported in the Welsh Economy
Brecon Jazz Festival (1999)	Around £1m additional activity, most contained within this small rural area.
FA Cup 2003-04; Manchester Utd vs Millwall	£2m of additional activity in the Cardiff economy.
WRC Wales Rally GB 2004	£4m of value added in Wales
ERC Heineken Cup Final 2006	Around £30m additional activity supported, £21m of which was in Cardiff

Cardiff County Council has also examined the economic effects of events held in the Stadium. For example, in a review of Cardiff's first year as a host to the Cup Final and other major matches including the Worthington Cup, it was estimated that over £16m million of net additional expenditure was generated (a £11.7 million increase in the local economy's GDP) (Andrews, 2002). Alone, the first FA Cup Final held in the Stadium attracted some 600 million television viewers from 70 countries.

3.5 Conclusions

This section has revealed that the economic impacts caused by the presence of the Stadium can be reconciled to the aims and objectives of regional strategic documents. Furthermore the perspectives within the various strategic themes are supported by a locally developed evidence base. However, the research that has taken place on the events held in the Stadium has not provided an overarching evaluation of the annual impacts of the facility. Research to date has focused on a few discrete sports events, and ignored the wider events held in the Stadium and then the wider visitor impacts. In the next sections we seek to address this deficiency.

4 The Millennium Stadium – Background to Operations

4.1 Introduction – Elements of Economic Impact

In quantitatively modelling the economic impact of the Millennium Stadium there are a number of elements to be considered. Firstly, and clearly of major importance, is the impact of spending in Cardiff, and Wales more generally, of spectators at stadium-based events. This direct, short term expenditure impact is clearly of some importance due to the very high numbers of attendees since its opening in Summer 1999, to the large number of events that have attracted non-Welsh spectators, and to the fact that the stadium is a primary driver of trips to Cardiff – unlike many other elements of tourist infrastructure which do not themselves persuade a visitor to come to Cardiff.

To the above should be added the fact that the stadium is itself a not-insignificant business, employing over 70 staff full-time and with many hundreds employed on event-days. The stadium's own turnover of over £11m and consequent local purchases of goods and services will comprise economic demand over and above off-site visitor spending.

Approximate non-wage expenditure by the Millennium Stadium is around £7.25m. Of this (and by far the largest portion) over 80% (£5.9m) is spent on goods and services within the city, highlighting the embeddedness of the stadium's economic operation. Other purchases from throughout Wales total around £0.5m, meaning that almost 90% of non-wage expenditure is within region. This level of regional sourcing is relatively high when compared to that of other Welsh industries. This high level of local spend will mean a consequently high level of indirect impact (see Section 5).

To this non-wage expenditure must be added that on wages, both of permanent staff and those who act as stewards and in other roles on event days. The latter is significant, with up to 1,000 persons employed on event days. The total payroll costs of the stadium will accrue overwhelmingly to the regional economy.

Also of major importance, but impossible to enumerate here, is the longer-term effect on city marketing and competitiveness of hundreds of thousands of non-Welsh visitors, cumulatively billions in TV audiences and extensive newspaper and other coverage. We return to this element of impact and qualitatively assess its importance in Section 6.

4.2 The Event Profile

Since 1999, and starting with the Rugby World Cup, the Stadium has been successful in supplementing 'local' sporting events (largely international rugby and football) with a variety of non-Welsh high profile sporting and cultural events. It is this non-Welsh part of the event profile that will contribute most effectively to wider economic development, comprising expenditure of non-Welsh origin, and attracting media coverage and visitation in and from potentially important business and investment markets.

Our desk research identified over 200 events that have been held at the Stadium since operations began (Figure 4.1); these events totalled approximately 8.9 *million* visits; or an average of over 1.25 million visitors per annum.

Figure 4.1 - Millennium Stadium Spectator Numbers 1999 - 2006

	Number of Events	Total Number of Spectators	Number of spectators from outside Wales	% Outside Wales
(06-12)1999	12	689,000	170,000	25%
2000	23	952,000	136,000	14%
2001	28	1,215,000	546,000	45%
2002	29	1,102,000	532,000	48%
2003	29	1,208,000	558,000	46%
2004	28	1,278,000	628,000	49%
2005	39	1,662,000	768,000	46%
2006 (01-06)	18	819,000	446,000	54%
Total	206	8,925,000	3,785,000	42%
<i>Per annum</i>	<i>29</i>	<i>1,275,000</i>	<i>540,000</i>	<i>42%</i>
Source:		Notes:		
Authors' own estimates; Millennium Stadium PLC		All estimates approximate		
		Figures will not sum due to rounding		

It is well worth considering this figure in context: There are only a handful of visitor attractions outside London that attract over 1.2 million visits per annum, including Alton Towers and Legoland at Windsor. If the Millennium Stadium were classified a tourist attraction, it would easily rank within the 'Top Ten' in the UK; of a similar scale to the Science Museum (1.35m) and Windermere (1.24m) and outperforming Edinburgh Castle (1.15m) and Canterbury Cathedral (1.1m) (UK Statutory Tourist Agencies, 2006).

