# Culture Satellite Account 

Final report of pilot project

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## Foreword

Interest in the assessment of the effect of culture on the national economy has increased in recent years. This is due, for example, to the increased share of services in the GDP and of trade in services in world trade. The common view has been that cultural industries - many of which provide services - have been growing faster than average economic growth. However, the current results do not support this conclusion for Finland.

In Finland, the Government has aimed to develop cultural exports and to this end, in 2005, the Ministry of Education appointed a committee to examine the effects of culture on the national economy. Recently, the OECD and UNESCO have also shown interest in measuring the economic effects of culture.

The problem in measuring and assessing the economic effect of culture in Finland and elsewhere has proved to be the lack of sufficiently wide-ranging and comprehensive statistical information. The fact that there are also differences in the demarcation of the area of culture between countries makes international comparisons problematic. In Finland, there is ample statistical information available for most areas of culture but the data on which the statistics are based are rarely comparable, which makes comparing and synthesising the data at the very least challenging and often impossible. Comparable and measurable data are needed, for example, for monitoring the development aims of cultural and creative industries. Regularity of calculations and the formation of time series are also important objectives.

In the beginning of 2007, the Ministry of Education and Statistics Finland launched a joint project with the aim of creating a foundation for reliable and comparable statistical information on the effect of culture on the national economy. The project was very much a pilot project aiming at creating a first Finnish computational framework to provide content to culture satellite accounts as well as a proposition on how data should be produced regularly within the framework of the national accounts.

The current culture satellite account is the first development version, which, even as it is, is the first of its kind in Europe. It is our aim to supplement the computational basis and methods in coming years on the basis of experiences derived from the development work. The culture satellite project was headed by Katri Soinne, Project Manager, from Statistics Finland.

Helsinki, April 2008

| Riitta Kaivosoja | Ari Tyrkkö |
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## 1 Background, needs and applications

In 2005, the Ministry of Education appointed a committee to investigate the measuring of the effects of culture on the economy. One of the findings of the committee was that insufficient statistical information hinders the making of reliable calculations. The work of the Ministry of Education committee was continued in 2005-2006 with a preliminary survey by Statistics Finland, which aimed at creating a calculation model for measuring the effect of culture on the national economy. In 2007, Statistics Finland and the Ministry of Education continued this so-called culture satellite account survey in a pilot project which aimed at creating a computational framework to provide content to culture satellite accounts. In addition, the project was expected to make a proposal on the satellite model, assess the preconditions for regularly producing satellite accounts and, as far as possible, to make test calculations for 1995-2005. The implementation of the satellite required determination of various cultural industries and products.

The culture satellite aims to determine what is culture's share in the gross domestic product, export, import and domestic demand. The term "satellite account" means an expansion or an extra focus of a statistical system called national accounts, which examines a certain whole the data for which cannot be found directly in the basic system. The basic national accounts system provides, for example, information on gross domestic product (GDP) and GDP shares of various industries.

This first-stage culture satellite is derived from a model where we first determine which industries belong wholly or partially to culture and then we try to ascertain what share of those industries belonging partially to culture can be counted as belonging to culture. This approach is by no means comprehensive because that part of cultural activities which takes place outside the industries chosen as cultural industries will not be included. Likewise, activities other than cultural in nature from some industries will be included. Moreover, the calculation will exclude cultural activities outside the production boundary determined in the basic system of national accounts (SNA). Thus, the present model is just the first version, which should be developed and improved in the future.

In Finland, satellite accounts have been previously implemented for household production and tourism. Household production does not fall inside the national account's product boundary, that it is to say it is not included in the figures produced by the basic system. However, there has been a need to study the extent and importance of household production and its amount and value have been assessed using methods provided by the basic system. Tourism satellite for its part aims to determine tourism's part in the gross
domestic product, and only industries belonging wholly or partially to tourism have been included from the national accounts (and from those partially belonging to tourism only the share belonging to tourism). At its most extensive, the culture satellite should both show culture's share of the gross domestic product and render visible the cultural production outside the production boundary.

The current model is the same as the one used in the tourism satellite even though to be "genuine" the culture satellite should also include activities that are not included as concepts of the basic SNA, as was done with the household production satellite. The concepts left outside accounting include voluntary work producing services, the contribution of which can be assumed to be fairly significant in the culture sector. Also included should be, for example, practical training periods belonging to education in the sector (where students in practice are a source of free labour) and various performances produced at different educational levels.

Problems encountered in the definition phase have stemmed from, first of all, the difficulty of the operationalisation of culture within the industry classification used in the SNA, and, second of all, the knowledge base with regard to industries with both cultural and non-cultural production or where cultural activities are part of a whole consisting of something else. The pilot project charted numerous problematic industries and wholes but solutions for all of them were not found at this stage.

National accounts measure economic activities on the basis of certain definitions and assumptions; multiplicative impacts of culture or its effect on the well-being and quality of life cannot be derived from the current results. The figures resulting from this pilot project measure the value of goods and services in certain selected industries, their share in the overall value of goods and services produced in the national economy and any change in this share. Culture undoubtedly has effects that cannot be measured in financial terms and therefore it has intrinsic value, not just from an economic point of view.

## 2 The Concept of Culture

The Ministry of Education publication Fair Culture? Ethical dimension of cultural policy and cultural rights (Koivunen \& Marsio, 2006) has considered the concept of culture and has concluded that there are hundreds of definitions emphasising various perspectives and that it is impossible to come up with a single absolute and exhaustive definition of culture. UNESCO's definition of the wide-ranging significance of culture is from 1982 and according to it "In its widest sense, culture may now be said to be the whole complex of distinctive spiritual, material, intellectual and emotional features that characterise a society or group. It includes not only the arts and letters, but also modes of life, the fundamental rights of the human beings, value systems, traditions and beliefs.". The concept of culture is always a question of content and interpretation in a specific historical and social context - culture is a relational concept (Fair Culture, p. 9). When providing an exhaustive definition of the concept of culture is impossible, it is no wonder that the "derivatives" of the concept are are ambiguous - terms such as cultural economy, cultural industry and cultural production are used as parallel, overlapping terms and sometimes even as synonyms; in addition we talk about media culture, experience industry and economy, content production, cultural industries and creative industries.

According to the final report of the Ministry of Education's cultural industry committee (1999) there are four ways to define cultural industry:

1 production based on meaning content (the widest definition) - interesting but easily leads to everything being defined as cultural industry since meanings connected to production of goods nowadays guide demand, supply and consumption;

2 covers both the traditional and new fields of art and culture from a creative act in various forms of art to distribution (artist's creative work, its development and productisation to a work of art, presenting or performing it, distribution and reception - in addition to creative arts, also production and distribution systems, programme production, galleries, art markets, libraries, museums, radio and TV) - in the committee's view this is the best definition;

3 criteria of duplicability (cinema, TV, radio, publishing, recording industry and cultural content production) - this is the traditional way of defining cultural industry;

4 entrepreneurship perspective: cultural contents are traded and the value and distinctiveness of traded products are based on meanings.
The area studied in the culture satellite project has been largely demarcated in accordance with the culture and media statistics of Statistics Finland and, in addition, the area chosen closely follows the definition considered the best by the cultural industry
committee. International cultural statistics include also all aspects of media and we have followed this practice in this work.

The detailed plans for cultural statistics drawn up in Finland in the early-1970s also considered the concept of culture from an anthropologic perspective. In practice, cultural statistics largely follow the sphere and focus of operations of cultural policy.

The cultural policy sector in the Ministry of Education comprises literature, music, theatre and dance, visual arts, museums and cultural inheritance, libraries, design and architecture, cinema and other audiovisual culture and cultural production. In addition to these, the cultural satellite included television, radio and the press, which are a part of the sphere of communications policy administered by the Ministry of Transport and Communications as well as some education and cultural administration. The calculations also include sports, of which, however, only some clearly sport-related industries were chosen; a comprehensive sports satellite would require a project of its own.

The UNESCO recommendation for the statistics of public funding of culture from 1980 and the draft recommendation for the framework of cultural statistics from 1986 have been the central points of departure in the statistical demarcation of culture. The UNESCO framework has also been the basis of development and harmonisation work of cultural statistics in the EU ${ }^{1}$. Finland has participated actively both in the UNESCO and EU development work.

In the UNESCO framework, culture has been divided into eight categories:
1 Cultural heritage
2 Printed matter and literature
3 Music and the performing arts
4 Visual arts
5 Audiovisual media (cinema, photography and video, radio and TV)
6 Socio-cultural activities (e.g. NGOs, communities and family life)
7 Sports and games
8 Environment and nature.
All these categories are studied from the perspective of various functions: creation/ production, transmission/dissemination, reception/consumption, preservation/registration and participation.

Even though the project participants have been well aware of the difficulty and ambiguity of demarcating the area of culture, we have aimed at as practical and concrete division into operations on the basis of classification provided by the SNA as possible. Also, the international development work of cultural statistics nowadays aims to utilise as far as possible internationally harmonised classifications, such as industry and goods categories (NACE and CPA). The discussion has utilised existing solutions from cultural statistics and their underlying recommendations. Moreover, we have been conscious of the fact that defining culture in culture statistics is often close to the sector demarcation of cultural policy used in social policies based on art and culture, because initially cultural statistics were established as its planning and monitoring tool.

In this project, it has been, in practice, inevitable to start from the categories used in the data. Within these limits, the discussions during the work touched on things such as the relationship between art, entertainment, leisure time and mass media and how these relate to the concept of culture, which is to say there was an opportunity to move
outside the current media and cultural statistics of Statistics Finland. Concepts are partly overlapping, for example a motion picture can belong under any of these concepts. The line between art and entertainment is ambiguous but the committee felt that demarcation was not necessary for the satellite project and entertainment can be considered to belong to culture in its entirety. One of the most difficult concepts was recreational activities, the extensive definition of which includes a great deal of things that are not considered as belonging to culture ${ }^{2}$.

This work is based on the so-called value chain thinking, where the aim is to include all the parts of the value chain of a cultural commodity (whether they be goods or services), which decreases earlier artist orientation in examination of culture (Alanen, 2004, pp. 16-18). In practice, the value chain thinking had to be limited, because in its extreme form it leads to a "snowball effect", where practically all activities can be seen as belonging to culture in one way or another. Goods differ from each other, so that in some goods the parts of the chain are clearly visible and follow each other (as an example, books), while in others the goods themselves are more difficult to define and parts of the chain overlap. In the Finnish model, the implementation of the value chain perspective also differs according to "culturality" of the goods. The goods that are primarily cultural (i.e. whose primary use is cultural) were included as wholes; for those whose primary use is something other than cultural (i.e. cultural use is simply an extension or additional possibility, not their primary raison d'être) only the service part is included, not production or distribution.

Despite the difficulty of definition, it was decided that the concept of culture is used in the culture satellite instead of, for example, the concept of creative industries: it is impossible to classify industries according to the extent of their creativity beforehand - and very difficult even in retrospect ${ }^{3}$. The role of creativity in various industries varies over time. Cultural activities, on the other hand, are usually permanently cultural. All cultural activities are not automatically creative, and on the other hand, there can be creative activities in all industries - even outside cultural activities per se. On the basis of work done by UNESCO, there is a greater consensus of the concept of culture than there is of creative industries, the international definitions and demarcations of which remain unclear and partly contradictory.

A question of cultural tourism, which is a key issue, for example, at the EU level, was also raised. Cultural tourism has been included in the tourism satellite account, so there was some talk of whether it should be considered also in the culture satellite (i.e. include, for example, accommodation and meals in cultural tourism). However, it was noted that since the definition of "cultural tourism" is ambiguous, it was clearer to exclude tourism from the calculations.

In these calculations, the definition of culture covers precisely the form, and does not comment on content or quality: for example, periodicals and TV programmes are included, regardless of their subject matter (i.e. both professional and sports subjects are included). On the other hand, these data are missing from the data to be calculated as belonging to sports, that is to say if one wanted to do a sports satellite, these fields (sports periodicals, books, TV programmes, subscription TV-channels, etc.) should also be included in the calculations.

## Cultural commodities, or goods and services

There is a great range of different kinds of cultural commodities: unique, duplicable, mass oriented, individual, "immaterial pleasure", design utility items (furniture, clothes), "disposable" (for example concerts), reusable (books, records, works of art), and so on. Culture can be divided into literary, visual, auditive and spatial forms - it is impossible to come up with a common definition for all these forms: it may well be the case that it is impossible to find an overall definition for even one individual form; instead, in the end, it is a question of practical demarcations.

When looking at the industry-based categories, goods include at least books, newspapers, periodicals, motion pictures and videos, sound recordings (CDs, records, cassettes), radio and TV programmes, printed matter (which is quite an extensive category, including posters, postcards, sheet music but also maps and notepaper, etc.), advertising (this is also a rather extensive category: radio and TV advertising, outdoor advertising (there are many sorts), newspaper advertising, flyers, ...), paintings, graphics, sculptures, comics, compositions, lyrics, arrangements, concerts, plays and other performances, various written materials (critiques, news stories, etc.), handicrafts, photographs, musical instruments, games and toys.

Productisation of services is more difficult. Services clearly belonging to culture include libraries, museums, archives and the preservation of historical locations and buildings. Moreover, services include news (news agencies), architectural services, design as well as gambling and betting.

Products with both cultural and other uses are also problematic: how does one assess and define the cultural use of any given product? This issue came to light first with regard to ICT: a computer can for someone be a tool for engaging in cultural activities, while at the same time it is (increasingly) a tool for transmitting and receiving cultural goods. The question of the use being transformed primarily into cultural is also interesting because it would justify including the whole value chain of the product in question.

## National accounts' product classification

Nowadays in Finland, the national accounts also include the so-called supply and use tables, which are a balanced presentation of production within the national economy (incl. imports) and what it has been used for (incl. exports). The supply and use tables are drawn up at the level of approximately 950 products and approximately 190 industries but they are presented in an aggregate form of about 60 products and 60 industries. In theory, the culture satellite data might be obtained directly from the supply and use tables but in practice this is not possible. This is because the figures in the tables are synchronised so that demand and supply balance - because there are no real data on everything, some of the figures are residual or they are adjusted to correspond to the overall picture coming from some other source, so they may differ significantly from the figure given by the source data.

## 3 Methods and their development; other satellites

Thus far, it has not been possible to create a common culture satellite model but definition work and calculations on the matter have been done in various countries. One of the most significant forerunners has been Canada. In addition, a survey on the role of economy of culture in 2000-2004 was published in Spain in 2007, while surveys also have been conducted in recent years in some South American countries. The matter has been discussed also in Eurostat, whose final report of the LEG project from 2002 expresses the wish to finally get to satellite accounting: "output level, as a supply-demand approach, revealing subsets of what might eventually constitute a culture satellite account" (Eurostat, 2002).

In 1986, Maryvonne Lemaire of the French National Institute of Statistics and Economic Studies (INSEE) drew up a proposal concerning culture satellite accounts, which is internationally considered to be one of the earliest examples. It was never implemented because of the debate over the demarcation of the subject and other conceptual issues and most of all due to a lack of resources. However, it has been said that Lemaire's unimplemented proposal profoundly affected the fact that the "creative chain" perspective has since been adopted for culture statistics worldwide.

Currently, several countries in Latin America are planning satellite accounting. Its aim is to promote the development of a cultural economy ${ }^{4}$ in these countries. In Chile, the calculations are already applied and, for example, Columbia, Mexico and Uruguay are following suit. The intergovernmental organisation, Convenio Andrés Bello, has supported and coordinated satellite work with assistance from UNESCO and the UNDP. A handbook of satellite accounting is also being drawn up.

There are also ongoing cultural economy development projects in the Asia-Pacific region with concomitant culture satellite projects. In addition to UNESCO, WIPO and the World Bank are also participating in these projects (UNESCO, 2007).

A proposal including the idea of satellite accounting for the calculation of culture's economic and social significance was drawn up by the OECD in 2006 (Gordon \& BeilbyOrrin, 2006). The assessment of economic significance was among the features that were seen as essential for the internationally used SNA framework ${ }^{5}$. The multilevel satellite draft by Statistics Canada was used as the model. The OECD organised an international seminar on the basis of the proposal in autumn 2006, but since its funding was terminated the project has not progressed.

International cooperation in the creation of a satellite model is hampered by partly overlapping but also somewhat different concepts which various bodies are interested in - when efforts to clearly and unequivocally define culture, cultural or creative industries have not been successful, it is very difficult to combine results or their differences arrived at through different concepts. The most unproblematic entity probably comprises the industries falling under copyright and these have been studied particularly in Australia and the USA, but in most countries this is seen as too limited point of departure. Especially in the United Kingdom and New Zealand, the approach has started off from creative industries, while in Denmark, for example, culture and experience industries have been researched. These different calculations have been done using a similar methodology but the results are not entirely comparable because the industries represented are not the same.

In addition, the so-called KEA report covering several EU countries could be mentioned but its contents are primarily based on data other than those from statistical agencies ${ }^{6}$.

The preliminary survey done by Aku Alanen in 2004-2006 started off from the definition of culture used in Statistics Finland's cultural statistics. Alanen slightly tweaked the industry listing used in cultural statistics by omitting Industry 33400 (Manufacture of optical instruments and photographic equipment) because by far the majority of the industry units in Finland manufacture optical instruments and by including only a part of Industry 52451 (Retail sale of electrical household appliances and entertainment electronics) on the basis of the statistics of the information forum of the household appliance industry (KOTEK). Alanen also added some purely sports-related industries in the survey, thus expanding the definition of culture towards recreation. The committee studying the effects of culture on the national economy also set out from the industry classification used in cultural statistics, adding, however, sport industries and crafts; the choice of industries in the culture satellite pilot project is based on this listing.

Below are summaries of studies done in Canada and Spain and comments on the major differences when compared with Finland.

## The role of culture in the Canadian national economy

Statistics Canada has done several surveys on the relationship between culture and economy. Surveys about the role of culture in the national economy include those conducted from the perspectives of added value, employment and foreign trade.

There are three groups of variables in the general framework of cultural activities in Canada: producers of culture (business units, consumers/employees, the public sector, support services and the third sector), mechanisms of cultural activities (transmission mechanisms, supply value chain, demand (participation and consumption)) and economic and social ramifications.

Statistics Canada has taken a theoretical approach to the definition of culture. The definition rests on two main pillars: artistic creativity and preservation of cultural heritage. It is important to note that this definition excludes everything except artistic creativity - that is to say the majority of creativity - and it does not provide a definition of art. Included are the products, goods or services, that are a result of artistic creativity or that have turned into a part of the cultural heritage over the course of time. The definition is rather strict and comes close to the definition of so-called pure art. Canadians justify the definition by saying that otherwise it would become too extensive and there would be
no criteria with which to determine whether an activity should be included or excluded. However, in practice they have had to be flexible in their demarcation of the definition.

The Canadian framework utilises two ways of grouping cultural activities: the value chain and combining activities in accordance with the nature of industries. It starts off from dividing the value chain of cultural products into parts in accordance with five different stages in the chain, which are used elsewhere as well: (content) creation, production, manufacture, distribution and support services. All cultural industries have been grouped into these categories and cultural activities have been included mostly as complete industries. The industry classification is the one used throughout North America, NAICS, which differs somewhat from NACE used in Europe. Another way used by them to classify cultural industries is to create 13 summary groups.

The majority of industries included by Statistics Canada are the same as in Finland; the most significant differences are to be found in production and trade. The manufacture and sale of audiovisual equipment (e.g. televisions), musical instruments, toys and games are not taken into account in Canada and neither are money games and gambling.

## The economic value of culture in Spain

In spring 2007, the Spanish Ministry of Culture published a book on the role of culture in the Spanish national economy 2000-2004. The book comprises two surveys, the first of which deals with methodological principles with which the value of culture is calculated and the second with the calculations. The calculations have been done, on the one hand, to show the value of domestic production of cultural industries and, on the other hand, to show the value of production of industries based on copyright. Import or demand of cultural products has not been discussed.

The two-concept method is interesting with regard to computational methodology. All the figures for products and industries have been calculated both as basic price value added and their shares and as market price data calculated after subsidies and commodity taxes. Tables and graphs in the publication also present the data in both ways. This provides a clear way of ascertaining the effect of subsidies and taxes on each product group. In Finland, subsidies and commodity taxes are calculated in a centralised manner and not at such a precise industry level.

The book has numerous different categorisations on which industries belong to cultural activities and which fall under copyright industries, although they are somewhat overlapping as in other countries.

The main cultural industries in the Spanish classification are generally the same as in ours; however, design (architecture, design and advertising) has been left out without any other explanation except to say that it should be included the next time. Likewise, entertainment services such as money games have been omitted but, on the other hand, more cultural administration (support activities for regulation and promotion) and education (this is a clear oversight in our classification) have been included. In addition to the industry perspective, the matter is examined from the point of view of the value chains of cultural activities and these two dimensions have also been studied with the help of cross-tabulation. The book does not really discuss the theoretical side of defining culture, instead the approach is very pragmatic.

## Previous Finnish satellites

In Finland, satellite accounting has previously been compiled for household production and tourism, for both of which there exist an internationally accepted methodological model and guidelines. In addition, the idea of a culture satellite has been discussed even earlier.

## Household satellite account:

The majority of unpaid work done in households is omitted from the gross domestic product. The household satellite account presents the volume and monetary value of products and services produced by households for their own use. National accounts supplemented with household production provide a more versatile picture of the economic development than the core accounts. The Finnish household satellite account complies with the guidelines of Eurostat, the Statistical Office of the European Communities, and the UN SNA93 on drawing up a satellite account. The method presented in the Eurostat guidelines is developed further. The value of production falling outside the SNA has been determined using the input method based on costs. An alternative approach would have been to determine the value of production on the basis of the corresponding prices of market-produced goods and services. Time series of the extended accounts make it possible to monitor changes in phenomena. The household satellite is an extension of the concept of core accounts. In Finland, the household production satellite is compiled as an individual project for separately determined years (Household Satellite Account, Finland 2001; Johanna Varjonen - Kristiina Aalto; Statistics Finland \& National Consumer Research Centre 2005).

