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The *Welsh Economic Review* is produced twice yearly, by the Welsh Economy Research Unit (WERU) at Cardiff Business School. The aim of the *Review* is to provide an authoritative and objective analysis of the Welsh economy in a manner that promotes understanding and informs decision-making. The 'core' section of the Review is written by members of WERU, with feature articles contributed by academics or practitioners within or outside Wales. The *Review* is circulated widely within Wales, to both private and public sector organisations, including the education sector and the National Assembly.

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Authors should send papers for potential publication in the *Welsh Economic Review* to the Editor at the address given below, preferably via e-mail in a Word for Windows format. Papers are welcome on any topic that would be of general interest to the readership, and should be written in a style suitable for non-specialist readers. Papers should be approximately 3,000-4,000 words and any graphs or figures should be accompanied by the underlying data to allow reproduction.

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Dr Annette Roberts,
Editor, *Welsh Economic Review*,
Welsh Economy Research Unit,
Cardiff Business School,
Aberconway Building,
Colum Drive,
Cardiff, CF10 3EU.

Tel 029 2087 4173
Fax 020 2087 4419

e-mail robertsa1@cardiff.ac.uk

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this place and time, suitably equipped to undertake this walk, or that mountain bike ride?); to attempts to adapt other, more traditional, categorisations to the subject under scrutiny.

The nature of, and intrinsic difficulty with, this latter approach is illustrated in Figure 1. Traditional economic approaches subdivide the economy according to industry or sector (the Standard Industrial Classification or SIC), or by the nature of employment or self-employment (the Standard Occupational Classification or SOC). If the rectangle of Figure 1 represents the whole economy, it can be subdivided by industry sector (SIC) or by employment category (SOC). It is then relatively easy to describe the dimensions of individual sectors (such as manufacturing or electronic engineering), or individual occupations (such as production operatives or electricians). However there are many interesting categorisations that cannot fit neatly within this framework - such as tourism, or the 'knowledge-economy'. The task then, given the lack of available information outside of the standard categorisations, is to assign some value, typically by apportionment, to those areas of Figure 1 where the boundaries of the activity do not necessarily coincide with the prior categorisations.

Then, for example, the economic value of tourism could be estimated by deciding which individual sectors are completely within the definition (e.g. holiday lettings) and by subdividing other sectors (such as transport or catering) into that part that can reasonably be assigned to tourism (often on the basis of survey evidence, or by using detailed information on tourist's expenditure patterns). The economic activity directly ascribed to tourism could then be supplemented by some estimation of the interaction between tourism and the rest of the economy (multiplier effects). The conceptual basis for this approach is the prior estimation of the counterfactual. That is, what would be the likely dimensions of the economy in the absence of the activity (in this case tourism). The estimated value of the activity is then the difference between the sum total of current activities (the economy) and the hypothesised economy in the absence of that activity.

The relevant example, and the one on which this paper is largely based, is *Valuing our Environment*, a Partnership study of the economic impact of the defined environment in Wales (for full report, published in 2001, see www.nationaltrust.org.uk/main/conservation/valuing_environment.html). According to this study the environment in Wales, directly and indirectly, added some £6bn to national GDP, including £1.8bn spent on wages in employing nearly 170,000 people. This paper uses these results, together with further information, in order to estimate the economic significance of the historic environment in Wales. Figure 2 illustrates this approach.

The major portion of this paper's estimation of the value of the historic environment in Wales is a subset of the earlier work, using the definition given earlier as the benchmark for the inclusion, or otherwise, of the sub-estimates used in the earlier study. However the adopted definition of the historic environment includes some categories of activity that were excluded from the earlier study - the most important example being museums, clearly an important part of the historic environment but sensibly excluded from the earlier work. Hence the 'historic environment' circle is not wholly contained with the *Valuing our Environment* framework. Wherever possible this paper uses 2000 as the base-year - not least because the onset of foot-and-mouth disease made 2001 atypical.