The Stadium, then, has over its operational life generated twice as many visits per annum as the next-largest attraction in Wales, the Museum of Welsh Life at St Fagans – the latter at around 625,000 visits since free entry was introduced. It has generated five times as many visits as the next largest entry-fee charging attraction, the Italianate village of Portmeirion, which attracts some 250,000 visits per annum.

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 business event was for a Welsh or UK constituency;
- whether a concert date was the natural venue for South West and/or Midlands-based fans.

Following the above, we have conservatively estimated that 3.8 million, or over 40% of all attendance at stadium events was non-Welsh in origin – or over 500,000 non-Welsh visitors to Cardiff every year. This extremely high figure (probably a higher non-local attendance than for virtually any other stadium worldwide) is driven by the fact that the Millennium Stadium has, since Wembley's redevelopment, acted as the *de facto* national stadium for the UK, attracting not only FA and League Cup finals, but also football play-offs and club rugby events at UK-national and latterly European scale. We briefly note the potential for changes in the Millennium Stadium's competitive environment to affect its ongoing economic impact in the concluding section of this report.

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. The expenditure element is modelled in Section 5 following, which also includes a brief explanation of the impact methodology.

5 The Economic Impact of the Millennium Stadium

5.1 The Modelling Methodology

Measuring the direct economic contribution of a single organisation, company or activity is not, *per se*, a difficult task. However, there are a number of 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 thence 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 (and informs the remainder of this section) 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 by Cardiff City Council in 2001 (see Andrews, 2002) revealed that major football matches on a Saturday in Cardiff could permanently displace as much as £0.65m in retail sales.

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 ERC 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: meanwhile FA Cup attendees are far more likely to stay for the day only, with consequently far lower levels of spending per head.

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 (see Section 5.3).

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 Millennium 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.

The remainder of this section thus utilises an I-O approach to provide this indication of impact; both that due to Millennium 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, most of the increased labour requirement will be serviced through overtime and higher productivity rather than 'new jobs'.

Additionally, there is the potential for displacement to occur as shoppers are less likely to visit the city centre on match days. Information from Andrews (2002) based on events in 2001 suggests that *permanent* retail displacement is of the order of £750,000 per Saturday match in terms of current pounds (£2006).

In order to account for retail displacement, and after examination of the event schedule, we have assumed that displacement occurs on the equivalent of fifteen Saturdays per annum. This is rather higher than the event schedule suggests, but will thus account for other event times (evenings and Sundays) when there will also be permanent retail displacement, albeit at a far lower level.

Additionally, our estimates of additional employment include an *ad hoc* discount from the modelled results for the effect of increased productivity of (particularly) hotel, restaurant and retail staff. We believe this discount factor of 25% provides a better indication of actual additional employment (including overtime and casual/short-term workers).

5.2 The Turnover-related Impact of Stadium Operations

Although the spectator related economic effects of stadium operation are the most visible and high profile, it should not be forgotten that the Millennium 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 South Wales more generally). In this subsection 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, in order to avoid double counting. Sections 5.3 and 5.4 following then estimate the impacts of spectators' off-site spending only – avoiding potential difficulties with allocating ticket revenues and merchandising sales across geographies.

The reported impacts by industry are off-site only. We separately report the turnover or gross value added of the stadium itself and also the directly-employed 70+ full time and 800+ match-day staff (although the effects of their subsequent wage spending in the regional economies is included).

Figure 5.1 Turnover Related Impacts of the Millennium Stadium (Wales)

	Output (£m)	GVA (£m)	Employment (FTEs)
Hotels & Restaurants	0.7	0.4	25
Retail & distribution	0.6	0.3	15
Manufacturing, Construction & Energy	2.5	1.0	20
Transport & Communications	0.6	0.3	10
Business Services	1.0	0.4	30
All Other Sectors	1.8	0.9	35
Total off-site	7.2	3.3	135
<i>Millennium Stadium Direct</i>	<i>11.7</i>	<i>4.3</i>	<i>72 (+ 50)</i>

Notes:

£2006.

All employment estimates indicative.

Stadium direct GVA estimate only

Will not sum due to rounding.