## Tourism satellite account:

The Tourism Satellite Account (TSA) is a statistical system where the economic impacts of tourism are described in a versatile and comprehensive manner. It was developed through extensive international cooperation, as a result of which both the UN handbook and, for the most part, the corresponding OECD handbook were approved in 2000. The project, implemented in Finland in 2004, created the methodology for satellite account's routine accounting and produced final tables for the tourism account for 1995-2001 as well as preliminary tables for 2002. After the pilot project the tourism satellite will be compiled annually by Statistics Finland as a part of the routine accounting of national accounts. The tourism satellite provides calculations on, for example, demand for tourism (consumption pertaining to tourism) and supply of tourism (tourism industries, production and products) and it is based on the figures provided by the national accounts from which the part belonging specifically to tourism is included. The classification of service industries used in the national accounts has been refined to better correspond to categories in the tourist industry; however, the differentiation accuracy has been dependent on the accuracy of the available information sources. The tourism satellite looks at the data falling within the bounds of the national accounts' production boundary from a different perspective - not just the industry or sector but the whole entity of tourism across industry and sector boundaries, so it serves to provide more focus for the core accounts (Final Report of the Tourism Satellite Account Project; Ministry of Trade and Industry, commissioned research 8/2004).

## Culture satellite:

In Finland, the idea of developing a culture satellite has been presented, for example, by Ilkka Heiskanen ${ }^{7}$ in his report Public financing of the arts and culture - statistics and reality in Finland (2000). Heiskanen supports the idea, presented as early as the 1970s, of closely linking the compilation of statistics on arts and culture to the system of national accounts, so that the economic significance and employment effects of these fields could be assessed in a uniform and comparable manner. He is particularly interested in the evaluation of the impact of culture policy. The satellite account proposal is primarily about introducing a new way of taking into account public subsidies and taxes (they would be seen as a part of collective public demand or special products and services bought for special groups) (ibid. p. 35).

In fact, the satellite idea was first presented in the very first cultural statistics plan drawn up by Statistics Finland in 1972. The framework of cultural statistics got off to a strong and deliberate start in a direction compatible with that of the national accounts' framework. The starting point of compiling the statistics was the concept of cultural commodity, that is to say goods and services. These were studied from the perspectives of production, distribution and consumption, so the idea of a chain was clearly visible already at this stage. The general draft of cultural statistics, drawn up by Tapio Kanninen in 1973, says that "statistics on the production and distribution of cultural commodities are closely connected to the areas presented by the SNA"(p.17). However, it was noted that the implementation will likely face a variety of difficulties. The concept of cultural commodity is explicitly defined as "forming a link between cultural statistics and the concept and classification frameworks of national accounts" (p. 22).

The current culture satellite model has used the data within the national accounts' production boundary as the starting point. The data falling within the bounds of the national accounts are looked at from a different perspective (across industry and sector boundaries), so it serves to provide more focus for the core accounts. In order to be a genuine culture satellite (i.e. to be able to speak of culture's significance more comprehensively), the survey should also cover issues outside the production boundary. Hence, an exhaustive culture satellite would provide both an extension and an extra focus for the core system of national accounts.

# 4 The System of National Accounts as a framework for a satellite account; concepts and definitions 

The System of National Accounts is a statistical system which is based on internationally approved recommendations (the latest version, SNA93, dates from 1993) and its later EU-approved version (European System of Accounts ESA95 from 1995) ${ }^{10}$. The system determines the so-called production boundary, that is both the activities that will be included in the calculations and the issues that are omitted from calculations and consequently from the key figures produced by the system; the most significant things left outside the production boundary are household production, growth of natural resources that takes place without input of labour, and voluntary work producing services, which probably is very significant particularly in the areas of culture and sport. The concepts used in the system are independent of economic or political systems and they can be produced utilising a variety of source data.

The system classifies units in two ways: on the one hand, according to production by industries and, on the other hand, according to features pertaining to administration and decision making by sectors. Classification by sectors is unambiguous and exclusive in the sense that each unit belongs to just one sector. In the sector classification, decision-making units (that is to say units possessing rights and responsibilities) are classified into similar classes according to their activities, financing method, owner type and legal form (the five domestic sectors are non-financial corporations, financial and insurance corporations, general government, households, and non-profit institutions serving households; in addition, the calculations include the sector for the rest of the world). Likewise in the industry, each smallest unit participating in production, i.e. a local kind-of-activity or business unit, belongs only to one industry while different parts (business units) of larger units (i.e. corporations) can belong to different industries. However, at corporation level the whole corporation is placed in only one industry (according to its most significant industry with regard to value added if the corporation has activities in more than one industry). The industrial classification (TOL2002) used in Finland is based on the international NACE 2002 classification'. The main idea of both of these classifications is to bundle similar units together into a larger group to which certain common rules of calculation will then be applied. The system is clear and simple but correspondingly rather rigid, that is to say results can be looked at only on the basis of the sector and industry classifications used.

The industry classifications are based on the similarity of production characteristics and end products of units, which means that all units within the industry can be dealt with as a whole. Calculations in the national accounts are often based on the fact that very accurate data are only available for larger units but a few key pieces of information are available for all units paying wages or having turnover. Because, in accordance with the idea of industry classification, units in one industry are similar with regard to the nature of their production and end products, ratios can be calculated on the basis of more accurate data from a few units, which are then applied to the data from the whole of industry, thus coming up with figures for the entire industry. Some of the units are so-called non-market producers, in which case the value of the production is calculated as a total of costs. These non-market producers include non-profit institutions serving households, for which the calculations are currently based on rather scarce data (however, the value added is calculated as the total of compensation of employees, for which fairly comprehensive data exist ${ }^{10}$ ).

Because the basic ideology of national accounts only includes classifications by sectors (in which case the interest is directed at income and expenditure) and industries (in which case the interest is directed at production), so-called satellite accounts have been developed to supplement the basic system and to provide another perspective on the data, for example to look at culture as a whole. In the case of culture, challenges are presented by both industries where only a part of the production is cultural but which provide no information for dividing the production into cultural and non-cultural, and industries where it is impossible to make a distinction between cultural and other production. In order for the satellite to only represent the economic value of culture, only the part of industries falling under the definition of culture should be included but in practice the data do not allow this. One possibility would be to include a certain percentage from these industries but there should be grounds for determining the share, which could also be monitored and adjusted when needed ${ }^{11}$. For some industries, these data are already available (for example the share of the sales of books of the turnover of bookstores, or the sales of entertainment electronics in the retail sales of household appliances and entertainment electronics) but (thus far) these kinds of data are lacking from many industries.

It should be noted that although the concept of industry for many industries in the classification is fairly unambiguous, sometimes, for example, when talking of industrial organisations, the term "industry" can be seen in a slightly different way; wholes covered by industrial organisations are not analogous with the industries in the classification. Correspondingly, the term "sector" is used in other ways than the one determined for statistics, for example when talking of the cultural sector. In practice, this causes difficulties with regard to comparability and usability of existing statistics: when the concept industry does not cover the same group in different situations, data from different sources cannot be combined or directly compared. The concept of industry is also problematic for the field of culture in the industry classification itself, the definitions and index of which are not always adequately comprehensive and accurate in describing and classifying the multidimensional field.

Key concepts in the national accounts include output, intermediate consumption and value added, as well as the division between market and non-market producers. The producer type (market/non-market) determines how output and value added are calculated.

Output comprises the products produced during the accounting period. It includes both personal and collective goods and services the producer offers to other units. The producer is always a local kind-of-activity or business unit. Moreover, output comprises market output, output for own final use and other non-market output. Market output is either sold or is meant to be sold on the market at a price covering production costs and its producers are called market producers. Other non-market output comprises production that is delivered to other units free of charge or at a financially inconsequential price and its producers are termed non-market producers. For market producers, calculations are done from the "top down", that is to say the calculations start from their sales revenue. Non-market producers do not have revenue (or it is so small that it does not cover the costs), in which case the calculations are done from the "bottom up", that is to say the output equals the total of the costs: fixed capital consumption and intermediate consumption are added to compensation of employees.

Intermediate consumption comprises the goods and services that a business unit uses to create its output. The goods and services may be either transformed or used up by the production process. Both the SNA93 and ESA95 refine the definition further by listing borderline cases that are included in the intermediate consumption and borderline cases that are not included in intermediate consumption.

Value added means the value created by a unit participating in production. In market production, value added is calculated by deducting the intermediate consumption from the unit's output. In non-market production, value added is calculated by combining compensation of employees and fixed capital consumption. The gross value added of all producers is the gross value added at the basic price. When all the product taxes at the national economy level are added to this gross value added at the basic price and all the product subsidies at the national economy level are deducted from the sum, the result is GDP at market price, or the internationally used GDP. These calculations use industryspecific gross value-added figures and their share of the overall gross value added for the whole economy because GDP data at market price are not available at industry level; in Finland, gross value added is converted to market price gross domestic product at the level of the whole economy ${ }^{12}$.

In a more simplified form:
For market producers:
output

- intermediate consumption
$=$ gross value added
- fixed capital consumption
$=$ net value added $=$ compensation of employees + operating surplus
For non-market producers:
compensation of employees (according to the definition there is no operating surplus)
$=$ net value added
+ fixed capital consumption
$=$ gross value added
+ intermediate consumption
= output

The statistics system is based on equality of supply and demand - goods and services produced domestically or imported are either used domestically or exported. Both products and services can be used either for intermediate consumption to produce new products and services, for private or government consumption, or for gross fixed capital formation, i.e. investments.


Figure 1: Graph on supply and demand items

Consumption expenditure is final consumption, that is to say goods and services acquired are consumed and they are not used for producing new goods or services. Government consumption expenditure includes net expenditure by general government (central government, municipalities, federations of municipalities and social security funds) for producing goods and services. In accordance with the definition, final consumption comprises goods and services produced by general government excluding revenue from the sales of the products: "other non-market output" of general government is entered in its entirety under government consumption expenditure and output for own final use (e.g. computer programmes produced for own final use) under investments. Other non-market output by general government is calculated by deducting sales income from goods and services as well as output for own final use from overall output (i.e. production costs that consist of compensation of employees + fixed capital consumption + purchases of intermediate products). With respect to general government, it is important to bear in mind that in the national accounts, corporations where the public sector has a majority stake and utilities that serve the general public are counted under the private business sector, i.e. they do not belong to the general government sector.

The consumption expenditure of non-profit institutions is counted in the same way as government consumption expenditure (i.e. other non-market output is regarded as consumption expenditure), but it is classified under private consumption expenditure.

Only general government, households and non-profit institutions have consumption expenditure; the goods and services purchased by business firms and financial institutions are used either as intermediate products, or they are counted as compensation of employees in kind.

Consumption is described using two different concepts: first, there is the concept of final consumption expenditure, which refers to spending on the acquisition of consumer goods and services and, second, the concept of actual final consumption, which refers to the acquisition of consumer goods and services, regardless of who provides the funding. The concepts overlap in so far as total consumption expenditure at the national economy level equals total actual consumption, but the figures differ at sector level.

Consumption expenditure can be divided between private and government consumption expenditure, where private consumption expenditure represents consumption expenditure by households and non-profit institutions. Government consumption expenditure comprises consumption expenditure by general government. Consumption expenditure by general government is divided, on the one hand, into individual government consumption expenditure (non-market output of education, health care and social services as well as recreation, sport and cultural activities and social benefits in kind) and, on the other hand, into collective government consumption expenditure (e.g. civil engineering, road administration, public administration and sewage and refuse disposal, sanitation and similar activities). When individual government consumption expenditure is added to private consumption expenditure, we arrive at the concept of actual final consumption of households. The actual final consumption of general government equals collective government consumption expenditure. The satellite utilises the concept of consumption expenditure because the category "Administration of education and cultural services" includes both an industry belonging to private consumption and industries belonging to collective consumption, which means that this item does not belong unambiguously to either actual final consumption of households or general government but partly to both of them.

| Private final consumption expenditure $=$ | Government final consumption expenditure <br> (divided in individual and collective |
| :--- | :--- |
| Household final consumption expenditure + <br> Final consumption expenditure of NPISH <br> (NPISH = non-profit institutions serving <br> households) | Government consumption expenditure <br> related to culture (part of total <br> government consumption expenditure) |
| Private consumption expenditure related to <br> culture (part of total private consumption <br> expenditure) |  |


| Private final consumption expenditure + | Individual <br> consumption <br> expenditure of <br> government | Actual final <br> consumption of <br> government <br> = Collective <br> consumption <br> expenditure of <br> government |
| :--- | :--- | :--- |
| Actual final consumption on culture: Share of privat final consumption expenditure + <br> individual and collective consumption expenditure of government |  |  |

Figure 2: Graph of classification of consumption expenditure

The exports of goods and services consist of sales, barter, gifts or grants of goods and services from domestic markets to abroad.

The imports of goods and services consist of sales, barter, gifts or grants of goods and services from abroad to domestic markets.

## Employed and working hours

The industry-specific figures include all employees in the industry whether or not their work is cultural in nature. The figure calculated on the basis of employment or Classification of Occupations includes cultural workers in all industries - also others than those taken into account in these calculations - but not other employees, not even from industries chosen to be included. Because of this the employment data calculated in these two ways differ, and they also demonstrate different things. This calculation does not look at employment in the field of culture from the perspective of Classification of Occupations but Sari Karttunen has studied the subject in the publication Kulttuurityövoima Suomessa 1970-1999 (Karttunen, 2001:2).

## 5 Methodological model

The supply side of the system of national accounts includes domestic production and imports, while the demand side includes intermediate consumption, private and government consumption, investments and exports. In theory, these two items - supply and demand - are equal. If we look only at gross value added (which after adding product taxes and deducting subsidies equals gross domestic product at market price), it is, according to the definition, equal to the sum of private and government consumption, investments and net exports (i.e. exports - imports). At the whole economy level, the part pertaining to intermediate consumption has also been used as intermediate consumption, which enables us to move from the original equality of supply and demand to the formula of gross value added by excluding intermediate consumption from both sides of the equation. At the level of individual industries, this equality does not hold because industries usually use as their intermediate consumption output from other than their own industry, which for its part can be used as intermediate consumption by other industries.

## Supply

1. Output or the gross value of production: For companies as well as central and local government enterprises the starting point is turnover, which is then adapted to correspond to the output concept in national accounts. For non-market producers (i.e. those whose products are free of charge or where the payment received for products does not cover costs), output is calculated as the sum of costs (compensation of employees, fixed capital consumption and intermediate consumption). Calculations presented in this report do not include data on fixed capital consumption because they are not available at industry level.
2. Imports: Data on the import of services come from statistics on foreign trade in services while data on the import of goods come from customs statistics.
3. Value added or the value of production: For companies and public sector utilities this is calculated by deducting intermediate consumption from output, while for nonmarket producers it is calculated as the sum of compensation of employees and fixed capital consumption ${ }^{13}$. At the level of the entire national economy, the sum of value added from all industries corresponds to the concept of gross domestic product at basic price, which enables us to calculate the share of industries' gross domestic product.

## Demand

1. Private consumption: There is a good and comprehensive time series available on the private consumption of households (the sources being Household Budget Survey with supplemental sources. The time series has been compiled in compliance with concepts and definitions of national accounts). The time series includes product-specific data that can be included in the calculations just as they are. A more detailed description of the calculation of private consumption can be found in Chapter 7. Private consumption also includes the consumption by non-profit institutions which, by definition, equals their other non-market output: these figures are not calculated at industry level but they can be produced computationally (in relation to industry-specific aggregate of wages) from the data provided at the computational level (in practice, at the 2- to 3-digit levels). In cultural statistics, the data on private consumption are calculated on the basis of Household Budget Survey and are published per household. Correspondingly, the data in national accounts are based on Household Budget Survey but they are calculated also for the years when Household Budget Survey is not conducted. Figures in national accounts are published as the total for all households ${ }^{14}$.
2. Government consumption: On the government side, we talk about non-market production whose output value is calculated by adding together the costs (compensation of employees, consumption of fixed capital and intermediate consumption). Market output (i.e. sales of products/services at a price covering production costs), output for own final consumption and other sales of non-market products are deducted from the value of output, which results in item P13R, or other non-market output, which according to the ideology of the core system is regarded as consumption expenditure. In addition, government consumption expenditure includes social benefits in kind, which are acquired outside the public service for the use of citizens (they are not produced by public administration but they are consumption expenditure of public administration like other non-market output) ${ }^{15}$.
3. Exports: Data on the export of services come from the statistics on foreign trade in services, while data on the export of goods come from Customs' statistics.
4. Intermediate consumption: By definition, cultural acquisitions by companies are either intermediate consumption or compensation of employees in kind - whether it is a question of theatre tickets or lighting services bought for a company's own performance - and it is impossible find out about them (companies do not distinguish cultural expenses from other expenses in their financial statements), so demand and supply are not going to be equal in calculations.
5. Gross fixed capital formation or investments: Investments are not included in these calculations - and because data on consumption of fixed capital are derived from the capital stock model on the basis of investments, consumption figures are also missing from the calculations - because data are not available at this level of industry classification. It would be possible to come up with computational figures, for example, on the basis of output or value added (or for non-market producers, wages) but because it is impossible to show any clear connection between investments and, for example, output, it was thought best that purely computational data would not contribute any new information but would rather confuse the overall picture.

## Labour force

One source of information about the labour force is the Business Register (these data are taken as the point of departure for their calculations by some of the industry-level researchers of national accounts), and additional information can be garnered from public administration (with regard to the state, personnel data are available by operational units). Data from the Labour Force Survey are not directly usable at the 5 -digit level because, especially in small industries, the number of companies falling within the sample varies too much to provide an accurate view. It would be very interesting to compare information from employment statistics to the data from, for example, the Business Register but resources for this were lacking at this stage, nor was there the opportunity to study closer the employment situation based on Classification of Occupations. Employment data derived from different sources describe somewhat different things and thus give a somewhat different picture of the employment situation.

## 6 Selection of industries and demarcations

The choice of industries to be included in the culture satellite stems from the proposed industries in the Memorandum by Working Group for the assessment of the economic impact of culture. The choice of industries in the Memorandum follows rather closely the choices made in the industry-specific cultural statistics published by Statistics Finland. Crafts have been omitted from cultural statistics, and this was done also in the culture satellite pilot, even though their inclusion is proposed in the Conclusion of the Memorandum.

Available sources set their own limits on which the final demarcations are then based. When the point of departure is Statistics Finland's Business Register, where the units have been listed, on the one hand, by industry and, on the other hand, by sector, more focused classifications than these two were not available. When choosing the industries, the socalled "snow-ball effect" soon became evident, that is to say a situation when including one feature would have easily led to having to include other corresponding industries, which in the end would have resulted in too wide a selection. In order to come up with practical calculations, the line had to be drawn somewhere. The examination should, of course, be based on the activity itself and not on the size of the industry but in practice it was necessary to first focus on larger industries, where the effect of mistakes and wrong choices is also bigger.

Both the cultural statistics from Statistics Finland and the Memorandum ${ }^{16}$ have consciously left some industries out of the discussion, with most of their units belonging to either the general government sector or the sector of non-profit institutions serving households. These industries include 73200 (Research and experimental development on social sciences and humanities), 75121 (Administration of education and cultural services), 80220 (Technical and vocational secondary education), 80300 (Higher education), 80421 (Folk high schools and colleges, etc.), 91331 (Research and cultural organizations) and 91339 (Other membership organizations including poetry, literature, photography, music and art clubs). These industries were included in the early stage of industry listing but only 75121 (Administration of education and cultural services, which was partly included and supplemented by some data from Industry 75110 General public service activities) and 80300 (Higher education, from which universities of art and design were included) were included in the final figures. There are operational units in all the other above-mentioned industries that should be included but during the project a method to pick these units for inclusion was not found ${ }^{17}$.

Thus, the culture satellite counts as culture the industries defined as culture, media and leisure activities in cultural statistics - however, a few of these only partly - and two from education and cultural administration.

