

A PROPOSAL FOR A DESIGN TO DEVELOP EUROPEAN STATISTICS ON THE SOCIO-ECONOMIC CONTRIBUTIONS OF THE PHYSICAL CULTURAL HERITAGE.

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1. Executive summary and conclusions

The paper explores a methodological design to use available statistics for reporting on indicators for economic and employment contributions of the physical cultural heritage. The indicators are:

A: % share of total gross value added (GVA) and the sum in €.

B: % share of employment in the non-financial business economy and the sum of employed.

The objective is to have access to updated time series of figures that quantify the value-added and employment impacted by the physical Cultural Heritage. The 4 most impacted sectors are:

- Construction,
- Real Estate,
- Tourism and
- Cultural and Creative Industries.

The figures, from official available Eurostat statistics and other publications, are used to demonstrate the design. The figures illustrate what statistical data is available.

How much of the value-added or jobs sustained in a sector can be ascribed to the impacts of the physical heritage? This is the critical question. In this design we propose to use 'Keys' to 'unlock' the statistical data. The 4 'Key' figures, one for each sector, are discussed and a figure is set. The 'Keys' need further research work to assure improved reliability.

Using the available statistical data and the proposed 'Keys' we calculate the indicators and find:

- Total GVA (gross value added) generated by the physical cultural heritage is € 303,7 billion yearly, or 4,66 % of the EU GVA of non- financial business economy.
- The number of jobs generated by the cultural heritage is in the order of 7,3 million persons or app. 5,4 % of the EU employment of non-financial business economy.

2. Background – Preamble

“If you cannot measure it, you cannot improve it”.
Sir William Thomson, Lord Kelvin

The need for statistical indicators.

The starting point for this paper is twofold. The new interest in the (physical) cultural heritage shown by the EU Commission from the summer 2014 has policy consequences (EU Commission (2014) I) (European Union Council of Ministers. (2014)). One such consequence is the renewed funding for Eurostat cultural statistics; i.e. the EU ESSnet-Culture framework for cultural statistics.

The second is the need for evidence based policies which again rely on monitoring indicators etc. The need for a management tool, based on reliable statistical indicators at macro-level, showing the contributions of the physical cultural heritage to the social-economy, should be evident.

The indicators proposed are:

- A: % share of total gross value added and the sum in €.
- B: % employment of non-financial business economy and the sum in numbers of employed.

The role of the physical (movable and immovable) Cultural Heritage should be characterised by the impact of its contributions to gross value added and to jobs generated. The 4 most impacted sectors are considered to be: Construction, Real Estate, Tourism and Cultural and Creative Industries.

Cross-sectorial or sector restricted? The EU ESSnet-Culture framework for cultural statistics

A basic starting point is that every time cultural heritage contributes to artistic, educational or social development, it is a source of value: esthetical value, experience value, existence value for which the production implies economic movement, and not to take this into consideration would lead to a lack of fundamental understanding. The socio-economic impacts fall to other sectors and are cross sectorial.

The EU ESSnet-Culture framework for cultural statistics initiative restricts statistics to only traditional cultural activities and professions; i.e. the cultural sector (Valérie DEROIN 2011) and (Guy FRANK. Marta BECK-DOMZALSKA. 2012). The ESS-net restricted sector approach cannot, alone, give a full picture of the economic impacts generated by the production (maintenance, etc.) and consumption of the physical heritage. Works on the built heritage by non-cultural actors (like craftsmen and workers), their ‘consumption’ by tourists and the transactions in the real estate market generates economic movement and this too should be taken into account.

Humanistic, cultural and other values are ascribed to cultural heritage. These values are the ‘cultural’ values that reflect the ‘inherent value’ of the heritage to individuals, groups and society. We consider

these “non-economic values”. But they are also the attributes of cultural heritage that trigger the transactions in the economic sphere.

The physical cultural heritage.