Additional 50 employees is estimate of FTEs based on 800-1000 stewards

As Figure 5.1 shows, the Millennium Stadium has substantial economic effects due to its high level of local (largely within-Cardiff) purchasing of goods and services, and payments to permanent and casual staff. These purchases supported **£7.2m** of output and **£3.3m** of value added throughout the regional economy in addition to on-site turnover and employment.

This large level of local sourcing, together with payments made to locally-resident staff and, unusually in this case, substantial payments made to casual event-day staff, also leads to a very high level of employment dependent upon stadium operations in the supply chain, and due to employees and stewards spending their wages locally. The modelling provides an indicative estimate of around **135** jobs supported in this way throughout Wales.

Although it is difficult to explicitly isolate and report the Cardiff specific elements of this regional impact, examination of the results of other economic modelling projects would lead us to estimate that over 80% of the regional economic impact and 70% of the employment impact will accrue within the city; thus as a best estimate we would consider that around **£5.8m** of output; **£2.7m** of value added and **95** FTE jobs in Cardiff will be dependent on stadium operational purchases (i.e. not including off-site spectator expenditure).

5.3 The Off-Site Spectator Impacts: Estimating Gross Spending

We have identified over 200 discrete events and sports matches that have been held at the Millennium Stadium since opening. These activities, mostly sporting but also encompassing musical, cultural, political and business events, are distinct from any 'day-to-day' activities (e.g. rental of meeting rooms) whose economic impact is captured in Section 5.2 above.

It is clear, then, that having estimated the total number of visitors to the stadium over the last 7 years it is then necessary to estimate a total gross regional expenditure associated with this visitation, and then to undertake the economic modelling necessary to estimate the consequent indirect 'multiplier' effects. It is also clear that it is an impossible task to estimate the spending of visitors at each individual event.

We have therefore classified visitors according to the origin of visitor (Welsh or non-Welsh resident) and visit type (including at least one overnight; or daytrip only). We have then conservatively estimated off-site spending per head (per day) associated with these different types of visitation, using extant studies including;

- 1999 IRB Rugby World Cup (see Jones & Munday, 2004)
- Brecon Jazz 2000 (see Jones & Munday, 2004)
- 2004 FA Cup Final (Manchester Utd. v Millwall)
- 2001 & 2004 Wales Rally GB (see Econactive, 2004)
- IRB 2002 Six Nations (Scotland v England; Scotland v France)
- IRB 2006 Six Nations (Wales v Scotland)
- 2006 ERC Heineken Cup Final (see WERU, 2006)
- Other studies of cultural and business event visitors.

We are acutely aware of the potential for biases in estimation based on this relatively small 'basket' of events – for example, visitors to the 2006 Heineken Cup Final stayed far longer and spent much more than for any other event studies. We have therefore erred on the side of caution in our estimation, accepting lower estimates of spending when appropriate.

To further ensure that the figure we achieve is conservative and consistent with accurately estimating regional (and city) impact, and to avoid double counting, we do not include the following elements of expenditure:

- Coach, rail or air travel expenses to Cardiff (non-Welsh residents),
- Tour operators' receipts,
- Purchases of tickets
- Purchases of event-related merchandise.

The potential for double counting of ticket and merchandise revenue is discussed above. In the case of non-Welsh residents' travel expenses it is likely that only a small proportion will accrue within Wales due to the lack of indigenously-owned transport infrastructure (ferry, airline or intercity rail). Further, the large majority of private fuel purchases constitute a Welsh 'leakage' as they are taken by the Exchequer and we discount such purchases appropriately. All purchases must similarly be discounted for VAT.

Figure 5.2 then provides our estimate of within-Wales spending by visitors to the Millennium Stadium. That by non-Welsh residents is, of course 'net additional' to the region and thus not subject to switching from other Welsh attractions or activities (the Millennium Stadium's leisure offer being unique in Wales).

Figure 5.2 Spectator Types and Regional Spend

Type	Spend per head	Estimated no.(m)	Total Spending (£m)	Typology
Welsh resident	£43	5.1	219.3	Daytrip to event only. Off-site spending restricted to travel items, food & drink
Non-Welsh resident (daytrip)	£21	2.5	52.5	Characterised by a sports fan 'bussed in' and home on same day by coach/private car. Regional spending restricted - food & drink; local travel only
Rest-UK resident (staying)	£169	1.0	169	Characterised by fans attending weekend event - e.g. Rugby 6-Nations; Heineken Cup & some football fans. Spending includes accommodation & measure of touristic activity as well as subsistence; overseas fans typically spend up to double that of UK residents.
Overseas Resident (staying)	£321	0.3	96.3	
All Spectators	60.3	8.9	537.1	

Notes:

Estimates taken from a variety of sources (see text); inflated to £2006 where appropriate

Excluded elements: travel to Wales; tickets and merchandise.