Presented below are the industries discussed in this project (in the order they are presented in the graphs) and comments that were made during discussion as well as the decisions made with regard to each industry:

| Industry | Comments | Decision |
| :---: | :---: | :---: |
| Artistic, theatre and concert activities |  |  |
| 92311 Artistic creation | Many small, presumably part-time companies (more companies than personnel); individuals engaged in artistic work under a work contract are not part of this industry and thus they are not included in these figures. | Wholly included. |
| 92312 Theatre and concert activities | This industry includes also choirs, orchestras and bands albeit not comprehensively: some of these belong to 91339 (Other membership organizations). | Wholly included. |
| Libraries, archives, museums, etc. |  |  |
| 92510 Library and archives activities | The largest units in the Business Register are archives; municipal libraries are included from the public sector calculations. | Wholly included. |
| 92520 Museums, exhibitions and preservation of historical sites and buildings | When compared with the museum statistics, units must be missing from the Business Register; requires further examination. | Wholly included. |
| 92530 Botanical and zoological gardens and nature reserves activities | The units in the Business Register are zoological, in the government sector there are no units in this industry. Botanical gardens in Finland belong to universities, so they are not included in this industry. | Wholly included. |
| Art and antique shops |  |  |
| 52484 Retail sale of art; art gallery activities | Art auctions belonging to Industry 52630 are not included. | Wholly included except for art auctions (see Industry 52630 Other non-store retail sale). |


| 52501 Antique shops | To be included wholly, partly or not at all? Are all items sold in these shops genuine antiques (and thus part of the cultural heritage)? Antique auctions also belong to Industry 52630 and consequently are not included. | Wholly included (there is no basis to only include some of them in the calculations), antique auctions are excluded. |
| :---: | :---: | :---: |
| Production and distribution of books |  |  |
| 22110 Publishing of books | In addition to books, it includes publishing of other printed and electronic matters and printing thereof: is it possible to distinguish book publishing vs other publishing activities, and is it needed? | Wholly included. |
| 22230 Bookbinding and finishing |  | Wholly included. |
| 51474 Wholesale of books |  | Wholly included. |
| 52472 Retail sale of books | According to the Booksellers' Association of Finland, books account for 61\% of sales (2001); other sales channels (newsagent's, department stores,...) are missing. | Wholly included: sales other than books (periodicals, writing and hobby equipment, etc.) are included but, on the other hand part of book sales is left out. |
| 52502 Second-hand bookshops | In accordance with industry classification, includes sales of second-hand periodicals and records. | Wholly included. |
| 52611 Retail sale of books via mailorder houses and net commerce | In accordance with industry classification, includes also sales of records and cassettes. Some of the book clubs work in this industry, but most of them are included in publishing. | Wholly included. |
| Newspapers, periodicals and news agencies |  |  |
| 22120 Publishing of newspapers |  | Wholly included. |
| 22130 Publishing of journals and periodicals |  | Wholly included. |
| 22150 Other publishing | Includes some things that do not belong to culture (but belong to mass media). | Wholly included. |
| 22210 Printing of newspapers |  | Wholly included. |
| 52473 Retail sale of journals and periodicals, newspaper kiosks | Retail sale of journals through other channels is not included, as there are only a few dedicated sales outlets. | Wholly included. |
| 92400 News agency activities |  | Wholly included. |


| Production and distribution of motion pictures and videos |  |  |
| :---: | :---: | :---: |
| 22320 Reproduction of video recording |  | Wholly included. |
| 71401 Renting of videotapes | For example, renting from newsagents is missing. | Wholly included. |
| 92110 Motion picture and video production |  | Wholly included. |
| 92120 Motion picture and video distribution |  | Wholly included. |
| 92130 Motion picture projection |  | Wholly included. |
| Manufacture and sale of musical instruments |  |  |
| 36300 Manufacture of musical instruments |  | Wholly included. |
| 51481 Wholesale of musical instruments and supplies | Wholesale of cassettes and records belongs to Industry 51432 (Wholesale of radio and television goods), and is included there. | Wholly included. |
| 52452 Retail sale of musical equipment and supplies | Includes also the retail sale of sound recordings from specialty shops but, for example, sales from department stores are missing. | Wholly included. |
| Sound recordings |  |  |
| 22140 Publishing of sound recordings |  | Wholly included. |
| 22310 Reproduction of sound recording |  | Wholly included. |
| Radio and television |  |  |
| 64203 Data transmission services | Here there is at the same time too much (cable TV companies also sell broadband connections) and too little (also telecommunications companies sell cable TV services). | Wholly included. |
| 92200 Radio and television activities |  | Wholly included. |
| Printing and related activities |  |  |
| 22220 Printing n.e.c. | The largest single industry (both in terms of output and value added) almost through the whole period examined. Includes printing activities which are clearly part of culture (periodicals, books, postcards, posters) and some that are not as evidently cultural (forms, globes, shares, plastic bags, metal objects); to be wholly or partly included? | No clear basis for division (the same companies can be engaged in various kinds of printing activities); the largest units were studied and it was decided that with the exception of one company the whole industry is included. |
| 22240 Pre-press activities | Not everything has to do with culture? | Wholly included, no clear basis for division. |


| 22250 Ancillary operations activities related to printing | Not everything has to do with culture? | Wholly included, no clear basis for division. |
| :---: | :---: | :---: |
| Advertising |  |  |
| 74401 Advertising agency activities | In-house activities done in the companies in different industries are missing. | Wholly included. |
| 74402 Direct and outdoor advertising activities | In-house activities done in the companies in different industries are missing. | Wholly included. |
| 74409 Other advertising activities | Not everything has to do with culture? | Wholly included: no basis to leave a part out (industry, at least for now, quite small; situation has to be reconsidered later). |
| Architectural and industrial design |  |  |
| 74203 Architectural activities | All activities in this industry are not necessarily cultural in nature; on the other hand, for example, architects working in the government sector are missing. | Wholly included. |
| 74871 Industrial design | Internal in-house activities in other industries are missing. Is there maybe too much? | Wholly included. |
| Photography |  |  |
| 51475 Wholesale of photographic equipment and supplies | Is this culture, media or leisure? To be included wholly or partly? | Wholly included. |
| 52485 Retail sale of photographic equipment; photography services | Is this culture, media or leisure? To be included wholly or partly? | Wholly included. |
| 74811 Photographic studio activities | To be included wholly or partly; is there maybe too much? Is there a percentage or other data available (there are several industry organisations)? | Wholly included. |
| 74812 Photographic laboratory activities | Is this culture, media or leisure? To be included wholly or partly? For example, orders through department stores are excluded, likewise, printing of digital pictures with one's own printer. | Wholly included. |
| Amusement parks, games and other entertainment and recreation |  |  |
| 36500 Manufacture of games and toys |  | Wholly included. |
| 51483 Wholesale of toys and games |  | Wholly included. |
| 92330 Fair and amusement park activities |  | Wholly included. |
| 92340 Other entertainment activities n.e.c. |  | Wholly included. |


| 92710 Gambling and betting activities | Both lottery and skill games: are they entertainment or leisure? <br> Should, for example, games by Veikkaus or Hippos be considered more sport than games? Lottery proceeds are used, for example, to support culture; should this play a part in the decision making? | Wholly included, when looked at from the leisure activity perspective (part of cultural leisure content and services); for example skill games make up 20\% of Veikkaus's activities. |
| :---: | :---: | :---: |
| 92720 Other recreational activities n.e.c. | Part culture, part leisure (and part sports)? | Wholly included, no basis for division. |
| Manufacture and sale of entertainment electronics |  |  |
| 32300 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods |  | Wholly included. |
| 51432 Wholesale of radio and television goods |  | Wholly included (corrections made to calculations). |
| 52451 Retail sale of electrical household appliances and radio and television goods |  | Partly included (the "black line"). |
| Organisation of cultural events and related activity |  |  |
| 74873 Trade fair and product demonstration activities | This will be divided into two industries in the new Standard Industrial Classification, NACE $2008{ }^{18}$. | A growing industry (albeit not particularly for the whole so far); some of the activities clearly cultural, some not. After going through the largest units: $75 \%$ of industry included. |
| 74879 Other business activities n.e.c. | Some of the artists (especially musicians) and programme agencies are in this industry (the situation should be rectified with the new industry classification). | A growing industry, many kinds of activities. After going through the largest units: $25 \%$ of industry included. |
| 92320 Operation of arts facilities | Corresponding activities are done in-house in units belonging to other industries; they are included through their own industries. | Wholly included. |
| Education and cultural administration |  |  |
| 75110 General (overall) public service activities | Not wholly, just the general public service activities of culture. | Budget sub-items beginning with 2990 and 2998 of government departments. |

$\left.\left.\begin{array}{|l|l|l|}\hline \begin{array}{l}75121 \text { Administration of education } \\ \text { and cultural services }\end{array} & \begin{array}{l}\text { Not wholly, just the general public } \\ \text { service activities of culture. }\end{array} & \begin{array}{l}\text { The National Board of } \\ \text { Antiquities and parts of } \\ \text { the Ministry of Education } \\ \text { (and budget sub- } \\ \text { items beginning with } \\ 2990 \text { and 2998 from } \\ \text { data from the National }\end{array} \\ \text { Board of Education), } \\ \text { from municipalities the }\end{array}\right\} \begin{array}{l}\text { category "general cultural } \\ \text { administration". }\end{array}\right\}$

| Industries excluded from the calculation |  |  |
| :---: | :---: | :---: |
| 33400 Manufacture of optical instruments and photographic equipment | Very little manufacture of photographic equipment in Finland, the rest should not be included. | Excluded; at present, there is no manufacturing of photographic equipment in Finland. Does not belong to the import of services either because services are not imported, but the photographic equipment is imported as goods. |
| 52495 Retail sale of toys and hobby materials | Toys are considered culture. Is hobby equipment culture? On the other hand, shops selling hobby materials also sell artist's equipment (even though as a rule, professionals perhaps get their materials from elsewhere). | Is not included in the cultural statistics or the Memorandum's industry classification: should it be included in both, and here as well? |
| 52630 Other non-store retail sale | At least some of the auction houses should be included in the culture sector but, on the other hand, industry also includes, for example, network marketing and refreshment vending machines. | Small industry. Excluded wholly at this stage; the significance of the industry is rather negligible and the proportion of cultural goods in all likelihood is quite small. |
| 73200 Research and experimental development on social sciences and humanities | Industrial classification mentions arts research. | Excluded: the majority of cultural research is probably done in universities, not in individual research institutes. There is no basis for distinguishing cultural research ${ }^{19}$ from other research and development in this industry. |
| 80220 Technical and vocational secondary education | Vocational training in the field of culture is included but is not distinguished in the industry classification. | There are no ways to determine the proportion belonging to the calculation within this project; a subject for further work? |


| 80421 Folk high schools and colleges, etc. | Industry classification mentions music schools and kindergartens, in addition, folk high schools offer many cultural subjects. | Excluded; vocational training is not included at the moment, so there is no need to include this either. Folk high schools are not included either (and only cultural subjects from adult education centres) but some of the units should be wholly included and some partly included. |
| :---: | :---: | :---: |
| 91331 Research and cultural organizations | Foundations promoting culture should be included. | Excluded; part of the activities should be included but there is no unambiguous or clear basis for division. |
| 91339 Other membership organizations | According to the industry classification "organizations offering recreational, entertainment and hobby activities (other than sports)": culture and entertainment should be included; the question of recreational activities is more difficult (or should it be counted as leisure activity and how much would it then expand the scope of this satellite?); according to the industry classification, this also includes nature preservation associations, national defence associations and protest movements, so it is hardly possible to include everything as culture. | Excluded; there are choirs, orchestras and bands, etc., in the industry that clearly should be included but the majority of units are small and there is no clear basis for division. |

## Should possibly be included but are excluded at least for now

Architecture and construction If the logic "primary use cultural/other than cultural" is used and the use of buildings are seen as being primarily other than cultural, it is justified is used to include only architectural services. On the other hand, some of the building stock should be included regardless of its use. There is a need to conduct a separate study for buildings because the question of actual cultural construction and the cultural use of spaces is left unanswered. Within this project there was no time to determine what kind of data are available, what criteria for cultural construction are used, for example, in the construction statistics of Statistics Finland, and if these data could somehow be utilised. It is necessary to return to these questions at the latest if this satellite is expanded to include investments that are currently outside the scope of the calculations. The question of measurement of the cultural use of buildings or spaces was also raised - is it possible to
define cultural use or to measure its share of the overall activities? Cultural activities are organised in many kinds of spaces and it may be difficult to obtain comparable data: after all, it is possible to classify events by their number, duration or number of participants. However, it is extremely difficult to find a common measurement for art exhibitions, concerts or festivals lasting a weekend; some of the events are free or sponsored, which means that it is impossible to make a comparison on the basis of ticket sales either. Additional practical challenges are presented by the fact that the same space can host events both by the owner of the space and by an outside lessor, which means that revenue from one event can be in the form of ticket or sponsor sales and another in rent; it is difficult to deduce the share of cultural activities by comparing these data.

Original works of art In the national accounts these are not part of the production account calculation, which is the starting point of this model. The creation of original works (art, literature, music and crafts, etc.) is an investment (formation of capital), and the rights for replicating or copying them industrially can be handed over. Original works provide revenue for their creators in the form of royalties (capital services). On the demand side, these services are entered as intermediate consumption of other industries, consumption and export. Both original works of art and the compensation ensuing from them (royalties and commissions) should be taken into account and the satellite would enable this. However, within the limits of this project, resources for working on the actual computational method were not available.

General cultural administration in municipalities In the municipal data categorised by task, administration of each task has been added to the figures with the exception of general public services. The general administration in the field of culture comprises mostly directors of cultural services and cultural committees, the data on which can be found under the category "Administration of education and cultural services"; the data on this general cultural administration are missing from the calculations because there are no means to separate the data from the larger whole.

Government expenditure in the field of culture Government data are available at department level. The calculations for the Ministry of Education and the University of Lapland included a share in proportion to wages, which means that the corresponding share of general and administrative costs was also included. There are no separate data on "administrative costs in the field of culture" available.

Outsourcing Outsourcing takes place in many industries: tasks that earlier were taken care of in-house, are now bought from an establishment specialising in the task (e.g. accounting or cleaning, or composing music for commercials or shooting the commercials). As a result of outsourcing, shifts between industries happen and some (not necessarily overly cultural but nevertheless included in the output and value added) activities in the cultural industries may move outside cultural industries, not just from one industry to another within cultural industries. In practice this decreases the GDP share of cultural industries because outsourced services are entered as intermediate consumption whereas earlier compensation for the same work was included in the value-added item ${ }^{20}$. There are no grounds for assessing how big or significant this shift is.

Investments Thus far, investments have been completely excluded from the satellite. Data are available only on investments belonging to culture in construction and even in construction there are only accurate data about new building, not renovation. There are no corresponding data for civil engineering or acquisitions of machinery and equipment. In particular, the calculations on non-market production would require an estimate of fixed capital consumption and data on investments are necessary to produce these data. In national accounts, production of original cultural works is included in investments and their lack is a fundamental lack in the satellite.

Sales from department stores and kiosks Nowadays, many cultural goods are sold through department stores and kiosks, such as periodicals, books, sound recordings, photographic equipment and entertainment electronics as well as services, such as development of photographs or video rentals. In this model, only the sales through specialist shops are included, not department store or kiosk sales and this decreases the value added of culture. Industry organisations can provide data on some of the products but during the pilot project there was not enough time to find all available sources of information or to sufficiently assess the usefulness of the data.

Demand of culture by companies Cultural demand by the companies themselves is also excluded from the calculations - possible acquisitions (whether it is a question of tickets, performances bought for company events, art acquisitions, sponsoring, donations or possible culture vouchers for employees) are entered as intermediate consumption or investments, and it is not possible to separate them. Pekka Oesch has studied companies' support for $\operatorname{arts}^{21}$ more than once but the response rate, for example of the 2003 survey, was rather low (and some of the companies, which have publicly supported arts, did not answer at all or returned an empty questionnaire). In particular, when examining industries, art forms and types more closely, the extensive support by a few companies is clearly emphasised, which means that one should not draw very far-reaching conclusions about the matter. However, as a rule, production of goods acquired by companies is included in the calculations (excluding recreational activities and other smaller units that are excluded in any case), which means that the lack of cultural acquisitions is evident precisely in the demand side in that supply and demand are not equal.

Crafts industry and arts and crafts At least arts and crafts if not the entire crafts industry should be included in the culture satellite but the data do not offer a method for distinguishing crafts from certain industries, not to say anything about arts and crafts, which are a part of the crafts industry. At least, at this stage, the whole crafts industry is omitted from the culture satellite even though the Memorandum by Working Group for the assessment of the economic impact of culture recommended that it be included.

Games In the UNESCO classification, toys and games are also included in the field of culture. The current calculations take into account Industries 36500 (Manufacture of games and toys) and 51483 (Wholesale of toys and games) but computer and electronic games are not included in these industries because they are entered under Industry 72220 (Other software consultancy and supply), from which they cannot be separated merely with the help of source data. There was talk of including Industry 52495 (Retail sale of toys and hobby materials): are hobby materials cultural when viewed from the leisure time perspective or are they to be left outside the definition (on the other hand, shops selling
hobby materials also sell artist's equipment even though it seems likely that professional artists get their supplies from elsewhere)? In the end, the industry was omitted more because of a human error than a conscious decision: this industry did not belong to the industry listing of the Memorandum that was taken as the basis of the current listing, and neither was it added to the list even though it was discussed.

Religious organizations and military bands Activities falling within the production boundary of national accounts, that is to say activities included in the calculations but excluded from the culture satellite include also cultural activities produced by religious organizations (in practice concerts, choirs and bands as well as the work of cantors) and military bands.

Open source activities In addition to actual ICT products (such as computers and mobile phones equipped with cameras) this calculation also excludes the voluntary work relating to information technology and is relevant from the perspective of culture, that is to say the so-called Open source activities, which also fall outside the production boundary of national accounts. Openly adapted, open source code (such as Wikipedia or the Linux operating system; the term open software is also used) can be developed by anyone but no one gets paid for it so the activities are not included in the national accounts. Assessment of open source activities and their economic impact is very difficult and there is no clear understanding of how much of it should be included in the culture satellite; however, for example, encyclopaedias are included in this calculation, so it would stand to reason to include also Wikipedia.

Voluntary work producing services Culture-related voluntary work producing services is also left out of the calculation; since it does not fall within the production boundary of national accounts, excluding it does not as such decrease culture's share in the data pertaining to the whole economy (since they are not calculated in the whole of the economy in the first place) but it still gives an incomplete picture of culture's economic significance and money flows in the field of culture.

Education A very large and difficult whole; should it be wholly excluded or included at least partly? It was felt that education should not be wholly excluded from the calculations (because it is included in the figures for the whole of the economy to which the share of culture is compared) but in practice, at this stage, it was possible only to include universities of art and design (incl. the Faculty of Art and Design of the University of Lapland). At this stage, upper secondary vocational education and training and polytechnics were omitted from the survey - for the satellite as a whole, it is very illogical that higher education institutions are (at least partly) included while the lower level education is excluded entirely: there is definitely need for further study on this matter.

Industry 80421 Folk high schools and colleges, etc. Because vocational education and training is excluded, it is logical to also exclude this industry for now. Data on the basic education in arts can be found in the municipal data but that deals with activities prescribed by legislation. Data on the cost of other arts education (i.e. activities not belonging to basic arts education) are available on data on folk high schools and adult education centres (but not specified and, in addition, some of the data are unreliable). In 2007, Riitta Hanifi, from the cultural statistics division of Statistics Finland, examined
the teaching and training of culture in liberal adult education sector. According to the 2006 educational institution statistics almost half ( $47.2 \%$ ) of teaching classes of liberal education institutions were cultural education ${ }^{22}$ when classified according to the primary content. Educational institutions have very accurate knowledge on the lesson and teacher volumes of various subjects but combining this information with economic data will in all likelihood demand a great deal of work (i.e. we should first determine the share of individual education centres and then take into account a corresponding share of expenditure and wages in the calculations; in practice, this would require that the salary information of teachers of cultural subjects was available separately and that their share of the total wages could be used also as the basis for division of costs). In addition to the liberal adult education sector mentioned in Hanifi's study, this industry includes, for example, music schools, which means that probably most of this industry should be included in the culture satellite.

Design Design can be considered a form of culture. Design activities taking place in industries other than 74871 are excluded from this survey, even though, for example, design of paper machines is a significant feature affecting bargaining, usability and buying decisions. Classification of Occupations provides information on the representatives of certain professions regardless of the industry they work in but these data cannot be combined with industry-related examination as it is (because this would mean duplicating some of the data). One possibility would be to include professionals working in fields not included in the calculation but, on the other hand, the salary information in itself is not comparable in the calculation of value added of market producers since the possible operating surplus should also be included ${ }^{23}$. And if design professionals from other than the design industry were included, non-design professionals should be excluded from the design industry, which is not possible on the basis of existing data.

Sport There are some clearly sport-related industries included in the calculation, which represent mostly the leisure time perspective, but the sample is not comprehensive. A "genuine" sports satellite should also include all products and services with sports as their content, which in this calculation are defined as culture, for example sports periodicals and sports programmes on TV. In addition, certain equipment (apparel and shoes and, for example, pulse counters) plays an important role in sports and should be included more comprehensively. In accordance with the steering commission decision, the definition of sports as a concept was beyond the scope of this work, the related industries were not studied in detail; the matter was seen as its own whole on which a satellite of its own can be compiled later should it be deemed necessary.

Construction of sports facilities In the Standard Industry Classification, construction of sports facilities is a part of one of the largest wholes ( 45230 Construction of motorways, roads, airfields and sports facilities and 45211 General construction of buildings), for which only units belonging to sports should be separated because including these industries would distort the results considerably ${ }^{24}$. Industry 45211, General construction of buildings, was completely excluded while some of the operational units in Industry 45230 were included on the basis of the name of the companies.

## 7 Practical calculation

Sector researchers of national accounts at Statistics Finland's Economic Statistics Unit calculated the figures at the 5 -digit level for each of output, value added, the number employed and working hours for their own industries (by sector); any modifications to these 5 -digit figures were made by the project manager.

In national accounts, figures are published in a more aggregate form, usually at the 2- or 3-digit level of industry classification. However, industries within the same general field, among which the majority of errors - shifts from one industry to another, units in wrong industries - occur, provide correct totals because the same computational methods are used for neighbouring industries. In connection with the calculation process, it was noted that the accuracy of source materials is not sufficient for publishing culture satellite information at the 5-digit level but the more aggregate calculation levels used in national accounts did not provide meaningful wholes either: it was decided that the grouping used in cultural statistics, where industries at the 5 -digit level are combined into larger wholes, be used for the results. It would have been easier for studying the results if the number of groups could have been considerably reduced but at this stage it was impossible to come up with a reasonable division.