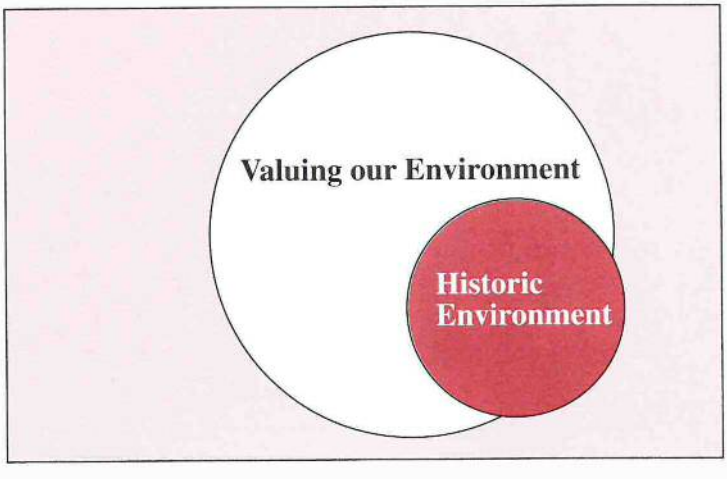
The final part of this methodology is the estimation of indirect impacts, employing the conceptual and empirical framework of the Welsh Input-Output Tables, developed by WERU at Cardiff Business School within a continuing research project supported by the Welsh Development Agency. These allow for the interaction of the economic activities associated with the historic environment with the other sectors that constitute the regional economy, allowing interdependencies and spillovers to be identified and measured (Hill and Roberts, 1999).

Valuing Our Environment (see also the Technical Summary, 2002) considered the natural environment (landscape, geology, water, air and wildlife elements) as well as the historic built heritage (scheduled monuments, listed buildings and conservation areas). Economic activities associated with the environment were divided into three broad categories:

- Activities concerned with the protection and enhancement of the environment
- Activities which are dependent on the quality of the environment
- Activities that make intensive use of the environment as a primary resource.

This paper considers the first and second of these in the context of the definition of the historic environment and 'adds back' those elements that are appropriate to the historic environment but excluded from the earlier study.

Figure 2 Defining the Historic Environment



Activities Involved in Protecting and Enhancing the Historic Environment

Activity to protect and enhance the historic environment occurs across the public, private and voluntary sectors. The range and dimension of activities undertaken to safeguard, maintain and enhance the historic environment make a substantial contribution to the Welsh economy through direct employment in, and expenditure by, the organisations concerned.

The Voluntary Sector

The range and scope of the voluntary sector is by its nature difficult to map. Voluntary organisations own and manage elements of the historic environment and their work spans conservation, support and lobbying. For example, the National Trust owns and manages large tracts of land within Wales, while Groundwork Trusts and the British Trust for Conservation Volunteers

Appreciating Assets:

Estimating the Economic Value of the Historic Environment in Wales

Stephen Hill and Diane O'Sullivan, Glamorgan Business School, University of Glamorgan.

This paper summarises work presented at the ESRC Urban and Regional Seminar in Preston in July 2002, and the CADW Historic Environment Conference in Cwmaman later that month. The authors are grateful to participants at each for their comments and observations. Further comment is welcome, and should be addressed to shill1@glam.ac.uk

Introduction

The past decade has seen a rash of studies seeking to assign economic value to various dimensions of contemporary activity, ranging from the fairly obvious (tourism) through the less obvious (creative industries) to the downright obscure (Bulgarian monasteries!). The methodologies adopted have similarly ranged from the pragmatic (Bryan et al, 98) through the contingent (Haussman, 1993) to the heroic (Macmillan, 2002). This paper adds to the collection by seeking to assign economic value to the historic environment.

In one sense this is a fools errand, since the historic environment permeates our sense of place and time, and helps to inform both who we are and where we have come from. Ascribing a monetary value to the historic environment is akin to valuing the crock of gold at the end of the rainbow - but it is because the historic environment is so pervasive to our sense of identity and worth that it is crucial that a value be placed on it. Recognising the historic environment as an 'economic and cultural asset' (Graham, 2002) is the necessary first step towards accepting the need for regular investment if the asset is not to deteriorate, alongside the need to manage the asset in order to maximise returns (however defined). Seen in this light the historic environment must compete with other assets for resources for its maintenance and enhancement. Use of resources, typically from the public sector, imposes an opportunity cost in terms of what else could have been achieved with them.

This paper will argue that the historic environment has both implicit (immeasurable) and explicit (estimable) economic value. It suggests that through the process of assigning value the decision-maker can begin to make resource allocations that do not depend solely on optimistic value judgements, but instead properly reflect the role of the historic environment in actual and potential economic development. It will conclude with a brief discussion of the role of the historic environment in developing the knowledge economy. This economy has knowledge as both an input and an output in productive processes, building upon informal networks to diffuse ideas and innovations in an economic context that is both competitive (in the sale of outputs) and collaborative (in the exchange and development of ideas). Within this framework the historic environment can play a vital role as social context, providing 'cachet, animation and externalities' (Graham op cit) to fuel the economic development process. The historic environment is part of the adhesive that binds otherwise 'weightless' activities to place, belying the contemporary notion that the electronic exchange of information renders place irrelevant (Leadbeater, 1999).