Gross spending estimates include VAT (subsequently discounted for modelling)

We estimate that event spectators' regional expenditure has totalled around £540m during stadium operation; or roughly £60 of spending on Welsh goods and services per visitor (including VAT and in current prices). This substantial estimate highlights the importance of the stadium as a Welsh attraction. Further, the substantial differential between estimates of expenditure per-head for 'staying' and 'non-staying' visitors illustrates that it is less the location of residence of attendees that matters, but rather how long they can be persuaded to stay in the city or region.

Estimating gross regional expenditure is not adequate to enable the I-O modelling process; there are elements of within-region spend that do not constitute an additional economic stimulus to the Welsh economy; namely that element of retail purchase that is 'cost of sales' of imported goods (with no value added) and VAT and other duties. Here, we also discount our element to account for retail displacement, which amounts to just over 5% of our gross expenditure. Figure 5.3 reports *net* regional expenditure following these amendments.

Figure 5.3 Net Regional Expenditure of Millennium Stadium Spectators (£m)

	Welsh resident (daytrip)	Rest-UK resident (staying)	Overseas Resident	Non-Welsh resident (daytrip)	All Spectators
Accommodation	0.0	21.7	14.3	0.0	36.0
Food and Drink	145.7	63.1	27.5	34.5	270.7
Shopping	1.7	6.0	5.1	1.0	0.0
Travel (within)	17.1	3.5	1.5	0.9	23.0
Tourist attraction	0.0	14.1	6.2	0.4	20.8
Total Expenditure	164.6	108.4	54.7	36.8	364.4

Notes:

Gross regional expenditure amended net of retail cost of sales and VAT
 Expenditure breakdowns from a variety of sources (see text)

Following the above, the next section of the report uses regional expenditure data and Input-Output analysis to examine the direct and indirect effects of stadium visitation on the economy of Wales. Comment is also made on the likely level of impact in Cardiff.

5.4 The Economic Impact of the Millennium Stadium: Off-Site Spectator Spend

Since stadium operations began, we estimate that the economic impact consequent on off-site spectator spending to be **£600m**. As might be expected much of this economic impact accrues to the hospitality sectors (around 60% at £355m).

There are, however, substantial effects across all sectors of the economy; £65m in manufacturing sectors, £46m in the retail sector and only a little less in transportation and communications (£44m), and business services (£40m).

This output is associated with a total of **£300m** of gross value added, distributed in similar proportions across the economy.

The modelling also allows an estimation of the additional employment associated with visitor spending. Care should be taken with these estimates as we have attempted to account for the non-linear relationship between new output and new employment – for example, some additional custom will be serviced by overtime payments, casual employees and in the case particularly of bars, staff simply working harder.

Figure 5.4 reveals that off-site spectator expenditure is associated with over **15,000 person-years of employment** in the period 1999-2006.

Figure 5.4 Economic Impact of the Millennium Stadium: Spectators (1999-2006)			
	Output (£m)	Gross Value Added (£m)	Employment (Person- years)
Within Region Spectators			
Hotels & Restaurants	166.3	88.4	5,260
Retail & distribution	16.2	8.1	350
Manufacturing, Const. & Energy	32.1	9.4	230
Transport & Communications	24.4	10.1	300
Business Services	17.1	9.1	230
All Other Sectors	11.9	5.9	260
Total	268.0	130.8	6,620
Non-Wales Resident Spectators			
Hotels & Restaurants	187.6	103.0	6,050
Retail & distribution	30.5	15.5	690
Manufacturing, Const. & Energy	33.2	10.5	260
Transport & Communications	19.1	8.1	210
Business Services	22.2	11.7	290
All Other Sectors	36.0	22.2	1,070
Total	329.0	171.1	8,570
All Spectators			
Hotels & Restaurants	354.2	191.4	11,300
Retail & distribution	46.7	23.6	1,040
Manufacturing, Const. & Energy	65.3	19.9	480
Transport & Communications	43.6	18.3	520
Business Services	39.2	20.8	520
All Other Sectors	47.9	28.0	1,330
Total	596.9	301.9	15,180

Notes:

All £2006

Economic impact due to non-Welsh residents can be considered net-additional to the regional economy (i.e. as a regional 'export')

As noted earlier, additional economic activity is particularly welcome if driven by spending that is non-Welsh in origin. Figure 5.4 therefore reports separately for economic impact arising from Welsh-resident and non-Welsh resident sources. It reveals that of the total £600m economic impact £330m (or 55%) is from non-Welsh spectators – i.e. money that is truly ‘new’ to Wales rather than potentially displaced from other Welsh activities.

This result is especially important as much of the criticism of stadia as drivers of economic development in the USA rests on the fact that the overwhelming majority of their income (and spectators’ spending more generally) is levered from within the city or state. That is emphatically not the case here.