For the physical movable and immovable cultural heritage we apply a ‘wide’ definition. This includes archaeology, historical art-works and artefacts (museums and galleries) as well as cultural landscapes, buildings and constructions. For the built cultural heritage we refer not only to the protected or listed constructions but to the mass of historic buildings (for example) pre-1920. This definition captures the scope of responsibility of the Norwegian Directorate for Cultural Heritage. The ‘wider’ definition can include from 20% to almost 40% of the existing buildings in Europe (Carine Sebi ENERDATA, Judit KOCKAT, Clemens ROHDE. 2012), depending whether the data sources count floor space or buildings.

The traditional definition of the built cultural heritage is a more ‘narrow’ concept and encompasses only the protected or listed buildings, sites and landscapes; i.e. ‘objects’ that have a clear legal status. But also the ‘narrow’ heritage concept has greatly increased in absolute numbers during the recent decades. The EU / EEA countries together have app 5.5 million listed or protected sites / buildings (EHHF meeting Oslo. 2013).

3. The different sectors and their statistics.

Heritage has spill-over effects in other economic sectors (European Commission 2014 I). There is a general consensus that the economic transactions triggered by the physical cultural heritage ‘fall’ (mainly) to the following economic sectors:

1. The building and construction sector
2. The tourism sector
3. The real estate and property sector
4. The cultural and creative industries sector

The figures used are from official available Eurostat statistics. For the cultural and creative industries this is not the case. The source of the baseline data are:

- Construction and Real Estate figures are found in Eurostat. (2011). “Key figures on European business with a special feature on SMEs.” 2011 edition. ISSN 1830-9720
- Tourism statistics are given in (Eurostat (2014) I) and (Eurostat (2015)) “Tourism statistics.”
- The figures for the Cultural and creative industries are generated using figures from “Mapping the Cultural and Creative Sectors in the EU and China: A Working Paper in support to the development of an EU-China Cultural and Creative Industries (CCIs) platform.” (Philippe KERN et Al. (2011)) and “The value of the cultural and creative industries to the European economy ”(Frontier Economics (2012).
- The global figure for GDP at current market prices for 2013 is taken from (Eurostat 2014 II) and is used to calculate the percentage of total gross value added where this is not given in tables.

The figures illustrate how the 'design' works and the figures illustrate what statistical data is available.

3.1 The building and construction sector

Table 1. Indicators for the Building and construction sector.

Building and construction sector	Figures
turnover in €	1 907 138 000 000
value added in €	603 362 000 000
Value add % of turnover *	31,64
% of total gross value added *	4,46
persons employed	15 047 000
% employment of non-financial business economy	11
% value added of non-financial business economy	9,8

* calculated

Source: Eurostat (2011) Table 3.13: Key indicators, construction, EU-27, 2008 2011 SME statistics. P 71

In the yearly report from the construction industry renovations works are responsible for 27% of turnover in the sector No number is given for the percentage of GVA generated by renovation works (FIEC (2014)).

3.2 Tourism

Table 2. Indicators for Tourism as a sector.

Tourism as a sector	Figures
turnover	925 741 000 000
value added	339 469 000 000
Value add % of turnover *	36,67
% of total gross value added *	2,51
persons employed	11 989 000
% employment of non-financial business economy	9,00
% value added of non-financial business economy	5,50

* Calculated

Sources: Eurostat 2015. File:Key economic indicators for the tourism industries, percentages, EU-28, 2012.png and File:Key economic indicators for the tourism industries, EU-28, 2012.png

We have chosen to use the numbers from the Eurostat files. For this sector there are a number of divergent official statistics available. An example is when the EU Commission writes in its communication (Communication from the Commission. 2014 l) “ ... and 3.4 million tourism enterprises account for 15.2

million jobs”, citing the Eurostat main web page (European Commission, Tourism statistics 2014) II). While in this Eurostat update from March 2015 gives a figure of 11,9 million employed.

3.3 Real Estate and property market

Table 3. Indicators for Real Estate activities.

Real estate activities	Figures
turnover	420 000 000 000
value added	220 000 000 000
Value add % of turnover *	52,38
% of total gross value added *	1,63
persons employed	2 500 000,00
% employment of non-financial business economy	1,80
% value added of non-financial business economy	3,60

* calculated

Source: Eurostat 2011. Page 93.