A methodological description of national accounts with detailed information about the sources used in calculation and descriptions of computational methods by sector can be found on the Statistics Finland website:
http://tilastokeskus.fi/til/vtp/2006/vtp_2006_2007-02-08_men_002_en.html

## Companies and households

Sources for data on companies and households used in national accounts are primarily Structural Business Statistics and the Business Register. The Business Register covers at company level, on the one hand, and at business unit level, on the other hand, all businesses with either revenue or a payroll. The data available in the Business Register includes, in addition to industry classification and business ID, information on turnover, sector, number of personnel and wages paid. The industry information in the Business Register comes usually from tax administration, which in most cases classifies the company according to the information provided by the company. Companies may have operations in a number of different industries - or at least this is what the start-up notification says, because at this stage it is less expensive to mention all possible industries than to add
them later to the register - in which case the tax administration often takes the industry mentioned first as the main field of activity even though, in reality, this may not be the case. Industry information is amended and revised in the Business Register but in practice most companies in cultural industries are so small that there are no resources to monitor their information: in practice, this means that there are a lot of mistakes and illogicalities in these industries - companies are classified in incorrect industries or similar companies can be found in various industries (there is clear fluctuation particularly between Industries 74879, 91339, 92311 and 92312, division in different industries is not at all unambiguous). This fluctuation is partly explained by the deficiencies in the indexing of industrial classification. For example, the terms "choir" and "orchestra" have been missing entirely (they will be included in the index of the new standard industrial classification), which has led to the classification of these units not being wholly consistent. As a rule, mistakes evident in the Business Register information do not affect these results significantly because the economic impact of individual units is mostly quite negligible.

Sources for the number of the employed are compiled from the Business Register and Labour Force Survey; the data for calculating the working hours come from the Labour Force Survey. For example, for non-profit institutions, the data are calculated either at the 2- or 3-digit level in national accounts because more accurate reliable data are not available. In the current calculation, the 5-digit figure for both the numbers employed and the working hours of non-profit organisations has been produced computationally using the overall levels of the employed calculated for the national accounts and for 5-digitlevel wage data, the relative shares of which have first been used to calculate the numbers employed and, on the basis of the result, the number of working hours by multiplying the number of the employed by the average working hours/employed person.

## Government

The government data are available at department level, which means that the largest units are entities in their own right while smaller units (such as libraries, archives and museums) are incorporated in the numbers of the responsible department. The Ministry of Education is its own unit under which there is, for example, the Arts Council of Finland - a more accurate division is not readily available but, for example, the Ministry payroll has data on the percentage of employee compensation by unit and annual reports usually provide the unit-specific number of employees, on the basis of which only a part of the activities can be included. Because government data are provided at the level of departments and budget sub-items, it is possible to choose whether to include sub-items from all departments, or all sub-items of selected departments, or some departments in their entirety and just selected sub-items from the rest. The current calculation includes as data certain departments in their entirety and also certain budget sub-items from the other departments. All in all, the government has reasonably little supply (i.e. aggregate costs) in these industries included in culture from which it follows that when market output and sales of non-market products have been deducted from output, there is not much residue of other non-market output, which constitutes government consumption expenditure.

At the first stage, the calculations include data from certain departments in their entirety (the National Archives, the Academy of Fine Arts, the National Board of Antiquities, the Sibelius Academy, the Governing Body of Suomenlinna, the University of Art and Design Helsinki, the Theatre Academy and the Finnish National Gallery) and
part of the data from the University of Lapland (the share of the Faculty of Art and Design according to the percentage of compensation of employees) as well as some of the data from the Ministry of Education (the data from the Department for Cultural, Sport and Youth Policy (excl. sports and youth work) on the basis of percentage of compensation of employees) and in addition data from all the government departments for the budget subitems 2990-2998. It was decided that for now the calculation should include universities of art and design from Industry 80300 (Higher education) but the industry in question must be further studied and worked on especially with regard to the University of Helsinki but also other units.

Data on universities can be found from the government data but not at faculty level if necessary it would appear possible to include some, for example in proportion to salary expenditure of a certain unit (the universities can provide information both on overall salary costs and salary costs of a given unit). If the whole faculty is included, it means that the faculty administration is also included, which stands to reason in that administration of universities of art and design is included. First and foremost, it is a question of the Faculty of Art and Design of the University of Lapland, which was decided to be included, but other universities also provide cultural education (e.g. the Department of Acting at the University of Tampere). Likewise, teaching of architecture at universities of technology and university faculties is omitted in this demarcation.

Industry 92530 includes, among other things, botanical gardens, which in Finland operate under the auspices of the universities. According to an online survey, botanical gardens are to be found in Helsinki, Turku (Ruissalo Botanical Garden), Jyväskylä, Joensuu and Oulu. For example, the Helsinki Botanical Garden is part of the Finnish Museum of Natural History, the collections of which are national collections, and the Finnish Museum of Natural History for its part is an independent research institute administered by the University of Helsinki Senate (= Board), which receives the majority of its funding from the government through the Ministry of Education. Botanical gardens are hardly a very significant part of the whole but they should be included nonetheless, so it would be worthwhile returning to the subject when education in general is examined in more detail with a view to possibly expanding the inclusion of higher education institutions in the calculation.

Separate surveys pertaining to the University of Helsinki are needed in any case. For example, the National Library of Finland (renamed in 2006, its former name was the Helsinki University Library) is still administered by the University of Helsinki even though the majority of its funding comes from the Ministry of Education. The National Library does not acquire books but a deposit copy of all works published in Finland is delivered there. It is a significant unit with 213 permanent posts (2006) and it operates in four different locations (for example the Helsinki City Library, the largest public library in Finland, employs approximately 500 people). Thus far, the National Library is excluded from the calculations but from 2007 it has been entered as its own budget unit in the government data, which means it could be included. Libraries of other universities (and educational institutions) are also excluded from the calculations (except for universities of art and design) and, in fact, exclusion of scientific libraries has been recommended in the report by the Eurostat committee, so this does not present a problem. The committee report also recommends that textbooks be left out of the calculation, which has not been done in this case. The publishing industry could probably provide information on textbooks from both the sales and production sides so removing them from the calculation should be possible.

The government does not have utilities that would fall within the sphere of culture.

## Municipalities

In principle, municipal data are comparable from 1993 onwards (the exception being the museums, theatres and orchestras category, which at times has been dealt with separately and at times as a whole in the statistics, and from 2006, it has been divided into museums and theatres, on the one hand, and orchestras, on the other hand, which means that data have been provided as combined and there is no clear basis for division).

The least reliable part of the municipal data is the number of employed because it has not been correspondingly divided into tasks (as such the figure for the workforce is very accurate, however, it is not an average figure but represents the situation on a given day of the number of employed according to social security data; for example, seasonal workers are completely excluded from the calculation).

Municipal utilities are included insofar as they belong to the chosen task categories.

## Non-profit activities

At the moment in national accounts the calculations pertaining to non-profit institutions serving households are based on rather scarce data. There are many actors in the field but the majority of them are very small and coming up with a representative sample at industry level is not possible with current resources.

Industries 91331 (Research and cultural organizations) and 91339 (Other membership organizations) contain many units both belonging to culture and falling outside it. Neither industry classification nor other data provide any basis to determine the proportion to be included. Currently, for example, there are many choirs, orchestras and bands in Industry 91339 but they are impossible to separate from there - if the implementation of the new industry classification leads to all choirs, orchestras and bands being classified as art, the situation improves considerably.

## Consumption expenditure

Private consumption expenditure: consumption expenditure of households and non-profit institutions

## Consumption expenditure of households

The estimation of household consumption expenditure follows the concepts and definitions of the European System of Accounts, ESA95.

The most important sources of information on household consumption expenditure are the Household Budget Survey and the Business Register of Statistics Finland. Much of the data are based on producer industry calculations in national accounts. The proportion of consumption expenditure in the overall use of each product is finally defined as the result of balancing the supply and use tables of national accounts. Many supplemental sources of information are also used in the calculation of consumption expenditure.

In the calculation of consumption expenditure, data compiled from various sources and perspectives (both demand and supply) are modified to consumption estimates
adhering to concepts and definitions of national accounts. The choice of the final consumption estimate in national accounts is based on careful comparison and evaluation of the reliability of these consumption estimates derived from a variety of sources. Data sources are chosen by consumption item. Even though data on supply and demand are monitored simultaneously, the basic point of departure is the statistical material describing the phenomenon studied, household consumption expenditure, as far as possible.

The most useful of the source statistics describing household consumption is the Household Budget Survey of Statistics Finland. However, it requires other supplemental materials to be utilised in the drawing up of estimates for national accounts. In the years when research is not conducted, this is of course self-evident but the definition of correction and reduction items requires support from other data in general. Data on Household Budget Survey are corrected with regard to, for example, the population not belonging to the basic sample of the research, statistical errors and random variation, possible differences in concepts and definitions as well as for consumption expenditure of non-Finnish households.

More detailed description of the computational method for consumption expenditure of households can be found from the Methodological description of Finland's gross national income (GNI) on the Statistics Finland website:
http://tilastokeskus.filtil/vtp/2006/vtp_2006_2007-02-08_men_002_en.html (Section 5.7).

## Consumption expenditure of non-profit institutions serving households

The consumption expenditure for non-profit institutions is calculated by deducting market output, output for own final use and sales of non-market products from the overall output of non-profit activities. The residue will then comprise other non-market output, which equals the consumption expenditure of non-profit activities. Consumption expenditure of non-profit activities is entirely private consumption. In national accounts, the data are usually calculated either at the 2 - or 3-digit level or for non-profit institutions the data are calculated only at the level of Industry 92 . In these calculations, the consumption expenditure of non-profit institutions has been provided computationally at the 5 -digit level in proportion to the overall compensation of employees (which is available at the 5 -digit level) compared with the overall consumption expenditure of Industry 92.

## Government consumption expenditure

## Government consumption expenditure by general government

The consumption expenditure of general government comprises other non-market output and social income transfers paid in kind. Other non-market output is calculated by deducting market output, output for own final use and sales of non-market products from the overall output.

A more detailed description of the computational methods pertaining to general government, including consumption expenditure, can be found from the methodological description of Finland's gross national income (GNI) on the Statistics Finland website:
http://tilastokeskus.filtil/vtp/2006/vtp_2006_2007-02-08_men_002_en.html (Section 5.9).

## Import and export of goods

The figures for import and export of goods are from the Foreign Trade Statistics of Finnish Customs. The Foreign Trade Statistics describe the trade of goods between Finland and other EU states and between Finland and third countries, i.e. internal and external markets. The Foreign Trade Statistics are the official source of information on Finnish imports, exports and trade balance.

The Foreign Trade Statistics compile information on the value and volume of import and export by commodity code, country and geographical area. Import statistics are compiled by the country of origin and country of consignment. Export statistics are compiled by destination country. Foreign Trade Statistics are published in compliance with the concept of statistical value. This means in exports/consignments the FOB (free on board) value of goods and in imports/acquisitions the CIF (cost, insurance and freight) value at the state border of the submitter of the customs declaration or statistics declaration in internal trade. The statistical value may differ from the value of the sales agreement, i.e. the invoiced value, because of the terms of delivery used in the transaction. The statistical value is used as a common measurement in all EU states and it complies with the UN statistical recommendations for international commodity trade. Value data do not entail Finnish taxes or customs tariffs.

As a rule, all goods exported from and imported into Finland are included in the statistics of internal and external trade ${ }^{25}$. Trade of services is excluded from these statistics. The prerequisite of being entered in the statistics is that the goods physically arrive in or leave from the country. Ships and aeroplanes are an exception and they are entered into statistics when their ownership changes. On the other hand, it makes no difference to the statistics if the import or export of goods entails payments or not.

Certain phenomena have been excluded from the Foreign Trade Statistics. These include economic activities with no significant commercial value. The statistics for internal markets do not cover acquisitions and consignments by private persons and small companies, who are not required to declare for VAT.

Further information on the methods, classifications and information services is found on the Customs' website at http://www.tulli.fi/en/03_Foreign_trade_statistics/index.jsp

In the culture satellite, it was decided that the figures provided by the cultural statistics are taken as the point of departure. The years 1995, 2000, 2002-2005 were available in the culture statistics; the foreign trade information is from the Customs' material but because adapting them has proved cumbersome (data are available by country but not at the total level, that is to say, in order to produce them it has been necessary to combine the country-specific data), the data used by culture statistics have been compiled only for the years needed for the publication. In compliance with the decision by the steering group, foreign trade data that are available will be published, that is to say existing data are not omitted but the information content will not be expanded on (due to a lack of resources).

It was decided that some of the goods that are included in the cultural statistics are excluded (e.g. rugs and some ornamental articles, which were not perceived as art or arts and crafts): the excluded goods have been listed at the bottom of the table to reveal the difference to the cultural statistics. It was also discussed whether there are still categories of goods that should be included but it was felt that the work done on the Customs' statistics and classifications by cultural statistics is so thorough that everything necessary is included.

## Import and export of services

The data for import and export of services are from 2005. The source materials are Statistics Finland's statistics on foreign trade in services. During the project, there was talk of taking account in the calculations of the service categories used in the statistics on foreign trade in services and consequently including either the total figures for some industries or just certain service categories from industries chosen to be included in the satellite but because the service categories are not unambiguously cultural or non-cultural, it was decided to proceed in the same way as with domestic production, that is to say to include certain industries as a whole ${ }^{26}$. Exceptions to calculations pertaining to industries are also the same as with domestic production.

The statistics on foreign trade in services describe Finnish companies' international sales and imports of services by service type and target country. The data relate to the value of the services that companies have bought from or sold abroad. In addition to typical business services between enterprises, the statistics cover educational and recreational services and immaterial rights such as royalties and licence fees. The statistics do not include transport, tourism and insurance services on which data are already collected following other inquiries. The data come from all EU15 states and the United States, Japan, China, India, Switzerland, Norway, Canada, Estonia and Russia. The inquiry on foreign trade in services is carried out as an annual survey among companies engaged in manufacturing and service activities. The sample comprises approximately 3,000 companies selected by their size and industry to produce a representative picture of the foreign trade in services by Finnish companies. The data obtained from the companies are raised to correspond with those for all companies in the framework.

More detailed information on the target group, sample formation, methods and classification is available on the Statistics Finland's website at
http://tilastokeskus.fi/tillpul/index_en.html

## Exceptions to calculations

Data for government are comparable from 1998, before which the data were compiled differently. The culture satellite figures for 1995-97 have been calculated by chaining from the official data in the Finnish national accounts (change percentages have been calculated at the level of accuracy used in the system, i.e. at the 2 - or 3-digit level).

In government data, government consumption expenditure has also been produced by chaining back to 1995-1998 because there were no resources to work on comparable data. Chaining was done using the change in government's other non-market output at the computational level used in the Finnish national accounts.

Data on government personnel by unit are available online from the year 2000 (www. netra.fi - Henkilöstöraportointi (in Finnish)) but not earlier. The calculation includes the same units as elsewhere either in their entirety (the National Archives, the Academy of Fine Arts, the National Board of Antiquities, the Sibelius Academy, the Governing Body of Suomenlinna, the University of Art and Design Helsinki, the Theatre Academy and the Finnish National Gallery) or partly (University of Lapland and the Ministry of Education; these two, as elsewhere, on the basis of percentage of compensation of employees ). The figures present the data on the number of personnel (not person years). The government personnel figures for 1995-1999 have been calculated by chaining from
the official data in the Finnish national accounts (change percentages have been calculated at the level of accuracy used in the system, i.e. at the 2- or 3-digit level). Government working hours have been produced computationally for the entire series on the basis of data in the Finnish national accounts (i.e. the number of employees in each industry has been multiplied by the average working hours of employees in the industry at the computational level used).

Sector 15 (non-profit institutions serving households): figures for compensation of employees are available at the 5-digit level, other data are calculated at the 2- or 3digit level in national accounts (depending on industry; industries currently included in the calculations are calculated only at the 2-digit level or as a total for Industry 92); output, the number of employed and working hours have been calculated as shares of compensation of employees in the figures at the computational level of Industry 92.

Industry 64203 Data transmission services: for the congruence of the series, Digita has been transferred to this industry for the entire duration of the survey even though in reality it was in Industry 92200 (Radio and television activities) until 1998.

Industry 92200 Radio and television activities: there was inconsistency in the series in 1995 and 2003 but no clear reason for this was found (the transfer of Digita is not the reason). After a discussion with the industry researcher, the series has been corrected for those years utilising percentage changes to turnover derived from the Business Register's company-specific data (1996->1995 and 2004->2003) as an estimate of change in output (and for 1995 , also as an estimation of intermediate consumption, which for 2003 was kept as it was in the original calculation).

Industry 22220 Other publishing: in 2005 data, there was one company among the 10 largest companies, the products of which were primarily other than cultural and data for the company in question were removed.

Industry 51432 Wholesale of radio and television goods: the development of output and value added has been inconsistent according to data for 1996 and 2001. The industry researcher had deemed that the mistake was caused by the same company in both years (1996 and 2001), the data for which can be suspected of being incorrect - there is no way of correcting the data retrospectively (or the amount of work required was not reasonable with respect to the expected gain) so the company in question was removed from the calculations for those years.

Industry 52451 Retail sale of electrical household appliances and radio and television goods: only entertainment electronics, or the so-called "black line", have been included on the basis of the statistics of the information forum of the household appliance industry (KOTEK, www.kotek.fi). Figures are available per annum.

Industry 74873 Trade fair and product demonstration activities: Trade fairs are included in culture, conferences are not. After studying the largest units in the industry (which accounted for more than $50 \%$ of turnover) ${ }^{27}$, it was decided that $75 \%$ of the industry output, value added, the number of employed and working hours be included in the calculations.

Industry 74879 Other business activities n.e.c.: after studying the largest units in the industry (which accounted for more than $50 \%$ of turnover) ${ }^{28}$, it was decided that $25 \%$ of the industry output, value added, the number of employed and working hours be included in the calculations.

Industry 45230 Construction of motorways, roads, airfields and sports facilities: calculations were demarcated with regard to some units on the basis of words appearing in the names of the units.

Industry 52122 Retail sale in department stores, and more specifically, retail sales of sporting goods in department stores: according to actors in the field, approximately a quarter of the sales of sporting goods takes place through department stores, so one third of the output of and value added of Industry 52488 (Retail sale of sports and leisure goods) has been added to the calculation as the output and value added of Industry 52122 (Retail sale in department stores).

## 8 Summary of results

The share of culture in the value added of the whole economy - information that is comparable with the share of gross domestic product - has remained more or less at the same level during the period under discussion. There is no exceptional growth to be seen, rather the share has decreased slightly: thus, the results do not support the supposition that growth in cultural industries has been more rapid than average.

During the period under review, the share of culture in the value added of the whole economy has alternated between $3.1 \%$ and $3.7 \%$. In 2005, it was $3.2 \%$.


Figure 3: Share of culture in the value added of the whole economy in 1995-2005


Figure 4: Share (\%) of culture in the value added, output and the employed of the whole economy in 1995-2005

The share of culture in output, value added and the number of employed has also stayed more or less at the same level during the period under review. However, the share of culture in the number of employed is larger than its share in output and value added: this demonstrates that there is a great deal of labour-intensive production in the field of culture, which is the case with services in general.

In these calculations, value added includes both the salaries paid and the operating surplus of business activities (comparable with company profit). It can be deduced from the lower share of value added than the number of employed that either wages or the surplus - or indeed both - are lower than average in cultural industries. Some cultural industries have many companies where employment is less than one person year annually, that is to say, the activities are part-time entrepreneurship: it is likely that this contributes to the low wages and profit.

During the entire period under review, the cultural output has varied from 3.5\% to $4.2 \%$ and the share of the employed from $4 \%$ per cent to $4.3 \%$; in 2005, the share of culture in output was $3.5 \%$ and of the employed, $4.2 \%$.

In euro, the value added of culture has grown by almost $50 \%$ during the period under review but these data in current prices include also changes in prices not just in quantity, so growth cannot be deduced directly from the figures. In 2005, the total value added of cultural industries was 4.4 billion euro (4,406 million euro).

At the national economy level, the gross domestic product is calculated both at current price ( cp ) and fixed price (fp). The effect of price change is removed from the fixed price calculations, which render the change in quantity (incl. quality) visible ${ }^{29}$. However, in these calculations, figures have been calculated only at the current price. Currently, national accounts use centralised calculation to produce fixed price figures, and calculating these figures at a fixed price could be possible but first we have to check whether existing price indexes cover cultural products comprehensively enough. If the price indexes do not represent cultural products, fixed price data calculated on the basis of them do not necessarily reflect the actual situation.


Figure 5: Value added of cultural industries at current price in 1995-2005

When we look at the change of value added at the current price in cultural industries, on the one hand, and in the whole of the economy, on the other hand, early on during the period under review the development was very different but in recent years that change has been very similar. During the years when the growth of value added of culture at current price has exceeded that of the whole economy the share of culture in the value added of the whole economy has also increased. During the period under review, the change of value added at the current price has varied from $-0.6 \%$ to $7.0 \%$ while the corresponding figures at the level of the whole economy are $0.7 \%$ and $9.1 \%$. In 2005, the growth of value added at the current rate in the whole economy was $3.0 \%$ while in the cultural industries it was $4.7 \%$.

In addition to volume, prices also affect the change in value added at the current price. The effect of prices is double in the sense that value added at the current price is affected both by the prices of the goods and services used to produce the products (intermediate consumption) and the prices charged for finished products. Therefore, the change in value added at the current price can be caused by either a change in prices or volume, or - as is usually the case -a combination of both: it is impossible to deduce on the basis of data at the current price what the effect of either of these factors might be and consequently an explanation for the change is impossible to come by.