Historic Environment: definition

The task of definition is to attach appropriate meaning to the notion of historic environment in a way that is both operational (in the sense of narrowing scope sufficiently to enable estimates to be made) and accords to common interpretation. At its most inclusive the historic environment has been defined as:

'the elements of human activity which have left traceable evidence on the modern landscape...whether visible or not, and which are ascribed value today' (Swanson, 2001, p2)

Such a definition provides plenty of opportunity for inclusion, but little operational guidance. The approach adopted in this paper is much more pragmatic, involving examining a range of activities and coming to some (conservative) judgement about whether they could reasonably be included within the remit of the historic environment. In this view the historic environment is interpreted as:

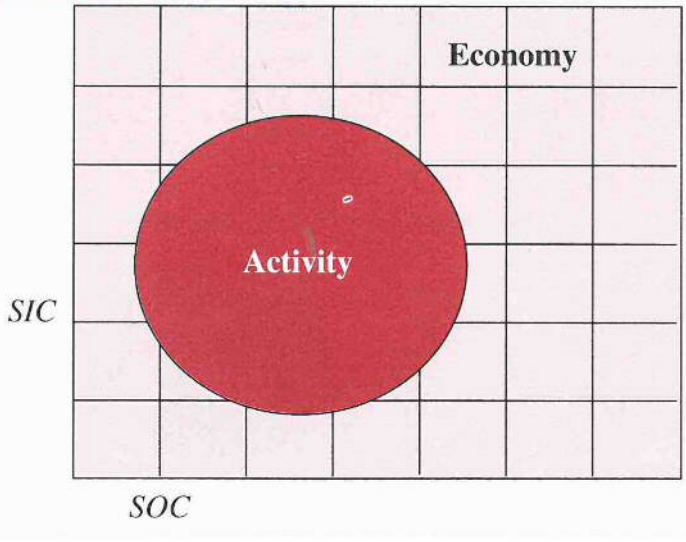
'monuments and historic buildings, artefacts, ancient habitats and the historic landscape, and those activities designed to protect, manage, display and enhance these'

This working definition provides a rubric against which various activities can be measured. Then for example activities to preserve and protect ancient hedgerows would, as far as possible, be included, whilst activities to promote seaside tourism or improve water quality would not. The emphasis is on generating reasonable estimates rather than precision, recognising the fuzzy nature of the issue being addressed.

Method

As noted earlier, there is increasing interest in placing economic value on categorisations or dimensions of activity and environment that do not fit neatly into traditional economic dissaggregations, or for which there are few directly observable market values. Approaches to resolving this problem range from the collection of primary data via surveys (how much would you be willing to pay to preserve this landscape?); through indirect inferences in the absence of market values (how much have you spent to be able to be in

Figure 1: The Study Approach



(BTCV) undertake active reclamation and environmental management within the historic environment. Table 1 apportions relevant *Valuing Our Environment* estimates of activity by appropriate voluntary organisations to the historic environment.

Valuing Our Environment estimated expenditure by the voluntary conservation sector at £27m and jobs supported at 829 (VoE:3.2.7). If 53% of *Valuing Our Environment* jobs in the wider environmental protection sector are included within the definition of historic environment then this is also a reasonable estimate of the share of spending. Hence spend linked to the protection of the historic environment is estimated at £14.3m.

The Public Sector

A range of public sector bodies provide services related to the historic environment. Key organisations include those with specific remit for conservation of the historic environment (CADW, Environment Agency Wales, Heritage Lottery Fund), those with a supporting role in conserving the historic environment (Welsh Development Agency, Forestry Commission, British Waterways, Wales Tourist Board), and those with a specific remit for conserving and enhancing natural beauty, wildlife and cultural heritage (National Parks). In addition Local Authorities' statutory and discretionary functions impinge on the historic environment (via for example planning, parks, Agenda 21 etc) and Welsh Assembly Government has responsibility for policies and financial support relating to the historic environment, including conservation of the historic built environment.

