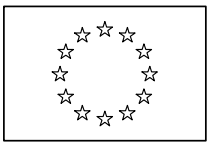

EUROPEAN COMMISSION

Brussels, XXX
[…](2011) XXX draft

COMMISSION STAFF WORKING PAPER

IMPACT ASSESSMENT

Accompanying the document

Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND THE COUNCIL amending European Parliament and Council Directive 2003/98/EC on the re-use of public sector information

{COM(2011) XX final}
{SEC(2011) XX}

TABLE OF CONTENTS

1. PROCEDURAL ISSUES AND CONSULTATION

1.1. Background

Directive 2003/98/EC of the European Parliament and the Council on the re-use of public sector information ('the PSI Directive' or 'the Directive') was adopted on 17 November 2003. The Directive aimed to facilitate the re-use of PSI throughout the EU by harmonising the basic re-use conditions and removing major barriers to re-use in the internal market. The Directive contains provisions on non-discrimination, charging, exclusive arrangements, transparency, licensing and practical tools to facilitate the discovery and re-use of public documents.

The Directive is not a freedom of information act. It does not affect national rules on access to information, but builds on them. Public sector information cannot be-reused unless it is accessible or has been publicly disseminated. However, not all accessible documents are re-usable, e.g. those containing personal data or material protected by intellectual property rights.

The Directive is a building block of the Digital Agenda and of the Europe 2020 Strategy for achieving smart, sustainable and inclusive growth[1]. The legal framework established by the Directive aims to unlock the economic potential of government-owned data by making these resources available for commercial or non-commercial re-use on permissive terms so as to stimulate innovation. The economic importance of open data resources, of which government data are a component, is now widely recognised. For instance, according to a 2010 report by The Economist, data have become *'an economic raw input almost on par with capital and labour'*[2], while the Digital Britain Final Report recognises data as *'an innovation currency … the lifeblood of the knowledge economy'*[3]. However, beyond fuelling innovation and creativity that stimulate economic growth, open public data also make governments transparent, accountable and more efficient.

In order to fully unlock the potential of government data, the EU needs to act according to a coherent approach based on: (1) creating the best legal framework in favour of re-use of public data; (2) coordinating measures undertaken at Member State and EU level to help public sector bodies embrace the open data concept and (3) mobilising available financing instruments to support R&D and innovation in tools for open data and tools based on open data.

The first challenge is to provide the market with the optimal legal framework that will facilitate and stimulate actual commercial and non-commercial re-use of public open data. Ultimately, therefore, the Directive and its revision are aimed at catalysing a change of culture in the public sector, creating a favourable environment for value-added activities resulting from the re-use of public information resources.

Article 13 of the Directive mandated a review of the application of the Directive by 1 July 2008. The review was carried out by the Commission and published as Communication

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1 http://ec.europa.eu/information_society/digital-agenda/index_en.htm

2 http://www.economist.com/node/15557443.

3 http://webarchive.nationalarchives.gov.uk/+/interactive.bis.gov.uk/digitalbritain/report/.

COM(2009) 212[4]. It found that despite the progress made a number of barriers still persisted, namely attempts by public sector bodies to maximise cost recovery, as opposed to benefits for the wider economy; competition between the public and the private sector; practical issues hindering re-use, such as the lack of information on available PSI; and the mindset of public sector bodies failing to realise the economic potential.

The Commission concluded that a further review should be carried out by 2012 when more evidence on the impact, effects and application of the Directive would be available.

This impact assessment (IA) report examines possible options for dealing with problems and challenges identified during the second review of the Directive announced in the 2009 Communication. This review of the PSI Directive is a key action of the Digital Agenda for Europe (key action 1c). Under the Roadmap set for the Digital Agenda, the review of the PSI Directive would be concluded by 2012 in accordance with the conclusions of the 2009 review Communication. However, in view of in view of the large economic potential of unlocking public sector data and its contribution to the 2020 Agenda, the current review was frontloaded to 2011.

In particular, the report examines whether it is necessary to extend the scope of application of the Directive, amend the general principle or amend the charging, licensing and other provisions of the Directive with a view to making the internal market for the re-use of PSI function more efficiently and stimulating the development of the European content industry.

1.2. Implementation of the Directive

All Member States have implemented the PSI Directive, although only four of them met the deadline of 1 July 2005 (for methods of implementation, please refer to Annex 1).

The Commission opened 17 infringement cases[5] for failure to notify national measures transposing the Directive. The Court of Justice of the EU (ECJ) delivered four judgments for failure to notify[6].

In addition, the Commission opened a further five cases, this time for incorrect transposition of the Directive. Two of those cases (against Italy and Sweden) were successfully closed in September 2010 after new national legislation was adopted correctly transposing the Directive, two other cases (against Estonia and Slovakia) are at early stages of the procedure and one case (against Poland) is currently pending before the ECJ.

The less than perfect implementation of the Directive was mainly due to the novelty of the topic of re-use of public sector information at the time the instrument was adopted and the initial confusion between the concepts of re-use of information and access to information.

In line with the Commission Communication on better monitoring of the application of Community law (COM(2002) 725), the Commission has been closely monitoring the

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4 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0212:FIN:EN:PDF.

5 Non-communication of implementation measures initially concerned BE, CZ, DE, GR, ES, IT, CY, LV, LT, LU, MT, NL, AT, PT and HU, and non-conformity of national implementing measures with the Directive concerned IT, PL and SE.

6 For non-communication of implementation measures regarding BE, ES, DE and AT.

implementation process and providing technical assistance. It has also pursued intensive administrative cooperation with Member States.

In addition, the Commission has undertaken several actions to support the proper application and implementation of the PSI Directive (list in Annex 1).

1.3. Public consultation

A wide-ranging public consultation on the review of the Directive was held in accordance with established Commission standards. The consultation was open from 9 September 2010 until 30 November 2010. All interested parties, including governments, public sector content holders (including from currently excluded sectors), commercial and non-commercial re-users, experts and academics as well as citizens, were invited to contribute.

The consultation yielded 598 replies, which were published on the Commission's PSI website. They reflect the different actors present in the PSI value chain: PSI content holders (8%), other public authorities not holding any PSI (4%), PSI re-users (13%), academics and experts (23%), citizens (48%) and respondents identified as 'other' (4%).

In summary, responses to this consultation demonstrate that although compared with the previous review the culture of re-use has made headway in many Member States (in particular the UK, France, Denmark), much remains to be done to maximise the potential of PSI re-use and to fully exploit the rules established by the 2003 PSI Directive, several provisions of which require amendment or clarification.

Public sector bodies and re-users alike called for clarification of and guidance on the charging and licensing principles and on data formats. A higher rate of responding re-users than PSI holders were in favour of amending the Directive, in particular on the issue of changing the general principle (to make accessible information re-usable) and of adopting additional measures (towards opening up public data resources and practical measures facilitating re-use such as asset lists of available documents, simplified or no licensing conditions, marginal costs, etc.) although the rates are not very representative as many PSI holders did not answer many of the individual questions. An overview of results of the consultation is attached in Annex 2[7].

1.4. Expertise

The Commission has conducted the following studies to assess the different aspects of the PSI re-use market, including its economic value: MEPSIR, Study on Exclusive Agreements, Economic Indicators and Case Studies on PSI pricing models, Study on pricing models for PSI, Study on market value of PSI, Study on re-use of cultural material[8]. Key findings of the studies are reproduced in Annex 3.

In addition, the LAPSI[9] (Legal Aspects of Public Sector Information) thematic network looked into some specific legal issues during the first quarter of 2011. These included questions on (1) possible exceptions to a default rule of charging marginal costs, (2) public

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7 A full report is available at http://tinyurl.com/PSIconsultation.
8 A full report is available at http://tinyurl.com/culturePSI.
9 http://www.lapsi-project.eu/.

tasks and non-discrimination, (3) whether or not public undertakings should be covered by the PSI Directive, and (4) licensing.

Finally, further data have been gathered through networking, cooperation, coordination and awareness-raising activities with Member States and stakeholders. The ePSIplatform provides wide-ranging PSI data across the EU[10].

1.5. Commission Inter-Service Group

An Inter-Service Steering Group was set up in August 2010 to prepare the impact assessment for the review of the PSI Directive. The following DGs and services were invited: the SG, the LS, COMP, DIGIT, EAC, ENTR, ENV, JUST, MARE, MARKT and RTD. The first meeting of the Steering Group took place on 4 August 2010 and subsequent meetings were held on 4 March, 8 June and 13 July 2011. The text of the IA Report was submitted to the members of the IA Steering Group for a final round of comments on 19 July.

The Steering Group contributed to major steps in the preparation of the impact assessment and in particular to the questions for the public online consultation on the review as well as the draft impact assessment report.

1.6. Impact Assessment Board

The meeting of the Impact Assessment Board took place on 31st of August 2011. The Board issued a positive overall opinion stating that the impact assessment report presents an adequate level of assessment. The Board also indicated several recommendations for improvement. The present report takes into account all the recommendations of the Board. In particular the context of the proposal was clarified and definitions were improved. Also the presentation of policy options was enhanced and the issue of expected costs for PSI holders and relations between the PSI and environmental policies were clarified. The present report also improved monitoring and evaluation arrangements.

2. PROBLEM DEFINITION

The following problems and barriers persist with respect to PSI re-use:

(1) Insufficient clarity and transparency, including practical issues,

(2) Licensing terms that are restrictive or unclear, or lacking altogether,

(3) Lack of information on available data,

(4) Lack of a robust complaints procedure,

(5) Locked resources,

(6) Excessive charging and lack of a level playing field, including attempts by public sector bodies to maximise cost recovery, as opposed to benefits for the wider economy,

[10] http://www.epsiplatform.eu/.

(7) Unfair competition practices between the public and the private sector,

(8) Incoherent approach within and across the Member States,

(9) Ineffective enforcement mechanisms.

In this report, the Commission must assess whether, in the light of developments in the PSI re-use market and of experience with the application of the current Directive, there is a need to amend its provisions. In considering this issue the Commission has to take into account the changes in the re-use markets brought about by the Directive and to assess whether barriers remain and, if so, what they are and how best they can be tackled.

2.1. Definition of public sector information

Public Sector Information (PSI) is publicly funded information produced or collected by the public sector. Data produced or collected by state owned companies operating under market conditions and subject to private and commercial laws are not covered by this definition. Public bodies are the largest producers of information in Europe.[11] PSI includes a plethora of data, listed in the table below. The list is indicative and not exhaustive and individual domains are not exclusive, e.g. the category "Natural resource information" includes information that can be part of "Scientific information" and "Research data" or "Geographic information".

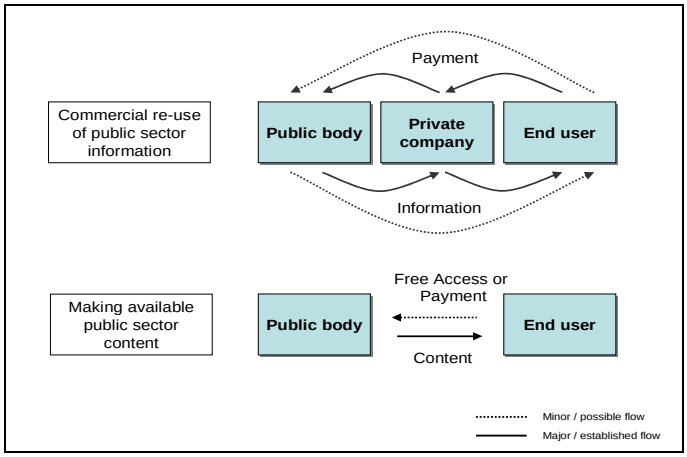
COMMERCIAL EXPLOITATION OF PSI	Geographic information	Cartographic information Land registry data Spatial data Topographical information Geological information
	Meteorological and environmental information	Oceanographic data Hydrographic data Environmental quality data Weather data
	Economic and business information	Financial information Business register data Company information Economic and statistical data Industry and trade information
	Traffic and transport information	Transport network information Traffic data Car registration data
	Legal system information	Case law Legislation Patent and trademark data Crime Data/Statistics
	Scientific information and research data – currently outside the scope of	

[11] Study on commercial exploitation of Europe's Public Sector Information, PIRA International, 2000: http://ec.europa.eu/information_society/policy/psi/docs/pdfs/pira_study/commercial_final_report.pdf

	the PSI Directive	
	Political content	National proceedings of governments
		Non-procedural data
	Cultural content – currently outside the scope of the PSI Directive	Museum material
		Gallery material
		Library resources
		Archival content

Non-PSI data is e.g. transactional data of private companies including information about customers, suppliers and operations.[12]

Re-use of public sector information means any creative use of data by e.g. adding value to the data, combining data from different sources to produce a desired result and developing applications, for both commercial and non-commercial purposes. 'Re-use' centres on exploiting the economic value of public information where PSI serves as 'raw material' to develop new products and services. Whereas public bodies are the creators and suppliers of the original material, the private sector plays a major role as an intermediary and information processor between the source of the information (public body) and the end users (figure below). Public bodies also integrate the value chain vertically and provide products directly to final users[13].



Source: Review of recent studies on PSI re-use and related market developments, G. Vickery

Businesses use PSI in three main ways: for own business purposes; to produce products for consumers; as an input to produce products for industry. 'Own business use' include e.g. retailers with ordering systems, which allow them to adapt rapidly to changes in demand for products where the key factor is the weather (e.g. sales of ice-cream, barbecues and other summer goods). These retailers use weather data to predict short-term demand patterns.

Suppliers of goods or services which appeal to particular population groups, e.g. elderly people, may make use of population and social trend statistics to estimate long-term demand.

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12 "Big Data: the next frontier for innovation, competition and productivity", Report of the McKinsey Global Institute, May 2011

13 Review of recent studies on PSI re-use and related market developments, Graham Vickery, Information Economics, July 2011.

Businesses also use PSI as an input into products developed for industry, use of maritime data from international hydrographic offices to produce a range of naval navigation products such as radars or autopilot systems for the commercial shipping industry.

2.2. Who is affected

Products and services based wholly or partly on PSI (e.g. GPS, weather forecasts, financial and insurance services, 'apps') generate new businesses and jobs, increase consumer welfare and enhance citizens' public engagement. Public sector content has an important role in the digital age as a driver of not only economic, but also civic activity.

Key stakeholders comprise Member States, their national administrations and all their public sector bodies as they are the source of the data in question. These institutions are affected to the extent that they must devise a structure to make the data they produce and/or collect suitable for re-use and to process the re-use requests.

Secondly, PSI re-users, both commercial and non-commercial, are affected in that their rights regarding the re-use of PSI are defined in the provisions of the Directive. A reliable supply of quality data is furthermore a prerequisite for the development of markets for re-use of PSI.

Thirdly, consumers and citizens at large are affected in at least two fundamental ways. On the one hand, re-use of PSI results in an improved offer of attractive and useful products and services, which enhance consumer and business welfare. Moreover, PSI re-use positively impacts governance by enhancing the ability of citizens to engage in the political process and by requiring greater transparency and governmental accountability.

2.3. Analysis of the current PSI market[14]

Estimated on the basis of the latest available studies, the narrowly defined EU27 direct PSI-related market was worth around €28 billion in 2008. Taking 7% per year as a lower estimate, the EU27 PSI market could have grown to €32 billion by 2010, provided that PSI markets continued to be unaffected by the recession. With respect to individual Member States, estimates of the value of the PSI re-use market in the UK range from €750 million in 2005[15] to €6 billion in 2010.

In 2009, the Spanish Government analysed a sector defined as 'the set of companies that create applications, products and/or value-added services for third parties, using public sector information', including business/economic, legal, geographic/cartographic, meteorological data, social data/statistics and transport data. According to the results of the analysis, business turnover directly associated with these activities is € 550-650 million, 35-40 % of total activity amounting to € 1.6 billion, and the size of the sector is similar to the video game software development industry and online advertising[16].

Although care needs to be taken with these estimates as they come from a wide range of sources using different methodologies, it is clear that even the narrow PSI-based market is

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14 Op.cit. Graham Vickery, July 2011

15 The commercial use of public information (CUPI), Report of the UK OFT, December 2006, http://www.oft.gov.uk/shared_oft/reports/consumer_protection/oft861.pdf

16 Source: 'Annual Report on Digital Contents in Spain 2010', ONTSI. Data for 2009: total € 8.0 billion, video games (software) 8 % (€ 640 million), online advertising 8.2 % (€ 656 million): www.ontsi.red.es.

economically important and the direct economic 'footprint' is probably larger due to PSI use and re-use activities in other industries and in government.

On the other hand, direct revenues to governments from PSI are relatively low and are much lower than the estimated first- and second-order benefits from access to PSI. Upper-end estimates calculated from the most comprehensive data available suggest that EU-27 government revenues are of the order of € 1.4 billion based on revenues in the Netherlands, and even higher at around € 3.4 billion if based on the United Kingdom. These two countries have been relatively effective in collecting revenues, and revenues for the EU-27 are likely to be considerably lower. Despite the relatively low level of revenues, there are indirect effects of reduced access and pricing at more than marginal costs of distribution, including lower growth, reduced employment and reduced dynamism of new information-based industries, in addition to foregone government taxation revenues from higher-growth industries.

2.4. Assessment of the impact of the current Directive

The PSI Directive has harmonised the basic legal framework for re-using PSI in the internal market in order to facilitate re-use of PSI across the EU, where the Member States used to apply markedly different rules and practices.

New re-use friendly legislation has been introduced (BE, SE). FR has introduced the principle of marginal costs in its legislation and individual public sector bodies have moved towards a marginal cost regime, e.g. the Spanish land registry, or drastically reduced their prices, e.g. the Austrian Mapping Agency (BEV), which reduced its prices by up to 97 % for certain datasets. The decrease in prices has been offset by the huge increase in demand (in some cases by 7 000 %) and BEV's total turnover has remained stable.

Web portals on available PSI as a tool for finding, using and trading information are being created, e.g. in the UK, FR, SI, ES, FIN, IT.

In the study evaluating the impact of the Directive in three main sectors of PSI — geographic, meteorological and legal/administrative information — the different indicators monitored to measure PSI re-use highlight market growth and increased re-use in all of these sectors in recent years[17].