Figure 6: Change of value added at current price in the whole economy and culture sector in 1996-2005

When looking at cultural industries, we can see that none of them has grown or diminished essentially in relation to the others; that means that, as a rule, the growth has been similar across the industries - of course, small changes are evident. For example, the proportions of artistic, theatre and concert activities and architectural and industrial design have grown somewhat, while the proportions of radio and television, and printing have diminished.

Presented below is the distribution of value added between these industry groups.

Table 1: Distribution of value added between various industries as a percentage of the overall value added of culture

## VALUE ADDED

## Percentage

| Industry/year | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Artistic, theatre and <br> concert activities | 5.3 | 5.4 | 5.2 | 5.4 | 5.4 | 5.6 | 5.8 | 6.1 | 6.1 | 6.0 |  |
| Libraries, archives, <br> museums, etc. |  |  |  |  |  |  |  |  |  |  |  |

When comparing the increase of gross value added between various industries, culture can be considered to be a rather significant sector in the national economy. The value added produced by culture is clearly higher than that of primary production and many traditional industries even though many of the service industries remain more significant. In 2005, culture's share of the value added of the whole economy was $3.2 \%$.

Culture as a whole is also a more significant industry than tourism. In this calculation, the significance of sports remains quite negligible but it is worthwhile noting that the calculation is not comprehensive with regard to sports but it only includes some central industries from it. In 2005, the share of tourism in the value added of the whole economy was $2.4 \%$, and of sports $0.7 \%$.

The value of imports exceeded the value of exports both for cultural goods and services in 2005. In euro, the foreign trade of goods - for both imports and exports - exceeded the foreign trade in services in 2005. Almost one billion euro of cultural goods and 300 million euro of cultural services were imported in 2005 . The overall value of export of cultural goods was a little over 600 million euro, while the value of cultural services was a little over 100 million euro in 2005.

At the level of the overall economy, the value of exports exceeded the value of imports both for goods and services, which means that measuring the results proportionally gives


Figure 7: Shares of value added in certain industries and wholes of industries in 2005
us slightly different-looking results: the import of both cultural goods and services remains higher than exports but the share of cultural services of the overall import of services is higher than the share of cultural goods of the overall import of goods. In 2005, the share of cultural services of the overall imports was $3.8 \%$ while for cultural goods it was $2.1 \%$. The share of cultural goods of overall exports was $2.1 \%$ while for cultural services it was $1.1 \%$ in 2005.

The export of cultural services was greater than imports in only a few industries - in the advertising and organisation of cultural events and related activities - in 2005. The highest value of imports was in the import of radio and television services at just over 100 million euro. The imports of entertainment electronics services accounted for approximately 70 million euro, while advertising, newspapers, periodicals and news agencies, and entertainment and recreational services accounted for approximately 20 million euro each.


Figure 8: Foreign trade of cultural goods and services in 2005


Figure 9: Culture's share in foreign trade in goods and services in 2005

On the export side of things, advertising took the top position with exports of approximately 40 million euro, the next largest industry being the organisation of cultural events and related activity with exports worth 14 million euro. Photography, entertainment electronics and radio and television-related services were exported each to the value of approximately 10 million euro in 2005.


Figure 10: Import and export of cultural services by industry in 2005

The share of culture in consumption expenditure has remained at practically the same level throughout the whole period under review; it has varied between $5.3 \%$ and $5.4 \%$. In 2005, culture's share of consumption expenditure was $5.3 \%$.

According to the results, the share of culture of available income remains almost the same regardless of the absolute amount of income. However, culture's share in consumption expenditure does not reveal whether more or less culture has been consumed because the series does not provide data on possible proportional changes in the prices of commodities.

There has not been great variation in the share of culture in private or government consumption expenditure. The share of culture in private consumption expenditure presents the share directly used by households, while government consumption expenditure presents the net expenditure of general government in the production of cultural services.

During the period under review, the share of culture in private consumption expenditure has varied from $6.8 \%$ to $6.9 \%$ - in 2005 , it was $6.8 \%$. Culture's share in government consumption expenditure has varied from $1.7 \%$ to $2.0 \%$ and in 2005 , it was $1.7 \%$.


Figure 11: Share of culture in consumption expenditure in 1995-2005


Figure 12: Share of culture in private and government consumption expenditure in 1995-2005

For private consumption, the definition of culture includes cultural services, art objects, books, newspapers and periodicals, records, cassettes and videos and the renting of them, photographic equipment and services, games, radios and televisions and other such appliances. Thus defined, culture is a fairly significant item in private consumption, as is evident from the figure.

In 2005 , approximately 5.5 billion euro were used for private cultural consumption, when at the same time 9.2 billion euro were spent on foodstuffs and 2.7 billion on alcohol.


Figure 13: The overall amounts of selected private consumption items in 2005

Data are not published at the 5 -digit level but at the combined group level. Below is a list of 5-digit-level industries under each group level (industries are in numerical order within the group) and exceptions made during the calculation. In general, the group-level categories correspond to those used in cultural statistics (a few of the industries have been handled differently) and in tables and figures their order is almost the same as in culture statistical publications (with the exception of the groups "Manufacture and sale of musical instruments" and "Education and cultural administration", the latter of which does not appear in cultural statistics).

## INDUSTRIES AND THEIR GROUPING

## Industry

## Cultural, media and recreational industries

## Artistic, theatre and concert activities

## 92311 Artistic creation

92312 Theatre and concert activities

Libraries, archives, museums, etc.
92510 Library and archives activities
92520 Museums, exhibitions and preservation of historical sites and buildings
92530 Botanical and zoological gardens and nature reserve activities

## Art and antique shops

52484 Retail sale of art; art gallery activities
52501 Antique shops

## Production and distribution of books

22110 Publishing of books
22230 Bookbinding and finishing
51474 Wholesale of books
52472 Retail sale of books
52502 Second-hand bookshops
52611 Retail sale of books via mail-order houses and net commerce

## Newspapers, periodicals and news agencies

22120 Publishing of newspapers
22130 Publishing of journals and periodicals
22150 Other publishing
22210 Printing of newspapers
52473 Retail sale of journals and periodicals, newspaper kiosks
92400 News agency activities

## Production and distribution of motion pictures and videos

22320 Reproduction of video recording
71401 Renting of videotapes
92110 Motion picture and video production
92120 Motion picture and video distribution
92130 Motion picture projection

Manufacture and sale of musical instruments
36300 Manufacture of musical instruments
51481 Wholesale of musical instruments and supplies
52452 Retail sale of musical equipment and supplies

## Sound recordings

22140 Publishing of sound recordings
22130 Reproduction of sound recording

## Radio and television

64203 Data transmission services
92200 Radio and television activities

Printing and related activities
22220 Printing n.e.c.1)
22240 Pre-press activities
22250 Ancillary operations activities related to printing

## Advertising

74401 Advertising agency activities
74402 Direct and outdoor advertising activities
74409 Other advertising activities

## Architectural and industrial design

74203 Architectural activities
74871 Industrial design

## Photography

51475 Wholesale of photographic equipment and supplies
52485 Retail sale of photographic equipment; photography services
74811 Photographic studio activities
74812 Photographic laboratory activities

## Amusement parks, games and other entertainment and recreation

36500 Manufacture of games and toys
51483 Wholesale of toys and games
92330 Fair and amusement park activities
92340 Other entertainment activities n.e.c.
92710 Gambling and betting activities
92720 Other recreational activities n.e.c.

## Manufacture and sale of entertainment electronics

32300 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods

51432 Wholesale of radio and television goods
52451 Retail sale of electrical household appliances and radio and television goods2)

## Organisation of cultural events and related activity

74873 Trade fair and product demonstration activities3)
74879 Other business activities n.e.c.4)
92320 Operation of arts facilities

## Education and cultural administration

75110 General (overall) public service activities5)
75121 Administration of education and cultural services6)
80300 Higher education7)

## Sports industries, total

01410 Landscape gardening (01410 ... )8)
36400 Manufacture of sports goods
45230 Construction of sports facilities (45230 ... )9)
51478 Wholesale of sports goods

52122 Retail sale in department stores 10)
52488 Retail sale of sports and leisure goods
71402 Renting of sports equipment
92610 Operation of sports arenas and stadiums
92620 Other sporting activities

## Exceptions to calculations

1) One enterprise has been removed from Industry 22220
2) As regards the retail sale of electrical household appliances industry (52451) only entertainment electronics, or the so-called "black line", have been included on the basis of the statistics of the information forum of the household appliance industry (KOTEK)
3) The proportion included from Industry 74873 Trade fair and product demonstration activities is $75 \%$
4) The proportion included from Industry 74879 Other business activities n.e.c. is $25 \%$
5) The included budget items from General public service activities (75110) are 2990... 2998
6) Of Industry 75121 , included are the National Board of Antiquities in its entirety and the Ministry of Education in part
7) Of Industry 80300, included are the universities of art and design as well as the Faculty of Art and Design of the University of Lapland
8) Of the municipal classification by function, included are "parks and public areas"
9) Delimited by names or parts of the names of establishments as well as industry data
10) One-third of the data of Industry 52488 (Retail sale of sports and leisure goods) have been calculated as the proportion of Industry 52122 (Retail sale in department stores) of the trade in sporting equipment

## Industries excluded from the calculation

33400 Manufacture of optical instruments and photographic equipment
52495 Retail sale of toys and hobby materials
52630 Other non-store retail sale
73200 Research and experimental development on social sciences and humanities
80220 Technical and vocational secondary education
80421 Folk high schools and colleges, etc.
91331 Research and cultural organizations
91339 Other membership organizations

## 9 Reliability of the results

The system of national accounts describes economic activities measured in monetary value within a certain production boundary; this satellite describes part of cultural activities falling within that production boundary - excluded from the study are, for example, some of the activities within the production boundary (the most conspicuous examples being vocational education and training and other lower-level educational institutions as well as numerous associations and organisations), activities falling outside the production boundary (particularly voluntary work producing services) and all manner of multiplicative impacts on the economy and well-being.

The reliability of results can be assessed, for example, on the basis of the method and data used. The actual computational methods used in the culture satellite comply with the methodological description of Finnish national accounts and are as such approved both in the EU and internationally. With regard to the methodology, the biggest questions arise from the definition of culture and the handling of the industries chosen. When the data in available sources are classified on the basis of industry and sector, it is very difficult to come up with a more accurate division: there are surely a great deal of cultural activities that have been excluded from the calculations, which is what is done in other industries than those now included, and correspondingly there is a great deal of noncultural activities in the industries now chosen for inclusion. During the project, several industries were studied in order to find out whether it would be possible to assess the share of cultural activities for the whole industry in question by surveying the largest units. This kind of approach would, of course, not be foolproof - defining a cultural unit unambiguously is difficult and if the work is done "manually", the same unit can be classified by accident in different ways in different years. In addition, an individual industry should not comprise an excessive amount of units and, on the other hand, there has to be enough units that are large enough for it to be possible to cover at least half of the turnover or industry salaries with a reasonable amount of work. In many industries, the same units may be engaged in both cultural and non-cultural activities and separating these is impossible in practice: an individual unit must be classified as either cultural or non-cultural on the basis of what is known or can be expected from the majority of its activities. In order for this percentage to genuinely describe the share of cultural activities, it should be calculated every year. In practice, going through numerous individual industries in connection with the current record of accounting is not possible, but other criteria are needed to assess the share of cultural activities within a given industry.

The data sources of the satellite included Statistics Finland's Business Register, municipal economy statistics, the government budget, household consumption
expenditure accounted in accordance with the national accounts, data from Finnish Customs and statistics on foreign trade in services. The economic information provided by the municipalities and government are the most extensive of these because there are the fewest units and all the data are classified in the same way. However, with regard to the number of employed and working hours, the data from the public sector are largely computational. The Business Register is comprehensive but for calculating at the 5digit level it is not accurate enough and sufficiently uniform for all industries; however, it is used as a primary source in calculations at the whole-economy level, so data based on it are comparable with data pertaining to the whole economy. In these calculations, the consumption expenditure of households has been taken directly from the national accounts, where it has been compiled by combining and comparing data from different sources. Data on the import and export of goods are taken from the Customs' statistics as they are, trusting in their data and corrections they have made even though certain difficulties remain in producing this information as well. It was possible to get the data on foreign trade in services for the calculation for just one year, and because all the service categories are from industries chosen for the satellite, one should not draw very far-reaching conclusions - only when time series for these statistics are available, can the direction of possible changes be monitored.

## 10 Development needs and further work

The aim has been to list the development needs in this context in a preliminary order of priority; each of them would improve the quality and usefulness of the results but, at least on the basis of the pilot, it would appear that improving the quality of source materials and going through the units in the education industry and thus including education more comprehensively would be the most pressing development targets.

## Improving the quality of source materials; the new standard industry classification

When drawing up the figures, it was noticed that the source data offered by the Business Register of Statistics Finland are not currently in its entirety focused enough to provide data at the 5 -digit level. The new standard industrial classification will be introduced during 2008, so that by the end of the year each unit in the Register will have an industry code complying both with the old and new industry classification; at the same time, this would be an opportune moment to go through the smallest units of industries belonging to culture (in connection with the actual reclassification, all units with at least two employees are checked). Looking at industries from the perspective of culture, as a whole in its own right, would provide an opportunity both for the uniform treatment of units (i.e. similar units to be included in the same industry) and the drawing up of guidelines and practices for future classification of units.

The project group received a copy of the distribution and numbering of industries included in the culture satellite as they will appear in the new industrial classification with preliminary descriptions of industry groups. For some parts, the new industry classification considerably improves the classification of cultural industries but for many cultural industries the classification is still some way from being completely unambiguous. It is likely that some of the problems will arise only when the classification is put into practice. For example, division between the performing arts and artistic creation can be at times difficult in terms of practical application. Moreover, motion pictures, videos, TV and photography have now been completely cut off from art and artistic creation. An essential part of industrial classification is the index, to which a set of terms that is as comprehensive as possible is collected to help the classification. It is possible to affect this index so that when going through units in cultural industries terms could be found to
ensure classification procedures that are as uniform as possible also in the future.
There are units in the cultural industries with no turnover or compensation of employees (that is to say, in practice it is sometimes impossible to know whether they are operational units even if they do not affect the results) and it is impossible to go through all of them. The most important thing would be to check that the largest units (either by turnover or compensation of employees) are in the correct industries. Furthermore, it is possible that some units are missing from the Business Register but there is no comprehensive method to check on all of these.

Going through the units in cultural industries would serve both the needs of the culture satellite and of cultural statistics and this was seen as one of the key targets of further work. The project group drew up a list of industries with the most possible deficiencies or going through which would shed the most light on the units in the industry in question. The survey of the extent and costs of this work will be commenced on the basis of this list and decisions about the matter will be done during 2008.

Industries requiring checking and going through

| TOL2002 | Comments and guidelines | TOL 2008 |
| :---: | :---: | :---: |
| 92311 Artistic creation | Checking of at least the largest units by turnover and payroll; the majority of the units are in the household sector and it is likely that there are no data for them. | 90010 Performing arts 90020 Support activities to performing arts 90030 Artistic creation |
| 92312 Theatre and concert activities | Checking of at least the largest units by turnover and payroll. If in the future all choirs and orchestras are entered under 90010 Performing arts, should they be entered here already (that is to say from Industry 91339 also)? | 90010 Performing arts |
| 74873 Trade fair and product demonstration activities | This will be divided into two in the new Standard Industrial Classification, TOL; units in correct industries. | 82300 Organisation of conventions and trade shows 90020 Support activities to performing arts |
| 74879 Other business activities n.e.c. | Should some of the artists and programme agencies in this industry, be in 92311 Artistic creation (and in the new classification 90010 Performing arts)? Checking of at least the largest units by turnover and wages. | 74901 Show production and management activities 82990 Other business support service activities n.e.c. 77400 Leasing of intellectual property and similar products, except copyrighted works |


| 91339 Other membership organizations n.e.c. | Checking of largest units by payroll (not many units with a turnover). All choirs, orchestras and bands possibly moved to Industry 90010 Performing arts in the future, should they be included in Industry 92312 already? | 94999 Activities of other membership organisations n.e.c. |
| :---: | :---: | :---: |
| 91331 Research and cultural organizations | Checking of largest units by payroll (not many units with turnover). | 94991 Research and cultural organizations |
| 74409 Other advertising activities | Checking of at least the largest units by turnover and payroll. | 73120 Media representation 73112 Direct and outdoor advertising activities 73119 Other advertising activities |
| 92320 Operation of arts facilities | Divided in TOL 2008: Checking of at least the largest units by turnover and payroll. | 79900 Other reservation service and related activities <br> 90020 Support activities to performing arts 90040 Operation of arts facilities |
| 92340 Other entertainment activities | Divided in TOL 2008: Checking of at least the largest units by turnover and payroll. | 85520 Cultural education 90010 Performing arts 90020 Support activities to performing arts 93299 Amusement and recreation activities n.e.c. |
| 92330 Fair and amusement park activities | Cf. 92530 with, for example, aquariums and dolphinariums. | 93210 Activities of amusement parks and theme parks |
| 92720 Other recreational activities n.e.c. | What belongs here? More culture or sports? | 93299 Amusement and recreation activities n.e.c. |
| 92510 Library and archives activities | Checking of largest units by payroll (not many units with turnover). | 91010 Library and archives activities |
| 92520 Museums activities and preservation of historical sites and buildings | Checking of largest units by payroll (not many units with turnover). | 91020 Museum activities 91030 Operation of historical sites and buildings and similar visitor attractions |
| 92530 Botanical and zoological gardens and nature reserves activities | Cf. Industry 92330. | 91040 Botanical and zoological gardens and nature reserves activities |
| 92130 Motion picture projection | In accordance with industry classification, includes also film clubs, how about in practice? | 59140 Motion picture projection activities |
| 52473 Retail sale of journals and periodicals; newspaper kiosks | Checking of at least the largest units by turnover and payroll. | 47622 Retail sale of journals and periodicals |


| 92110 Motion picture and video production | Surveys on the industry carried out in autumn 2007 and early 2008. | 59110 Motion picture, video and television programme production activities <br> 59120 Motion picture, video and television programme postproduction activities 59200 Sound recording and music publishing activities |
| :---: | :---: | :---: |
| 92120 Motion picture and video distribution | Surveys on the industry carried out in autumn 2007 and early 2008. | 59130 Motion picture, video and television programme distribution activities |
| 92200 Radio and television activities | Divided in TOL 2008: Checking of at least the largest units by turnover and payroll. | 59110 Motion picture, video and television programme production activities <br> 59120 Motion picture, video and television programme postproduction activities 59200 Sound recording and music publishing activities 60100 Radio broadcasting 60201 Television programming and broadcasting activities (excl. pay television channels) 60202 Pay television channel activities |
| 92710 Gambling and betting activities | What belongs here? More culture or sports? | 92000 Gambling and betting activities |
| 92610 Operation of sports arenas and stadiums | Divided in TOL 2008: Checking of at least the largest units by turnover and payroll. | 93110 Operation of sports facilities 93291 Skiing centre activities |
| 92620 Other sporting activities | Divided in TOL 2008: Checking of at least the largest units by turnover and payroll. | 93110 Operation of sports facilities 93291 Skiing centre activities |

## Education

A considerable deficiency in this computational model is that education is included only in the form of universities of art and design; data for lower educational levels are available in the data for the whole of the economy, to which cultural calculations are compared, which means that culture's share of the economy will be smaller than in reality. The resources were not available to go through all levels of education in this project. First, we should discuss what we are aiming at, how we want to demarcate education - is it a question of certain professions or educational institutions or fields? After that we should determine what information is available and from where (for example education statistics and materials from the Finnish National Board of Education) and demarcations could be made in practice. From the universities of art and design, units were included such as they are or, in the case of the University of Lapland, the share of compensation of
employees of the faculty in question from the overall data for the whole university; this way also administration is included either as a whole or in proportion to compensation of employees. The same principle (i.e. the total compensation of employees in relation to the salaries paid in the whole educational institution) would also likely be the best point of departure for including lower-level education ${ }^{30}$. Data on funding allocated by the municipalities for basic art education can be found in the municipal data but they pertain to activities dictated by legislation; municipal information on the basic education of art does not cover basic education in art by other bodies. The proportion of art education expenditure by municipalities that is not basic education of art is included in the figures for, for example, folk high schools and adult education centres, but not as a separate item. We should also ascertain what kind of information pertaining to folk high schools and adult education centres is available and if it would be possible, for example, to calculate the share of salaries for cultural activities from the overall total of compensation of employees.

With regard to universities of art and design, one should also mention that according to current demarcations interior design education in the University of Art and Design Helsinki is included but other architectural education is excluded: this matter should also be discussed in more detail in the future. It was also noted during the discussions that at the department level there are some small departments such as the Department of Acting at the University of Tampere and the Department of Music at the University of Jyväskylä - units that as such are quite small and economically insignificant but which can be considered as belonging in the calculations ${ }^{31}$. In practice, lines have to be drawn, that is to say that units to be included have to be large enough and distinct wholes so that the information can be garnered with a reasonable amount of work (for example, if the data have to be sought individually from each unit, it should be carefully considered what units and what level of accuracy are included).

## Subsidies, grants and scholarships

A very difficult whole to be tackled are various subsidies, grants and scholarships - how do they appear in core accounts, what are the source materials and how should they show in the satellite?