CADW, National Park Authorities and local authorities own and/or manage sites within the historic environment and also administer schemes of financial support. The Environment Agency and local authorities also maintain the 'fabric' of the historic environment by enforcing legislation relating to air, water and the physical environment in general.

Table 2 summarises estimates of relevant public sector employment attributable to the historic environment as reported in the *Valuing Our Environment* study.

Environment spending by the public sector on supplies, services and other costs was estimated in *Valuing Our Environment* to be £110 million (VoE:3.3.6). Given that employment in the historic environment is estimated at 28.7% of the wider environment total, then pro-rata spend for the historic environment is £31.7m.

Conserving the historic built environment

Wales is home to a rich heritage of historic sites and buildings ranging from walled towns (Caernarfon, Conwy) to castles (Beaumaris, Harlech) and industrial landscapes with worldwide recognition (Blaenavon). Much of Wales's historic environment has been designated as ancient monument or officially listed as of historic or architectural interest. Whilst many such sites are managed by public organisations, many more are owned and maintained privately. There are over 5,000 ancient monuments and 23,000 listed buildings in Wales, more than 30 Historic Townscape schemes as well as over 500 conservation (built)

Table 1: Voluntary Organisations and the Historic Environment

	Employment in Environment	Apportioned to Historic Environment	Total
British Trust for Conservation Volunteers	42.5	25%	11
Council for Protection of Rural Wales	7.5	25%	2
Groundwork Cymru	91.0	50%	46
National Trust (Wales)	356.0	100%	356
Princes Trust (Wales)	83.0	25%	21
Total			**436**

Table 2: Public Sector Employment Attributable to the Historic Environment (2000)

	Total Full-time equivalent Jobs	Environment Employment		Historic Environment	
British Waterways	32	100%	32	100%	32
CADW	217	100%	217	100%	217
Countryside Council for Wales	457	100%	457	5%	23
Environment Agency	876	100%	876	5%	43
Heritage Lottery Fund	14	65%	9	9%	1
Local Authorities	109,000	0.9%	1,022	0.5%	545
National Assembly for Wales	3,084	25%	775	5%	154
National Park Authorities	358	100%	358	25%	89
Wales Tourist Board	114	5%	6	3%	4
Welsh Development Agency	519	10%	52	2%	1
Total					**1,109**

areas listed as being of particular historic character and importance.

Substantial amounts of money are spent on maintaining and conserving these buildings and their special character means that additional spending, over and above the normal cost of maintaining them, is often necessary. The actual level of such spending is not known, but in recognition of this extra expense public bodies, notably CADW, the Heritage Lottery Fund, and local authorities, provide financial support (see VoE 3.4.3).

The total amount of grant assistance made available to private individuals and non-public sector organisations and local authorities (in respect of historic buildings owned by them) towards the maintenance and conservation of historic buildings provide a minimum proxy measure of the additional expenditure involved. This was estimated to amount to £11.6m in 2000 (VoE 3.4.5). The total spend on historic buildings will inevitably be greater but grant levels provide a measure of the additional spending arising from the need to conserve the fabric and character of historic buildings and sites. Many historic buildings and sites are also open as tourist attractions but the jobs associated with this function have been included in the direct employment in those organisations mentioned previously.

In addition to spending to conserve the historic built environment, significant sums are spent on the National Assembly's Tir Gofal scheme, intended, in part, to conserve the historic agricultural environment. This paper assumes that in the year 2000-1, 25% of Tir Gofal spend (£2.3m VoE4.2.7) may reasonably be attributed to historic conservation. Since 2000 this grant aid has increased considerably.

Activities Dependent on the Quality of the Historic Environment

In addition to those activities concerned with conservation and enhancement of the historic environment, there is a further group of activities that depend on the existence of a high quality historic environment for success. These include, at a minimum, parts of tourism, leisure and museums. It could, on some interpretations, extend to developing the knowledge economy, attracting inward investment and to other dimensions of well-being including health.

Tourism and leisure

Tourism is primarily concerned with activities that take people away from their normal place of residence and can include visits for holiday, business, education or a variety of social reasons. A distinction is usually made between day visits (visitors) and overnight visits (tourists), although the role of the historic environment in visitor motivation is difficult to interpret in either case. While visits for business purposes are unlikely to be motivated by the historic environment, the decision on where to hold a conference may well be dependent not only on physical facilities and location, but also upon potential delegates 'image' of the place (Law 2002). Indeed it has been argued that the competition to attract investment, business activity and tourism, intensified by globalisation, has resulted in what may be described as 'place wars' (Kotler et al 1993).