What is especially interesting regarding the Real Estate sector is the value-added relative to the normal market which is observed for historic buildings and / or protected areas. Houses or buildings which have specific jurisdictional restrictions on them (protection, listing, conservation area, area of special considerations, etc.) tend to fetch relatively higher prices on the market than comparable newer houses / buildings. The Incentive 2015 (Incentive 2015) report confirms such trends. This phenomenon is outside the scope of this paper but should be mentioned.

3.4 Cultural and Creative Industries

Table 4. Indicators for the Cultural and Creative industries.

Cultural & Creative Industries	Figures
turnover	572 120 000 000
value added*	205 963 200 000
Value add % of turnover*	36,00
% of total gross value added*	1,52
persons employed	1 500 000
% employment of non-financial business economy*	1,10
% value added of non-financial business economy*	3,33

* calculated

Source: European Parliament (2013), Frontier Economics report. (2012. 2014) and Philippe KERN et al. (2011)

Note: In terms of value added to the European economy as a whole, it (cultural and creative industries) represented 2.6% of Europe's GDP. (European Commission 2012)

For statistical data for the cultural and creative industries the picture is confusing. I could find no Eurostat source data equal to that of the other sectors. The figures given in the different publications vary greatly. As an example the KEA report (Philippe KERN et al. 2011) brings up a figure of 6 million employed and a turnover of € 654 billion (654 000 000 000) in 2003, 2,6 % of EU GDP and 3,1 % of total employment EU 27 (6 million). The European Parliament speaks about 5 million employed (European Parliament (2013)). The Frontier Economics reports (Frontier Economics report 2012 and 2014) are much more conservative (1,5 million) and we have used the employment figures from this paper.

But there is no doubt as to the economic importance and growth potential of this sector. The European Commission (European Commission (2012)) is also clear on this lack of agreement on figures and gives a number of different figures.

".....revealed that the cultural and creative sectors (including the cultural and creative industries) accounted for 4.5% of total EU GDP in 2008 and some 3.8% of the workforce. The GDP contribution is greater than the chemicals and plastic products industry (2.3 %) or real estate activities (2.1 %)." (European Commission (2012) page 6)

".....the years from 1999 to 2003. Whilst the nominal growth of the European economy in this period was 17.5%7, the growth of the cultural and creative sector in the same years was 12.3% higher - in other words, the overall growth of the cultural and creative sector's value added was 19.7%. This means that the cultural and creative sector grew faster than the general economy and that it was therefore a vital driver for development in Europe." (European Commission (2012) page 6)

4 The challenge – Finding the 'Keys' to unlock big-data for the cultural heritage sector?

The critical element in the proposed Design is to be able to quantify the share attributable to the physical cultural heritage and how to extract the figures for impact. We propose to use 'Keys' to 'unlock' the statistical data. It is essential to develop a set of operational 'Keys' in concert with the National Census Bureaus and Eurostat. This could, later, be developed into a specific CH (cultural heritage) 'satellite account'.

We now have the indicator figures for all the 4 sectors where the (defined) cultural heritage (CH) has an economic impact. We now need to extract the figures for the specific cultural heritage impacted contributions. We need 4 'Keys', one for each sector that will allow us to 'unlock' and extract these specific CH contribution figures. This is where the real challenge lies and where development and refinement work must take place.

In the example calculations we have simplified the description of the 'Keys' and we operate with the same 'Key' for all EU countries. It is highly possible that the 'Keys' should be differentiated at member

country level and then aggregated up to the EU level. The reason for this is that the part of the GVA generated by the physical cultural heritage might vary greatly from country to country. At least this would be the case for the share of tourism generated income. The share of the tourism income ascribed to the (built) cultural heritage is evidently not the same factor in Norway as in France. So this would be another methodological challenge.

Another element to consider is that there might be a different 'Key' for employment and generated GVA for the same sector. For example renovation works on (historic) buildings as well as tourism activities are labour intensive and therefore the share of GVA generated and number of jobs sustained may not be represented by the same 'Key'.