In the geographic sector, download volumes of PSI in 2007 had grown by approximately 350 % since 2002[18], and in Germany alone the market was estimated to be € 1.5 billion, a 50 % increase since 2000[19]. National meteorological offices have reported increases in download volumes of 70 % between 2002 and 2007[20], and the EU meteorological market was estimated in 2006 to be worth € 530 million, a 60 % increase since 1998[21]. In the legal and administrative sector, the majority of content holders have made significant changes to their data policies in the last few years and offer the information now for free on the internet. Content holders have reported 40 % growth in the market since 2002 and re-users also

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17 Assessment of the Re-use of Public Sector Information (PSI) in the Geographical Information, Meteorological Information and Legal Information sectors, MICUS, 12/2008.

18 Ditto.

19 Study on 'Prospects for Business Models of German Companies in the European and Global Geoinformation Market', MICUS, Düsseldorf/ Berlin, May 2008.

20 Op. cit., MICUS 12/2008 Study.

21 *Towards a stronger European market in applied meteorology*, Dr R. E. W. Pettifer, Meteorological Applications, Volume 15, Issue 2, pp. 305-312.

confirm a steady increase in income[22]. In France, the legal information sector is one of the most dynamic sectors in the professional digital information market, with strong market growth, 17% in 2007, resulting from high value-adding[23].

In new sectors, satellite navigation has seen exponential growth during the past decade as it affects many economic sectors (e.g. road transport). The worldwide annual market for positioning services and equipment climbed from €1bn in 2000 to €20bn in 2005. Recently, the market has started to gather speed. For example, over 20 million personal navigation devices were sold in 2007 — a fivefold increase over 2005.

In addition, although the main goal of the PSI Directive is of an economic nature, re-use of public data is also increasingly perceived as lying at the heart of democratic engagement and offering potential for innovative changes in the delivery of public services and for citizen empowerment.

Nevertheless, despite these achievements, implementation of the Directive and progress in PSI re-use across the Member States has been uneven and much of the potential of PSI remains untapped as many resources are locked in, difficult to find or made available on prohibitive terms, thereby preventing development of the national and EU PSI re-use markets (see Annex 1).

2.5. Estimated market developments

All studies show relatively rapid growth in PSI-related markets, no matter whether they are more or less open. Growth rates are estimated variously in the range of 6-11%[24].

A recent study estimates the total public sector information related market in 2008 at € 28 billion across the EU.[25] The same study indicates that the overall economic gains from further opening up public sector information by allowing easy access are at around € 40 billion a year for the EU27. The aggregate direct and indirect economic impacts from PSI applications and use across the whole EU27 economy would be in the order of € 140 billion annually.

Economic valuations also demonstrate that the direct market associated with the use of PSI is less important than related spillovers and new uses in a wide variety of goods and services industries. Thus future innovations associated with easier access to PSI can be expected to add further economic and social benefits to the EU-27 economy[26]. These estimates are based on an in-depth review and analysis of the most viable aggregate studies available of plausible values for the PSI market, the potential gains from freeing up access and estimating the wider economic impacts that could accrue from using PSI across the economy.[27]

Recently, an in-depth survey across the EU-27 presented a picture of generally dynamic growth in the geographic information, meteorological information and legal information sectors through 2008. Unmet market demand for more PSI is significant, and it was

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22 Op. cit., MICUS 12/2008 Study.

23 Groupement Français des Industries de l'Information (GFII), L'information électronique professionnelle en France: Le marché en 2007 et les tendances.

24 Ditto.

25 Review of recent studies on PSI re-use and related market developments, G. Vickery, August 2011.

26 Ditto.

27 Op.cit. Vickery

recommended that PSI holders focus on crucial issues of licensing and pricing and provide greater support for PSI re-use[28].

In the sub-area of environmental impact assessment studies the market was worth €1 billion per year in 2009. Improved access to information, saving up to €200 million per year, including sub-national assessments, could increase market values by a factor of 10[29]. In the satellite navigation sector, by 2025 the market in Europe is predicted to reach €135 billion and support many new jobs[30].

In the geospatial sector, benefits could be increased by some 10-40%, depending on the estimation method, by improving access and data standards. Better policies in the area of geospatial applications in local government could help the productivity gains from applications almost double over the next five years. Large markets are also estimated in the financial, energy and construction sectors[31].

PSI is an important raw input for the development of applications. Even if North America remains the lead market, the Markets and Markets report (2011) estimates that the European mobile applications market is expected to become the largest market by 2015, at US$ 8.4 billion, and to grow at a compound annual rate of 33.6 percent during 2010-2015[32].

A range of detailed national studies points to growing markets and new applications. For example in Denmark the energy sector indicated that better access to PSI could be of significant value, with the energy industry estimating that in conjunction with the construction industry the potential national market for energy improvements drawing on various government data sources is €0.54-2.7 billion. For the United Kingdom welfare gains to the whole economy of moving to marginal cost pricing and easier access were estimated to be worth at the upper end €5.1-6.7 billion per year, with middle range estimates of €1.8-2.25 billion. Although the UK PSI access and licensing system remains somewhat different from other EU-27 countries, UK estimates of the positive impacts of removing barriers to access are likely to be a realistic proxy across the EU-27, due to the general nature of disincentives to use, lack of information, poor interoperability etc. that have stifled easy use of PSI. At a different level there are quantifiable benefits in time saved in work and leisure activities from making information flows simpler and more efficient. In Norway, for example, time savings of as little as 2 hours per person per year were conservatively estimated to be worth around €32.5 million in 2010[33].

Overall, exploiting the potential in the PSI market is seen to require lower pricing and less restrictive licensing agreements. Countries including France and the United Kingdom have radically overhauled their PSI access systems, and other countries including Denmark, Norway and Spain have made access easier and less costly. A number of countries have also

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28 Ditto.

29 Craglia, M., L. Pavanello and R. S. Smith (2010), "The Use of Spatial Data for the Preparation of Environmental Reports in Europe", European Commission Joint Research Centre Institute for Environment and Sustainability, Ispra, Italy, available at: *http://ies.jrc.ec.europa.eu/uploads/SDI/publications/JRC_technical%20report_2009%20EIASEA%20survey.pdf*

30 Galileo Facts&Figures.

31 Op. cit. Vickery.

32 http://www.marketsandmarkets.com/Market-Reports/mobile-applications-228.html.

33 Ditto.

stressed the international dimensions of PSI access, both in accessing international data, and in developing international markets for national data[34].

2.6. Remaining problems

In practice, a company seeking to develop a commercial online product that draws on public data across all the EU Member States is likely to be confronted with the following obstacles:

- Insufficient clarity and transparency
- Locked resources
- Excessive charging and lack of level playing field
- Insufficient enforcement of re-use provisions
- Incoherent approach across the Member States

Despite the provisions of the Directive, practical barriers to re-use persist at different stages of re-use. The replies to the public consultation were a key source of information about these barriers. The following ones were most frequently listed.

2.6.1. Insufficient clarity and transparency

Although data portals have been developing, re-use is still hindered by lack of information about what data are actually available. Further down the line, re-users still encounter restrictive or unclear rules governing access and conditions of re-use; discouraging, unclear and inconsistent pricing of information when re-use of information is chargeable and complex and lengthy licensing procedures or the impossibility to obtain licences.

In this respect, re-users responding to the consultation frequently indicated that inconsistency in licensing terms and standards is one of the major obstacles facing commercial re-users, particularly those creating pan-European services. In a UK survey, over a third of respondents reported problems with PSI holders and over two thirds of these said that they were serious[35]. Among the problems listed were the lack of knowledge about what information PSI bodies hold, inability to obtain PSI in a sufficiently unrefined form and on appropriate licensing terms to make their products and services financially viable (only more expensive and sophisticated products are available)[36].

Euroalert.net is a brand owned by Gateway SCS3, focused on delivering innovative and cost-efficient information services designed to add value to public sector information generated within the framework of public contracts published in EU Member States as well as the information generated by EU Institutions own activity. According to Euroalert.net it is not always possible to sign a license agreement as some data holders are not still aware about open data policies or are simply not willing to release data for commercial re-use. In many cases this has been identified as the most important barrier to re-use public sector information, once the technical issues have been solved.

[34] Ditto
[35] Op. cit. OFT CUPI, p. 6
[36] Ditto

A specific problem arises with respect to the issue of public tasks. The scope of application of the Directive is currently defined by reference to activities falling within the scope of the public task of the public sector bodies concerned, as defined by law or by other binding rules in the Member State or, in the absence of such rules, as defined in line with common administrative practice in the Member State in question. The reference to Member States' administrative practice for the purpose of defining what constitutes a public task has led some public sector bodies to refer to the concept of public task in order to restrict the scope of application of the Directive and escape provisions prohibiting cross subsidies and other preferential treatments in regards of their own commercial activities. This situation of insecurity with respect to which data do fall within the Directive's scope has negative impacts on re-use possibilities and reduces incentives for commercial re-use.

Overall, the whole process of obtaining permission to re-use public sector information is still often likely to be time-consuming and bureaucratic. Indeed, as demonstrated by the findings of a study, small and medium-sized enterprises are likely to find the process too complex and shelve their product simply because they would not have the resources to follow the process through to conclusion[37].

In the **United States** access to and re-use of federal government information is enhanced by a clear and simple legislative framework. Citizens and businesses enjoy a broad right to electronically access this information and have extensive possibilities to re-use it for commercial purposes. There are no restrictions on re-using public sector information generated by federal agencies. Fees for re-use are limited to, at most, marginal costs for reproduction and dissemination. Since 2009, 389 730 raw and geospatial datasets have been published and 1 019 government apps have been developed.

2.6.2. Locked resources

The Directive exempts several types of data from its scope of application: data protected by third-party intellectual property rights, data protected under accessibility regimes and privacy protection laws and data from three excluded sectors of activity — public broadcasting, educational and research establishments and cultural institutions. Of these exemptions, the specific feature of the excluded sectors is that they are indeed re-usable public sector information and are already to a varying extent subject to re-use, albeit under unregulated conditions, in particular public domain cultural material.

There were several reasons for excluding the three sectors from the scope of the Directive.

Exclusion of cultural institutions resulted from the fact that much of the cultural material remained outside the scope of the Directive due to third party IP rights. The remaining public domain material was predominantly in analogue formats, which in any case restricted re-use possibilities. In addition, at the time of nascent re-use markets and related insecurities, cultural institutions were anxious about preserving their ability to control the way in which their collections were being used. In the meantime, digitisation of cultural heritage has resulted in the availability of significant amounts of valuable digital cultural material that is either public domain or protected by institutions' own rights and which is increasingly re-used, including in commercial products such as smartphone applications. Also, cultural

[37] Op.cit. Deloitte

institutions have increasingly embraced the re-use market to raise extra funds and because re-use contributes to the fulfilment of their main public task – dissemination of culture

Exclusion of public service broadcasters (PSBs) was mandated by their special status guaranteed by the system of public broadcasting, which grants PSBs exclusive competence to organise the commercial exploitation of their material, within the framework of the EU competition rules. In addition, third-party intellectual property rights (e.g. music rights) form an integral part of virtually all broadcast material so nearly all broadcast material held by PSBs that could potentially be suitable for the re-use would be excluded. These considerations have not changed since the Directive was adopted in 2003.

Finally, the research and educational sector was excluded partly by virtue of intellectual property or other third-party rights covering much of the material, but mainly because the research sector features its own dynamics and has a well established system for disseminating and exploiting research findings and results. Access to research results and scientific journals has received much attention from scientists, publishers and policymakers and is being discussed within a separate channel, different from the generic discussion of availability of public data for re-use.

2.6.3. Excessive charging and lack of a level playing field

Despite some encouraging examples of individual public sector bodies releasing their data for free or at marginal costs of distribution, in some markets re-users complain about charges being set at a level that effectively constitutes a barrier to re-use, in particular for SMEs.

Small companies, particularly start-up companies, cannot flourish when PSI holders practice prohibitive charges. This criticism was for example made by re-users in the meteorological sector (see Annex 4 for details). High prices may result in a stagnation of the sector, with negative consequences for national treasuries.

Some public bodies apply a unit price that is reasonable for a single unit, but not for the entire database. As a consequence, the total price of the full data set is prohibitive. For instance, the full database of CENDOJ (in charge of the Spanish legal database) would cost €3.4m, although one unit (i.e. a single sentence) would be perfectly affordable at €1.5. The same circumstance applied to the former charging regime of the French land registry, where the entire digital map would have cost a re-user €5.7m (the price of a single map was €9.5) and, therefore, despite interest on the part of re-users, was never bought[38].

A study concluded that in those cases where cost-recovery regimes are still applied, the calculation basis for setting PSI re-use charges appears to be weak. The public bodies concerned were mostly unable to explain the basis for cost allocation and, in some cases, the setting of charges seemed to be geared towards filling budget gaps rather than a cost-oriented tariff as is required under the Directive[39].

Many public sector bodies do not distinguish adequately between the information for which they are the sole supplier (unrefined) and their information products and services to which they have added value (refined), which are or could also be provided by the private sector if it had access to the unrefined data on suitable terms. This has a knock-on effect for pricing as

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38 Op. cit. Deloitte.

39 Pricing of Public Sector Information Study, Deloitte, July 2011.

public sector bodies fail to separate their unrefined and refined information operations, even at an accounting level. Costs are therefore not always allocated between the unrefined and refined information operations of the public body, which cannot ensure that the prices charged reflect the relevant costs of their provision. It also means that it is not possible to determine whether the prices of unrefined information, for businesses producing refined information products, are consistent with those charged internally within a PSI holder that produces refined information products.

This specific problem arises when public sector bodies combine the exercise of their public tasks (funded from the state budget) with commercial revenue-raising activities, which are not in themselves prohibited by the PSI Directive. There is evidence where the issue has been investigated at national level but re-users are unlikely to come forward for fear of negative consequences on their business relationship with the incumbent public bodies. The example below demonstrates the difficulties that re-users face in obtaining PSI for re-use in some markets. It also illustrates the reluctance to bring proceedings against public bodies that do not comply with the re-use provisions, for reasons of reliance on the supply of data from the public body (a monopolist on the market) and insufficient or ineffective redress mechanisms.

Problems were also identified in a UK 2006 Report, which found that a PSI body had an explicit licensing exception policy that prevents businesses from competing with the current value-added products of the PSI holder itself or with any it intends to market.[40] Also in the UK, businesses have been unable to gain licences of sufficient length to allow them to tender for a major government contract in competition with the PSIH from whom they need the licences.[41]

Problems with downstream access conditions and transparent wholesale pricing were also identified with regard to the Swedish national mapping agency (monopolist on several downstream markets) and the Swedish meteorological and hydrological institute. The Swedish Agency for Public Management (Statskontoret) found that private companies had difficulty entering the market for processed geographic and meteorological information because of difficulties in accessing data from the two PSI bodies and of the lack of well-defined boundaries between data production and data processing[42].

While competing with the private sector on the markets for products and services based on the PSI that they produce and/or collect, these public sector bodies tend to impose pricing and licensing conditions that prevent a level playing field and ultimately prevent or eliminate competition on these markets. The missing or weak competition on many re-use markets ultimately has negative impacts on the economies at large.

2.6.4. Insufficient enforcement of re-use provisions

The lack of an efficient and effective redress system was one of the major problems with the PSI re-use system identified by respondents to the public consultation, in particular re-users, citizens and experts (see Annex 2).

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40 Op. cit. OFT CUPI, p. 6

41 Ditto

42 Competition at the Public/Private Interface, 2005 Report, Statskontortet (Swedish Agency for Public Management), available at http://www.statskontoret.se/upload/Publikationer/2005/200519A.pdf

Although Member States have functioning general redress systems, only some have set up specific authorities to hear complaints against public bodies infringing the rules for re-use of PSI. While e.g. the Slovenian[43] and French[44] independent authorities are exemplary insofar as redress systems are concerned, re-users in most Member States face cumbersome and lengthy proceedings ill suited for dealing with their complaints, which often require swift results. The lack of an effective redress mechanism in some Member States (time to decision, effective competencies of bodies) prevents re-users from enforcing their rights against monopoly suppliers of PSI, leading to inefficiencies on some markets, resulting in negative impacts on competition and innovation and ultimately on consumer welfare (see Annex 6 for examples on the market for meteorological information).

In addition, due to the differences in the judicial systems of individual Member States, the plaintiffs often face significant costs and difficulties in identifying competent courts or authorities and applicable rules of procedure, with negative impacts on the internal market for re-use of PSI.

2.6.5. Incoherent approach across the Member States

Implementation and application of the Directive and progress in PSI re-use across the EU Member States has been uneven, thereby preventing development of a true pan-EU PSI re-use market and leaving much of the potential of PSI untapped. The varying pace at which individual Member States are embracing the PSI re-use policy risks further fragmenting the internal market to the detriment of businesses, consumers and citizens. Examples of incoherencies abound, e.g. some Member States practise charging at marginal costs as a default principle; some have extended the principle of re-usability to generally accessible material; effective and efficient redress systems are secured only in some Member States; discoverability of public data is very unequal from one Member State to another; some data are re-usable in one Member State but not in another (e.g. transport data).

These inconsistencies and changing rules result in higher transaction costs for re-users engaging in cross-border activities, lowering the incentives to undertake them as companies cannot develop stable and sustainable PSI-based business models[45]. This fragmentation negatively impacts the ability to scale up of national businesses in the EU Member States. When constrained to operate within national borders or only a number of Member States, businesses fail to grow and the benefits of the internal market and its 500 million consumers remain illusionary.

2.7. Subsidiarity assessment

2.7.1. Necessity of action at the EU level

The PSI Directive was adopted on the basis of Article 114 TFEU (formerly Article 95 TEC). The revision will build on this legislation and the aim of the revising measure is to eliminate persisting and emerging differences between Member States on the exploitation of public sector information, which hamper the realisation of the full economic potential of this resource. Furthermore, the objectives of the revising instrument are to facilitate the creation of EU-wide products and services based on PSI, to enhance an effective cross-border use of PSI

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43 Information Commissioner, http://www.ip-rs.si/?id=195.

44 Commission d'Accès aux Documents Administratifs, CADA, http://www.cada.fr/index.htm.

45 Op. cit. Deloitte.

for value-added products and services, to limit distortions of competition on the EU market and to prevent the deepening of disparities among Member States in dealing with re-use of PSI.