Recasting the above figures, we can show the annualised impact of spectators’ spending – shown in Figure 5.5 to equate to **£85m** of new additional output per annum, this including **£43m** of gross value added. Similarly, averaging employment impacts across this period provides us with a broad estimate of around **2,170** full-time equivalent jobs in the region per annum (recognising the caveats noted above).

Figure 5.5 Economic Impact of the Millennium Stadium: Spectators (Annualised)

	Output (£m)	Gross Value Added (£m)	Employment (FTEs)
Welsh-resident Spectators	38.3	18.7	950
Non-Welsh Resident Spectators	47.0	24.4	1,220
All Spectators	85.3	43.1	2,170

5.5 The Economic Impact of the Millennium Stadium: Overall & Indicative Cardiff Impact

As we have discounted for potential double-counting in the modelling process we can sum the economic impact of the stadium’s direct operations (Section 5.2) and those of off-site spectator spending (Section 5.4) to achieve an overall estimate of the impact of the Millennium Stadium on the economy of Wales.

Figure 5.6 therefore reveals that the Millennium Stadium has contributed around **£104m** per annum to the Welsh economy since inception. This is associated with over **£50m** of gross value added and **2,400** full-time equivalent jobs.

Figure 5.6 Economic Impact of the Millennium Stadium: Total (Annualised & total)

	Output (£m)	Gross Value Added (£m)	Employment (FTEs)
On-site (direct)	11.7	4.3	72 (+ 50)
Turnover-related (supply chain & wage effects)	7.2	3.3	135
Off-site spectator spending	85.0	43.1	2,170
Total Impact (annual)	104.0	50.7	2,430
Total Impact (lifetime)	£727.3	£355.0	17,000

Notes:

All £2006. Employment estimates indicative only
Assumes casual staff at approx 0.075FTE
Will not sum due to rounding

It is difficult to be definitive regarding how much of the above regional impact will accrue within the Cardiff economy, as opposed to elsewhere in Wales: some travel and recreation monies will be spent outside the city, and as a relatively small economy, Cardiff faces capacity constraints in key sectors at key times – for example in accommodation stock. Nevertheless, the extant data does allow some estimation of Cardiff and non-Cardiff spending for key spectator groups: additionally, we can estimate the proportion of ‘first round’ stadium suppliers that are within the city. Equally, some elements of economic impact are likely to arise wholly within the city (e.g. business services) and others mostly outside (e.g. manufacturing where the city has little employment).

Following this estimation, Figure 5.6 presents our best estimate of Cardiff-level economic impact of the Millennium Stadium. We judge that around 85% of the total Welsh economic impact accrues within Cardiff, comprising £88m of output, £43m of gross value added and equating to 2,665 full-time equivalent jobs (Figure 5.6).

Figure 5.6 Economic Impact of the Millennium Stadium: Cardiff and Wales (Annualised)

	Output (£m)	Gross Value Added (£m)	Employment (FTEs & person years)
Cardiff (annualised)	87.6	43.2	2,060
Cardiff (lifetime)	613.1	302.7	14,390
Rest of Wales (annualised)	16.4	7.5	370
Rest of Wales (lifetime)	114.9	52.2	2,620
All Wales (annualised)	104.0	50.7	2,430
All Wales (lifetime)	727.3	355.0	17,000

Notes:

Cardiff figures include Millennium Stadium direct output, GVA and employment
Will not sum due to rounding
See notes to earlier Figures

Over its lifetime so far, then, the stadium has generated **£613m** in economic impact in the Cardiff economy, equating to **14,400** person-years of employment.

5.6 The Quantitative Results in Summary and in Context

It is illustrative to place these results in context, for example using the overall Cardiff economy as a comparator. An economic model of the City (E-EMC) published by the County Council provides overall indications, and some measure of detail on the size and nature of the City economy, albeit in 2003.

E-EMC estimates the total size of the Cardiff economy at just under £13bn, with a gross value added (GVA) of £6bn. Thus, stadium operations contribute just under **0.7%** of City's total output, and just over **0.7%** to its' gross value added. Meanwhile, the modelling estimates that around **1.2%** of City employment is directly or indirectly dependent on the stadium.

Meanwhile, E-EMC estimates the value of staying and day-trip *tourism* (in terms of direct and indirect GVA) to Cardiff at £263m, equating to 8,900 FTE jobs (if we apply a 25% discount to employment to remain consistent with stadium modelling). Thus, stadium operations contribute approximately **17%** per annum to Cardiff's tourism value-added, and **23%** to tourism-dependent employment.