Data on subsidies paid can be found on the public sector; however, their handling and entries may differ (for example subsidies given in accordance with the state subsidy system to theatres and orchestras are considered income transfers to municipalities). There are no data on the real use of subsidies. Subsidies entered as income transfers are not included in this calculation as such but if costs covered with subsidies are entered in costs they are part of the output calculation (which is calculated as the sum of costs), that is to say they are included on the supply side. And likewise, when the data do not pertain to market output or sales of non-market goods, they stay in the residual item "other non-market output", which together with income transfers in kind comprise government consumption expenditure, that is to say, they are included in calculations also on the demand side. Subsidies allocated by municipalities are always included in the task category in question, which includes everything except the costs of general administration.

Also grants and scholarships are mainly income transfers in the core accounts, which means that they are visible only in sector accounts and they are not included in this calculation. It perhaps would be reasonable to include grants and scholarships given to
households in value added in the satellite (cf. compensation of employees) because they are linked with production (support of writers, musicians and artists) when they could be paralleled with production support. This does not necessarily comply with the ideology of the core model but, on the other hand, the idea of the satellite is that the basic ideology of accounting can be "stretched" and the whole can be examined from a different perspective. However, student grants, that are accounted for as income transfers in the core system, should not be paralleled with production support in the culture satellite because studying is not considered production in the system of national accounts. By default, grants awarded to other units will be included in the calculation because they are used for paying salaries or other costs, which means that they can be seen in calculations done through costs. In the core system, grants and scholarships are not distinguished according to their use, which makes separating data pertaining to just culture difficult. In addition to straightforward grants, there are, for example, premises that may be offered to artists at lower prices (non-market price rent), which is also a form of support but evaluating this kind of support is extremely difficult. Many foundations also give grants but current computational methods and sources do not allow these to be included comprehensively even in the core accounts. Ascertaining the number and recipients of grants and scholarships and taking these into account in the culture satellite would be needed for the comprehensiveness and coherence of the satellite.

## Voluntary work producing services (non-SNA activities)

The SNA defines voluntary work as falling within the production boundary only when it produces goods - that is to say, services are excluded entirely. Currently there is an ongoing project coordinated by the Johns Hopkins University in the United States, which seeks to find methods and data to chart the volume and value of this voluntary work producing services ${ }^{32}$. There is an enormous amount of voluntary activities in the field of culture and there are sure to be many cultural units that are excluded from the production boundary of the national accounts. Mental and social capital in these activities is difficult (or even downright impossible) to measure but the activities also have economical effects that are not included in the calculations. For example, many choirs, orchestras and bands are paid to perform in events organised by enterprises or other communities but this compensation may be omitted from cultural production if the performing group does not pay wages to its members. If the income is used for their common activities, for example rents or performing trips, the sum should appear in calculations on the costs but if wages are not paid and activities are so small in scale that it has been deemed that the group has no turnover, it is not seen in the Business Register, which means that in all likelihood the sum will not be entered on the income side. On the payer's side the sum is probably entered under some general item that cannot be identified as a cultural expenditure. This may cause wider errors in the economy if money flow is entered only on one side of the accounts (i.e. companies enter it as a cost but it is nowhere to be seen on the income side).

In sports activities, the significance of voluntary work is also immense even though its economic significance in calculations is negligible. One possibility to calculate a value for voluntary work would be to use the concept of alternative cost, in other words, to assess what the costs and income would be if all the activities were acquired at market prices. However, using alternative costs is not without difficulties - sometimes it can be impossible to find a comparable market price (e.g. for festivals or similar events) and
measuring the result achieved is by no means simple ${ }^{33}$. A slight mistake in the evaluation - whether it is a question of price or time - may not be significant at the individual level but is multiplied in the end result. It is sometimes proposed that the pricing principle used should be willingness to pay - that is how much people would be willing to pay for a service that currently is free of charge or priced under production costs - but this would hardly be a sustainable premise; instead a minimum requirement for using alternative costs would be comparison with an equivalent already existing thing.

In order to be a genuine comprehensive satellite, the culture satellite should include also these activities excluded from SNA calculations.

## Comments on statistics on foreign trade in services

Export and import of culture, especially when it comes to services, are objects of great interest. The development of Statistics Finland's statistics on foreign trade in services is a more extensive whole than deciding on the continuation of the culture satellite but it might be possible to improve the quality of the statistics by providing commentary on the sample: even though it is impossible to add units to the sample, there might be grounds for making changes to the sample. Experts in cultural statistics could assess the comprehensiveness of the statistics from the point of view of culture while ensuring that the most significant actors in the field are represented.

## Regionalisation

In addition to data pertaining to the whole country, regional data would be necessary. Data in national accounts are compiled also at regional level and corresponding regional culture satellites could also be compiled. However, it might be that depending on the size of the region in question it could be necessary to combine industries in order to comply with confidentiality regulations. The Ministry of Employment and the Economy has commissioned a pilot project from Statistics Finland on the importance of cultural industries in certain regions belonging to the network of regional centres.

In Canada, regional data have been perceived as being more useful than data on the whole country and for now the data are compiled precisely at regional instead of national level.

## Investments and consumption of fixed capital

Gross fixed capital formation or investments is one of the demand items. In accordance with the capital stock model used in Finland, the consumption of fixed capital is calculated on the basis of investment information, which would be required also in the culture satellite to calculate non-market output (value added is the sum of employee compensation and consumption of fixed capital, which means that when there are no data on the consumption of fixed capital, the value added remains lower than it is in reality). There are data available on the new construction of cultural buildings but of other investments there are none - at the very least, it would be good to find out how cultural construction is defined in those data sources, what is included and would it offer some basic information. One cannot find out about all the investments in this way but maybe
at least some. In the national accounts, production of original works is also included in investments and exclusion of these from calculations is a clear deficiency; even if it was impossible to provide comprehensive calculations on other investments, at least original cultural works should be included.

## ICT problematics

Thus far, industries producing ICT equipment and services, such as mobile phones with cameras, computers and the Internet, have been wholly excluded from cultural statistics, the Memorandum by Working Group for the assessment of the economic impact of culture, as well as from the culture satellite account. Prior to now, the matter was not very significant but the situation has clearly changed: for example, a computer can for someone be a tool for engaging in cultural activities while at the same time it is increasingly a tool for transmitting and receiving cultural goods. Nowadays, computers and the Internet can be considered parts of mass media and data on them can be found, for example, in Statistics Finland's media statistics. In addition, for example, digital cameras and ubiquitous opportunities for photographing have changed the nature of photography. The acquisition and manufacture of cameras and accessories are included in the calculations as are prints of photographs on photographic paper bought from photography shops while photographs taken and saved on people's own computers are excluded. However, photos developed from traditional film are included as such even if they are taken for personal use ${ }^{34}$.

Omitting ICT products entirely distorts the results (diminishes the importance of culture when compared with reality). If it is decided that ICT products are primarily non-cultural and there is no effort to include the whole value chain, there might still be grounds for including at least a part. This part should be based on data with which changes can also be monitored. One opportunity would be to start from use: if there existed data to assess the proportion of cultural use, the same percentage could be used also on the production side; this is by no means a perfect method but currently, probably the least bad. On the other hand, defining use is not unambiguous. There is a need to reexamine the situation periodically: if it is noticed that the cultural use of ICT equipment or services is rising significantly then there are grounds to think about adjusting the calculations accordingly.

Some of the sales of ICT equipment are already included in this calculation, when the so-called "black line" or entertainment electronics, to which ICT equipment also belongs, is included from Industry 52451 (Retail sale of electrical household appliances and entertainment electronics). In addition, this equipment is sold in specialised shops that are totally excluded from this calculation. For some cultural actors, ICT equipment comprises the tools used in their work, so its acquisition should be part of the calculation but its handling in this calculation is illogical.

## New standard industry classification

Part of the work now done - choice of industries belonging to culture - must be redone once the new industrial classification is introduced. Then we also have to think about whether to count a time series backwards according to the new classification. Surprisingly, a great deal of time was spent in this project on finding basic data and going through
them, even though no great changes had taken place in industrial classification during the period under review. Data complying with the new industry classification are produced retrospectively through technical means, which means that results at this level of focus can be seriously distorted, so there is a need to seriously consider the meaningfulness of providing a retrospective time series. It would probably be better to start the current record of accounts from the year when units complying with the new industry classification are found. The Business Register produces data at least for two years (2007 and 2008) with industry codes ${ }^{35}$ complying to both the old and new industry classifications - it would probably be possible to calculate data for these years on the basis of both the industries chosen for this culture satellite model and a culture satellite complying with the new industrial classification, which would provide some sort of point of comparison between various time series.

## Comprehensive culture satellite?

In the brainstorming stage of the project, a model was contemplated which would have started from products, which would have allowed the inclusion of the value chain pertaining to them. However, it was soon discovered that providing definitions for cultural products is not any easier than defining culture itself and that there are even less comprehensive data at product level than there are for industries.

The question of a "perfect culture satellite" presented itself during the project and of how far from it we are, and even whether it was possible to attain. The tourism satellite includes only the share of tourism from the industries containing tourism-related activities and this is what should be done with the culture satellite as well - of course, we should then also take into account cultural activities from non-cultural industries so that the whole economic impact of culture would be included in its entirety. Unfortunately, the comprehensive data needed for this kind of computational method simply do not exist at the moment. A perfect culture satellite would also include cultural activities falling outside the production boundary of the national accounts even though it is the part that is more uncertain and difficult to price.

The current culture satellite account will be developed and supplemented over the coming years on the basis of comments, recommendations and experiences.

Table 2: Industries and their grouping

| Included industries by group |
| :--- |
|  |
| Artistic, theatre and concert activities |
| 92311 Artistic creation |
| 92312 Theatre and concert activities |
|  |
| Libraries, archives, museums, etc. |
| 92510 Library and archives activities |
| 92520 Museums, exhibitions and preservation of historical sites and buildings |
| 92530 Botanical and zoological gardens and nature reserves activities |
|  |
| Art and antique shops |
| 52484 Retail sale of art; art gallery activities |
| 52501 Antique shops |
|  |
| Production and distribution of books |
| 22110 Publishing of books |
| 22230 Bookbinding and finishing |
| 51474 Wholesale of books |
| 52472 Retail sale of books |
| 52502 Second-hand bookshops |
| 52611 Retail sale of books via mail order houses and net commerce |
|  |
| Newspapers, periodicals and news agencies |
| 22120 Publishing of newspapers |
| 22130 Publishing of journals and periodicals |
| 22150 Other publishing |
| 22210 Printing of newspapers |
| 52473 Retail sale of journals and periodicals, newspaper kiosks |
| 92400 News agency activities |
|  |
| Production and distribution of motion pictures and videos |
| 22320 Reproduction of video recording |
| 71401 Renting of videotapes |
| 92110 Motion picture and video production |
| 92120 Motion picture and video distribution |
| 92130 Motion picture projection |
|  |
| Manufacture and sale of musical instruments |
| 36300 Manufacture of musical instruments |
| 51481 Wholesale of musical instruments and supplies |
| 52452 Retail sale of musical equipment and supplies |
| Sound recordings |
| 22140 Publishing of sound recordings |
| 22130 Reproduction of sound recording |


| Radio and television |
| :---: |
| 64203 Data transmission services |
| 92200 Radio and television activities |
| Printing and related activities |
| 22220 Printing n.e.c1) |
| 22240 Pre-press activities |
| 22250 Ancillary operations activities related to printing |
| Advertising |
| 74401 Advertising agency activities |
| 74402 Direct and outdoor advertising activities |
| 74409 Other advertising activities |
| Architectural and industrial design |
| 74203 Architectural activities |
| 74871 Industrial design |
| Photography |
| 51475 Wholesale of photographic equipment and supplies |
| 52485 Retail sale of photographic equipment; photography services |
| 74811 Photographic studio activities |
| 74812 Photographic laboratory activities |
| Amusement parks, games and other entertainment and recreation |
| 36500 Manufacture of games and toys |
| 51483 Wholesale of toys and games |
| 92330 Fair and amusement park activities |
| 92340 Other entertainment activities n.e.c. |
| 92710 Gambling and betting activities |
| 92720 Other recreational activities n.e.c. |
| Manufacture and sale of entertainment electronics |
| 32300 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods |
| 51432 Wholesale of radio and television goods |
| 52451 Retail sale of electrical household appliances and radio and television goods2) |
| Organisation of cultural events and related activity |
| 74873 Trade fair and product demonstration activities3) |
| 74879 Other business activities n.e.c4) |
| 92320 Operation of arts facilities |
| Education and cultural administration |
| 75110 General (overall) public service activities5) |
| 75121 Administration of education and cultural services6) |
| 80300 Higher education7) |


| Sports industries, total |
| :--- |
| 01410 Landscape gardening (01410 ... )8) |
| 36400 Manufacture of sports goods |
| 45230 Construction of sports facilities ( 45230 ... ) 9) |
| 51478 Wholesale of sports goods |
| 52122 Retail sale in department stores10) |
| 52488 Retail sale of sports and leisure goods |
| 71402 Renting of sports equipment |
| 92610 Operation of sports arenas and stadiums |
| 92620 Other sporting activities |
|  |
| Superscripts: |
| 1) One enterprise has been removed from industry 22220 |
| 2) As regards the retail sale of electrical household appliances industry (52451) only entertainment |
| electronics, or the so-called "black line", have been included on the basis of the statistics of the |
| information forum of the household appliance industry (KOTEK) |
| 3) The proportion included from industry 74873 Trade fair and product demonstration activities is <br> 75 \% <br> 4) The proportion included from industry 74879 Other business activities n.e.c. is 25 \% <br> 5) The included budget items from General public service activities (75110) are 2990...2998 <br> 6) Of industry 75121 included are the National Board of Antiquities in its entirety and the Ministry <br> of Education in part <br> 7) Of industry 80300 included are the universities of art and design as well as the Faculty of Art <br> and Design of the University of Lapland <br> 8) Of the municipal classification by function included are "parks and public areas" <br> 9) Delimited by names or parts of the names of establishments as well as industry data <br> 10) One-third of the data of industry 52488 (Retail sale of sports and leisure goods) has been <br> calculated as the proportion of industry 52122 (Retail sale in department stores) of the trade in <br> sporting equipment <br> 91339 Other membership organizations <br> Industries excluded from the calculation <br> 83400 Manufacture of optical instruments and photographic equipment <br> 80220 Technical and vocational secondary education <br> 52495 Retail sale of toys and hoppy materials <br> 52630 Other non-store retail sale |