The content of the revision corresponds to those aims.

The economic importance of open data, and in particular of government data, as a basis for new information services and products is now more widely recognised than in 2002, when the Commission made its proposal for a Directive. While the basic framework rules for the re-use of public sector information have been harmonised at EU level, several issues remain and some have emerged.

As a result, the existing legal framework is considered by stakeholders to no longer sufficiently provide conditions that can maximise the potential benefits of public data resources in Europe. With the development of PSI-based activities, some of the current substantive rules hamper the development of activities based on re-use of PSI and lead to a fragmented internal market as individual interested Member States adopt more advanced rules. It is thus clear that the objectives of the proposed actions cannot be achieved at the Member States' level.

2.7.2. EU added value

The current charging regime, based on cost maximising allowed by the rules of the Directive is considered inadequate for incentivising activities based on re-use of public data. In fact, currently several Member States have individually moved to the marginal costs charging regime while others have maintained the cost recovery regime (see Annex 1). Only action at EU level in the form of a binding harmonising provision can ensure that the default charging rule and exceptions are coherent across the EU in order to stimulate re-use activities.

Moreover, in some Member States public bodies have discretion as to whether to permit re-use[46]. As a result, '*there is an obvious lack of harmonisation amongst the Member States regarding re-use of public data, which may also apply to (public) traffic data*'[47]. Action at EU level is necessary to guarantee e.g. that re-use is allowed for core valuable public sector data across Member States and that individual commercially active public bodies, such as meteorological or geographic institutes, do not hamper the development of innovative products and services.

Also, difficulties with obtaining effective redress in several Member States when PSI re-use rules are infringed deter re-users from engaging in ambitious re-use projects across the EU.

Further harmonisation of the basic principle, the charging regime, the scope or enforcement mechanisms in order to alleviate the fragmentation of the internal market and to stimulate cross-border PSI-based products and services cannot be achieved at Member State level alone.

As regards the scope, the object of the revision is not to regulate, directly or indirectly, the right of access to the public documents, which remains the sole and exclusive competence of

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[46] UK Re-use of Public Sector Information Regulations 2005, 'A public sector body may permit re-use' (regulation 7(1)).

[47] Study regarding guaranteed access to traffic and travel data and free provision of universal traffic information, Lyon, 11 October 2010.

Member States. The revised provisions would apply to re-use of documents where these are generally accessible, including under national access rules.

Also, the object of the revision is not to regulate processing of personal data by public sector bodies or the status of intellectual property rights, which are not affected either in their existence, ownership or exercise beyond the boundaries of the existing rules of the Directive.

This impact assessment demonstrates that without targeted action at EU-level, regulatory activities at national level, which have already been initiated in a number of Member States, might result in even more significant differences that already exist. Those existing national provisions will in the absence of further harmonisation disturb the operation of the internal market. At the same time, the EU action is restricted to the elimination or prevention of the identified obstacles.

2.7.3. International obligations

The PSI Directive sets conditions for re-use of PSI, some of which may be covered by intellectual property rights. By doing so, the Directive impacts the way, in which public bodies may exploit their intellectual property rights but leaves intact the question of their existence and ownership. As a result, the relevant provisions of the Directive must comply with the international obligations of the EU in the area of intellectual property rights, and in particular with the applicable provisions of the TRIPS Agreements and of the Berne Convention, which set the boundaries for exceptions or limitations to intellectual property rights in national regimes. These exceptions and limitations may only apply if they do not impact the normal exploitation of a work and if they do not unduly prejudice the legitimate interests of rightsholders.

The directive presently under review recognises, when setting boundary conditions of fairness, transparency, non-discrimination or prohibition of exclusive arrangements, that *"The Directive does not affect the existence or ownership of intellectual property rights of public sector bodies,* ***nor does it limit the exercise of the rights*** *in any way* ***beyond the boundaries set by this Directive"*** [emphasis added]. This question has been developed in further detail in section 4.4.4 below.

2.8. Conclusions on the problem

1. Although the overall PSI market is progressing, opening up PSI by allowing easy access at marginal cost can bring gains of around €40 billion for the EU-27, and aggregate direct and indirect economic impacts from PSI applications and use across the whole EU-27 economy are of the order of €140 billion, showing clearly that there are large economic benefits to be gained from easier access to and greater use of PSI.

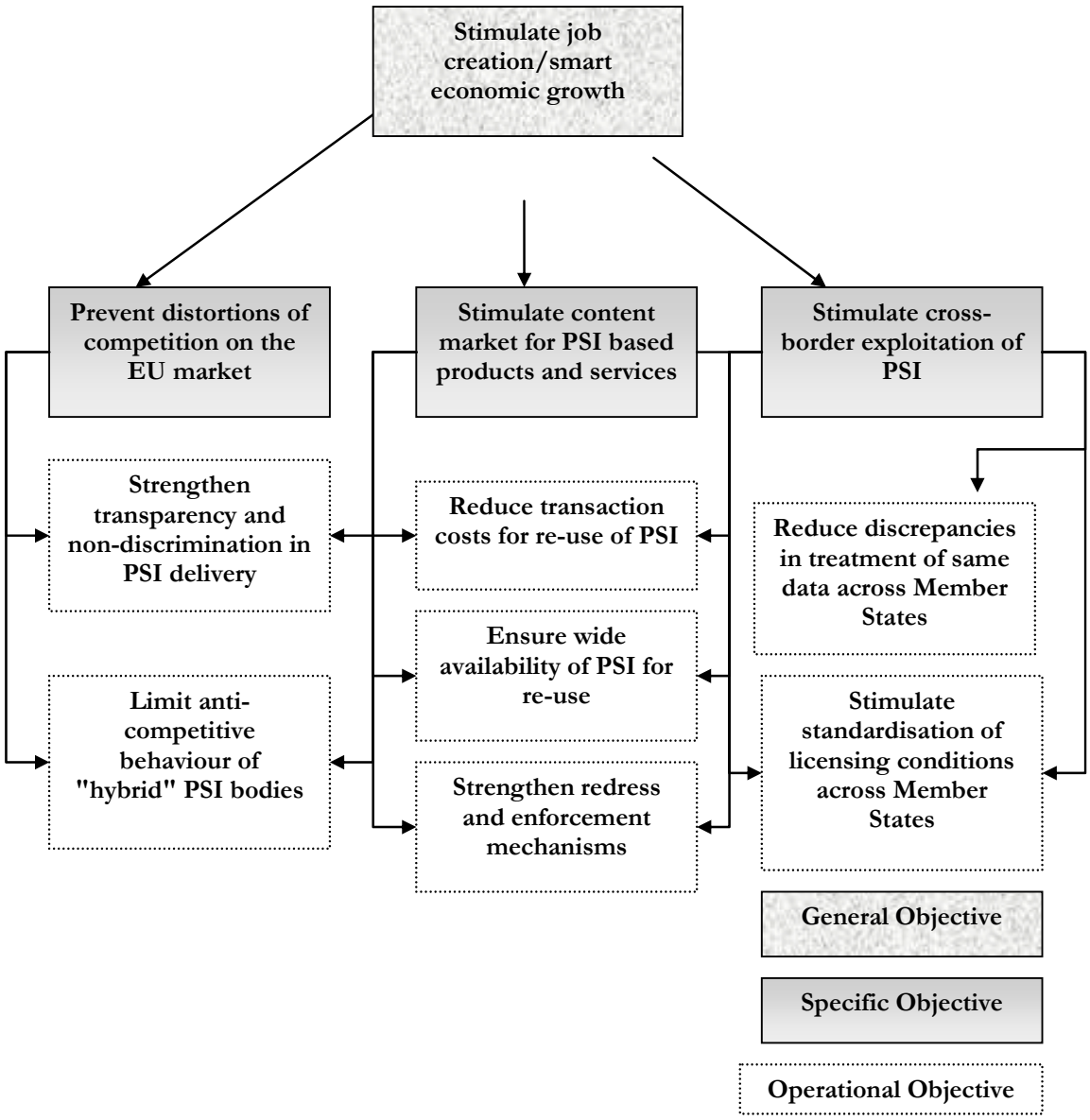
2. Lack of clarity and transparency as well as persisting restrictions prevent the EU from reaping all the benefits from the potential in re-use of PSI. Among the most important impediments are: the lack of a level playing field where public bodies compete with the private sector, excessive pricing, restrictive licensing provisions, lack of information on available data and insufficient redress mechanisms.

3. The varying pace and extent to which individual Member States are embracing the PSI re-use policy and promoting a more open data culture risks further fragmenting

the internal market and hamper the business's ability to scale up to the detriment of businesses, consumers and citizens.

3. OBJECTIVES

The following chart presents an overview of the general policy objectives, specific objectives and operational objectives.



3.1. General objectives

Public sector information is a key primary material for digital content products and services with large hitherto unexploited potential. The general objective of this EU action is to contribute to economic growth and job creation by improving the conditions for the exploitation of PSI and facilitating the further development of the internal market for products and services based on its re-use. The policy of opening up PSI for re-use has also a positive

effect on transparency, efficiency and accountability of governments and contributes to citizen empowerment.

The general objective is fully in line with the EU's horizontal strategies, in particular the Commission's Europe 2020 Strategy launched on 3 March 2010 with the aim of turning Europe into a '*smart, sustainable and inclusive economy delivering high levels of employment, productivity and social cohesion*'[48].

One of the building blocks of this new strategy is the new Digital Agenda for Europe (DAE)[49], which defines a number of 'Key Performance Targets' for attaining the digital single market. The review of the PSI Directive is one of the key actions of the Digital Agenda for Europe[50] and has been flagged as one of the core elements to unlock the potential of the single market[51]. On 4 February 2011, the European Council invited the Commission to make rapid progress in key areas of the digital economy to ensure the creation of the digital single market by 2015, including the availability of public sector information[52].

3.2. Specific objectives

The general objective of stimulating content markets based on PSI re-use leads to a number of specific objectives:

(a) Prevent distortions of competition on the EU market

In order to stimulate innovation and render PSI re-use attractive for businesses, re-users must be able to operate on a level playing field with incumbent 'hybrid' public sector bodies. Commercial re-users in particular must be guaranteed transparent and non-discriminatory treatment and generally face conditions conducive to innovation through unrestrained competition.

This objective can be achieved by strengthening the transparency and non-discrimination in the delivery of PSI and by limiting the anti-competitive behaviour of PSI bodies. These two operational objectives can be achieved by imposing stricter requirements on PSI bodies with respect to the ways, in which PSI is made available for re-use. These requirements relate to the pricing structures and their application (indiscriminately to re-users and to own commercial activities), the burden of proving compliance of the pricing structure with the rules of the Directive in case of conflict with a re-user. These objectives will be reflected in the monitoring indicators discussed further in section 6.

(b) Stimulate the digital content market for PSI based products and services

The objective of stimulating economic growth and job creation through PSI re-use will not be attained unless several conditions along the chain of exploitation of PSI, both commercial and non-commercial, are fulfilled. In particular, there must be data to re-use and the PSI Directive aims to unlock as much PSI as possible, including, if appropriate, in the sectors hitherto

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48 See Communication from the Commission: Europe 2020 — A strategy for smart, sustainable and inclusive growth, COM(2010) 2020, 3.3.2010.

49 See http://ec.europa.eu/information_society/digital-agenda/index_en.htm.

50 Ditto.

51 Letter from President Barroso to the Members of the European Parliament, issued in parallel with the State of the European Union speech to the plenary, MEMO/10/393, Brussels, 7 September 2010.

52 Conclusions of the European Council (4 February 2011), EUCO 2/11, CO EUR 2, CONCL 1.

excluded from the scope of application of the Directive but where re-use is practised. Those data must then actually be discoverable and effectively available, so licensing terms and pricing conditions as well as data formats, where applicable, must allow and facilitate every type of re-use. In addition, for re-use to be advantageous for businesses and consumers alike, transaction costs, including financial (fees) and non-financial costs (e.g. formats, licensing conditions), must remain as low as possible. Finally, in case of conflict, re-users must be granted an efficient and effective redress mechanism to be able to enforce the rights stemming from the PSI Directive. These objectives will be reflected in the monitoring indicators discussed further in section 6.

(c) Stimulate cross-border exploitation of PSI

A true and thriving internal market for PSI re-use will not emerge unless regulatory and practical barriers to re-use across the EU are removed. This is particularly important in view of the fact that businesses in the EU face scalability problems due in part to language barriers but mainly to regulatory divergences across Member States. In order to enable them to expand beyond national borders and compete at EU and global level, the barriers to the internal market for re-use of PSI must be abolished.

The ultimate aim is therefore to ensure that, where possible, the same types of commercially or non-commercially valuable data are not only available, but are available on similar, if not the same, terms and conditions, thus significantly reducing transaction costs and legal uncertainty and providing incentives for businesses and consumers to invest and innovate across Member States, thereby removing the obstacles to the full realisation of the internal market for re-use of PSI.

3.3. Operational objectives

For each of the specific objectives presented above, a number of operational objectives or 'measures' can be identified.

Specific objective	Operational objectives
Objective 1: Prevent distortions of competition on the EU market	-Strengthen transparency and non-discrimination in PSI delivery -Limit anticompetitive behaviour of 'hybrid' public sector bodies
Objective 2: Stimulate the digital content market for PSI-based products and services	-Reduce transaction costs for re-use of PSI -Ensure wide re-usability of public sector material -Strengthen redress and enforcement mechanisms -Limit anticompetitive behaviour of 'hybrid' public sector bodies -Stimulate standardisation of licensing conditions -Reduce discrepancies in treatment of same type of data across Member States
Objective 3: Stimulate cross-	-Reduce discrepancies in treatment of same type of data across

Specific objective	Operational objectives
border exploitation of PSI	Member States -Stimulate standardisation of licensing conditions across Member States -Strengthen redress and enforcement mechanisms

3.4. Consistency of PSI policy objectives with other EU policies

The PSI Directive aims to promote the widest possible availability of PSI for commercial and non-commercial re-use to stimulate content markets and create new jobs.

The objectives of the PSI Directive are consistent with horizontal EU objectives, including the Europe 2020 Strategy, liberalisation of services of general interest and the promotion of democratic principles. The PSI Directive is also in line with other EU policies, not least in several specific areas such as environmental policy, common transport policy and EU competition rules. It also aims at fostering the European economy in times of crisis in line with the EU policy on long-term sustainability of public finances for a recovering economy.

3.4.1. PSI policy and EU objectives of a horizontal nature such as the Europe 2020 Strategy and promoting democratic principles

One of the objectives of the PSI re-use policy is to contribute to business and job creation by enabling new products and services to emerge based on the exploitation of public sector resources on transparent, effective and non-discriminatory terms. In this way, the PSI policy contributes to the employment and innovation objectives laid down in the Europe 2020 Strategy.

Making public all generally available documents held by public sector bodies is a fundamental instrument for enhancing participatory democracy. Although the main objective of the PSI re-use policy is of an economic nature, the policy also promotes the widest possible access to information — a prerequisite for re-use — and thus contributes to the wider EU policy of promoting democratic principles.

3.4.2. PSI policy and the EU rules competition rules

One of the aims of the PSI Directive is to limit distortions of competition on the EU market and thus to create a level playing field for all potential re-users of PSI.

In this regard, particular provisions of the PSI Directive constitute a specific formulation of the more general EU rules on competition, namely Article 10(2), which bans cross-subsidies, and Article 11, prohibiting (with exceptions) exclusive agreements.

3.4.3. PSI policy and open data policy

The Commission has been at the forefront of open data development through a series of initiatives, in particular the PSI Directive, but also our action on scientific information and the re-use of cultural material (*Europeana*). The goals of the Commission's open data strategy are to (1) encourage the public sector across the EU to embrace the open data concept, (2) increase transparency and administrative efficiency by releasing public data for re-use, and (3) create optimal conditions for innovation and business development based on re-use.

The PSI Directive and its revision is the main regulatory cornerstone of the open data policy.

3.4.4. PSI policy and environmental policy

The PSI Directive, together with Directive 2003/4/EC on public access to environmental information (the Aarhus Directive) and Directive 2007/2/EC establishing an Infrastructure for Spatial Information in the EU (INSPIRE), form a set of EU measures aimed at ensuring the widest possible dissemination of certain information held by public bodies. These Directives, although not sharing common immediate objectives, complement one another and pursue the common objective of greater transparency and availability of public data.

3.4.4.1. The PSI Directive and the Directive on public access to environmental information

The Directive on public access to environmental information contributes to greater awareness of environmental matters, the free exchange of views, more effective participation by the public in environmental decision-making, and, ultimately, a better environment. It contributes to the Commission's policy on the re-use of PSI as wide access to information is a precondition for its re-use and environmental data constitute a very important source of information for the creation of new products and services.

3.4.4.2. The PSI Directive and the INSPIRE Directive

Concerning the sharing of data between public authorities when they are performing their public tasks, the two measures are perfectly complementary since they cover similar subject matter but have distinct scopes of application.

Concerning public access to spatial information, the INSPIRE Directive, in relation to the PSI Directive, plays a similar role to that of the Directive on public access to environmental information and contributes to re-use policy.

The PSI Directive is of crucial importance for the much-needed overall coherence of the forthcoming Shared Environmental Information System, of which the PSI Directive is a building block.

3.4.5. PSI policy and the integrated maritime policy

In September 2010 the Commission issued a Communication to the European Parliament and the Council — Marine Knowledge 2020 — aimed at unlocking the potential of Europe's marine knowledge. The three-pronged approach, seeking to make it easier and less costly to use marine data, foster competitiveness among marine data users and enhance understanding of Europe's seas and oceans, is consistent with and reinforces the Commission's policy for re-use of PSI.

3.4.6. PSI policy and the common transport policy

One of the 40 initiatives put forward in the new Transport White Paper[53] is creating the framework conditions to promote the development and use of intelligent systems for interoperable and multimodal scheduling, information, online reservation systems and smart

[53] White Paper: Roadmap to a Single European Transport Area — Towards a competitive and resource efficient transport system, COM(2011) 144 final, 28.3.2011.

ticketing. This could include a legislative proposal to ensure that private service providers can access travel and real-time traffic information.