These figures are themselves significant; however it is the stadium's contribution to wider City and regional aspirations in terms of competitiveness, place-marketing and tourism that is expected to be more critical; perhaps allowing both Cardiff and Wales to punch above their weight. Although it is extremely difficult to value such contribution in terms of 'pounds and pence', the following section discusses these issues, qualitatively assessing the stadium's wider impact on Wales' and Cardiff's economic development.

6 The Stadium and Economic Development: The Wider Picture

6.1 Background

Earlier sections of this report have noted that the academic literature is largely dismissive of the ability of stadiums to influence economic development. This is considered to be due to a number of factors – to recap;

- They may generate expenditure switching rather than additional expenditure,
- US stadia are not well integrated into the wider socio-economy (e.g. through supply chains),
- There can be a high level of leakage from the region following ticket sales and other revenues,
- Many stadia are not closely linked in wider public consciousness with their host city, limiting the spin-off benefits of media coverage (place marketing),
- The language of stadium (and indeed *tourism*) economic impact does not emphasise high value adding, innovation and the ‘knowledge economy’.

This section examines the performance of the Millennium Stadium on the above criteria, suggesting that whilst the stadium is by no means critical to the success of Cardiff and Wales, it plays a far more important role than stadia elsewhere.

6.2 The Stadium as an ‘export driver’

Section 5 has emphasised the importance of the Millennium Stadium as a driver of exports; i.e., in generating expenditure in Wales that is net additional, coming from residents of the rest of the UK, or overseas. This is certainly unusual compared to US stadia, which overwhelmingly attract visitation and expenditure from within their host state or city. Indeed the Millennium Stadium is likely to outperform the majority of global stadia in this regard; European football stadia will mostly be filled with local fans, and even national stadia that occasionally host mega events have a large majority of attendance from within their own country (Preuss, 2004).

There is no doubt that the Millennium Stadium’s de facto position as the UK’s national stadium has helped markedly in this regard, with Cardiff hosting events that would otherwise have gone to Wembley. However, it is important to remember that much of the ‘non-Welsh’ spending is rugby union related; certainly rugby fans appear to have a far higher level of spend-per-head than for football. Moreover, it can be argued that the stadium’s unique technical facilities and cultural setting mean that it won (and can continue to win) a number of international events irrespective of Wembley.

Thus, whilst the competitive position of the Millennium Stadium will become more difficult following Wembley's completion, there is no reason to suggest the stadium cannot continue to contribute substantially as an export and tourism driver, particularly following accreditation (for example from UEFA and ERC) to hold the highest level of international events.

6.3 The Stadium within Cardiff's Economy

When the WRU made the decision to redevelop at the Arms Park site rather than taking the stadium out of town, they not only bucked international trends but also made their logistical task ahead of the 1999 Rugby World Cup arguably far harder. Also, however, they provided the opportunity for the stadium to become a significant player in Cardiff's economy.

Unlike recently developed out-of-town stadia such as the JJB in Bolton and the Majewski stadium at Reading there is a clear opportunity (indeed some might say a need) for the Millennium Stadium to become fully integrated into the city economy; for example through developing local supply chains; through offering employment; and through off-site spectator spending.

This report makes it clear that the stadium has done just that. Around 80% of Millennium Stadium non-wage expenditure is within the city, and spectator spending off-site in Cardiff dwarfs that spend within the stadium itself – for staying visitors at least.

Conversely stadium income is subject to very low levels of outside-Wales 'leakage', excepting distinct elements such as ticketing, merchandise and sponsorship revenues (which for most non-WRU events will be gathered by the sport governing body), and repayments on the commercial loan which, although serviced locally, is with a non-Welsh bank.

The stadium is likely to have benefits for welfare levels in Wales, often over and above purely economic effects. One cannot judge the value of the 'psychic income' associated with having an iconic, successful and internationally renowned stadium in Cardiff, except to say it will be substantial. Moreover, whilst the stadium is itself profit making the WRU as ultimate owners have a single overriding responsibility – the development of rugby in Wales – again emphasising that stadium benefits 'stay local'.

6.4 The Stadium as a Tool for 'Place Marketing'

It is perhaps in terms of place marketing, media coverage and visitation where the effects of the stadium have been so notable – and indeed so difficult to replicate using traditional methods of economic development. There is wide agreement that smaller cities and regions in general, and Cardiff and Wales in particular, have found it very difficult to lever international media attention.

That has certainly changed, starting with the Rugby World Cup in 1999. Stadium-based events have been a central resource in selling the image of a revitalised and vibrant Cardiff and Wales throughout the UK and Europe, together with other events such as the Wales Rally GB. Here, the stadium's proximity to the city centre helps, with television and other media directly covering the city's wider visitor offer.