Table 3：Output

|  | $\begin{aligned} & \text { R } \\ & \text { O } \end{aligned}$ | مٌ | $\stackrel{\text { N }}{\stackrel{\circ}{\circ}}$ | $\stackrel{\square}{\square}$ | $\underset{\leftarrow}{ \pm}$ | $\begin{aligned} & \text { م } \\ & \text { © } \\ & \text { N } \end{aligned}$ | ৷্స | § | ம） | ㅇ্ট | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & - \end{aligned}$ | $\begin{aligned} & \circ \\ & \hline \\ & \hline \end{aligned}$ | $\begin{aligned} & 0 \\ & \text { è } \\ & \text { en } \end{aligned}$ | $\frac{10}{\sim}$ | $\begin{aligned} & \infty \\ & \underset{\infty}{\infty} \end{aligned}$ | $\underset{\sim}{\infty}$ | O- | $\stackrel{\text { N }}{\text { ® }}$ | $\left\lvert\, \begin{aligned} & n \\ & \sigma \\ & - \end{aligned}\right.$ | $\begin{aligned} & \text { ণ } \\ & \underset{\sim}{N} \\ & \stackrel{\sim}{\sim} \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \text { M } \\ & \text { O } \end{aligned}$ | $\stackrel{\sim}{\sigma}$ |  |  | $\left\|\begin{array}{l} 0 \\ \stackrel{0}{1} \\ \end{array}\right\|$ | 10 <br> 0 <br> 0 |
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|  | O | o | $\stackrel{\text { ® }}{\text { ָ }}$ | $\stackrel{\odot}{\circ}$ | O | $\begin{aligned} & \stackrel{1}{\dot{t}} \\ & \sim \end{aligned}$ | N్ల | 5 | ๑ | 응 | $$ | 会 | $\stackrel{1}{\sim}$ | $\stackrel{\rightharpoonup}{\mathrm{O}}$ | $\stackrel{\wedge}{\wedge}$ | o | $\stackrel{\mathrm{O}}{\mathrm{~N}}$ | $\stackrel{\sim}{\infty}$ | $\begin{array}{\|l\|} \hline \text { O } \\ \text { ल } \\ \hline \end{array}$ |  | $\begin{aligned} & \mathrm{N} \\ & \mathrm{D} \\ & \mathrm{o} \end{aligned}$ | $\begin{aligned} & \text { O్ } \\ & \sim \\ & \hline \end{aligned}$ | $$ | $\begin{array}{\|l\|} \hline \Gamma \\ \dot{\sim} \\ \hline \end{array}$ | $\begin{aligned} & \hline \stackrel{\circ}{\dot{+}} \\ & \text { ले } \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \stackrel{\rightharpoonup}{0} \end{aligned}$ |
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|  | $\begin{aligned} & \text { N } \\ & \text { O } \end{aligned}$ | $\frac{N}{\dot{\sigma}}$ | $\stackrel{\rightharpoonup}{\mathrm{O}}$ | $\stackrel{\text { م® }}{\square}$ | $\stackrel{\text { 잇 }}{ }$ | $\begin{aligned} & \circ \\ & \stackrel{\circ}{+} \\ & \text { ~ } \end{aligned}$ | ®O | $\stackrel{\circ}{+}$ | N | $\begin{aligned} & \infty \\ & \hline \end{aligned}$ | $\begin{array}{l\|} \hline \mathrm{O} \\ \mathrm{O} \\ \mathrm{f} \end{array}$ | $\frac{\overline{ }}{\square}$ | $\stackrel{\infty}{\infty}$ | $\underset{\sim}{\underset{\sim}{J}}$ | N్న | N | $\stackrel{\mathrm{O}}{\mathrm{O}}$ | $\underset{\sim}{ \pm}$ | $\begin{aligned} & \overline{\mathrm{N}} \\ & \stackrel{\rightharpoonup}{n} \end{aligned}$ | $\begin{aligned} & 0 \\ & \stackrel{0}{0} \\ & \\ & \end{aligned}$ | $\begin{aligned} & \infty \\ & \sim \\ & \infty \\ & \infty \end{aligned}$ | $\begin{aligned} & \overline{0} \\ & \Gamma \end{aligned}$ | $\begin{aligned} & \stackrel{\rightharpoonup}{N} \\ & \underset{c}{c} \end{aligned}$ | $\begin{aligned} & \stackrel{1}{\mathrm{O}} \\ & \hline \end{aligned}$ | $\begin{aligned} & \infty \\ & \stackrel{\circ}{\infty} \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |
|  | 으N | © | $\stackrel{ }{\stackrel{\sim}{n}}$ | $\pm$ | $\stackrel{\rightharpoonup}{\mathrm{o}}$ | $\begin{aligned} & \stackrel{\rightharpoonup}{\mathrm{N}} \\ & \stackrel{1}{\sim} \end{aligned}$ | $\stackrel{\ominus}{\stackrel{ }{N}}$ | ㅇ | $\odot$ | $\begin{array}{l\|} \infty \\ \infty \\ \infty \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \frac{0}{5} \\ \hline \\ \hline \end{array}$ | $\begin{array}{\|l\|l} \infty \\ \stackrel{0}{\sim} \\ \sim \end{array}$ | $$ | $\stackrel{\mathrm{O}}{\underset{\sim}{c}}$ | $\begin{aligned} & \hline 8 \\ & 0 \end{aligned}$ | N | $\begin{aligned} & \hline \mathrm{O} \\ & \stackrel{-1}{2} \end{aligned}$ | مٌ | $$ | $\begin{array}{\|l\|} \hline \mathrm{O} \\ \infty \\ 0 \\ \hline \end{array}$ | $\begin{aligned} & \mathbb{Z} \\ & \text { ल } \\ & 0 \end{aligned}$ | $\begin{aligned} & \stackrel{\ominus}{\underset{\sim}{*}} \\ & \underset{\sim}{2} \end{aligned}$ | $\left\|\begin{array}{l} \bar{\sigma} \\ ल \\ \bullet \\ \stackrel{\rightharpoonup}{\sim} \end{array}\right\|$ | $\begin{gathered} \underset{~}{\mathrm{~N}} \end{gathered}$ | $\begin{aligned} & \varphi \\ & \varrho \\ & \dot{\omega} \end{aligned}$ | － |
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|  | $\begin{aligned} & \text { の } \\ & \text { 잉 } \end{aligned}$ | $\stackrel{\text { N }}{\text { ले }}$ | $\stackrel{\infty}{\text { M }}$ | $\tau$ | $\begin{aligned} & \circ \\ & \stackrel{\circ}{+} \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \text { O } \\ & \text { 人 } \end{aligned}$ | $\stackrel{\infty}{\stackrel{\infty}{\forall}}$ | へ | © | $\begin{array}{\|l\|} \hline \stackrel{\circ}{\mathrm{O}} \\ \hline \end{array}$ | $\begin{aligned} & \mathrm{N} \\ & \text { ल } \\ & - \end{aligned}$ | $\begin{array}{\|l\|} \hline \infty \\ \hline \end{array}$ | $\stackrel{\text { N }}{\text { N }}$ | $\begin{array}{\|c\|} \hline \stackrel{O}{\mathrm{~N}} \\ \hline \end{array}$ | Ò | $\begin{aligned} & \circ \\ & \stackrel{0}{\circ} \end{aligned}$ | $\begin{aligned} & \text { } \\ & \stackrel{\pi}{2} \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \sim \end{aligned}$ | $$ | $\begin{array}{\|l\|} \hline 0 \\ \hline 1 \\ 10 \\ 0 \\ \hline \end{array}$ | $\begin{aligned} & \stackrel{+}{\infty} \\ & \underset{\sim}{N} \\ & \sigma \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \text { N } \end{aligned}$ | $\begin{array}{\|l\|} \hline \stackrel{n}{M} \\ \stackrel{n}{N} \\ \underset{N}{2} \end{array}$ |  | $\begin{aligned} & \varphi \\ & \stackrel{\circ}{*} \end{aligned}$ | $\stackrel{10}{10}$ |
|  | $$ | O | $\underset{\text { ले }}{\text { N }}$ | $\stackrel{\sim}{\sim}$ | $\begin{aligned} & \circ \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { 10 } \\ & 0 \\ & \text { N } \end{aligned}$ | 人 | $\begin{aligned} & \infty \\ & \hline \end{aligned}$ | ® | $\stackrel{N}{N}$ | $\begin{aligned} & \dot{F} \\ & \underset{寸}{\prime} \end{aligned}$ | $\underset{\sim}{\underset{\sim}{\sim}}$ | $\begin{aligned} & \text { の } \\ & \text { N } \end{aligned}$ | $\begin{array}{\|c} \infty \\ \underset{N}{N} \end{array}$ | $\underset{\substack{\infty \\ 0}}{ }$ | $\stackrel{\sim}{\sim}$ | $\begin{gathered} \stackrel{\rightharpoonup}{\bullet} \\ \underset{\sim}{2} \end{gathered}$ | $\underset{\sim}{\underset{\sim}{\sim}}$ | $\begin{aligned} & \square \\ & \stackrel{\sigma}{\Gamma} \\ & - \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \text { N } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { ষ } \\ & \text { O } \\ & \text { o } \end{aligned}$ | $\begin{aligned} & \text { の } \\ & \frac{1}{-} \end{aligned}$ | $\begin{array}{\|c\|} \hline 0 \\ 0 \\ 0 \\ N \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \infty \\ \underset{\sim}{*} \\ \hline \end{array}$ | $\begin{aligned} & \underset{\sim}{\sim} \\ & \dot{\sim} \end{aligned}$ | n |
|  | $\begin{aligned} & \stackrel{\rightharpoonup}{2} \\ & \stackrel{1}{\circ} \end{aligned}$ | ্ָল | $\stackrel{\sim}{ल}$ | $\infty$ | $\stackrel{\infty}{\leftarrow}$ | $\circ$ <br> 8 <br> 8 <br> - | $\stackrel{\llcorner }{\infty}$ | $\stackrel{\circ}{\triangleleft}$ | ே | $\begin{aligned} & \mathrm{A} \\ & \hat{\omega} \end{aligned}$ | $\begin{aligned} & \hline \begin{array}{l} n \\ \hline \end{array} \\ & \hline \end{aligned}$ | 六 | $\stackrel{\perp}{\infty}$ | N্ড | 득 | $\frac{N}{\square}$ | $\frac{\pi}{\tau}$ | $\begin{aligned} & \text { প্ } \\ & \stackrel{\sim}{c} \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { ® } \\ \hline \end{array}$ | $\begin{aligned} & \hline 0 \\ & \hline \\ & \hline \\ & \infty \end{aligned}$ | $\begin{aligned} & \bullet \\ & \dot{\square} \\ & \sim \end{aligned}$ | প্ |  | $\begin{array}{\|c\|} \hline \stackrel{0}{1} \\ \underset{\sim}{2} \end{array}$ | $\stackrel{N}{\mathrm{O}} \underset{\sim}{\dot{\sim}}$ | $\stackrel{\square}{0}$ |
|  | $\begin{aligned} & \hline 6 \\ & \hline \\ & \hline- \end{aligned}$ | $\begin{aligned} & \text { প্র } \end{aligned}$ | N | 은 | $\underset{\sim}{\infty}$ | $\begin{aligned} & \hline \text { N } \\ & \text { N } \\ & \text { - } \end{aligned}$ | $$ | $$ | $\begin{aligned} & 9 \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \infty \\ \stackrel{0}{0} \end{array}$ | $\begin{aligned} & \bar{\varphi} \\ & \mathrm{N} \\ & - \end{aligned}$ | $\frac{0}{\pi}$ | $\widehat{\theta}$ | $\stackrel{ \pm}{\mathrm{N}}$ | $\underset{\sim}{\infty}$ | $\begin{aligned} & \text { N } \\ & \text { ले } \end{aligned}$ | ৪ | $\begin{aligned} & \hline \stackrel{9}{\oplus} \\ & \hline \end{aligned}$ | $\begin{array}{\|c\|} \hline \text { ® } \\ \hline \end{array}$ | $\begin{aligned} & \hline \\ & \hline \\ & \text { N } \\ & \infty \\ & \infty \end{aligned}$ | $\begin{aligned} & \stackrel{\searrow}{n} \\ & \stackrel{1}{n} \end{aligned}$ | N | $\begin{aligned} & \underset{\infty}{ \pm} \\ & \underset{\sim}{\infty} \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline 0 \\ 0 \\ \dot{\gamma} \end{array}$ | $\begin{array}{\|c\|} \hline \dot{F} \\ \dot{F} \end{array}$ | $\stackrel{10}{10}$ |
|  | $\begin{aligned} & \hline 18 \\ & \text { O } \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{o} \\ & \stackrel{\rightharpoonup}{\mathrm{~N}} \end{aligned}$ | A | ＾ | $\underset{\mathcal{F}}{\underset{\sim}{2}}$ | $\begin{aligned} & \hline \text { O } \\ & \hline \end{aligned}$ | $\stackrel{\oplus}{N}$ | $\stackrel{\text { F }}{\text {－}}$ | ल | $\begin{aligned} & \mathbf{o} \\ & \text { N } \end{aligned}$ | $\begin{aligned} & \text { I } \\ & \text { N } \end{aligned}$ | $\begin{array}{\|l\|} \hline 0 \\ \hline \end{array}$ | $\underset{\sim}{\stackrel{\sim}{\leftarrow}}$ | $\begin{array}{\|c\|} \hline \text { N} \\ \text { N } \end{array}$ | $\stackrel{\circ}{9}$ | $\begin{aligned} & \mathrm{O} \\ & \mathrm{e} \end{aligned}$ | N | $\stackrel{\Gamma}{\square}$ | $\stackrel{\wedge}{\mathrm{A}}$ | $\begin{aligned} & 0 \\ & \hline 0 \\ & \infty \\ & \hline \end{aligned}$ | $\begin{aligned} & \stackrel{M}{\sim} \\ & \stackrel{\sim}{n} \end{aligned}$ | $\underset{\infty}{\underset{\infty}{N}}$ |  | $\begin{array}{\|l\|} \hline \circ \\ \hline- \\ \dot{\sim} \end{array}$ | $\begin{array}{\|l\|} \hline 0 \\ \dot{r} \end{array}$ | － |
|  | Industry \ Year |  |  |  | $\qquad$ |  |  |  |  |  | Printing and related activities |  |  | $\left\lvert\, \begin{array}{\|c\|} \hline \stackrel{\rightharpoonup}{0} \\ \frac{0}{0} \\ \frac{0}{0} \\ 0 \\ 0 \\ 0 \\ \frac{1}{2} \\ \hline \end{array}\right.$ |  |  |  |  | Sports industries, total | $\begin{aligned} & \bar{W} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ |  |  |  |  |  | $\begin{aligned} & 0 \\ & \frac{1}{0} \\ & 0 \\ & 0 \\ & \frac{1}{0} \\ & 0 \\ & \frac{1}{5} \\ & 0 \\ & \frac{1}{3} \\ & 0 \\ & 0 \\ & 0 \\ & \frac{0}{\sigma} \\ & \hline \end{aligned}$ |

Table 4: Value added


| (100 persons) |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Industry \ Year | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
| Artistic, theatre and concert activities | 63 | 65 | 64 | 66 | 70 | 73 | 75 | 80 | 79 | 79 | 80 |
| Libraries, archives, museums, etc. | 69 | 69 | 69 | 71 | 69 | 72 | 71 | 76 | 76 | 76 | 77 |
| Art and antique shops | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 |
| Production and distribution of books | 50 | 51 | 49 | 50 | 54 | 58 | 58 | 56 | 59 | 58 | 59 |
| Newspapers, periodicals and news agencies | 176 | 163 | 153 | 157 | 162 | 170 | 164 | 162 | 160 | 161 | 158 |
| Production and distribution of motion pictures and videos | 18 | 14 | 15 | 22 | 25 | 26 | 27 | 29 | 29 | 28 | 28 |
| Manufacture and sale of musical instruments | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 10 | 9 |
| Sound recordings | 5 | 6 | 7 | 7 | 11 | 11 | 12 | 12 | 12 | 12 | 13 |
| Radio and television | 18 | 13 | 14 | 69 | 68 | 72 | 76 | 72 | 66 | 66 | 65 |
| Printing and related activities | 133 | 131 | 141 | 140 | 140 | 136 | 134 | 129 | 122 | 116 | 116 |
| Advertising | 73 | 79 | 83 | 92 | 106 | 108 | 112 | 104 | 101 | 98 | 99 |
| Architectural and industrial design | 34 | 42 | 44 | 48 | 53 | 56 | 64 | 66 | 64 | 68 | 73 |
| Photography | 46 | 50 | 52 | 51 | 53 | 55 | 56 | 56 | 54 | 50 | 51 |
| Amusement parks, games and other entertainment and recreation | 41 | 40 | 40 | 43 | 45 | 47 | 46 | 46 | 48 | 48 | 50 |
| Manufacture and sale of entertainment electronics | 39 | 40 | 40 | 38 | 38 | 37 | 38 | 40 | 38 | 40 | 40 |
| Organisation of cultural events and related activity | 23 | 25 | 27 | 32 | 34 | 38 | 37 | 39 | 44 | 48 | 54 |
| Education and cultural administration | 21 | 24 | 25 | 24 | 24 | 24 | 25 | 26 | 26 | 27 | 27 |
| Sports industries, total | 175 | 182 | 182 | 192 | 204 | 210 | 219 | 229 | 240 | 248 | 253 |
| Industries, total | 994 | 1004 | 1018 | 1115 | 1169 | 1206 | 1226 | 1235 | 1231 | 1236 | 1256 |
| Industries, total/ culture | 819 | 823 | 836 | 923 | 966 | 996 | 1007 | 1006 | 991 | 988 | 1003 |
| Industries, total/ sports | 175 | 182 | 182 | 192 | 204 | 210 | 219 | 229 | 240 | 248 | 253 |
| Total national economy (100 persons) | 20530 | 20812 | 21498 | 21923 | 22470 | 22966 | 23304 | 23526 | 23551 | 23649 | 23977 |
| Proportion of all employed (\%) | 4.84 | 4.83 | 4.73 | 5.09 | 5.20 | 5.25 | 5.26 | 5.25 | 5.23 | 5.23 | 5.24 |
| Proportion of all employed (\%)/ culture | 3.99 | 3.95 | 3.89 | 4.21 | 4.30 | 4.34 | 4.32 | 4.28 | 4.21 | 4.18 | 4.18 |
| Proportion of all employed (\%)/ sports | 0.85 | 0.87 | 0.85 | 0.87 | 0.91 | 0.91 | 0.94 | 0.97 | 1.02 | 1.05 | 1.06 |


| (100 000 hours) |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Industry $\backslash$ Year | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
| Artistic, theatre and concert activities | 88 | 94 | 92 | 94 | 99 | 101 | 104 | 111 | 108 | 106 | 107 |
| Libraries, archives, museums, etc. | 97 | 95 | 101 | 99 | 96 | 101 | 101 | 105 | 106 | 107 | 108 |
| Art and antique shops | 6 | 6 | 7 | 7 | 5 | 6 | 6 | 6 | 6 | 6 | 6 |
| Production and distribution of books | 84 | 87 | 88 | 87 | 84 | 89 | 91 | 88 | 92 | 91 | 94 |
| Newspapers, periodicals and news agencies | 255 | 242 | 232 | 239 | 246 | 253 | 243 | 238 | 237 | 241 | 242 |
| Production and distribution of motion pictures and videos | 32 | 25 | 27 | 40 | 45 | 47 | 47 | 51 | 51 | 49 | 47 |
| Manufacture and sale of musical instruments | 16 | 16 | 18 | 16 | 16 | 16 | 15 | 16 | 16 | 16 | 16 |
| Sound recordings | 8 | 9 | 11 | 11 | 12 | 12 | 14 | 15 | 17 | 17 | 20 |
| Radio and television | 32 | 22 | 24 | 124 | 123 | 128 | 135 | 128 | 118 | 118 | 113 |
| Printing and related activities | 221 | 220 | 234 | 227 | 217 | 212 | 209 | 208 | 190 | 181 | 186 |
| Advertising | 130 | 133 | 143 | 152 | 182 | 177 | 181 | 169 | 167 | 163 | 165 |
| Architectural and industrial design | 62 | 78 | 83 | 87 | 95 | 98 | 110 | 111 | 110 | 116 | 124 |
| Photography | 80 | 88 | 93 | 88 | 89 | 90 | 89 | 89 | 87 | 80 | 80 |
| Amusement parks, games and other entertainment and recreation | 71 | 70 | 69 | 75 | 78 | 82 | 79 | 79 | 82 | 82 | 84 |
| Manufacture and sale of entertainment electronics | 68 | 69 | 72 | 68 | 64 | 64 | 65 | 66 | 65 | 69 | 68 |
| Organisation of cultural events and related activity | 38 | 43 | 46 | 52 | 58 | 60 | 58 | 61 | 70 | 76 | 85 |
| Education and cultural administration | 33 | 34 | 36 | 35 | 36 | 35 | 35 | 37 | 37 | 39 | 39 |
| Sports industries, total | 256 | 269 | 279 | 294 | 303 | 313 | 326 | 338 | 359 | 372 | 380 |
| Industries, total | 1576 | 1601 | 1655 | 1797 | 1850 | 1884 | 1907 | 1916 | 1916 | 1931 | 1965 |
| Industries, total/ culture | 1320 | 1332 | 1376 | 1503 | 1547 | 1572 | 1581 | 1578 | 1557 | 1558 | 1585 |
| Industries, total/ sports | 256 | 269 | 279 | 294 | 303 | 313 | 326 | 338 | 359 | 372 | 380 |
| Total hours worked in the whole economy (100,000 hours) | 36462 | 36933 | 38062 | 38602 | 39652 | 40183 | 40407 | 40650 | 40505 | 40764 | 41186 |
| Proportion of hours worked (\%) | 4.32 | 4.33 | 4.35 | 4.65 | 4.67 | 4.69 | 4.72 | 4.71 | 4.73 | 4.74 | 4.77 |
| Proportion of hours worked (\%)/ culture | 3.62 | 3.61 | 3.62 | 3.89 | 3.90 | 3.91 | 3.91 | 3.88 | 3.84 | 3.82 | 3.85 |
| Proportion of hours worked (\%)/ sports | 0.70 | 0.73 | 0.73 | 0.76 | 0.76 | 0.78 | 0.81 | 0.83 | 0.89 | 0.91 | 0.92 |

Table 7: Imports of services

| Million EUR |  |
| :--- | ---: |
| Industry Year | 2005 |
| Artistic, theatre and concert activities | 2 |
| Libraries, archives, museums, etc. | 0 |
| Art and antique shops | - |
| Production and distribution of books | 9 |
| Newspapers, periodicals and news agencies | 19 |
| Production and distribution of motion pictures and videos | 6 |
| Manufacture and sale of musical instruments | 0 |
| Sound recordings | 4 |
| Radio and television | 108 |
| Printing and related activities | 6 |
| Advertising | 22 |
| Architectural and industrial design | 2 |
| Photography | 14 |
| Amusement parks, games and other entertainment and recreation | 19 |
| Manufacture and sale of entertainment electronics | 72 |
| Organisation of cultural events and related activity | 10 |
| Education and cultural administration | 1 |
| Sports industries, total | 2 |
| Industries, total | 297 |
| Industries, total/ culture | 295 |
| Industries, total/ sports | 2 |
| Total service imports | 738 |
| Proportion of service imports (\%) | 3.84 |
| Proportion of service imports (\%)/ culture | 3.82 |
| Proportion of service imports (\%)/ sports | 0.02 |
|  |  |
| A dash (-) in the cell indicates there are no observations - in this case mainly |  |
| because there is no international trade in services in the industry concerned |  |
|  |  |

Table 8: Exports of services

| Million EUR |  |
| :--- | ---: |
| Industry Year | 2005 |
| Artistic, theatre and concert activities | 2 |
| Libraries, archives, museums, etc. | 0 |
| Art and antique shops | - |
| Production and distribution of books | 1 |
| Newspapers, periodicals and news agencies | 8 |
| Production and distribution of motion pictures and videos | 3 |
| Manufacture and sale of musical instruments | - |
| Sound recordings | 0 |
| Radio and television | 11 |
| Printing and related activities | 4 |
| Advertising | 38 |
| Architectural and industrial design | 3 |
| Photography | 10 |
| Amusement parks, games and other entertainment and recreation | 1 |
| Manufacture and sale of entertainment electronics | 11 |
| Organisation of cultural events and related activity | 14 |
| Education and cultural administration | 0 |
| Sports industries, total | 9 |
| Industries, total | 116 |
| Industries, total/ culture | 107 |
| Industries, total/ sports | 9 |
| Total service exports | 942 |
| Proportion of service exports (\%) | 1.20 |
| Proportion of service exports (\%)/ culture | 1.11 |
| Proportion of service exports (\%)/ sports | 0.09 |
|  |  |
| A dash (-) in the cell indicates there are no observations - in this case mainly |  |
| because there is no international trade in services in the industry concerned. |  |

Table 9: Imports of cultural goods

| Million EUR |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | 1995 | 1999 | 2000 | 2002 | 2003 | 2004 | 2005 |
| Artistic, theatre and concert activities | - | - | - | - | - | - |  |
| Libraries, archives, museums, etc. | - | - | - | - | - | - |  |
| Art and antique | 1 | 1 | 1 | 1 | 1 | 2 | 4 |
| Books | 33 | 54 | 62 | 62 | 65 | 57 | 61 |
| Newspapers, periodicals | 15 | 42 | 42 | 34 | 34 | 66 | 60 |
| Motion pictures and videos | 12 | 14 | 16 | 18 | 15 | 13 | 10 |
| Musical instruments | 12 | 14 | 16 | 17 | 17 | 19 | 19 |
| Sound recordings | 25 | 21 | 22 | 185 | 195 | 211 | 227 |
| Radio and television | - | - | - | - | - |  |  |
| Printing n.e.c. | 28 | 45 | 54 | 36 | 38 | 37 | 42 |
| Advertising | - | - | - | - | - |  |  |
| Architectural and industrial design | - | - | - | - | - | - |  |
| Photography | 86 | 95 | 100 | 84 | 68 | 63 | 69 |
| Amusement parks, games and other entertainment and recreation | 18 | 17 | 35 | 71 | 51 | 37 | 52 |
| Entertainment electronics | 118 | 233 | 343 | 241 | 249 | 318 | 442 |
| Organisation of cultural events and related activity | - | - | - | - | - | - |  |
| Education and cultural administration | - | - | - | - | - | - |  |
| Sports industries, total | - | - | - | - | - |  |  |
| Imports of cultural goods, total | 347 | 537 | 690 | 749 | 734 | 824 | 984 |
| Imports of all goods, total | 21621 | 29575 | 36691 | 35299 | 36223 | 40270 | 47027 |
| Share of cultural goods of total imports (\%) | 1.61 | 1.82 | 1.88 | 2.12 | 2.03 | 2.05 | 2.09 |
| A dash (-) in the cell indicates there are no observations - in this case mainly because there is no international trade in goods but rather in services in the industry concerned. |  |  |  |  |  |  |  |

Table 10: Imports of cultural commodities/ included groups of goods



Table 11: Exports of cultural goods

| Million EUR |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | 1995 | 1999 | 2000 | 2002 | 2003 | 2004 | 2005 |
| Artistic, theatre and concert activities | - | - | - | - | - | - | - |
| Libraries, archives, museums, etc. | - | - | - | - | - | - | - |
| Art and antique shops | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Production and distribution of books | 46 | 57 | 74 | 74 | 58 | 44 | 38 |
| Newspapers, periodicals and news agencies | 112 | 95 | 115 | 133 | 129 | 129 | 138 |
| Production and distribution of motion pictures and videos | 2 | 1 | 2 | 3 | 2 | 3 | 2 |
| Manufacture and sale of musical instruments | 1 | 1 | 2 | 2 | 1 | 2 | 2 |
| Sound recordings | 2 | 3 | 3 | 49 | 43 | 38 | 47 |
| Radio and television | - | - | - | - | - | - | - |
| Printing and related activities | 85 | 104 | 124 | 105 | 97 | 101 | 96 |
| Advertising | - | - | - | - | - | - | - |
| Architectural and industrial design | - | - | - | - | - | - | - |
| Photography | 13 | 22 | 23 | 25 | 24 | 24 | 25 |
| Amusement parks, games and other entertainment and recreation | 4 | 20 | 17 | 24 | 21 | 11 | 12 |
| Manufacture and sale of entertainment electronics | 158 | 111 | 101 | 152 | 126 | 179 | 263 |
| Organisation of cultural events and related activity | - | - | - | - |  | - |  |
| Education and cultural administration | - | - | - | - | - | - | - |
| Sports industries, total | - | - | - | - | - | - | - |
| Total cultural commodities exports | 423 | 415 | 462 | 566 | 503 | 533 | 624 |
| Total goods exports | 29605 | 39121 | 49387 | 46429 | 45523 | 48790 | 52453 |
| Proportion of cultural commodities of goods exports (\%) | 1.43 | 1.06 | 0.93 | 1.22 | 1.10 | 1.09 | 1.19 |
| A dash (-) in the cell indicates there are no observations - in this case mainly because there is no international trade in goods but rather in services in the industry concerned |  |  |  |  |  |  |  |