This initiative is directly related to the Action Plan[54] for the Deployment of Intelligent Transport Systems (ITS) for road transport and its interfaces with other modes, adopted by the Commission in December 2008, and to Directive 2010/40/EU[55] of 7 July 2010 on the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other modes of transport. These two instruments aim to speed up and coordinate the deployment of ITS applications, including EU-wide real-time traffic information services and EU-wide travel information services.

Under Directive 2010/40/EU, the Commission will adopt binding specifications inter alia for 'the provision of EU-wide real-time traffic information services' and for 'the provision of EU-wide travel information services' to address the provision of traffic regulation data by the transport authorities and guaranteed access for private companies to relevant public data.

Such specifications, but also a possible follow-up legislative proposal to ensure access to and re-use of public transport information, could contribute significantly to the Commission's policy on the re-use of PSI, by extending the area in which citizens or companies would have the right to access specific transport information (new sources of information for new products and services based on particularly dynamic content related to e.g. road traffic data or public transport data) and re-use it. This objective is in line with the objectives of Commission policy on re-use of PSI.

3.4.7. PSI policy and the initiative on open access to scientific information

The Commission's objective in the area of scientific information is to maximise the benefits of information technologies (internet, supercomputing networks, data mining) for better access to and easier re-use of scientific knowledge. 'Open access' policies pursue the goal of making scientific articles and research data freely accessible to the reader on the web. The Commission intends to take steps to promote access to and preservation of scientific information, including publications and data arising from research projects funded from the EU budget.

The Commission's objectives in this area are very closely in line with those of the PSI Directive in the sense that both aim towards making public information more widely accessible and available in Europe for re-use.

3.4.8. PSI policy and the policy on digitisation and cultural heritage

The digitisation of cultural collections makes knowledge resources from Europe's cultural institutions — books, maps, audio, films, manuscripts, museum objects, etc. — more easily accessible to all for work, study and leisure. At the same time digitisation turns these resources into a lasting asset for the digital economy, creating huge opportunities for innovation. The real exploitation of digital cultural assets is still embryonic, though. Business models are being explored and commercial activities are just starting. The goals of ensuring wide availability of public sector information (the PSI Directive) and of putting digitised

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54 COM(2008) 886 final/2 — Corrigendum of 20.3.2009.

55 OJ L 207, 6.8.2010, p. 1.

cultural assets at the disposal of creative and innovative businesses (digitisation policy) are entirely consistent and mutually reinforcing.

3.4.9. PSI policy and the long-term sustainability of public finances for a recovering economy

The 2010 Commission's Communication on the long-term sustainability of public finances for a recovering economy calls on the Member Sates to reduce their debt ratios by adjusting their policies to the Stockholm strategy. This strategy includes (i) deficit and debt reduction, (ii) increases in employment rates and (iii) reforms of social protection systems.

The PSI policy aims at fostering growth and innovation. Opening up of public sector data is an opportunity for business to create new products and services. It promotes new technologies and entrepreneurial culture within the European companies. The PSI policy also aims at reduction of administrative burden and in that regard at cutting administrative spending.

In certain situations the PSI policy may have consequences for national budgets, notably resulting from the revised charging policy of the PSI Directive. However, the medium-term gains from opening up of public data, including higher tax-returns, outweigh any possible direct loss of revenue. Therefore the PSI policy is fully in line with the EU financial policy for a recovering economy.

4. ALTERNATIVE POLICY OPTIONS

This section examines a range of options for addressing the problems highlighted in previous sections. Apart from repealing the Directive (also considered below) the options broadly fall into two categories, i.e. options involving maintaining the current provisions and options involving changes ranging from simple technical 'tweaks' to substantial amendments. For the purposes of this impact assessment these options will be grouped as follows:

(1) No policy change: maintaining the current approach without changes (baseline)

(2) Discontinuing existing EU action: repeal of the PSI Directive

(3) Soft law measures in the form of guidance/recommendations

(4) Amendments to the PSI Directive

(5) Packaged solution consisting of:

  (a) Soft law measures

  (b) Amendments to the PSI Directive.

4.1. Option 1: No policy change: no changes to the Directive (baseline)

In 2009, after the first review of the Directive, the Commission concluded that the progress made and implementation of the Directive were uneven and identified a number of remaining barriers. As evidence on the impact, effects and application of the Directive was insufficient, the Commission decided to carry out another review by 2012 to consider whether legislative

amendments are necessary, taking into consideration the progress made in the meantime in the Member States.

For the purposes of re-use of public sector information, this option of 'no policy change' would mean that the current provisions of the Directive would remain applicable and their national transposition instruments would have to be applied.

4.2. Option 2: Discontinuing existing EU action: repeal of the PSI Directive

The PSI Directive has set the basic conditions for PSI re-use throughout the EU and has led to a change in policies and legislation in the Member States. Without the Directive, Member States would be free to repeal or amend national implementing legislations on PSI re-use.

This particular option would effectively result in the removal of all the regulatory obligations currently contained in the Directive and the national transposing instruments.

4.3. Option 3: Soft law measures

These instruments, e.g. Commission guidelines or recommendations, would provide additional information and/or interpretation of some of the provisions of the PSI Directive, i.e. Article 5 on available formats (guidance on machine readable formats), Article 6 on charging (guidance on the cost calculations) and Article 8 on licenses (guidance on recommended licensing conditions). Awareness raising actions are not considered under this option because the ongoing action (e.g. ePSI Platform) will continue to be deployed and perhaps new actions will be launched notwithstanding the result of the current review of the legislative framework.

Some 65% of respondents to the consultation who answered the question about the need for soft law measures were in favour.

Respondents in all categories suggested that soft law measures in the form of guidance or recommendations could be adopted for e.g. licensing models, technical formats, price calculations (including for calculating marginal costs). Respondents also generally called for more awareness-raising actions, including exchange of best practices, expertise, and experience to connect exemplary public sector bodies with those that have not yet made their data available. The following individual soft law measures can be envisaged.

4.3.1. Guidelines on licensing

Currently, the market indicates that licensing conditions remain one of the main obstacles to PSI re-use. Indeed, not only re-users, but also PSI bodies indicated in the public consultation that they would welcome guidance on suitable licensing conditions as overly restrictive licensing conditions traditionally practised by a large number of public bodies are one of the major barriers to the development of businesses based on re-use of public information.

However, imposing top-down binding legislative measures relating to concrete licensing models is first of all objectionable from the viewpoint of the principle of subsidiarity and, secondly, unsuitable in this case as it is paramount to ensure that licensing regimes can adapt to the necessary evolution on the PSI market and to the diversity of data, the re-use of which may be subject to licensing. As a result, the Commission should give preference to indicating in the Directive that a set of guidelines on licensing conditions would be developed within a separate dedicated process, in collaboration with all interested stakeholders.

The guidelines would not apply as default rules; rather they would provide a frame of reference and PSI bodies would be encouraged to follow the guidelines, unless they have reasonable grounds for doing otherwise ('comply or explain' principle). In addition, to increase their effectiveness, Member States should be advised to set up audit mechanisms, whereby the decisions by PSI bodies in the above areas would be monitored.

Such guidance would therefore directly help to address the problem of a major practical barrier to re-use and contribute to achieving the objectives of stimulating development of the market for PSI re-use and the cross-border exploitation of PSI.

4.3.2. Guidelines on cost calculation for allowable charges

Guidelines on cost calculations would define the types of costs that can be taken into account for calculating fees for re-use based on marginal costs and on cost recovery. In addition, a recommended definition of what constitutes a reasonable return on investment would be provided.

PSI bodies in particular, but also re-users and academics, frequently listed guidance on cost calculation as necessary and important. In the absence of such guidance, many PSI bodies (even those with some re-use experience) face uncertainties about how to comply with the charging provisions of the Directive. PSI re-users on the other hand relate that there are significant differences in pricing structures of public bodies stemming from differing interpretations of e.g. marginal costs or reasonable return on investment. According to the re-users, theses differences have a negative impact on re-use transactions and ultimately on incentives to undertake re-use activities as re-users are unable to make informed business decisions.

These guidelines would facilitate application of the maximum allowable charging rules laid down by the Directive. They would enhance legal certainty for re-users and public bodies alike, increasing the incentives for the former to undertake re-use activities and for the latter to make their data available and enter into contractual agreements for the supply of their data.

Similarly to the envisaged guidance on licensing conditions, the Commission should give preference to indicating in the Directive that a set of guidelines on cost calculation would be developed within a separate dedicated process, in collaboration with all interested stakeholders. The guidance would address an important issue signalled by stakeholders while at the same time respecting the principle of proportionality by preserving the flexibility of public sector bodies, which face many different constraints in terms of funding and structure.

4.3.3. Guidance on data formats

One of the most frequently made suggestions by all categories of respondents during the consultation on the review of the Directive was a plea for a requirement to be introduced to make PSI available in machine-readable formats wherever possible.

The current drafting of the provision on available formats encourages public service bodies to make their documents available in any pre-existing format or language, through electronic means where possible and appropriate.

The development of ICT technologies has vastly contributed to the development of PSI re-use. A lot of data is re-used for the purpose of developing dematerialised products, such as apps with public bodies collecting and/or producing their data in a digital format ('born

digital' data). The utility and attractiveness of public data significantly increases if it is supplied in re-use friendly formats, e.g. machine-readable.

Guidance on formats would clarify the meaning of electronic formats in the existing Directive, recommending the use of machine-readable as the most re-use friendly formats. Even though it would be less effective than imposing the use of machine-readable formats in the Directive itself, such guidance, if applied, would contribute to stimulating the digital content market by facilitating the re-use of supplied data.

The above guidance can be issued either in the form of guidelines or in the form of a recommendation. The choice of the most suitable instrument will be made at the time of the elaboration of the guidelines depending on the exact objectives of the instrument.

4.4. Option 4: Legislative amendments

This option involves amending the text of the Directive in a way that affects the substance, i.e. the rights and obligations established by its provisions. Among such legislative options are: (i) extending the scope of the Directive to the currently excluded sectors (cultural, educational and research establishments as well as public service broadcasters); (ii) establishing a rule of charging based on marginal costs, possibly with exceptions; (iii) amending the general principle to make accessible documents re-usable; (iv) requiring data to be published in machine-readable formats; (v) requiring an independent regulator to be appointed and an effective and efficient redress mechanism to be set up; (vi) reversing the burden of proof of compliance with charging requirements; (vii) requiring the scope of public task to be defined by legislative means only. Individual measures envisaged under this option are analysed below.

Of the 70% of respondents to the consultation who are in favour of amending the Directive, some 79% favour substantive amendments. The options listed above were among the topics most frequently suggested by stakeholders for possible amendments or refer to the problems most frequently indicated by respondents.

4.4.1. Obligation to define the scope of public tasks by legislation

In a number of cases public bodies collect information as a public task, operate as monopoly wholesale suppliers to commercial re-users of their information and often at the same time sell to the public products based on their information (with possible added value), in direct competition with their commercial customers.

Activities falling outside the public task are subject to the requirements of the Directive, which also contains a rule intended to distinguish public task activities from commercial ones. Practice shows that the rule, which leaves such delineation to either legislation or administrative practice, creates a great deal of confusion and allows commercial activities of public sector bodies to escape the re-use conditions. It is generally considered to be one of the main points of the Directive that need clarification.

The organisation of public bodies and the scope of their activities vary widely in the Member States. It would be very difficult to find a single all-embracing definition of public tasks that could deal satisfactorily with this variety.

Member States should therefore be required to define the scope of the public task activities of their public sector bodies in a binding way and to make this definition public. This could be

done in a variety of ways — as general legislation or through decisions applying to a particular sector or type of public body, or a series of individual decisions, in accordance with the constitutional and other legal rules applying to the organisation of the public sector in the Member State. The reference to 'administrative practice' as a way of defining the scope of the public task is not precise or transparent and should be removed.

This requirement will facilitate the application of the Directive as the re-use conditions that it imposes relate to the supply of documents outside the fulfilment of a body's public task. As such, it will increase legal certainty for operators - both public and private- engaged in re-use activities and will limit any practice of artificially inflating the scope of a body's public task and distorting the spirit of the Directive. This approach is in line with the principle of subsidiarity.

4.4.2. Obligation to deliver data in machine-readable formats where possible and appropriate

One of the most frequently made suggestions by all categories of respondents during the consultation on the review of the Directive was a plea for introducing a requirement to make PSI available in machine-readable formats wherever possible.

The current drafting of the provision on available formats encourages public service bodies to make their documents available in any pre-existing format or language, through electronic means where possible and appropriate.

Different types of PSI may need to be made available in different formats, depending on the type of information being provided, and technical developments may soon render any imposed format choice obsolete. A more general requirement should therefore be introduced whereby public bodies have to provide data in machine-readable formats, wherever possible and appropriate. This amendment in fact clarifies what is meant by electronic formats and it is particularly important in view of the fact that most public material is born digital. Such an amendment would not be without precedent in the Member States, e.g. in late 2010 the UK announced that the UK Freedom of Information Act would be amended so that all data released must be in a re-usable and machine-readable format.

This amendment will help stimulate the digital content market by facilitating re-use. It is an effective and efficient measure as it is likely to achieve the desired effect of facilitating the re-use of PSI, significantly lowering transaction costs without at the same time exposing public sector bodies to recurring costs. It is linked to the need for 'soft law' measures to stimulate a European approach on what format to use.

4.4.3. Extending the scope of the Directive

4.4.3.1. Extending the scope to public service broadcasters

Public service broadcasters (PSBs) enjoy special status defined exclusively by each Member State pursuant to the Amsterdam Protocol on the system of public broadcasting. The PSI Directive should not interfere with the remit as defined in the status thus granted to the PSBs. Applying the rules of the PSI Directive setting the conditions under which PSBs would be required to grant access to their content for the purpose of re-use would overlap not only with this remit, but also with their competence to organise the commercial exploitation of the

remit, within the framework of the EU competition rules, including the rules on State aid and the 2009 Broadcasting Communication.

Secondly, third-party intellectual property rights (e.g. music rights) form an integral part of virtually all broadcast material, i.e. not only of acquired or commissioned productions but also of programme material produced entirely by the PSB itself. Given that the PSI Directive does not apply to material covered by third-party IPRs, this would effectively exclude nearly all broadcast material held by PSBs that could be potentially suitable for the re-use intended by the re-use provisions. Furthermore, allowing commercial re-use of broadcast material would require a transfer of rights from a large number of rightholders who contributed to creating such material, and requiring broadcasters to make available their material would cause serious difficulties and generate very high, if not prohibitive, costs[56].

The limited application of the rules of the Directive due to the exclusion of material protected by third-party IPRs and the special status of the PSBs would significantly reduce the expected benefits of extension. In fact, the measure would be ineffective as extension would result in little material being subject to re-use provisions. Moreover, the option would be inefficient as the costs for rights clearance of the material held by PSBs would be significant.

In view of the above, the baseline option of no changes to the Directive is preferred and accordingly the scope of the Directive should not be extended to public service broadcasters.

4.4.3.2. Extending the scope to the educational and research sector

Data generated by public bodies in the research and educational sector comprise scientific data (observational, experimental data, databases); scientific publications; output of educational establishments such as theses, lectures, conference proceedings; patents as well as unpublished material or 'grey literature' (which includes pre-prints and non-refereed publications). This sector also comprises collections of memory institutions such as university or other educational libraries. The digital age has presented the research sector with new opportunities and there is widespread recognition that data are a valuable long-term resource. Sharing them and making them publicly available is essential if the potential value associated with their re-use is to be realised.

Much of the research and educational material is outside the scope of the PSI Directive by virtue of the exclusion of material covered by intellectual property or other third-party rights. In addition, although IPR protection does not extend as far as pure research data, which do not fulfil all the necessary protection criteria, there are often unclear boundaries between different types of data and the status of third-party rights to them. As a result, it is often unclear what data would fall within and what remain outside the scope of the PSI Directive. Also, there are considerable differences in researchers' attitudes, patterns of behaviour and needs or in the existence and robustness of available infrastructure. As a result, the burden of clarifying the status of these data for the purpose of making them available for re-use under the rules of the PSI Directive exceeds the expected benefits.

Furthermore, the research sector features its own dynamic and has a well established system for disseminating and exploiting research findings and results. Access to research results and

[56] Response of the EBU to the online consultation of stakeholders.

scientific journals is receiving much attention from scientists, publishers and policymakers and is discussed within the Open Access debate. That discussion channel is separate and different from the generic discussion of availability of public data for re-use and it takes account of all the specificities and limitations of the sector in a way which is not possible under the generic PSI debate.

In view of the specificities and limitations of the research sector, the question of availability of research data is best addressed through the ongoing parallel initiatives, and the scope of the PSI Directive should not be extended to this sector.

However, the above arguments do not apply to the public domain collections of university and other educational institutions' libraries (excluding holdings of research data). Such collections in no way differ from those of other cultural institutions that are not part of larger research establishments. University libraries and other libraries alike are in fact memory institutions and there is no justification for not applying the rules of the Directive to the same type of material irrespective of where it is stored. As a result, the non-research collections of university and other educational institutions' libraries should be brought within the scope of the Directive in the same way as the collections of other cultural institutions

There also remains the problem of the boundaries of the exclusion of research establishments from the scope of the Directive. Some public sector bodies combine research activities with carrying out a public task (e.g. collection of meteorological data or statistics) and undertaking commercial activities on the downstream market of PSI-based products and services. Some of these public bodies claim immunity from the rules of the PSI Directive based on their designation as research institutions in their statutes. It should not be possible to distort the spirit of the exclusion of the research sector by simply describing any type of public body as a research institute when, in fact, the data it produces or collects are the type of data that the PSI Directive seeks to make available for re-use (e.g. meteorological data).

Defining 'research institutes' at EU level appears disproportionate to the problem identified and would be unlikely to withstand scrutiny under the subsidiarity principle. Moreover, it is most likely an impossible endeavour given the differences in traditions within the Member States. However, the **PSI Directive should state that Member States may not use the mere term of research institute to artificially limit the scope of application of the PSI Directive to data that are not excluded by virtue of the exclusion of educational and research establishments.**

4.4.3.3. Extending the scope to the cultural sector

The cultural sector as defined in the Directive includes museums, libraries, archives, orchestras, operas, ballets and theatres. This is a non-exhaustive list of institutions and the exclusion applies to all public sector bodies that fulfil a mission of a cultural nature. Cultural institutions hold vast amounts of material valuable for re-use under the terms of the Directive. In addition, cultural institutions are becoming increasingly involved in the creation of content associated with Web 2.0 and social networking activities. There is also growing recognition of underexploited demand in the area of family history/genealogy.