A: A key to the cultural heritage share of the **construction sector** can take as a starting point the figure cited in the "Towards an integrated approach to cultural heritage for Europe" (European Commission 2014 I). 27,5 % of the sector turnover is ascribed to renovation works on existing houses. Not all of this is evidently related to historic buildings. We can also use the distribution of the age (construction year) of the housing stock to identify the share of historic houses given in the ETC/SCP 2012 Final report (David MCKINNON et al. 2013). But caution is demanded as the total percentages of buildings age pr. country cannot be summed up for the pre 1919 buildings as no nominal numbers are given – only the percentage pr. country-. The pre-1960 buildings make up from 35 to 42% of the total building stock and these buildings carry the major part of renovation works (Building Performance Institute (2011) (FIEC 2015). It could be a challenge to decide whether to count number of houses or floor space.

We will use 20% of GVA as the 'Key' for the construction sector.

For share of the labour use in the construction sector we also have a challenge in the fact that the renovation and repair of older houses is more labour intensive than both new construction and renovation of recent buildings. Therefore one would, for historic buildings, assume a higher percentage of jobs created by such renovation which constitute 27,5 % of the turnover. The share of job creation for the historical buildings is probably higher than 27,5 %.

Even so, we will also here use 20% as a key to assessing the number of jobs created.

B: For the **Tourism sector** there are a number of methods to assess the share of this sector generated by the cultural heritage as consumer goods. Defining consumption of cultural heritage is essential. For the moment there is no consensus on a common definition of consumption of cultural heritage. I propose to use the following definition:

"We defined consumption of cultural heritage as visiting museums and sites, of course, but also included the choice of a café to take a drink when the surroundings are historical, architectonically interesting or a beautiful cultural landscape. Sitting down to eat or drink, or just walking and 'taking in' the surroundings is cultural heritage consumption. Based on this we stipulated, on an average, that 30% of the time is spent consuming cultural heritage. "(Terje NYPAN 2003 and 2009 p:13)

30 % is therefore the key used to extract the figures ascribed to cultural heritage in this sector; both for GVA and for the share of jobs generated.

C: For the **Real Estate and Property sector** a specific age for the properties transacted is needed to define the 'population' of buildings that interests us. A similar approach was made in Denmark looking for a value added (Incentive 2015). The study concluded with a 30% higher sales price for protection worthy 1 family houses and 13 % higher sales price for housing in areas with more than 15% of protection worthy buildings.

I have found no figures that would supply us with a ready 'Key'. By using the data on the age of the European housing stock (David MCKINNON et al. (2012) ANNEX 1. 2.1 Age distribution of housing stock) we can set a factor of 20% of the total market to delimit historical buildings. This 'Key' does not exaggerate the portion of historic buildings (pre 1948) on the market.

20% is used as 'Key'.

D: The **Cultural and Creative Industries sector** needs one or more 'keys' to extract the share of the sector that is related to the defined heritage. This sector is probably the least analysed for the impacted effect of the physical heritage and its associated skills. Figures and approaches vary greatly between sources; (European Parliament (2013)), (KEA Report (2006)) (Philippe KERN et Al. (2011)) (Frontier Economics (2012)).

The manner in which the high-end part of this sector defines itself and its relation to cultural and traditional heritage, is telling for the importance of the impact:

*"The aura of luxury relates to the **quality** of the product, and the perception of status and exclusivity that is associated with it, both in the eyes of the consumer and, significantly, amongst the wider public. This aura, combined with the **craftsmanship** involved in producing it, constitutes the key point of competitive differentiation for luxury cultural and creative industries compared to other industries. The aura in part draws on the **cultural and traditional heritage** in relation to the product's provenance, and the fact that this **heritage acts as a signal of quality.**" (Frontier Economics 2014).*

10% is used as the 'Key'. Assuming a 10% share of this sector directly generated by the use of cultural heritage is not an exaggerated starting point. But this is a non-empirical assumption which needs to be validated.

We find that the physical cultural heritage sector lacks macro-level figures for its impacted contributions to economy and employment. That is not surprising and only underlines the necessity to develop such 'Keys' to allow use of available statistics.

5. How it could look for Cultural Heritage

Using the 'Keys' as we have described them in the last chapter as (explorative) examples we can calculate the figures for cultural heritage contributions. I repeat that the 'Keys' used in this paper need more development and refinement. The 'Keys' should be critically reviewed to become reliable. This is a task for a follow-up project.