The stadium enjoys 'proximity' with its host region in other ways: for example, it is closely allied *culturally* with Cardiff and the Welsh; the stadium was an icon of Wales rebirth in the late 1990s and early 21st century following a long period of industrial decline; along with the inauguration of the Assembly Government and the 'cool Cymru' success of Welsh bands and actors. This cultural affiliation has the benefit of emphasising positive elements of Wales' culture, including a 'warm welcome' and strong sporting intent.

It is not possible to argue as one can in the case of many US and European stadia (including perhaps Wembley) that the stadium is rather divorced from the centre and wider visitor offer of its host city, culturally and geographically, and thus that place marketing benefits are difficult to lever. Rather, as in the case of Barcelona, it appears that the stadium can have a substantial impact on the perceptions of Cardiff and Wales from outside. It is then perhaps up to other authorities to make the most of consequent opportunities.

6.5 The Stadium, the 'knowledge economy' and city competitiveness

As primarily a visitor attraction, one would not expect any stadium to contribute greatly to what is known as the 'knowledge economy': an oft-used but rarely defined word that encompasses not only 'high value' activities, but also the ability of an economy to learn, innovate and respond to change. There are a number of ways in which stadium operations might contribute to the knowledge economy and competitiveness.

Collaboration on logistics and transport

There has been a clear and beneficial impact on the ability of Cardiff to service major cultural, sporting and business events; in terms of getting people *to* the city and *around* the city. Large scale event hosting has meant that a variety of city centre public, transport and safety authorities have need to talk to each other on a regular basis (for example via the City Centre Stadium Liaison Committee). It may be that this interaction leads to some 'organisational learning' as participants interact with each other and thus improve their performance more generally, having benefits beyond simple logistics.

The wider visitor infrastructure

Whilst it would be a poor businessman who predicated substantial new investment on a three week sporting event alone, it is nevertheless the case that the Rugby World Cup and stadium have contributed to;

- A more generally positive investment environment for the city,
- The significant speeding up of visitor-related infrastructure developments including hotels and the rail station redevelopment,
- A widening of focus toward the South of the city business district encouraging investment in the redeveloped Mill Lane and 'brewery quarter'

Thus it can be strongly argued that these developments (together with the transport and logistical improvements of recent years) combine to make Cardiff a far more visitor friendly city than if the stadium development had not taken place or gone elsewhere.

City Competitiveness and economic performance

The concepts of both *city* and *tourism* competitiveness are complex and often ill understood. However, the stadium may, in general terms, have some impact on Cardiff's ability to perform relative to other cities. For example, much of the bidding for major events is predicated on the notion that media coverage and tourism can generate wider investment in the host location following the event, and with a critical mass of events in Cardiff in the last 7 years, such effects might become apparent.

More prosaically, it may be that the private sector itself reaps some positive productivity and competitive 'spillovers' from event hosting. Local companies may have the opportunity to interact with global corporations as their representatives sponsor or attend events, providing important face-to-face contact. Additionally, servicing an international clientele may enable smaller local tourism providers to increase the quality of their services.

6.6 Conclusions: The Stadium and Wider Economic Development

The above section shows that the Stadium can contribute to wider development objectives at a city and regional level, perhaps not centrally, but certainly over and above any notional 'average' stadium. The Millennium Stadium's international profile and suite of events, combined with a deep local embeddedness is what drives its relatively good economic performance.

The stadium also plays a part in Welsh Assembly Government policy; perhaps not always directly and explicitly, but again as an important supporting actor. For example it is critically important to the objective of leveraging higher visibility for the 'Capital Network' region in the Wales Spatial Plan, benefiting both Cardiff and the Valleys.

The Stadium is explicitly mentioned in the aspiration to attract a higher level of sports and event tourists to Wales. Indeed, without the Millennium Stadium it is difficult to see any long-term comparative advantage for Wales in major event hosting. Whilst the Wales Rally GB and Ryder Cup are both non-Stadium based events with a very high profile, their presence in Wales relies upon a measure of public support; it is in large part the Stadium and its suite of events that initially spurred the Welsh major event hosting strategy, and continues to contribute strongly to its credibility and sustainability.

7 Conclusions

7.1 The Economic Impact of the Millennium Stadium

This report has revealed something of the significance of the Millennium Stadium to the economy of Wales. The review element of the research suggested that the economic effects of stadia and events are normally understood as a demand-side shock where the event, by way of the new infrastructure, draws visitor spending which stimulates local demand and employment. We have shown that criticisms of stadia developments based on expenditure switching and high levels of deadweight may not characterise the Millennium Stadium where there is better evidence of the genuine additionality of the infrastructure. However, we have shown that care is required in estimating the economic additionality of stadia developments and associated events, and that the softer role of stadia in improving destination marketing, media profile, and in improving social and community prospects is difficult to measure.