In the first review of the Directive in 2009, the Commission concluded that its scope should not be extended at that moment in time. This conclusion was based on the finding that the administrative burden of extension and the associated costs would not be outweighed by the potential benefits as a large part of the material held by these institutions was covered by

third-party intellectual property rights, and would therefore in any case not fall within the scope of the Directive. This latter argument was backed by the results of a study[57] which concluded that while '*PSI held by the cultural sector has a significant potential value for re-users, the advantages of including cultural heritage institutions within the scope of the Directive are currently difficult to assess and require further investigation over time.*'

At the same time, the study also found that re-use was practised by the cultural institutions with '*32% of respondents charg[ing] for licences to re-use content, showing a tendency among some cultural bodies to distinguish between access and (commercial) re-use in their charging policies.*' The study concluded moreover that the perceived practical and financial disadvantages for cultural institutions of extending the scope of the Directive to the cultural sector should not be allowed in the longer term to outweigh the possible advantages to the wider economy, industry and society and that large-scale digitisation combined with enhanced information technology for accessing content may well create conditions where competition factors in relation to re-use become more evident.

In 2010, the Commission launched a study to assess the importance of re-use in terms of revenues for cultural institutions and to estimate trends in the development of the re-use market for cultural material. The study, covering a sample of selected cultural institutions, indicates that very few of them depend on the income they receive from re-use to enable them to undertake their public task. The study also found that the income they receive from re-use is in many cases essential to enable future re-use and development of services. In addition, according to the results of the study, the approach that institutions have taken appears to depend on a very wide range of intrinsic and extrinsic factors — from the strategy of the State they are located in, through the nature of the collections, right down to the personalities of the people involved at an institution.

The institution (in the overall sample) with the highest income from re-use generated ~€10m in 2009, representing 7.1% of total income. The institution with the highest share of income from re-use generated ~€6m, representing 11.1% of total income. The institutions that view re-use as a significant element of their operations and generate income typically in the range of 2-10% of their gross income (in the range of hundreds of thousands to millions of euros) comprise the large national institutions. This is unsurprising, given that they have the largest and best-known collections, and they have the administrative capability to manage the exploitation of this material. These institutions are also most likely to undertake third-party re-use, by licensing entire collections to an external organisation that undertakes digitisation and then generates income. This income is then used to fund the staff time and effort that is required to prepare further collections for digitisation and re-use.

The study also shows that there are considerable variations in range of income from re-use generated by cultural institutions. Even similar organisations can have very different approaches to, and financial benefits from re-use.

See Annex 5 on pricing policies in the cultural sector for a more detailed presentation of the studies.

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[57] Economic and Social Impact of the Public Domain: EU Cultural Institutions and the PSI Directive, Rightscom, 5.5.2009: http://www.epsiplus.net/psi_library/reports/economic_and_social_impact_of_the_public_domain_eu_cultural_institutions_and_the_psi_directive_may_2009.

When it comes to barriers to re-use in this sector, the study found that digitisation of content was synonymous with enabling re-use and that the cost and effort of digitisation was the major factor limiting re-use of the material.

Cataloguing and discoverability of material is an established challenge for the cultural sector. All institutions recognise that it is beneficial (and indeed necessary) for potential users and re-users to identify appropriate resources. Most respondents have physical catalogues or staff that patrons can approach to find holdings, but a smaller number of respondent institutions is able to make the bulk of their holdings findable through electronic catalogues or an institutional website. In some cases, discoverability of resources is restricted by an organisation's income-generating activities. For example, in libraries, the metadata for their holdings is a tool for discoverability, but for some national libraries, this metadata is itself a product that they sell.

The study confirmed time and again that the IPR status of holdings provides a challenge that can limit the availability of collections for re-use. In addition to the IP presenting a barrier to re-use, organisations are deeply concerned about the administrative overhead in managing requests for re-use that require rights clearance activities.

On the other hand, the study found a fragmented situation with respect to the approaches that cultural institutions take to charging, often driven by mission. For example, two national libraries charge for re-use of their bibliographic metadata, whereas another two do not. Those institutions that hold material with well-developed commercial markets — such as images and archives of use in genealogy — were found to be correspondingly more likely to adopt commercial pricing models.

Furthermore, the study found that exclusive agreements are not rare among cultural institutions, many of which have carefully considered the type of exclusivity in licences they offer and are able to justify their choices. Exclusivity is concentrated in the larger organisations, which also have the skill and administrative resources to manage the negotiations and administration required to establish such relationships.

Archives are a specific subset among the cultural institutions. Generally archiving institutions see re-use of their material as an opportunity with a clear majority of national archives in favour of the spirit of the Directive, namely extending access to public information to more and more of Europe's citizens[58]. Nevertheless, they have two main concerns. First, public archives hold a great deal of information in which the copyright is privately owned that is often mixed with other material in which copyright is publicly owned. Although the Directive does not affect existing copyright, archivists fear having to determine ownership of intellectual property rights. Secondly, compelling cultural bodies to make information available for re-use for free or at marginal cost could seriously interfere with existing contractual arrangements and restrict the revenue earned through licensing by those archives that currently do this. This could lead to less access in future by restricting the archives' flexibility to invest in further digitisation and access systems.

As demonstrated by the findings of the study, **many cultural institutions already make their public domain content available for re-use and many are actively seeking out opportunities to re-use their content regardless of whether they intend to generate**

[58] European Archives Group, Report of the Working Group on the Re-use of Public Sector Information.

income from this re-use. In fact, since the Directive was put in place, significant collections have been digitised and although digitisation is not in itself re-use, it greatly facilitates it and reduces the burden on institutions required to respond to re-use requests.

More importantly, digitisation projects have covered millions of objects that are no longer protected by copyright and the amount of valuable public domain material has thus significantly multiplied with respect to the situation in 2003. For example, Europeana, Europe's digital library, museum and archive gives access to more than 19 million digitized objects. The resulting digital material has a huge potential for innovative re-use in sectors such as learning and tourism. The commercial interest is also shown by the massive investments that companies such as Google make into digitisation. Institutions continue to invest in digitisation irrespective of their re-use policies. Once public domain collections are digitised, making them available for re-use allows the cultural institutions to reap all the potential returns from their investment without generating unbearable costs.

Extending the scope appears to most effectively achieve the objectives of encouraging re-use of PSI-based products and services in order to stimulate economic growth and job creation in Europe. Unlocking data potential is one of the key aims of the EU's policy on information re-use. Bringing the cultural sector within the scope of the Directive would make all this publicly funded public domain material available for re-use purposes, under the same conditions applicable across the EU. Commercial and non-commercial re-users alike would be able to re-use the vast amounts of valuable content under pre-defined rules with increased legal certainty and more incentives to provide cross-border products and services based on re-used cultural material. This would spear innovation across the creative industries in sectors such as learning, tourism and design, as well as the development of innovative services and products based on cultural material (e.g. apps for mobile phones).

On the other hand, it is important to recognise the specificity of the cultural sector resulting from the administrative complexities linked to IPR protection and the mission of public cultural institutions, which not only disseminate but also preserve the cultural heritage they hold. In order to account for this specificity and minimise the administrative burden linked to removing the current exemption, cultural institutions should benefit from specific provisions. To avoid excessive administrative overhead in managing requests for re-use that require rights clearance activities, only public domain material with clear IPR status is to be subject to the re-use provisions. To enable cultural institutions to generate funds for making their collections available for re-use under conditions that favour re-use, i.e. with clear IPR status or in re-use friendly digital formats (such funds are rarely available in sufficient amounts from the public purse), cultural institutions should retain the ability to apply cost recovery with a reasonable return on investment.

In view of all of the above considerations, in order to best attain the objective of stimulating PSI re-use across the EU, the scope of the Directive should be revised to encompass cultural establishments with the benefit of the currently applicable regime insofar as charging is concerned.

4.4.4. Amending the general principle

At present, Member States have the possibility to exclude information from re-use, even if this information is already accessible under the access to documents regime. According to the current wording of Article 3 of the PSI Directive, a general right to re-use for both commercial and non-commercial purposes arises only if a public sector body has already

allowed this information to be re-used. Some Member States or public bodies tend to exploit this provision as giving them full discretionary power to decide whether or not information should be re-usable and for what purposes, even if they have already freely disseminated it, e.g. online.

Amending the general principle to make all accessible information re-usable would result in the creation of a genuine EU right to re-use, thus ensuring uniform application of the PSI Directive across the EU. Such a solution is strongly supported by stakeholders responding to the consultation, 90% of whom consider that information that is generally accessible should also be re-usable, and some Member States have already decided to take up this approach in their legislation (see Annex 1 for details). Strengthening the general principle in this way would provide legal certainty to re-users and public bodies alike and prevent valuable data from being arbitrarily withheld from re-use. Any changes to the charging rules or requiring adoption of machine-readable formats will be ineffective as long as public bodies retain any degree of discretion in making data available for re-use. This change would therefore not only foster the widest possible availability of PSI for re-use purposes but is a *sine qua non* condition to pursue an ambitious pro re-use policy across the EU.

In terms of efficiency gains in existing operations, improving the accessibility of information necessary for e.g. obligatory environmental impact assessments could potentially reduce EU-27 costs by 20% or around €2 billion per year, and if European citizens each saved as little as 2 hours per year through faster and more comprehensive access to public information, this would be worth €1.4 billion per year[59].

The risks of amending the general principle may be twofold.

Firstly, they may relate firstly to the lack of uniformity between the scopes of application of national access to documents regimes. The PSI Directive builds on the national access to documents regimes and is without prejudice to them, so data are re-usable if they are not excluded from access by the national access and data protection regimes. This problem is, however, marginal and most data will receive similar treatment across the EU. Different treatment of similar data results from the sole competence of Member States to organise their access and privacy protection regimes and is a reflection of differences in the level of transparency deemed acceptable by individual countries. In this area, the subsidiarity principle mandates that this competence be left with the Member States.

Secondly, there is a risk of a possible incompatibility of the amended general principle with the EU and international rules governing protection of intellectual property rights. In this respect, the Court of Justice has stated that property rights, including intellectual property are a fundamental principle of EU law.[60] As a result, amending the general principle to make all generally accessible data re-usable would limit the exercise of certain intellectual property rights and is only justified if it is strictly limited and necessary to attain the objectives of the revised Directive.

In this context, three categories of documents must be distinguished.

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[59] Op. cit. Vickery.

[60] This principle is now included in Art. 17 of the EU Charter of Fundamental Rights

First of all, documents protected in full or in part by third party intellectual property rights are by virtue of article 1 excluded from the scope of the Directive. This exclusion may not be affected by the amended general principle.

Secondly, the amended principle would concern documents protected by intellectual property rights belonging to employees of the public institutions. Currently, the question of ownership of intellectual property rights in works created by public officials is regulated exclusively by national rules of Member States and these regimes vary. Neither Member States, nor public bodies or re-users have signalled any problems relating to the implementation of the original Directive in this respect. In fact, where the public official retains rights to a document, the exclusion from Article 1 would apply. Nevertheless, it may be useful to expressly clarify that the rules of the Directive are without prejudice to the rights of employees in public sector bodies.

Thirdly, the amended general principle would concern documents protected by intellectual property rights belonging to public bodies themselves. These institutions do not in principle have the mission to commercially exploit the data they produce. Charging for re-use is a secondary activity intended to generate additional revenue and studies have shown that in most cases this represents only a small part of the total income of the public sector body, while, as demonstrated above, their re-use offers great economic potential.

Also, the creation or collection of documents for which they may hold intellectual property rights has been funded with public funds and, as demonstrated above, their re-use offers great economic potential. As a result, an obligation to make their accessible data re-usable, for commercial or non-commercial reasons, does not in principle interfere with the normal exploitation of their rights and does not unduly prejudice their legitimate interests.[61] However, feedback from the public consultation indicates that there may be cases, however isolated, where a public body is self financed, in full or in part, and where proceeds from the exploitation of its intellectual property rights constitute a part or the totality of its own resources. In this respect, those public bodies may be required to make these protected accessible documents reusable but they should be given the possibility to charge accordingly to the market value of those intellectual property rights, capped by the maximum charges allowed under the Directive. This concern is reflected in the analysis of the possible amendment of the principles governing charges in the section below.

Establishing an EU right to re-use is the most important and indispensable change to the Directive as it is the most efficient means of advancing the policy pursued by the Commission in the area of re-use of PSI, fostering re-use of public data and ensuring consistency across the internal market.

4.4.5. Amending the principles governing charging

The Directive establishes an upper limit on allowed charges based on the costs of collecting, producing, reproducing and disseminating the information, together with a reasonable return on investment. At the same time, recital 14 of the PSI Directive urges Member States to encourage their PSBs to make documents available at charges that do not exceed the marginal costs of reproducing and disseminating them. In addition, on request public sector bodies have

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[61] The so-called *three steps test*: Article 9 of the TRIPS Agreement, Article 9 paragraph 2 of the Berne Convention, Article 5 paragraph 5 of the Directive 2001/29 and Articles 6 paragraph 3 and 7 paragraph 5 of the Directive 96/9/CE

to provide the methods they used to calculate the prices they are charging re-users for the information they provide.

Given the current and potential economic value of the commercial re-use of PSI, the choice of charging regime has a direct impact on the economic and social potential of re-use (see below).

4.4.5.1. Principle of charging based on marginal costs

The problem of high prices charged by PSBs was stressed by all categories of respondents to the consultation as a real barrier that needs addressing in order to tap the full potential for PSI re-use[62]. In addition, respondents report insufficient transparency regarding PSI pricing calculations. Excessive pricing adversely affects competition, innovation and growth of the European PSI market.

The economic theory regarding the supply of PSI presents several scenarios:

- **Profit-maximising:** setting a price to maximise profit given the demand faced by a public body, where the product being supplied does not face competition. This will naturally result in monopoly pricing.

- **Cost-recovery:** setting a price equal to average long-term costs (including, for example, all fixed costs related to data production). A sub-category of this model is partial cost-recovery, where the price is less than average long-term costs but more than marginal costs. This sub-category also includes a category whereby only the costs related to the facilitation of re-use are charged ('re-use facilitation cost-recovery'), which only includes costs that can truly be allocated to the re-users, e.g. the salary costs of the help desk personnel.

- **Marginal cost:** setting a price equal to the marginal cost of supplying data (cost of actually transmitting the data) to an extra user. In today's digital world information products and data are expensive to produce, but, once produced, they are very cheap to disseminate. When considering digital data, marginal cost is in most cases. A recent study estimates the total public sector information related market in 2008 at € 28 billion across the EU.[63] The same study indicates that the overall economic gains from further opening up public sector information by allowing easy access are at around € 40 billion a year for the EU27. The aggregate direct and indirect economic impacts from PSI applications and use across the whole EU27 economy would be in the order of € 140 billion annually.zero.

- **Zero pricing:** no price is charged for supplying public sector data.

In 2008, Cambridge University investigated, at the request of the British Government, the impact of adopting different models for the provision of PSI by UK trading funds, which are required to be as financially self-sufficient as possible by selling their data and services and eventually providing a return to the UK Treasury. (For more detailed results of the Cambridge Study see Annex 6 on overview of charging tendencies).

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62 Op. cit. MICUS, 12/2008.

63 Review of recent studies on PSI re-use and related market developments, G. Vickery, August 2011.

The study concludes that charging no or marginal costs for PSI results in social and economic benefits that far outweigh the immediate financial benefits attained by cost-recovery strategies. However, critics of this report have questioned the permanent sustainability of a scheme providing PSI at no or marginal prices when the cost of creating and maintaining quality PSI can be substantial, and when public bodies must incur e.g. costs necessary to sustain data quality or investment necessary to cope with technological developments.

The study shows that once PSI is made available by governments under a marginal cost/free regime it has considerable economic potential.

The CUPI report[64] by the UK Office for Fair Trading (OFT) concludes that PSI markets still have widely unmet potential, e.g. more competition in public sector information re-use could double PSI's contribution to the UK economy in value terms to € 1.5 billion per year.

The case studies analysed in the 2010-2011 Report[65] indicate that the potential benefits of lower charges for PSI re-use are high. Lower charges lead to more economic activities, market dynamism, innovation and employment. Increased tax returns may easily outweigh the loss of the public body's revenues, which in fact appear to be non-existent if the lowering of charges is limited to re-use facilitation costs. At the same time, unless zero costing is applied, the price mechanism may actually increase revenues rather than lowering them, where higher re-use does not seem to entail an increase in costs. Secondly, the transition costs appear to be relatively low, especially since, to a large extent, the knowledge and infrastructure is already there; it is only about converting the processes and mindset, to serve the re-users in the best way. (See Annex 6 for more detailed presentation of effects of PSI policy changes in selected public bodies).

Case studies also demonstrate that lowering charges brings benefits for different types of users, in particular SMEs (BEV, CENDOJ, IGN-CNIG – Spanish geographical institute, KNMI – Dutch Met office, Met.no – Norwegian Met office, Spanish land registry). This is also evidenced by a number of other cases where the price cuts have been less significant (or even non-existent) but special schemes have been provided for SMEs to stimulate their re-use activities (e.g. DWD- German geo-information PSBs, planned new pricing model). These SMEs tend to introduce new business models and re-use the data quite differently from 'classical' re-users[66].

A binding provision imposing a default rule of marginal costs as maximum charges for re-use of data is one of the most efficient means of stimulating the market for PSI-based products and services, including across borders, and of ensuring a level playing field among re-users. Marginal costs of distribution in situations where the data already exist in digital format are minimal or even zero. A shift to a default rule will significantly reduce prices and provide incentives to businesses to invest in new products and services that may not have been viable otherwise[67].

Arguably, a mandatory marginal costs rule may reduce incentives for private companies to challenge the market for the collection or production of information where incumbent public

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64 The commercial use of public information (CUPI), Report of the UK OFT, December 2006, http://www.oft.gov.uk/shared_oft/reports/consumer_protection/oft861.pdf.