Valuing Our Environment (2001:5.2.5) used survey evidence to estimate that 'the environment' was the main motive for 40% of staying holiday tourist and tourist day visits in Wales. Sites based upon the historic environment made up around 80% of the most visited (paid and free admission) attractions in Wales in 2000 (SVVAS). If only half of the environment-motivated visits (20%) are allocated to the historic environment, this would imply total visitor spending of some £384.2m.

Estimates of direct employment in the tourism sector in Wales are still based on figures from 1996 (DTZ Pieda 1996/WTB 2002) and consequently, given growth since then, may be considered as conservative. According to these estimates, tourism in Wales is responsible for 66,700 direct full time equivalent (fte) jobs in Wales (VoE:5.2.9). Allocating 20% of these to the historic environment gives a total of 13,340 fte jobs directly supported by the historic environment, alongside the spending total £384.2m.

Museums

Whilst *Valuing our Environment* inevitably included some sectors that it would be difficult to attribute to the historic environment, it also excluded the museum sector whose historical significance exceeds its environmental relevance. The museum sector in Wales is dedicated to the conservation and presentation of antiquities and artefacts in a meaningful and relevant way, including the presentation of heritage for educational purposes.

The Council of Museums in Wales (currently 82 registered museums) and the National Museums and Galleries of Wales (currently 8 museums and 1 collection centre) are the two organisations that represent most of the museums in the Principality. Estimates suggest that between 30 and 60 'independent museums' in Wales remain unregistered and are not centrally represented. The Council for Museums itself provides 10 fte jobs and aims to pass on 35% of its £0.5m base grant from the National Assembly for Wales. In 1999-2000 the Council distributed over £170k in grant aid to 80 projects in 48 museums. Grants are awarded to subsidise employment, collection management, public services, conservation and capital projects/feasibility studies.

The National Museums and Galleries of Wales are funded predominantly by payments from the Assembly (76%) and other government bodies (4%) with the remainder generated by commercial activities. In 2000/1 the organisation received £15.4m grant aid out of a total income of almost £20m. This group provided 486 fte jobs and received 891,000 visitors during the year 2000/1, an increase of 4% on the previous year (NMGW 2000/1).

Total Estimated Impacts

Table 3 summarises the estimates of the spending and jobs directly associated with the historic environment in Wales, summing to over £460m of spending and over 15,500 full time equivalent jobs. Many of these jobs will be part-time, and/or seasonal, so that the total number of people employed is likely to exceed 20,000 (as evidenced by the earlier study into the Economic Impact of Arts and Cultural Industries in Wales). Of the £460m of spending, 83% is associated with tourism and leisure, with just 17% directly dedicated to protecting, enhancing and conserving the historic environment. If tourism expenditure can be considered to be the 'private' return on what is largely 'public' investment, more than £4 of tourism spend is generated for every £1 of spending on protecting, enhancing and conserving the historic environment. Of course not all of this investment is public, with for example the National Trust being a major player in protecting the historic environment.

In addition to these direct impacts, spending associated with the historic environment will also have indirect impacts. These supplier effects are the result of organisations within the historic environment and related tourism sector trading with firms and organisations outside the sector. Added to these supplier effects will be the income effects as jobs, and hence wages, are generated, with at least some part of these wages being spent locally further increasing local trade.

In the absence of detailed survey information as to the spending patterns

Table 3: Estimated Direct Impacts of the Historic Environment in Wales

Sector	Spending £m	Jobs fte
Protecting/Enhancing	46.2	1,552
Conserving*	12.2	288
Tourism/Leisure	384.2	13,340
Museums	19.9	496
Total	**462.5**	**15,676**

*spending includes buildings grant support and Tir Gofal jobs estimated using construction sector turnover per fte. Totals may not sum to earlier figures because of rounding.