Table 12: Exports of cultural commodities/ included groups of goods

| Artistic, theatre and concert activities |
| :--- |
| Libraries, archives, museums, etc. |
| Art and antique |
| Paintings, drawings and pastels (9701 10 00) |
| Original engravings, prints and lithographs (9702 00 00) |
| Antiques of an age exceeding 100 years (9706 00 00) |
| Books |
| Printed books, brochures, leaflets and similar printed matter, whether or not in single sheets (4901) |
| Newspapers, periodicals |
| Newspapers, journals and periodicals, whether or not illustrated or containing advertising material (4902) |
| Motion pictures and videos |
| Cinematographic cameras and projectors, whether or not incorporating sound recording or reproducing <br> apparatus (9007) |
| Apparatus and equipment for photographic (including cinematographic) laboratories (...), not specified or <br> included elsewhere in this chapter; negatoscopes; projection screens (9010) |
| Cinematographic film, exposed and developed, whether or not incorporating sound track or consisting only <br> of sound track (3706) |
| Musical instruments |
| Music, printed or in manuscript, whether or not bound or illustrated (4904 00 00) |
| Accordions and similar instruments; mouth organs (9204) |
| Keyboard pipe organs (9203) |
| Percussion musical instruments (e.g. drums, xylophones, cymbals, castanets, maracas) (9206 00 00) |
| Other string musical instruments (e.g. violins, guitars, mandolins) (9202) |
| Other wind musical instruments (9205) |
| Harpsichords and other keyboard stringed instruments (pianos, grand pianos) (9201) |
| Musical instruments, the sound of which is produced, or must be amplified, electrically (e.g. organs, digital <br> pianos, synthesizers, guitars, accordions) (9207) <br> Musical instrument cases (4202 92 15) <br> Parts and accessories (e.g. strings) of musical instruments; metronomes, tuning forks and pitch pipes of all <br> kinds (9209) <br> other than discharge lamps of heading No. 8539 (9006) <br> instant print film in rolls, sensitized, unexposed (3702) <br> Sound recordings <br> Records, tapes and other recorded media for sound or other similarly recorded phenomena, incl. matrices <br> and masters for the production of records (excl. products of chapter 37) (8524) <br> Radio and television <br> Printing n.e.c. <br> Other printed matter, including printed pictures and photographs (4911) <br> Advertising <br> Photography <br> Objective lenses for cameras, projectors or photographic enlargers or reducers (9002 11 00) |

Photographic plates and film, exposed and developed, other than cinematographic film (3705)
Photographic plates and film in the flat, sensitized, unexposed, of any material other than paper, paperboard or textiles; instant print film in the flat, sensitized, unexposed, whether or not in packs (3701)
Photographic plates, film, paper, paperboard and textiles, exposed but not developed (3704)
Photographic paper, paperboard and textiles, sensitized, unexposed (3703)

## Amusement parks, games and other entertainment and recreation

Roundabouts, swings, shooting galleries and other fairground amusements; travelling circuses, travelling menageries and travelling theatres (95089000)

Articles for funfair, table or parlour games, including pin-tables, billiards, special tables for casino games and automatic bowling alley equipment (9504)

## Entertainment electronics

Reception apparatus for television, whether or not incorporating radio-broadcast receivers or sound or video recording or reproducing apparatus; video monitors and video projectors (8528)
Turntables (record-decks), record players, cassette-players and other sound reproducing apparatus, not incorporating a sound recording device (8519)
Magnetic tape recorders and other sound recording apparatus, whether or not incorporating a sound reproducing device (8520)

Microphones and stands therefor; loudspeakers, whether or not mounted in their enclosures; headphones, earphones and combined microphone / speaker sets; audio-frequency electric amplifiers; electric sound amplifier sets (8518)
Organisation of cultural events and related activity
Education and cultural administration

## Sports industries, total

Compared with the data on exports of services published in the cultural statistics, the following

## items have been excluded:

## Objects of handicrafts and ornaments

'Kelem', 'Schumacks', 'Karamanie' and similar hand-woven rugs (5702 1000)
Articles of goldsmiths' or silversmiths' wares and parts thereof, of precious metal or of metal clad with precious metal (7114)
Hand-woven tapestries (...) , and needle-worked tapestries (...) (580500 00)
Original sculptures and statuary, in any material (970300 00)
Statuettes and other ornamental ceramic articles (6913)
Statuettes and other ornamental articles (3926 40 00)
Statuettes and other ornaments, of wood, of other wood (4420 10 19)
Statuettes and other ornaments, of wood, of tropical wood (4420 10 11)

## Writing, drawing and artists' equipment

Slates and boards, with writing or drawing surfaces, whether or not framed (9610 00 00)
Printing ink, writing or drawing ink and other inks, whether or not concentrated or solid (3215)
Pastels and drawing charcoals (9609 90 10)
Artists', students' or signboard painters' colours, modifying tints, amusement colours and the like, in tablets, tubes, jars, bottles, pans or in similar forms or packings (3213)

Artists' and writing brushes (9603 30 10)

## Others

Musical boxes, fairground organs, mechanical street organs, mechanical singing birds, ... (9208)


Table 14: Government consumption


Table 15: Private consumption

| Million EUR |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Industry $\backslash$ Year | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
| Artistic, theatre and concert activities | 287 | 291 | 307 | 325 | 361 | 421 | 457 | 480 | 504 | 543 | 570 |
| Libraries, archives, museums, etc. | 15 | 14 | 15 | 17 | 18 | 19 | 21 | 23 | 26 | 27 | 30 |
| Art and antique shops | 71 | 60 | 65 | 80 | 75 | 90 | 102 | 105 | 110 | 119 | 126 |
| Production and distribution of books | 218 | 233 | 240 | 251 | 256 | 253 | 254 | 253 | 269 | 276 | 286 |
| Newspapers, periodicals and news agencies | 656 | 699 | 708 | 763 | 804 | 807 | 834 | 830 | 875 | 889 | 914 |
| Production and distribution of motion pictures and videos | 26 | 28 | 28 | 28 | 32 | 37 | 38 | 35 | 40 | 41 | 44 |
| Manufacture and sale of musical instruments | - | - | - | - | - | - | - | - | - | - | - |
| Sound recordings | 136 | 147 | 151 | 169 | 175 | 175 | 172 | 185 | 196 | 194 | 191 |
| Radio and television | 280 | 283 | 291 | 299 | 304 | 337 | 368 | 374 | 375 | 421 | 438 |
| Printing and related activities | 94 | 103 | 105 | 111 | 115 | 121 | 127 | 127 | 132 | 138 | 144 |
| Advertising | - | - | - | - | - | - | - | - | - | - | - |
| Architectural and industrial design | - | - | - | - | - | - | - | - | - | - | - |
| Photography | 180 | 183 | 190 | 197 | 219 | 227 | 229 | 239 | 246 | 254 | 244 |
| Amusement parks, games and other entertainment and recreation | 1088 | 1177 | 1264 | 1363 | 1388 | 1505 | 1556 | 1589 | 1648 | 1697 | 1740 |
| Manufacture and sale of entertainment electronics | 323 | 373 | 379 | 438 | 461 | 485 | 488 | 592 | 610 | 614 | 715 |
| Organisation of cultural events and related activity | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Education and cultural administration | 0 | 0 | 9 | 17 | 30 | 47 | 56 | 60 | 63 | 64 | 67 |
| Sports industries, total | 917 | 1032 | 1073 | 1165 | 1254 | 1386 | 1523 | 1601 | 1689 | 1819 | 1912 |
| Industries, total | 4291 | 4622 | 4825 | 5222 | 5491 | 5911 | 6225 | 6494 | 6784 | 7096 | 7421 |
| Industries, total/ culture | 3374 | 3590 | 3752 | 4058 | 4237 | 4525 | 4702 | 4893 | 5095 | 5277 | 5509 |
| Industries, total/ sports | 917 | 1032 | 1073 | 1165 | 1254 | 1386 | 1523 | 1601 | 1689 | 1819 | 1912 |
| P3Y PRIVATE CONSUMPTION EXPENDITURE | 49790 | 52129 | 54951 | 58552 | 61202 | 65376 | 68971 | 72019 | 75158 | 78137 | 81216 |
| Total proportion of culture and sports of private consumption expenditure | 8.62 | 8.87 | 8.78 | 8.92 | 8.97 | 9.04 | 9.03 | 9.02 | 9.03 | 9.08 | 9.14 |
| Proportion of culture of private consumption expenditure | 6.78 | 6.89 | 6.83 | 6.93 | 6.92 | 6.92 | 6.82 | 6.79 | 6.78 | 6.75 | 6.78 |
| Proportion of sports of private consumption expenditure | 1.84 | 1.98 | 1.95 | 1.99 | 2.05 | 2.12 | 2.21 | 2.22 | 2.25 | 2.33 | 2.35 |

Table 16: Consumption expenditure/ included industries and categories of goods

| Artistic, theatre and concert activities |
| :--- |
| 92311 Artistic creation |
| 92312 Theatre and concert activities |
| C09424S Other cultural services |
| Libraries, archives, museums, etc. |
| 92510 Library and archives activities |
| 92520 Museums, exhibitions and preservation of historical sites and buildings |
| 92530 Botanical and zoological gardens and nature reserves activities (9253) |
| Art and antique shops |
| 52484 Retail sale of art; art gallery activities |
| 52501 Antique shops |
| C05114D Art objects |
| Production and distribution of books |
| 22110 Publishing of books |
| 22230 Bookbinding and finishing |
| 51474 Wholesale of books |
| 52472 Retail sale of books |
| 52502 Second-hand bookshops |
| 52611 Retail sale of books via mail order houses and net commerce |
| C0951 Books |
| Newspapers, periodicals and news agencies |
| 22120 Publishing of newspapers |
| 22130 Publishing of journals and periodicals |
| 22150 Other publishing |
| 22210 Printing of newspapers |
| 52473 Retail sale of journals and periodicals, newspaper kiosks |
| 92400 News agency activities |
| C0952 Newspapers and periodicals |
| Production and distribution of motion pictures and videos |
| 22320 Reproduction of video recording |
| 71401 Renting of videotapes |
| 92110 Motion picture and video production |
| 92120 Motion picture and video distribution |
| 92130 Motion picture projection |
| C09421S Rentals of television, video, etc. |
| Manufacture and sale of musical instruments |
| 36300 Manufacture of musical instruments |
| 51481 Wholesale of musical instruments and supplies |
| 52452 Retail sale of musical equipment and supplies |
| Sound recordings |
| 22140 Publishing of sound recordings |
| 22130 Reproduction of sound recording |
| C09142SD Records, audio and video cassettes |


| Radio and television |
| :--- |
| 64203 Data transmission services |
| 92200 Radio and television activities |
| C09422S Television licences, cable television fees, etc |
| Printing and related activities |
| 22220 Printing n.e.c |
| 22240 Pre-press activities |
| 22250 Ancillary operations activities related to printing |
| C0953 Maps, calendars, cards and other printed matter, etc. |
| C0954 Stationery |
| Advertising |
| 74401 Advertising agency activities |
| 74402 Direct and outdoor advertising activities |
| 74409 Other advertising activities |
| Architectural and industrial design |
| 74203 Architectural activities |
| 74871 Industrial design |
| Photography |
| 51475 Wholesale of photographic equipment and supplies |
| 52485 Retail sale of photographic equipment; photography services |
| 74811 Photographic studio activities |
| 74812 Photographic laboratory activities |
| C09423S Photographer's services and film development services |
| C0912 Photographic and cinematographic equipment and optical instruments |
| C09141SD Films and other photographic accessories |
| Amusement parks, games and other entertainment and recreation |
| 36500 Manufacture of games and toys |
| 51483 Wholesale of toys and games |
| 92330 Fair and amusement park activities |
| 92340 Other entertainment activities n.e.c. |
| 92710 Gambling and betting activities |
| 92720 Other recreational activities n.e.c. |
| C0931 Games, toys and hobby equipment |
| C0943 Football pools, lottery |
| Manufacture and sale of entertainment electronics |
| 32300 Manufacture of television and radio receivers, sound or video recording or reproducing |
| apparatus and associated goods |
| 51432 Wholesale of radio and television goods |
| 52451 Retail sale of electrical household appliances and radio and television goods |
| C09111D Radios, sound reproduction equipment, etc |
| C09112D Televisions and video recorders |
| C09113SD Parts and accessories of entertainment electronics |
| C0915 Repair of audio-visual, photographic and data processing equipment |
| Organisation of cultural events and related activity |
| 74873 Trade fair and product demonstration activities |
| 74879 Other business activities n.e.c |
| 92320 Operation of arts facilities |


| Education and cultural administration |
| :--- |
| 75110 General (overall) public service activities |
| 75121 Administration of education and cultural services |
| 80300 Higher education |
| Sports industries, total |
| 01410 Landscape gardening (01410 ...) |
| 36400 Manufacture of sports goods |
| 45230 Construction of sports facilities (45230 ...) |
| 51478 Wholesale of sports goods |
| 52122 Retail sale in department stores |
| 52488 Retail sale of sports and leisure goods |
| 71402 Renting of sports equipment |
| 92610 Operation of sports arenas and stadiums |
| 92620 Other sporting activities |
| C0713 Bicycles |
| C0932 Sports and camping equipment |
| C0921 Major consumer durables for outdoor recreation |
| C0922 Major durables for indoor recreation |
| C0923 Maintenance and repair of other major durables for recreation and culture |
| C0941 Sports and recreational services |

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1 In EU statistics, the categories pertaining to sports, the environment and nature have been left out.
2 For example, going to restaurants and bars are among the recreational activities of many people.
3 This is why innovation statistics, for instance CIS-surveys, are done by asking from enterprises how much and what kind of innovations they have done. Creativity and innovation both mean creating something new. As an economic phenomenon, creativity is very close to the innovation process but it is difficult to link it to the end product and subsequently to the industry in question.

Another problem is that the concept of "creative industries" includes mainly only artistic creativity and forgets other forms, like scientific or technological creativity. See innovation research by Statistics Finland at http://www.stat.fi/til/inn/index_en.html.
4 Cultural economy in these calculations covers approximately the same entity as culture and media in Finland.

5 The SNA framework means the basic system of national accounts, the principles of which have been laid out in the book entitled System of National Accounts. The current version of the SNA dates from 1993 but reform work is being undertaken.

6 Read the report at http://www.keanet.eu/ecoculturepage.html.
7 Ilkka Heiskanen participated in the Eurostat working groups developing cultural financing in the late1990s.

8 Updating is ongoing at the moment and the timetable aims at the first reformed part being accepted at the meeting of the UN statistics committee in March 2008 and the second part in 2009. After that ESA will also be updated with the aim of it being approved in 2011 and introduced in 2014.

9 An updated version exists of NACE also and the industrial classification in Finland will be reformed accordingly when the new industrial classification standard is introduced in 2008 (TOL2008).
10 Wage information comes from the tax authorities, which means that units that do not declare paid wages to the tax authorities (so-called grey wages) or that do not pay wages or that have no turnover are not included. Separate estimates on grey wages (i.e. wages that have been paid but not declared) are done in national accounts.

11 If we assume that $50 \%$ of a certain industry is included and maintain the same percentage in the future, the figure does not represent the change in the share of culture but in the overall industry, just like the figure including the whole of industry.
12 The transformation is calculated by product in the so-called supply and use tables.
13 In this calculation, the value added of non-market producers equals compensation of employees, because the data on consumption of fixed capital is missing.

14 Data on private consumption are missing (at least in national accounts and cultural statistics), for example, interior design services (which are, however, included here as culture, also for the education in the field). This is but one example of illogicalities causing supply and use not balancing.
15 On the municipal side, i.e. regional administration, the consumption expenditure of industries included in the culture satellite is individual consumption expenditure, that is, services provided by regional administration to citizens without compensation (or at a price that does not cover the costs).

16 The committee had thought about including administration and education but decided against it.
17 For example, Industry 91339 has over 10,000 units and there were no resources to go through them.
18 NB: the industry is divided into two in the new industrial classification (now includes the organisation of events) but even then the organisation of trade fairs and conferences remains in the same industry (and event organising alone is moved elsewhere); we have now reasoned that all trade fairs are cultural (i.e. form is more important than content) but the situation could surely be interpreted in other ways as well - at least there are grounds to reassess the industry when the new classification has been introduced.

19 Inclusion of research in the calculation is not self-evident but requires separate discussion.
20 Because value added is calculated as a deduction of output and intermediate consumption, the growth of intermediate consumption decreases value added.

21 Pekka Oesch defined support for art as "funds allocated by enterprises to any form of art either directly or indirectly" and divides support into five groups: art acquisitions, sponsorship, donations, marketing cooperation and other support (e.g. the purchase of cultural services and the purchase for customers are here counted as marketing cooperation; the same services directed at employees are part of other support). (Oesch, 2005, pp. 14-15, 65).
22 Within the field of culture, teaching hours were divided in 2005 as follows: crafts and industrial art and handicrafts $39 \%$, music $27 \%$, visual arts $17 \%$, theatre and dance $11 \%$, communication and information $2 \%$, literature $2 \%$, other cultural education $1 \%$ and research of culture and arts less than 1\%.
23 A profession-based approach is applied in national accounts in the calculation of programmes for own use, where professionals in the actual Industry 72 are not included to avoid duplicating data. The point of departure is the Eurostat-approved method where other components of costs, including the estimated operational surplus, are added to compensation of employees.

24 Airports are not constructed every year but when they are they are really expensive - the use of the percentage of change for a part of industry does not necessarily tell the whole truth: an airport's effect on the whole industry does not tell anything about the change in construction of sports facilities or recreational areas.
25 For example, books and recordings printed elsewhere are considered imports even though this was a case of "duplication" of Finnish product abroad (as an example, import of Finnish books from Italy, which can be significant annually but does not mean that many Italian books are imported into Finland but that Finnish books are printed in Italy).
26 This decision was affected also by the information that some of the enterprises do not differentiate between exports and imports in different service categories but just publish an aggregate sum.
27 In the 2005 data, the 20 largest establishments account for $70 \%$ of the turnover of the industry (in enterprises 76\%), 69\% of wages (in enterprises 75\%) and 57\% of personnel (in enterprises $72 \%$ ). Establishments belonging to culture among the 20 largest account for $75 \%$ of the turnover of the industry (in enterprises $88 \%$ ), $63 \%$ of wages (in enterprises $80 \%$ ) and $75 \%$ of personnel (in enterprises $82 \%$ ). The share of the industry in culture's value added has varied annually between $1 \%$ and $2 \%$.
28 In the 2005 data, the 50 largest establishments account for $50 \%$ of the turnover of the industry and paid $37 \%$ of wages; cultural units accounted for $22 \%$ of turnover and paid $36 \%$ of wages in those 50 largest establishments. From the enterprise perspective, the 50 largest establishments account for $51 \%$ of the turnover of the industry and paid $39 \%$ of wages; cultural units accounted for $25 \%$ of turnover and paid $42 \%$ of wages in those 50 largest establishments.
29 When speaking of the growth percentage of GDP, we are talking precisely about the change in fixed price GDP.
30 Alternative division bases could be the proportion of personnel or students or teaching hours in cultural education to the data of the whole educational institution but these data are not entirely unambiguous.
31 One suggestion was that the units with education and activities corresponding to those of universities of art and design be included: for example, the teaching at the Department of Acting in the University of Tampere can be likened to that of the Theatre Academy, but the teaching in the Department of Music in the University of Jyväskylä is directed quite differently from that of the Sibelius Academy.
32 In the first stage of the project, the aim is to cover all voluntary activities, they are not grouped in more detail.
33 Just adding up time used and coming up with an hourly rate for that time does not necessarily lead to a correct end result: then the fact that someone uses twice the time for some task, results in double the value, even though the task and end result are the same.
34 However, also excluded from these are photographs developed through other than specialist shops, for example, department stores and kiosks.
35 These years will be complied "for real", i.e. the industries of the units will be gone through; the longer back from 2007 we go, the poorer the data will be and the less certain calculating data on the basis of purely unit-level data becomes.

1 Kansallisen tason tutkimusinfrastruktuurit: Nykytila ja tiekartta
2 National-level Research Infrastructures: Present State and Roadmap
3 Kansallisen tason tutkimusinfrastruktuurit: Nykytila ja tiekartta. Tiivistelmä ja suositukset
4 National-level Research Infrastructures:
Present State and Roadmap. Summary and recommendations

5 Forskningsinfrastrukturerna på nationell nivå. Nyläge och vägvisare. Sammanfattning och rekommendationer
6 Liikuntatoimi tilastojen valossa; Perustilastot vuodelta 2007
7 Yrittäjyyskasvatuksen suuntaviivat
11 Oppisopimuskoulutus Euroopassa. Hyviä käytäntöjä etsimässä
12 Kulttuuripolitiikan strategia 2020
14 Kulturpolitisk strategi 2020
15 Varmennekorttien käyttöönotto ja ylläpito yliopistoissa. Yliopistojen yhteinen suositus. Loppuraportti
16 Tutkimus kuntien yleissivistävän koulutuksen opetustoimen johtamisen tilasta ja muutoksista Suomessa

17 Valtioneuvoston periaatepäätös liikunnan edistämisen linjoista / Statsrådets principbeslut om riktlinjer för främjande av idrott och motion