65 Study on Pricing of Public Sector Information, June 2011, Deloitte.

66 Op. cit. Deloitte.

67 Ditto.

bodies hold monopolistic positions and where the data can be duplicated (because marginal costs of distribution of information are lower than the average total or average variable costs of potential competitors, as used in competition law to assess whether an incumbent is abusing its position by imposing predatory pricing[68]); any foregone incentives for private undertakings to enter the market are offset by the benefits of the marginal costs mechanism, which stimulates competition and innovation on the downstream market for PSI-based products and services. In cases where information is deemed of public interest and its collection or production is a public task, and information cannot in fact be duplicated so that its collection or production does not in principle attract competition on costs, where appropriate, innovation and competition are in fact stimulated on the downstream market for PSI-based products and services by providing access to the required input at minimum or no cost.

Many Member States (e.g. the UK, the Netherlands, France, Denmark and Finland) are reconsidering their pricing policies or have already adopted marginal costs for the supply of PSI. While these Member States have made or will soon be making the move towards marginal costs as maximum charges for the re-use of PSI, diverging pricing regimes will significantly raise transaction costs and reduce incentives to undertake re-use based activities, thereby negatively impacting the smooth functioning of the internal market and stalling the development of the EU market for products based on PSI-re-use, with adverse effects on consumer welfare and the economy at large.

At the same time, the interests of those public sector bodies that are required to fund their operations and/or legally required to generate income must also be taken into account in order to ensure that quality data are in fact produced and/or collected where such an activity is included within the scope of the public task. A mandatory marginal cost standard may make it more difficult for the State to generate PSI as it may reduce incentives for public sector bodies to invest in the production of PSI, thereby undermining the very goal of the Directive. An exception to the default rule of marginal costs is therefore necessary to allow public bodies to charge on a cost recovery basis with a reasonable return on investment. A justified possibility to recover costs would prevent upfront the possible deficits created due to lack of income/revenue where public sector bodies are partly or fully self-financed. Such an exception shifts the share of the costs of producing PSI from taxpayers to re-users, who may then obtain a commercial benefit from re-using it outside its primary purpose.

As a safeguard to maintain the exceptional nature of the departure from the default rule of marginal costs, those public sector bodies that wish to charge on a cost-recovery basis with a reasonable return on investment should bear the burden of proving to an independent body that this departure is justified based on an agreed set of criteria. This approach is currently being implemented in the UK. It has proved successful as it has modified the pricing structure of public bodies, which did not have a solid rationale for charging based on cost recovery.

This measure, together with the proposed amendment of the general principle and the proposed extension of scope to the cultural sector, is one of the most efficient means of stimulating the market for PSI-based products and services, including across borders, and of ensuring a level playing field among re-users.

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[68] Communication from the Commission — Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, 2009/C 45/02; see also Case T-83/91 *Tetra Pak International SA* v *Commission* [1994] ECR II-755, upheld by the ECJ in Case C-333/94 [1996] ECR I-5951.

4.4.5.2. Reversal of the burden of proof

Currently, the burden of proving that charging principles do not comply with the rules of the Directive rests on the re-user. However, re-users have often reported considerable difficulties in obtaining the information necessary to satisfy that burden of proof, which significantly limits the possibility to enforce the rights conferred by the PSI Directive with respect to the re-use of PSI.

In order to attain the objective of stimulating the digital content market for PSI-based products and services, the burden of proof should be reversed so that, in the event of a dispute with a re-user, public sector bodies bear the burden of proving that their charges comply with the rules of the Directive. Public sector bodies are best placed to bear this burden of proof because of their privileged access to their internal documents and the understanding of their charging structure as opposed to re-users. Reversal of the burden would therefore facilitate enforcement of rights established under the PSI Directive and also reduce the costs of producing evidence to satisfy that burden and contribute to the economy of proceedings.

In addition, reversing the burden of proof has a broader relevance for the policy of opening up public data resources. It would contribute to catalysing the desired change of mindset among the public sector bodies most reluctant to adopt pro re-use policies. It would reinforce the amendment of the general principle to make all accessible data re-usable and contribute to the objective of stimulating the market for PSI-based products and services.

4.4.6. Requirement to establish an effective redress system and to designate independent PSI regulators

The only reference in the current Directive to means of redress available in the event of a dispute concerning the availability of re-usable material is to be found in Article 4 referring to requests for re-use, pursuant to which '*any negative decision shall contain a reference to the means of redress in case the applicant wishes to appeal the decision*.' Although the formulation in itself implies that means of redress must in fact be available, the details of available remedies or authorities competent to hear the complaint are nowhere to be found.

The lack of an efficient and effective redress system was one of the major problems with the PSI re-use system raised by respondents to the public consultation, in particular by re-users, citizens and experts. The lack of an effective redress mechanism in some Member States (time to decision, effective competencies of bodies) prevents re-users from enforcing their rights against monopoly suppliers of PSI, leading to inefficiencies on some markets with negative impacts on competition and innovation and, ultimately, on consumer welfare (see Annex 0 for examples on the market for meteorological information).

Although Member States have functioning redress systems, only some have set up specific authorities to hear complaints against public bodies infringing the rules for re-use of PSI. While e.g. the Slovenian[69] and French[70] independent authorities are exemplary insofar as redress systems are concerned, re-users in most Member States face cumbersome and lengthy proceedings ill suited for dealing with their complaints, which often require swift results. In addition, due to the differences in the judicial systems of individual countries, the plaintiffs

[69] Information Commissioner, http://www.ip-rs.si/?id=195.

[70] Commission d'Accès aux Documents Administratifs, CADA, http://www.cada.fr/index.htm.

often face significant costs and difficulties in identifying competent courts or authorities and applicable rules of procedure, with a negative impact on the internal market for re-use of PSI.

In order to remove these obstacles and achieve the objectives of stimulating re-use of PSI, including across borders, an effective and efficient system of redress must be put in place for the benefit of re-users and public bodies alike. Based on the successful examples of the Slovenian or French authorities, the Directive should impose an explicit obligation on Member States to appoint an independent regulator with competencies to (i) decide on appeals against the refusal of public bodies to grant re-use and (ii) decide on complaints from re-users against charging and licensing conditions. In order to best address the current problem of the lack of functioning redress mechanisms, the Directive would indicate the minimum scope of competencies and the minimum range of remedies to be granted. On the other hand, in order to safeguard the principles of subsidiarity, proportionality and conferral, the choice of the authority as well as the actual procedural rules would remain with the Member States, which have the sole competence to organise their internal judicial systems.

4.5. Option 5: Packaged solution

This option would combine a systemic change in the re-use framework (Option 4) with additional guidance on the principles to be applied by national authorities when they implement them at national level (Option 3).

5. ASSESSMENT OF POLICY OPTIONS

This section presents a qualitative and, where possible, quantitative assessment of the impact of each of the five policy options in the light of the policy objectives identified in Section 1.

The main areas of potential impact are economic and social. In particular, the capacity of PSI-based products and services to convey economic and social benefits to all consumers must be weighed against the costs resulting from potential losses in revenue incurred by releasing public data for re-use without charge or at low fees. Any policy in this area must ensure that there is a level playing field between hybrid public bodies engaging in commercial re-use of data they produce or collect with public funds and their private competitors and that a disproportionate burden is not imposed on the public sector, thereby endangering PSI production, investment and innovation.

5.1. Option 1: No changes to the Directive (baseline)

This option, the baseline scenario of no policy change, would maintain the basic approach to re-use of PSI contained in the PSI Directive. Under this framework, a minimum set of rules governing re-use is to be guaranteed, including maximum allowable charges, non-discrimination and transparency within public bodies with respect to re-use conditions and practical rules on dealing with re-use requests. Leaving it to the Member States to apply the current unchanged framework would allow the PSI re-use concept to evolve in step with the public openness policy and technological developments at national level.

On the other hand, the 'no policy change' option would leave Member States with only the terms of the Directive to adapt their current national PSI re-use arrangements to take account of the increasing economic and social importance of the market for PSI-based products and services in their territories. In particular, the Directive does not provide guidance on non-restrictive licensing conditions; it does not define the costs allowed for recovery or a

reasonable return on investment; its scope does not extend to sectors where a lot of potentially valuable PSI is held and which could be brought within the scope of the Directive.

In addition, with increasing realisation of the importance of PSI re-use, individual Member States have been pursuing more ambitious policies and adopting measures that go beyond the minimum rules set by the Directive. Several Member States and some individual public bodies in other Member States have adopted marginal costs as default allowable charges, several Member States have put in place model licences and e.g. FR has put in place a right to re-use accessible public data. There is therefore a significant risk that the no policy change option would result in increasingly divergent approaches being taken to the issue at national level, based on a variety of considerations and differing levels of ambition with respect to releasing public data for re-use. This can give rise to legal uncertainty and unpredictability for the market, in particular commercial re-users.

The pressure for releasing more public data at low charges and without or under permissive licensing conditions in all Member States is likely to grow as the potential market for commercial and non-commercial products based on re-use of PSI (e.g. apps) develops. More broadly, in addition to the acknowledged economic benefits of encouraging re-use, PSI and its re-use are increasingly important for the democratic process and for the public transparency agenda.

Any uncertainty, particularly as regards the transaction costs (charges, licensing, type of data) of making public data available for businesses could have a chilling effect on innovation and investment in this high-potential market as public bodies and re-users alike try to assess the implications of future actions by Member States in this area. Stifled innovation would have negative impacts on general consumer welfare and on businesses reliant on innovative PSI products for their offerings. The potential inconsistencies in the application of the existing rules and the development of regulatory divergences among Member States could also act as a significant barrier to the development of a digital single market within the EU.

The option of no policy change would therefore not respond to the calls for extension of scope, generalisation of charges based by default on marginal costs, for clarification and for additional guidance, which emerged from the public consultation process in 2010. Indeed, the public consultation yielded significant results in that respect with 95% of respondents expressing support for further action towards opening up public data resources and practical measures facilitating re-use for unlocking innovation and developing new services. In the current environment, inaction would also entail refraining from harnessing the competitive potential of novel markets in a moment in which innovation is clearly essential to counter the negative impact of the current economic crisis.

Advantages	*Disadvantages*
(+) Existing minimum rules for re-using PSI preserved	**(-)** Increased likelihood of divergent approaches at national level
(+) Flexibility to take account of national conditions	**(-)** Increased fragmentation of internal market for re-use of PSI
	(-) Risk of uncertainty for the market and end users
	(-) Less dynamic development of PSI re-use

	market **(-)** Losses to consumer welfare

5.2. Option 2: Discontinuing existing EU action (repeal of the PSI Directive)

Under this option the availability, affordability and accessibility of a common set of rules governing re-use of public sector information would no longer be guaranteed through a harmonised legal framework at EU level.

As a result, EU businesses and citizens would no longer enjoy specific rights created by the Directive. There would no longer be an enforceable obligation on public bodies to grant re-use where it is currently prescribed and within prescribed deadlines, or to ensure transparency in the application of their charging and licensing conditions; prices for re-use would no longer be capped at prescribed levels. In addition, while competition rules can offer re-users the possibility to require access to PSI in the event of abuse of the supplier's dominant position, the rules of the Directive go beyond what can be ordered under competition law by creating a specific right to re-use and prohibiting discriminatory practices. Application of these specific rules also usually produces more appropriate results more quickly than by applying the rules on the abuse of market dominance. Repealing the Directive would result in more potential for abuse by dominant incumbents and in less competition on the market, thereby hindering development of innovative products based on re-use of PSI and negatively impacting consumer welfare.

On the other hand, Member States would retain the discretion to act, in accordance with their national law and generally applicable EU law, to determine what measures should be taken beyond market forces to ensure re-use of information produced within the public sector within their territory.

Consequently, when compared to the baseline scenario, market players and consumers would be faced with an increasingly divergent set of national measures in the field of re-use of PSI. This would lead to further fragmentation of the internal market for re-use of PSI, in particular in view of the differences in the internal organisation of Member States and the scope of national public sectors. The choice of this policy option would therefore not ensure the 'safety net' of a minimum set of public data, to be delivered within certain deadlines at an affordable price and under permissive conditions across the EU when incumbents in the public sector foreclose markets for re-use of data that they have the monopoly to produce or collect. This would reduce the potential for re-use of PSI for economic development, for furthering public transparency, efficiency and accountability and for citizen empowerment. It would fail to promote regulatory consistency and predictability across the Member States. Moreover, the consequences of repealing the Directive would affect related initiatives in specific areas (e.g. transport, energy, and the environment) and would run counter to the general policy of openness developing across the EU that the PSI Directive underpins.

Repealing the Directive would therefore remove the conditions that incentivise businesses and consumers to undertake activities based on re-use of PSI. This would hinder further development of the PSI reuse market, which is growing and facing a lot of potential, but which require a minimum of regulatory cohesion across the EU. Indeed, the outcome of the public consultation indicates that stakeholders consider that divergent national rules can make it more complicated to grasp economic opportunities and to develop cross-border products and services.

Advantages	*Disadvantages*
(+) More freedom for Member States	**(-)** Increased likelihood of divergent approaches at national level **(-)** Increased fragmentation of internal market for re-use of PSI **(-)** Increased legal uncertainty and regulatory unpredictability **(-)** No more safety net at EU level to ensure a level playing field on the market for re-use of PSI **(-)** Stifled development of the PSI re-use market **(-)** Losses to consumer welfare

5.3. Option 3: Soft law measures

This option would build on the current re-use of PSI provisions by providing additional guidance on the principles to be applied by national authorities when they implement them at national level. This would be done by means of an appropriate Commission guidance instrument (such as guidelines or a recommendation). Although not binding the Member States, these instruments would have indicative authority without requiring legislative changes to the framework itself. In particular, guidance would be given on permissive licensing conditions for the supply of PSI, including a model licence; on the meaning of a reasonable return on investment together with a clarification of recoverable costs; on recommended re-use friendly formats. In addition, Member States would be encouraged to ensure interoperability of the public data (e.g. by processing their non-spatial public data in accordance with the rules governing their spatial data pursuant to the requirements of the INSPIRE Directive) and to release as much data as possible for re-use under the least restrictive conditions possible.

This option would share the benefits identified in relation to the baseline Option 1, in terms of the ability for Member States to take due account of national conditions. It would also preserve the current role of the set of rules on re-use of PSI as a safety net. If the recommendations and guidance were to be followed by the Member States, the option would clarify and improve the implementation of the framework by promoting a higher degree of consistency in the implementation of re-use obligations, while leaving public bodies and Member States flexibility to adapt their re-use obligations to national circumstances. The setting of a common recommended methodological approach to the calculation of costs to be charged for delivery of data and of a recommended set of licensing conditions would help enhance regulatory certainty for re-users and public bodies alike. Guidance on cost calculation would also prevent public bodies from overcharging for re-use of public data. Guidance on recommended data formats would increase re-usability of supplied data, resulting in cost reductions for re-users. Combined with guidance on licensing conditions, it would lead to increased efficiency in dealing with re-use requests, resulting in the long run in lower transaction costs for the public sector.

This option can be a relatively non-intrusive and efficient way of addressing some of the problems, which arose during the application of the Directive and which stem from e.g.

insufficient clarity of a term such as reasonable return on investment. Results of the stakeholder consultation confirm that guidance on e.g. licensing conditions and costs calculation is indeed necessary. Indeed, some 65% of respondents to the consultation who addressed the question about the necessity of soft law measures were in favour of such measures.

However, because this option does not entail creation of enforceable rights or obligations and would not amend any of the current provisions of the Directive, it might alone not be sufficient to reach all the objectives identified for this initiative and solve identified problems.

Commercial and non-commercial re-users alike would not be able to enforce the guidelines on licensing conditions or charging recommendations if they are not applied by public bodies, which in addition would retain the current discretion to grant re-use of their data. Moreover, definition criteria for departing from recommended licensing terms or costs calculation would remain within discretion of individual Member States. Guidance on costs calculation and licensing measures would facilitate the act of making data available for re-use but alone would not exert any pressure on charges and on releasing locked data for re-use. Thereby the impact of these measures on incentives to undertake re-use activities, commercial and non-commercial alike would remain very limited.

This option also shares the limitations identified in relation to Options 1 and 2 in terms of the development of regulatory divergences among MS, in particular in relation to an obligation to release public data for re-use, to the scope of application of the Directive and the maximum allowable charging levels, which would hinder the development of a digital single market within the EU and adversely affect consumer welfare and adjacent markets.

Advantages	*Disadvantages*
(+) Existing minimum rules on re-use of PSI preserved	**(-)** Increased likelihood of divergent approaches at national level on scope, charging levels
(+) Flexibility to take account of national conditions	**(-)** Increased fragmentation of internal market for re-use of PSI
(+) Improved legal certainty for re-users and public bodies with respect to cost calculations and licensing conditions	**(-)** Lack of enforceability of the measures
	(-) Less dynamic development of PSI re-use market
(+) Improved re-usability of data with recommended re-use friendly formats	**(-)** Losses to consumer welfare

5.4. Option 4: Legislative amendments

This option would mandate several changes to the current rules of the Directive: linking re-use to accessibility of information, bringing cultural public domain material within the scope of application of the Directive, imposing a default rule of charging based on marginal costs, with exceptions to charging at cost recovery when a public body is at least partly self-financed, requiring Member States to define the scope of public tasks by legislation and mandating appointment of an independent regulatory authority to ensure enforcement of the re-use provisions. Detailed analysis of the main aspects of this option is provided in Annex 5.

Option 4 would effectively create a systemic change in the re-use framework by adopting a bundle of legislative amendments facilitating and fostering re-use within the EU. This option would create an enforceable right to re-use public information by linking the concept of re-use to the concept of access to information. It would bring a wealth of valuable data under a harmonised framework of re-use rules by extending the scope of application of the Directive to cultural institutions and university libraries. It would make re-use more affordable by lowering the maximum allowable charges to marginal costs of dissemination. It would enhance enforceability of the rules by explicitly requiring Member States to appoint a PSI regulator competent to investigate alleged infringements of re-use rules and by shifting the burden of proof of compliance to public bodies instead of re-users. Finally, without imposing a binding requirement on Member States, the option would explicitly refer to the use of machine-readable formats for data delivery where possible and appropriate. Results of the online consultation confirm that lowering allowable charging levels, establishing a right to re-use, extending the scope of the Directive and enhancing redress are necessary changes in the PSI re-use legal framework (see Annex 2).