The report has placed the stadium infrastructure in the context of a rapidly growing Cardiff economy, and has shown that the activity supported by the stadium can be reconciled to the aims and objectives of regional and local strategies. The quantitative sections of the report revealed that the stadium is a major business in its own right, employing over 70 full-time staff and with many hundreds employed on event-days. Since 1999, and starting with the Rugby World Cup, the Stadium has been successful in supplementing 'local' sporting events (largely international rugby and football) with a variety of non-Welsh high profile sporting and cultural events. It was demonstrated that this non-Welsh part of the event profile contributes most effectively to wider economic development, comprising expenditure of non-Welsh origin, and attracting media coverage and visitation in and from potentially important business and investment markets.

The research identified over 200 events that have been held at the Stadium since operations began, with these events associated with around 8.9 million visits; or an average of over 1.25 million visitors per annum. The report shows that the Millennium Stadium has substantial economic effects due to its high level of local (largely within-Cardiff) purchasing of goods and services, and payments to permanent and casual staff. These purchases supported an estimated £7.2m of output and £3.3m of value added throughout the regional economy in addition to on-site turnover and employment. It is further estimated that around £5.8m of output, £2.7m of value added and 95 FTE jobs in Cardiff are dependent on stadium operational purchases (i.e. not including off-site spectator expenditure).

The event activities supported by the stadium attract significant visitation. We have estimated that event spectators' regional expenditure has totalled around £540m during stadium operation; or roughly £60 of spending on Welsh goods and services per visitor.

Since stadium operations began, we estimate that the economic impact consequent on off-site spectator spending to be £600m. As might be expected much of this economic impact accrues to the hospitality sectors (around 60%). This output is associated with a total of £300m of gross value added. It was also estimated that the off-site spectator expenditure has been associated with over 15,000 person-years of employment in the period 1999-2006, and 17,000 in total.

In total, and taking into account the different types of economic impact, we conclude that the Millennium Stadium has contributed around £104m per annum to the Welsh economy since inception. This is associated with over £50m of gross value added and 2,400 full-time equivalent jobs. It is estimated that around 85% of the total Welsh economic impact accrues to the Cardiff economy, comprising £88m of output, £43m of gross value added and equating to 2,665 full-time equivalent jobs.

Stadium operations alone contribute just under 0.7% of Cardiff City's total output, and just over 0.7% to its' gross value added. Meanwhile, the modelling estimates that around 1.2% of City employment is directly or indirectly dependent on the stadium. Moreover, the value of staying and day-trip tourism (in terms of direct and indirect GVA) to Cardiff is an estimated £263m, equating to 8,900 FTE jobs. Thus, stadium-led visitation contributes around 17% per annum to Cardiff's tourism value-added, and 23% to tourism-dependent employment.

There are a number of other features of the Millennium Stadium and events supported by the infrastructure. The Stadium is an 'export driver'. There is no doubt that the Millennium Stadium's position as the UK's national stadium has helped markedly in this regard, with Cardiff hosting events that would otherwise have gone to Wembley. This report suggests that even now the new Wembley is completed, there is good reason to believe that the stadium will remain a key export earner. Unlike out-of-town stadia in other areas of the UK, the Millennium Stadium is well integrated into the city economy. Currently the Stadium makes strong use of local goods and services, and stadium income is subject to very low levels of outside-Wales 'leakage'.

The stadium has wider and more difficult to measure benefits. It is difficult, for example, to estimate the psychic income associated with having an iconic stadium in Cardiff. However, it is perhaps in terms of place marketing, media coverage and visitation where the effects of the stadium have been most notable. Stadium-based events have been a central resource in selling the image of a revitalised and vibrant Cardiff and Wales throughout the UK and Europe. Clearly the proximity to the city centre helps in this regard, with television and other media directly covering the city's wider visitor offer.

The stadium has a substantial impact on the perceptions of Cardiff and Wales from outside. It can be argued that a side effect of the many international events held has been to make Cardiff a far more visitor friendly city.

Ultimately the stadium may, in general terms, impact on Cardiff's ability to perform relative to other cities. For example, much of the bidding for major events is predicated on media coverage and tourism generating new investment in the host location. Then the private sector can potentially gain some positive productivity and competitive 'spillovers' from event hosting. Local firms may gain the opportunity to interact with global corporations as their representatives sponsor or attend events, providing important face-to-face contact.

In conclusion, the stadium is shown to play a part in Welsh Assembly Government policy; perhaps not always directly, but as an important supporting actor. Indeed, without the Millennium Stadium it is difficult to see any long-term comparative advantage for Wales in major event hosting.

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