Table 4: Estimated Impact by Sector, Spending £m and Employment (full-time equivalent jobs)

	Spending		Employment	
Sector	**Initial**	**Total**	**Initial**	**Total**
Agriculture	10.1	23.6	346	808
Manufacturing	10.1	164.8	128	2,091
Energy/water	38.4	54.6	205	292
Construction	16.8	28.8	730	1,252
Distribution	115.3	139.4	5,220	6,310
Transport/Comms.	115.3	142.7	3,342	4,137
Banking/Finance	20.2	66.5	436	1,437
Public Admin.	96.0	105.8	3,335	3,675
Other Services	40.3	53.4	1,933	2,563
Total	**462.5**	**779.7**	**15,676**	**22,566**

of firms, organisations and tourists associated with the historic environment, these indirect or multiplier effects are estimated by first translating the spending of Table 3 into equivalent spending by Welsh Input-Output sector, and then using average spending patterns for these sectors to estimate the indirect impacts. For example, of the £12.2m spend on conserving the historic environment, £11.6m is treated as typical spending by the Welsh Construction industry and £0.6m as spending by Agriculture. Whilst these are necessarily approximations, they are reasonable assumptions in the absence of superior data.

The final step in the estimation process is to use the Welsh Input-Output Tables to estimate the indirect impacts, essentially by modelling the identified spending as additional to the economy and then tracing through its trading links with other sectors, their subsequent spending impacts, and so on. The results of this process are shown in Table 4.

According to Table 4, activities that can directly be associated with the historic environment generated over £460m of spending in Wales in 2000, and this spending is estimated to have supported significant supplier and induced-income effects within other parts of the economy. These multiplier effects increase the economic impact of the historic environment to almost £780m, with impacts across all sectors of the Welsh economy.

Finally Table 4 also translates these spending impacts into full-time equivalent jobs. The initial estimate of over 15,500 jobs directly associated with the historic environment becomes a grand total of more than 22,500 full-time equivalent jobs when estimated multiplier effects are taken into account.

A note of caution is of course appropriate. Firstly, the method of allocation is in some sense arbitrary, with these figures being heavily dependent on the assertion, however modest, that 20% of tourism expenditure can be allocated to the historic environment. In fact, of course, it is unlikely that single influences determine tourism decisions. The individual or family chooses destinations on a range of factors, undoubtedly heavily influenced by the perceived characteristics of the destination, but including factors such as ease and cost of access. Moreover the characteristics of the destination are multi-dimensional. Secondly, the allocation of estimated spending to sector is a matter of judgement rather than objectivity. Finally, the Input-Output methodology adopted requires implicit assumptions about the pattern of spending associated with the historic environment matching sector averages, about the availability of supply of other inputs and about the linearity of production processes (for a discussion of these assumptions see Hill and Roberts 1999). Nevertheless, the methodology, however imperfect, provides the best available estimates in the absence of further information. These estimates should, of course, be viewed as indicating order of magnitude rather than precision.

The Historic Environment and the Knowledge Economy

The knowledge economy can be defined as *'adding value through the application of ideas and information'*. Seen in this light the knowledge economy is as much about revitalising traditional sectors, such as manufacturing, as it is about the development of new sectors. Moreover it is tempting to view the knowledge economy as severing the link between place and value-addition, in the sense

that production can be separated from the generation and utilisation of ideas. While this has certainly influenced the changing geography of manufacturing in the UK, (Armstrong and Taylor, 2000), and even the exit of routine-mass production processes to lower cost parts of Eastern Europe, there remains large shares of unexplained variation in the distribution of economic well-being in the UK. It is relatively easy to point to the development of the knowledge economy in (parts of) the South East of the UK, and perhaps in the more prosperous parts of other regions, one consequence of which is the widening of UK regional disparities (MacKay, 2002, and pages 37-40 of this *Welsh Economic Review*). However it is proving much harder to explain why some areas and regions prosper while others do not. Consequently there is a growing emphasis on the social context of economic development, with social constructs such as information networks, innovative capacity and 'the learning region', increasingly playing a role in explanations of development. In this context it may not be too fanciful to assert that the historic environment, and particularly the way in which it is preserved, enhanced and presented, may form an important part of the rationale for people, and hence organisations, preferring to conduct their business in some areas rather than others.

Conclusions

This paper reports upon early efforts at placing an economic value on the historic environment while recognising that history and its influences transcend currency valuations. Nevertheless, preserving and enhancing the historic environment consumes resources and decision-makers are entitled to look for ways to value the impact of their use. This study has estimated, using a fairly rough and ready methodology, that the historic environment directly adds some £460m and 15,600 full-time equivalent jobs to the Welsh economy, with multiplier effects increasing these figures to nearly £780m of spending and more than 22,500 fte jobs overall. There is some evidence to suggest that a more rounded recognition of the value of the historic environment, including its economic value, may be beginning to emerge.

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