Stimulating development of the PSI-based market, including across borders

This option has by far the highest expected benefits in terms of facilitating and incentivising re-use activities compared with Options 1, 2 and 3. An enforceable right to re-use linked to well established accessibility rules would directly enhance legal certainty for re-users, as would extension of the scope to cultural institutions by making cultural PSI subject to the same re-use rules, including licensing and charging regimes, across the EU.

Highly priced and ring-fenced PSI creates barriers to entry for new players, thereby limiting competition between re-users and keeping prices artificially high. Lower charges and a more re-use friendly regulatory framework will increase incentives to engage in PSI re-use and lead to more competition and more innovation on the markets for re-use of various types of PSI, resulting ultimately in more and better products for end-users, private consumers and professional consumers alike. In addition, lower charges and more re-use will trigger significant network effects, in particular with respect to PSI of an infrastructural nature, such as address data and maps, which are 'capillary pulled' into other data environments[71]. The DECA case is an example of this phenomenon, where the number of users of a central register of all Danish address data has exploded from 26 (the first-tier distributors) to 1.100 (second-tier application builders) to over a million of people (the third-tier end users of Danish GPS devices).[72] Option 4 is therefore the only one to allow meaningful intervention in favour of stimulating PSI re-use as market effects depend on the accessibility of data, the level of fees and the level of restrictions on use.

Economic analysis demonstrates that lower charges significantly impact re-use, e.g. in those cases where public bodies have moved to re-use facilitation costs or marginal/zero costs charging, the number of re-users has skyrocketed by factors ranging from 10 to 100 (1 000-10 000 % increases).

In some cases effects on 'sectors of re-users' could be obtained, in particular in the meteorological market, where the number of first-tier re-users is often limited. The KNMI

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71 Op. cit. Deloitte

72 Op. cit. Deloitte

case demonstrates[73] that in the 11 years (since 1999) following the shift to re-use facilitation costs, the number of re-users went up by a factor of 10, turnover increased by a factor of 4 and employment was boosted by a factor of 3. In the DECA case, which also only featured re-use facilitation charges, the number of re-users went up by at least a factor of 54, turnover by a factor of 10, and employment by a factor of 3. In the KNMI case tax gains amount to €35 million over a period of 11 years, and in the DECA case €14.25 million over nine years. Although these figures are modest at macro level, when placed in relation to the investments made and costs incurred, the returns are high, also taking into account that this change yielded savings (in the KNMI case €3.5 million and in the DECA case €5 million).[74] Other examples of the expected impacts of more permissive re-use regulation in specific sectors are given in sections 0 and 2.5.

Option 4 will also bring more SMEs into the re-use market, as evidenced by case studies where lowered entry barriers (lower charges, non-restrictive licensing conditions, increased legal certainty) for SMEs were put in place[75]. In turn, SMEs positively impact market dynamism and innovation and enable experiments with business models for value-added PSI products, including based on previously unexplored PSI datasets.

Prevent fragmentation of PSI regulation across the EU

Option 4 would harmonise the increasingly divergent regulatory re-use regimes in the internal market by extending to the whole of the EU a set of rules that have recently been adopted in only a few Member States. Option 4 is therefore the only option, compared with those assessed above, that would prevent increasing discrepancies in national re-use regulations, thereby reducing transaction costs and enhancing legal certainty for cross-border re-users.

At the same time, this option shares the benefits identified in relation to the baseline Option 1 and Option 3, in terms of the ability for Member States to take due account of national conditions. This is a consequence of the nature of the instrument — a directive *par excellence* allows national differences to be accounted for when it is implemented in the national regime.

Positive impact on general consumer welfare

Option 4 is most likely to positively affect consumer welfare and surplus. A 2010 KPMG study estimated that the land registry's online access and digital certification service was saving Spanish taxpayers at least 157 million Euros a year (against a land registry budget of 118 million for the same year). Another cost-benefit analysis conducted by RSO and Cap Gemini showed that the land registry's electronic office was saving the taxpayer about 7 758 million Euros[76].

Positive impact on transparency and openness

Option 4 is also most likely to enhance the openness, transparency and accountability of governments. An enforceable right to re-use, combined with more re-use friendly conditions in terms of licensing, charging and redress, is most likely to increase as much non-commercial

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73 idem
74 idem
75 Op. cit. Deloitte
76 Ditto.

as commercial re-use, thereby positively impacting citizen engagement and the democratic process.

Positive impact on public bodies

Option 4 also carries the biggest likelihood of a positive impact on actual revenues and efficiencies within public bodies. Lower prices spur demand, which sometimes grows exponentially, and revenues from the sale of PSI actually increase[77]. Option 4 is also likely to enhance public efficiency, as revenues per public body employee dedicated to the facilitation of re-use actually increase when charges are lowered. Also, Option 4 can lead to actual improvement of data quality as a result of closer ties with re-users. In fact, quality control is stepped up and partly outsourced as deficiencies of supplied data are more often flagged up and reported back to the public body by re-users.

Positive impact on the environment

Increased re-use of PSI can support the effort to address the environmental challenges. By stimulating innovation in intelligent processing and linking of public data such as e.g. use of environmental pollution data with weather forecast data and geographical information in traffic management or energy consumption patterns can raise efficiency and exploitation capacities of environmental monitoring and can influence policy decisions in transport, land use, environment, health, carbon reduction and climate change or it can assist the public to make informed travel or consumption choices, ultimately contributing to the fight against climate change. Option 4, with lower prices and increased availability for public data for re-use is most likely to stimulate the development of environmentally oriented products and services.

In this respect, only Option 4, through increased availability of data and their re-use across the EU is likely to support specific environmental or transport policy initiatives. The PSI Directive, together with Directive 2003/4/EC on public access to environmental information (the Aarhus Directive) and Directive 2007/2/EC establishing an Infrastructure for Spatial Information in the EU (INSPIRE), form a set of EU measures aimed at ensuring the widest possible dissemination of certain information held by public bodies thus improving pan-European policy formulation, analysis, implementation and evaluation.

Negative impacts

While Option 4 would ensure convergence of national PSI re-use regimes, it does not share one of the benefits identified in Option 3, which is to accompany binding provisions of the Directive with guidance on the application of certain provisions. The lack of such guidance may lead to diverging applications of some of the Directive's provisions, e.g. diverging interpretation of the types of costs to be included within allowable charges or differences in terms of licensing conditions for re-use of PSI.

Moreover, implementing Option 4 can give rise to additional costs when compared to the baseline option. These costs will vary depending on the current national regulatory framework for re-use. Increased availability may involve costs associated with preparation of systems for collecting, storing, publishing and distributing data. There may also be additional costs for

[77] Op. cit. Deloitte, op. cit. Vickery, op. cit. Cambridge Study

support services due to higher demand. This is further analysed in the section on administrative burden below.

By lowering charges, Option 4 may also generate indirect costs, related to e.g. compensating public entities for loss of revenue by budgetary transfers to maintain necessary activities. In this connection, studies indicate that direct revenues to governments from PSI are relatively low and are much lower than the estimated first- and second-order benefits from access to PSI. Upper-end estimates based on the most comprehensive data available suggest that EU-27 government revenues are of the order of € 1.4 billion based on revenues in the Netherlands, and even higher at around € 3.4 billion if based on the United Kingdom; revenues for the EU-27 are likely to be considerably lower than these estimates[78]. This is only 1-2 % of the aggregate economic impacts from further opening up PSI by allowing easy access at marginal cost, which are estimated at € 140 billion[79]. In addition to the relatively low level of revenues, there are indirect effects of reduced access and pricing at more than marginal costs of distribution, including lower growth, reduced employment and reduced dynamism of new information-based industries, in addition to foregone government taxation revenues from higher-growth industries.

However, analysis of cases of public bodies, which have already implemented lower charges and favourable re-use conditions, costs often ultimately decrease – if the volume of re-use and re-users increase significantly. Once the facilitation of re-use processes has been properly organized, they become subroutines within the organization and are to a large extent embedded in the public task-funded activities with no extra costs.[80]

Advantages	*Disadvantages*
(+) Improved consistency of approach between Member States **(+)** Greater harmonisation **(+)** Better regulatory predictability **(+)** More dynamic development of PSI re-use market **(+)** More competition on the PSI re-use market **(+)** More involvement of SMEs **(+)** Improved efficiency **(+)** Improved transparency **(+)** Improved re-usability of data with machine-readable formats	**(-)** Likelihood of implementation costs **(-)** Likelihood of diverging application of cost calculations and licensing regimes

78 Op. cit. Vickery.
79 Ditto.
80 Op. cit. Deloitte

(+) Taxation from higher-growth industries	

5.5. Option 5: Packaged solution

This option would combine a systemic change in the re-use framework (Option 4) with additional guidance on the principles to be applied by national authorities when they implement them at national level (Option 3).

By bundling the two options — legislative amendments and soft law measures — this option would share the benefits identified for Options 3 and 4 in relation to the baseline Option 1, in terms of establishing a more re-use friendly regulatory framework with all its economic and social benefits combined with the benefits of guidance to increase legal certainty and ensure convergence in application of the regulatory framework.

The effective use of PSI, especially during a period of austerity, is increasingly viewed as a key driver for stimulating economic growth and promoting social engagement. The challenge for the public sector is to remove the barriers that stand in the way of re-use. However, it is not just about the removal of obstacles, it is about ensuring that processes are in place that encourage and facilitate proactive re-use[81].

Simply lowering PSI pricing does not lead automatically to growth of the re-use market. Innovation flourishes when the different systemic components are in place and reducing the cost of PSI is one component that removes the barrier to innovation, but not a sufficient factor *per se*[82]. Recommended licensing conditions, guidelines on cost calculation for marginal costs and for costs subject to recovery together with guidance on the meaning of 'reasonable return on investment' will reinforce the positive impact of the binding regulatory changes by assisting public bodies in the actual application of the provisions and will further reinforce legal certainty for re-users.

This option also shares the risks of direct and indirect implementing costs identified with respect to Option 4.

Advantages	*Disadvantages*
(+) Improved consistency of approach between Member States **(+)** Greater harmonisation **(+)** Better regulatory predictability **(+)** Improved legal certainty for re-users and public bodies with respect to cost calculations and licensing conditions **(+)** More dynamic development of PSI re-use	**(-)** Increased likelihood of implementation costs

[81] The UK Report on the Re-use of Public Sector Information, unlocking PSI potential, 2010 http://www.nationalarchives.gov.uk/documents/information-management/psi-report.pdf

[82] Op. cit. Deloitte.

market **(+)** More competition on the PSI re-use market **(+)** More involvement of SMEs **(+)** Improved efficiency **(+)** Improved transparency **(+)** Improved re-usability of data with machine-readable formats **(+)** Taxation from higher-growth industries	

5.6. Implementation costs

5.6.1. Option 1: No changes to the Directive (baseline)

In this case, the regulatory framework imposed by the original Directive has already been implemented and where a public body has moved to comply with the re-use requirements, the costs have already been borne. As public bodies need in any event to undertake the tasks involved in administering and complying with the re-use rules in their territory under the existing framework, no additional costs would be incurred.

5.6.2. Option 2: Discontinuing existing EU action (repeal of the PSI Directive)

It is not possible to assess what would be the impact on administrative costs of this option. Even if this option means the ultimate removal of the costs of administering the system for data supply to re-users, it is not possible to predict what arrangements might be put in place by national governments to achieve similar objectives.

5.6.3. Option 3: Soft law measures

Under this option, implementation of the recommended guidance on cost calculations and licensing conditions could have an impact on the revenues of the public bodies if it leads to a reduction of claimed costs.

It is difficult to estimate the costs or loss of revenues thus incurred but some costs could be similar to those incurred through compliance with a binding provision on lower charges for re-use, as considered in more detail below.

5.6.4. Option 4: Legislative amendments

Implementation of the package is likely to impose some transition costs for complying with the new rules: training of staff, setting up the help desk, changes to technical infrastructure and legal support. In addition, lowering re-use charges would initially lead to lower revenues. To the extent that the public task is partly financed through returns from re-use charges and their own exploitation of value-added products, public bodies need financial guarantees to cover the losses to be incurred.

The actual administrative burden on public bodies of complying with more ambitious re-use rules is difficult to estimate and would vary according to the current situation of a given public body. In fact, a large majority of public bodies will not be concerned by the re-use measures as they do not collect, produce or hold any information that is considered as PSI. Many of those public bodies that do are already familiar with re-use, most have experience in granting re-use and a number have already moved to marginal costs without disrupting effects on their activities. Switching to lower fees or new licensing conditions would only generate one-off costs without imposing any recurring burden on the public bodies. Some cases indicate that costs incurred for facilitating re-use hardly grow at all — in fact often ultimately decrease — even if the volume of re-use and the number of re-users increase significantly. In fact, once the new processes have been put in place, they become subroutines within the organisation that, to a large extent, are embedded in the public task-funded activities and involve no extra costs. This also seems to apply to the transaction costs to be incurred when charging for PSI re-use (see for instance practices by KNMI-Dutch Met office, DECA, SIRCOM- outsourced re-use facilitation by a French site analysing environmental information, Destatis – German statistical office, Met.no – Norwegian Met office)[83].

Within this option, public bodies will not face a binding obligation to make their data available in machine-readable formats as this rule will be indicative only. Where public bodies produce or collect data in digital formats, adopting machine-readable formats where not yet used will also only impose one-off transition costs and may lead to efficiency gains in those public bodies that make the investment of switching from analogue to digital data.

With respect to loss of revenues, studies indicate that although revenues obtained from granting re-use are sometimes substantial (Dutch land registry: €17m, Ordnance Survey: €21m), the cost recovery ratio — the amount of revenues from charging for raw data supplied to re-users as a percentage of the total budget of the organisation — is often insignificant when compared to the full budget of the public bodies concerned (mostly less than 1%, rarely more than 15%)[84]. In addition, all case studies where public bodies have lowered their prices demonstrate that demand grows in larger relative proportions, sometimes spectacularly. Accordingly, where the price elasticity of demand for PSI seems to be fairly large (well over a factor of 1), the price cuts will continue to contribute to an increase in revenues. (See Annex 6 for a table presenting cost recovery ratios of selected public sector bodies).

Sequential anthology of some assertions of PSI price elasticity:[85]

"Lowering the price of public sector geographic data by 60% leads to a 40% annual turnover growth" (Economische effecten van laagdrempelige beschikbaarstelling van overheidsinformatie, Ravi Bedrijvenplatform, the Netherlands, 2000).

"It is clear that there is a significant increase in the usage of data once it was made freely available. Comparing the average dissemination of 2003-2005 with 2005-07 estimates (crudely) gives an elasticity of 2.33 (An Australian Perspective on Open Access to and the Pricing of Public Sector Information, Brian Fitzgerald, Australia, 2007).

83 Op. cit. Deloitte.
84 Ditto.
85 Op. cit. Deloitte

Moreover, in the cases studied in the report, the average revenue per re-user, i.e. the amount charged per re-user, was relatively low (>€5 000 per year). On the other hand, the average revenue per employee dealing with re-use increased for the public bodies offering the re-use facilitation costs model, including e.g. simple model licences with little negotiation and monitoring burden. This is mainly due to efficiency gains from the need for fewer employees dealing with re-use. In addition, as lower charges increase re-use, they may in fact increase the public body's revenues from re-use as demonstrated by e.g. BEV, where price cuts of up to 97% have led to increased PSI sales revenues (+46% after four years). (See Annex 6 for more detailed analysis of transition financing measures of selected public sector bodies).

On the other hand, the new legislative framework would not impose any compliance costs or recurring administrative costs on businesses and consumers. On the contrary, lower fees would lead to reduced costs for re-users, including also transaction costs where marginal costs for dissemination of digital information are zero.

Option 5: Packaged solution specific licence to be signed.

5.6.5. Option 5: Packaged solution

The administrative costs that would be incurred under this option would not be greater than those arising under Option 4, since public bodies would in any event need to undertake the tasks involved in administering and complying with the new regulatory framework for re-use, where not already implemented.

5.7. Comparison of options

Option 1 (*status quo*) would increase the likelihood of divergent approaches at national level, giving rise to regulatory uncertainty and distorting competitive conditions in the internal market.

Option 2 (*repeal of the Directive*) would remove the safety net provided at EU level by the minimum established PSI re-use rules. By leaving Member States free to act in the area previously subject to harmonised EU rules, it would give rise to increased legal uncertainty and divergence of national approaches, to the detriment of competition and the internal market for re-use of PSI. Repealing the directive is also entirely incoherent with related data accessibility and re-usability initiatives pursued at the EU and national level.

Option 3 (*soft law measures*), if applied, will facilitate application of the rules of the PSI Directive on licensing and charging but will nonetheless increase the likelihood of divergent approaches at national levels, giving rise to regulatory uncertainty and distorting competitive conditions in the internal market.

Option 4 (*legislative amendments*) will establish a re-use friendly regulatory framework: it will broaden the scope of application of the Directive by bringing in cultural material, create an opposable EU right to re-use public data, bring down prices for re-use of PSI, enhance the effectiveness of the redress mechanism for enforcement of the right to re-use, increase level playing field with public bodies competing with private re-users but carries a risk of divergences – and legal uncertainty - in the application of individual provisions, in particular on costs calculation and licensing conditions.

Option 5 (*packaged solution of soft law measures and legislative amendments*) shares the benefits of Option 4 but will in addition facilitate application of the rules of the PSI Directive

on licensing and charging. As a result, it will ensure convergence of national re-use friendly regulatory approaches throughout the internal market, thereby enhancing legal certainty, increasing incentives and lowering barriers to undertake PSI re-use.

The table below provides a summary of main likely impacts and risks (with respect to the different economic and social dimensions) arising from the four policy options (2, 3, 4 and 5) involving a change to the status quo, as compared to the "no change" Option 1, which provides a baseline scenario for the assessment. The signs represent a scale of possible impacts vis-à-vis the "no change scenario": + positive impact**, O** neutral impact, − negative impact using option 1 as baseline.