The task of this paper is only to lay down a proposal for a framework to design a reporting system based on available statistics. We wish illustrate how this is feasible.

Table 5. Indicators and aggregated figures for 4 major sectors impacted by physical cultural heritage.

Sector	% share value added of non-financial business economy	in €	Sum Employed	% employment of non-financial business economy
Construction	9,80	603 362 000 000	15 047 000	11
Tourism	5,50	339 469 000 000	11 989 000	9,00
Real Estate	3,60	220 000 000 000	2 500 000	1,80
Cultural and creative industries	3,33	371 878 000 000	1 500 000	1,10
	22,23	1 534 709 000 000	31 036 000	22,90

Table 6. Impacted contribution of the physical cultural heritage per sector.

Sector	'Key'	% share value added of non-financial business economy	% share of total gross value added in €	Sum Employed	% employment of non-financial business economy
Construction	20	1,96	120 672 400 000	3 009 400	2,20
Tourism	30	1,65	101 840 700 000	3 596 700	2,70
Real Estate	20	0,72	44 000 000 000	500 000	0,36
Cultural and creative industries	10	0,33	37 187 800 000	150 000	0,11
Impacted contribution of CH		4,66	303 700 900 000	7 256 100	5,37

Table 7. Aggregated impacted contributions of the physical heritage.

Physical Cultural heritage	Figure
Gross value added in €	303 700 900 000
% share value added of non- financial business economy	4,66
Total sum employment	7 256 100
% employment of non-financial business economy	5,37

Total GVA (gross value added) generated by the physical cultural heritage is € 303, 7 billion yearly, or 4,66 % of the EU GVA of non- financial business economy.

The number of jobs generated by the cultural heritage is in the order of 7,3 million persons or app. 5,4 % of the EU employment of non-financial business economy.

6 Further proposals – what could also be considered?

6.1 Environmental economics and cultural heritage.

A system to report on the impact of the physical cultural heritage should include relevant environmental economic aspects. For the Norwegian Directorate for Cultural Heritage the environmental and climate aspects are a major asset of the historic built environment.

Prolonging the life cycle of these built resources and the energy and material invested in the existing building stock leads to a reduction both in the waste generated from demolition and a reduction in the resource and energy use for new construction. Such actions support EU policy objectives for a resource lean, energy effective and sustainable European economy. To look only at the operative energy use of a building is not the best manner to capture the total environmental benefits of extending the life cycle of a building.

Work is taking place to develop models for assessing the value of cultural heritage in an ecosystem resource perspective. In the future the heritage administrations need to incorporate such environmental economics.

6.2 Employment, labour intensive methods and the multiplier effect.

The creation of employment is the single greatest challenge for the EU. To use cultural heritage as a strategic resource is also to use its potential for job creation.

Renovation and repair of older houses is more labour intensive than both new construction and renovation of contemporary buildings. Studies have shown that works on and use of the physical cultural heritage has a relatively high ratio of jobs created relative to investments (in machinery and materials).

The result is more jobs created per invested amount than in sectors where the ratio of jobs to investments is lower. (Xavier GREFFE 2002) (KEA 2006) (Donovan D. RYPKEMA, Caroline CHEONG 2011).

At an EU Parliamentary hearing in Brussels, March 5 2009, Dr. Edmundo Werna of the UN's International Labour Organization (ILO) stated regarding the labour benefits of initiating works on the built cultural heritage (Terje NYPAN. 2009:17).

“The restoration of buildings, roads and other elements of the built environment (...), it has high employment content (..) for the same level of investment in local construction ... (in labour intensive methods) ...” This resulted in:

- *“two and four times more employment”*
- *“drop of foreign exchange requirements by 50% to 60%,”*
- *“decreases overall cost by 10 to 30%,”*
- *“reduces environmental impacts.(..)”*
- *“increased use of associated local resources”*
(“reduces the dependence on costly imports, and stimulates the local economy”).
- *“promotes small and medium enterprises”*

This labour creation potential – the multiplier effect - could be monitored and applied in evidence based policies.

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