IMPACTS AND RISKS	**Option 1** **No policy change**	**Option 2** **Repeal of the Directive**	**Option 3** **Soft law measures**	**Option 4** **Legislative measures**	**Option 5** **Packaged solution**
SPECIFIC RE-USE ISSUES					
Data re-usability	**O** No change	− Risk of less favourable conditions for re-use of data; risk of reduced re-usability of data	+ If applied, introduction of EU guidance on costs calculation, recommended data formats and recommended licensing conditions facilitates and stimulates data re-use	+ Improved re-usability with reference to machine-readable formats where possible and appropriate	+ Improved re-usability with reference to and guidance on machine-readable formats where possible and appropriate
Data availability	**O** No change	− Risk of limited availability for re-use of different types of PSI	**O** No change	+ Improved availability with extension of scope to public domain cultural material	+ Improved availability with extension of scope to public domain cultural material
Transparency	**O** No change	− Risk of reduced transparency in procedures for re-use of PSI	+ If applied, introduction of EU guidance on cost calculations and recommended licensing conditions improves transparency of PSI provision.	+ Some increase in transparency following the reversed burden of proof	+ Increase in transparency following introduction of EU guidance on cost calculations and recommended licensing conditions and of reversed burden of proof
Costs and benefits for re-users/consumers	**O** No change	−− High risk of loss to consumer welfare and economy at large from less	− Guidance on cost calculation does not in itself lead to lowered fees	+ Reduction of costs to re-users from lowering of default charges; improved	+ Reduction of costs to re-users from lowering of default charges; guidance on cost

		dynamic development of PSI re-use market	for PSI – Loss to consumer welfare and economy at large from less dynamic development of PSI re-use market	consumer welfare from increased competition on the markets for re-use based products; increased network effects from increased re-use	calculation and recommended licensing conditions would increase competition and efficiency gains strengthening network effects and improving consumer welfare
Administrative burden on public bodies	**O** No change	+ Removes administrative burden of compliance with EU rules on re-use of PSI – Risk of administrative burden of phasing out / new re-use arrangements	**O** Current administrative burden remains	– Increased administrative burden of compliance with the new regulatory framework –/ + Depending on the PSI sector and price elasticity in the market, revenues from re-use would be foregone or could be raised with increased re-use	– Increased administrative burden of compliance with the new regulatory framework –/ + Depending on the PSI sector and price elasticity in the market, revenues from re-use would be foregone or could be raised with increased re-use
Redress system for re-users	**O** No change	**O** No change unless enforcement reverts back to the default judicial system: in some Member States this could lead to a less effective enforcement of re-use	– No improvement of enforcement mechanisms, guidance lacks enforceability	+ Improvement in the redress system with appointment of competent authority to supervise compliance with rules of Directive and hear complaints against possible infringements; enforceable right to re-use and reversed burden of proof improve enforceability	+ Improvement in the redress system with appointment of competent authority to supervise compliance with rules of Directive and hear complaints against possible infringements; enforceable right to re-use and reversed burden of proof improve enforceability
Legal certainty	**O** No change	–– High risk of increase in legal uncertainty about re-use possibilities and conditions, including transaction costs (charges, licensing, type of data), for availability of	+ Introduction of EU guidance on cost calculations and recommended licensing conditions improves legal certainty for public bodies and re-users	+ Introduction of improved re-use framework (an enforceable right to re-use, improved redress mechanisms) would increase legal certainty for re-users	++ Introduction of improved re-use framework (an enforceable right to re-use, improved redress mechanisms) with guidance on cost calculation and recommended licensing conditions would

		public data			significantly increase legal certainty
Speed of implementation	**O** No change	**O** No change	+ EU guidance would be immediately applicable (once adopted by the Commission)	− Length of the legislative process and of transposition period would postpone the positive effects of this option.	− Length of the legislative process and of transposition period would postpone the positive effects of this option. + EU guidance would be immediately applicable (once adopted by the Commission) and beneficial for implementation
ECONOMIC ISSUES					
Competition	**O** No change	− Risk of legal uncertainty and regulatory unpredictability (as Member States would have full flexibility to define the rules governing re-use) having a negative impact on competition. Default competition rules could reduce distortions of competition if enforced.	**O** No change, although if applied, guidance on cost calculations could level the playing field with 'hybrid' public bodies	+ More re-use friendly legal framework (marginal costs regime with possible exceptions, improved redress mechanism) in Member States has been shown to stimulate innovation and promote competition on PSI re-use market. Improved regulatory predictability and transparency in the re-use markets would level the playing field with public bodies	++ More re-use friendly legal framework (marginal costs regime with possible exceptions, improved redress mechanism; guidance on favourable licensing conditions, costs calculation) in Member States has been shown to stimulate innovation and promote competition on PSI re-use market. Improved regulatory predictability and transparency in the re-use markets would level the playing field with public bodies
Investment and innovation	**O** No change	−− High risk of legal uncertainty and regulatory unpredictability (as Member	**O / +** If applied, guidance on cost calculations and licensing conditions) could	+ More re-use friendly legal framework (marginal costs, extended scope,	++ More re-use friendly legal framework (marginal costs, extended scope,

		States would have full flexibility to define the rules governing re-use of PSI), with a negative impact on incentives for innovation and investment in PSI re-use products and services	provide incentives for more re-use activities and innovation	better enforceability of rights) stimulates re-use and provides incentives for more re-use activities, promoting innovation and attracting investment in PSI re-use activities	better enforceability of rights, guidance on re-use friendly conditions and cost calculations) stimulates re-use and provides strong incentives for more re-use activities, promoting innovation and attracting investment in PSI re-use activities
Internal market	**O** No change	−− High risk of increased fragmentation of internal market for PSI re-use as re-users would face more divergent national regimes	− Risk of increased fragmentation of internal market for PSI re-use as re-users would face more divergent national regimes + If applied, guidance on cost calculations and recommended licensing conditions would stimulate some convergence in the internal market	+ The new legal framework would lead to greater harmonisation of rules on re-use of PSI and improve consistency of approach between Member States by extending the rules applied individually by some Member States across the EU	++ The new legal framework would lead to greater harmonisation of rules on re-use of PSI and improve consistency of approach between Member States by extending the rules applied individually by some Member States across the EU and providing guidance on application of the provisions of the Directive (cost calculations and licensing for re-use), which are now applied unevenly and inconsistently across the EU
SOCIAL ISSUES					
Citizen empowerment/ public accountability	**O** No change	− Removal of the re-use legal framework negatively impacts the democratic process by limiting the amount of available data	**O/+** Guidance on cost calculation has limited impact on data availability for non-commercial re-use but recommended licensing conditions could improve re-use conditions and stimulate non-	+ The new legal framework would stimulate non-commercial re-use associated with openness and government transparency by creating an enforceable right to re-use and improving redress solutions	+ The new legal framework with guidance on licensing conditions would stimulate and facilitate non-commercial re-use associated with openness and government transparency by creating an enforceable right to

			commercial re-use associated with openness and government transparency		re-use and improving redress solutions
Employment and labour market	**O** No change	− Removal of the re-use legal framework could hold back existing business activities, leading to fewer jobs in the PSI re-use sector	**O** Guidance on costs and licensing would most likely not be sufficient to stimulate re-use markets to the extent that appreciable effects on jobs would ensue	+ Enhanced new legal framework, in particular re-use friendly charging, leads to an appreciable increase in commercial re-use and job creation in some sectors	+ Enhanced new legal framework, in particular re-use friendly charging and licensing, leads to an appreciable increase in commercial re-use and job creation in some sectors
ENVIRONMENTAL ISSUES					
Impact on the environment	**O** No change	− Removal of the re-use legal framework will remove support for sector-specific policy initiatives, such as INSPIRE	**O** No change	+ By stimulating innovation, a more re-use friendly framework can impact environmental services and products and support environmental policies	+ By stimulating innovation, a more re-use friendly framework can impact environmental services and products and support environmental policies

5.8. Conclusion

The Impact Assessment indicates that **Option 5** (*packaged solution of soft law measures and legislative amendments*) offers the best balance between promoting re-use of PSI, harmonisation and legal certainty in the light of national circumstances.

6. MONITORING AND EVALUATION

A core indicator of progress towards meeting the identified objectives is the correct transposition and application of the Re-use of Public Sector Information Directive. The INFSO Management Plan regularly monitors the implementation of the PSI Directive with this indicator, and this will also be done for the revised Directive.

The following indicators, which may be refined in collaboration with Member States' representatives[86], will allow to measure progress in the re-use of public sector information and related policies across the European Union:

- Number of data portals and of available datasets;

[86] Collaboration with the Member States on a common set of the PSI re-use indicators is foreseen under the European E- Government Action Plan 2011-2015.

- Quality of the datasets evaluated according to a set of criteria including machine readability and the possibility of having user feedback;
- Level of re-use (number of downloads of data, number of downloads of applications, turnover of companies);
- Cross-border use of data;
- Number of exceptions from the general rule on pricing, and their economic impact;
- Degree of standardisation of licensing conditions, use of open licenses;
- Level of activity of redress and enforcement mechanisms, including the degree of independence of regulatory bodies and effectiveness of their decisions.
- Number and character of complaints and other reports from citizens and business to the Commission.

Data will be gathered in the following ways:

– reporting obligation on Member States to be included in the amended Directive,

– input from stakeholders as part of a regular dialogue and

– independent studies to collect, collate and assess data.

The Commission will review the application of the Directive and will communicate the results of the review together with any proposals for modifications to the European Parliament and to the Council 3 years after the transposition date.

7. ANNEXES

- Annex 1: Implementation of the Directive
- Annex 2: Overview of the results of the public consultation
- Annex 3: Key findings of the studies
- Annex 4: Examples of difficulties in accessing PSI for re-use (pricing and licensing conditions)
- Annex 5: Charging policies in the cultural sector
- Annex 6: Overview of charging tendencies by public sector bodies
- Annex 7: Machine-readable formats

Annex 1: Implementation of the Directive

Implementing acts in Member States

Member States have implemented the Directive in different ways:

- 11 Member States have adopted specific PSI re-use measures (BE, DE, GR, ES, IE, IT, CY, LU, MT, RO, UK).

- 4 Member States have used a combination of new measures specifically addressing re-use and legislation predating the Directive (DK, AT, SI, SE) and 8 Member States have adapted their legislative framework for access to documents to include re-use of PSI (BG, CZ, FI, FR, LV, LT, NL, PT).

- 4 Member States have notified the Commission only of pre-existing measures (provisions of Constitutional Acts, provisions of Freedom of Information/Access to Information Acts), none of which specifically addresses re-use (EE, HU, PL, SK).

Actions to support the proper application and implementation of the PSI Directive:

- PSI group, a Member States' expert group for the exchange of good practices and initiatives supporting public sector information re-use.

- PSI Platform, the European Public Sector Information (PSI) platform. This 'one-stop-shop' web portal provides news on European PSI developments, good practices, examples of new products and services, and legal cases concerning PSI re-use.

- LAPSI network. The project aims to analyse the legal issues related to access to and re-use of public sector information, foster debate among researchers and players in the field, among other things through dissemination exercises and awareness-raising events and contests, and produce a set of policy guidelines that will help all interested stakeholders in their access and re-use policies and practices.

- Exclusive agreements, an exercise for assessing the existence of possible exclusive agreements concluded by public sector bodies within certain Member States (pursuant to Article 11 of the Directive).

- Economic analysis. Several studies have been undertaken to measure different aspects of PSI. See Annex 3.

General principle provisions in Member States

In France, the PSI Directive was transposed by *Ordonnance* 2005-650 on freedom of access to administrative documents and on the re-use of public sector information. Article 10 of the *Ordonnance* provides that information featured in documents made or held by public sector bodies can be used by any person for purposes other than those of the public tasks for which the documents were created or held. The right to re-use public sector information concerns all documents to which there is a right to access under the French access to documents regime as well as those that were previously publicly disseminated.

In Slovenia the PSI Directive was transposed by a Decree on the provision and re-use of public information amending the Access to Public Information Act from 2003. According to the Slovak legislation, all information held by public sector bodies, to which access is allowed, may also be re-used, with the exception of archive material held by a competent archive.

Other Member States (Spain, Poland) are currently adopting a general principle that makes all accessible information re-usable and others are in favour of this option (the Netherlands, Denmark).

Charging regimes in selected individual Member States

The National Archives oversees implementation of re-use policy in the UK and, through the Controller of Crown copyright, gives directions to central government departments and agencies whose output is covered by Crown copyright. It was decided[87] that most central government information should be available for re-use at marginal cost. In practice this often means free of charge, especially where the information is published online. Where departments and agencies other than trading funds wish to charge for the re-use of data, they are required to justify departures from the marginal cost model against the criteria for exceptions for marginal cost pricing[88]. If their request is accepted, they are required to sign up to the Information Fair Trader Scheme, which has a system of verification and investigation of complaints[89]. This policy aims to ensure that the Government does not restrict or create unnecessary barriers to re-use. Many public bodies have changed their policy from a cost recovery policy to a marginal cost approach, with resounding success.

France: linked to the creation of the data.gouv.fr portal, a decree has laid down the principle of distribution without charge of central government information. All new charging policies must be justified and have to be submitted for approval[90].

The Netherlands has announced it is moving towards charging only marginal costs or less, in line with the preamble to the Directive, which recommends this approach.

87 http://www.nationalarchives.gov.uk/information-management/ifts/cost-pricing.htm.

88 http://www.nationalarchives.gov.uk/documents/information-management/criteria-exceptions-marginal-cost-pricing.pdf.

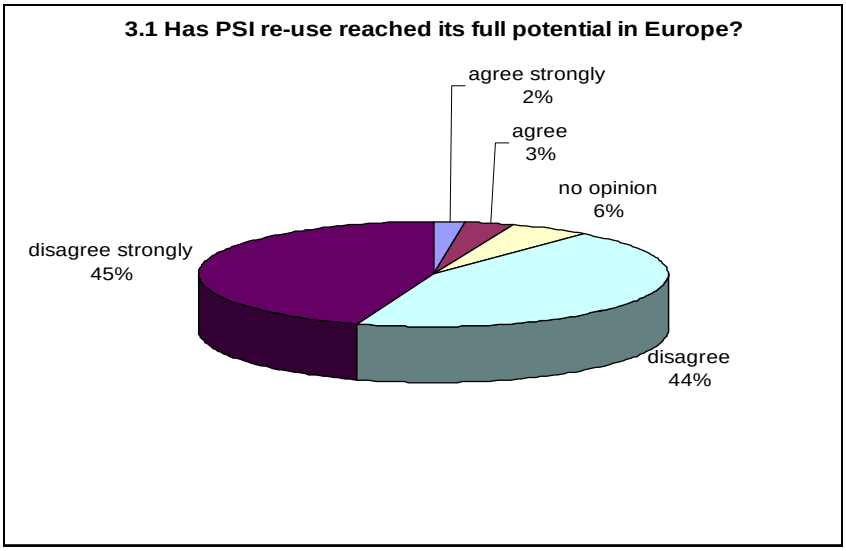
89 http://www.nationalarchives.gov.uk/information-management/ifts/members.htm.

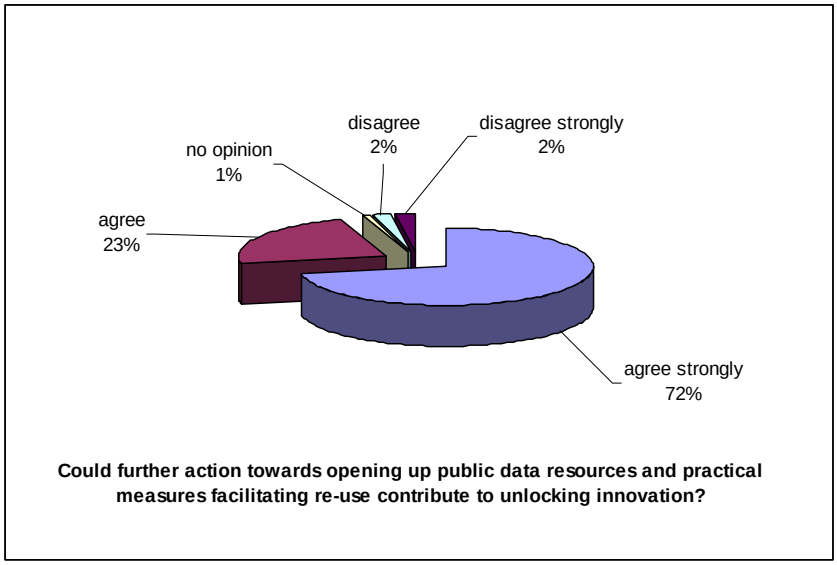
90 Décret n° 2011-577 du 26 mai 2011 relatif à la réutilisation des informations publiques détenues par l'Etat et ses établissements publics administratifs.

Annex 2: Overview of the results of the public consultation

The consultation was published on the Commission's 'Your Voice in Europe' webpage (http://ec.europa.eu/yourvoice/ipm/forms/dispatch?form=psidirective2010). A press release was issued. The launch was publicised also on Twitter, on the Commission's Information Society PSI website (http://ec.europa.eu/information_society/policy/psi/index_en.htm) and on the ePSIplatform portal. In addition, all types of stakeholders were informed about the consultation and invited through their associations and by individual email messages to submit their views. A report summarising the results of the consultation was also prepared and published on the same site[91].

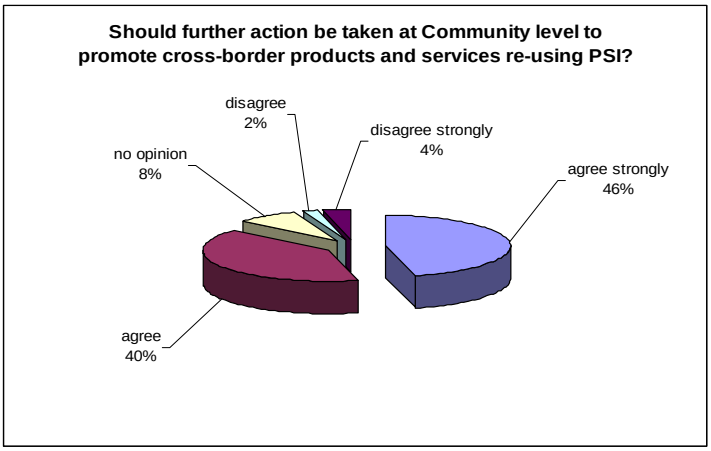
The overwhelming majority of respondents (over 90%) stated that PSI re-use has not reached its full potential and support further action to stimulate re-use and promote cross-border provision of PSI-based products and services, although responses to the last topic showed some difference of opinion among the PSI bodies.

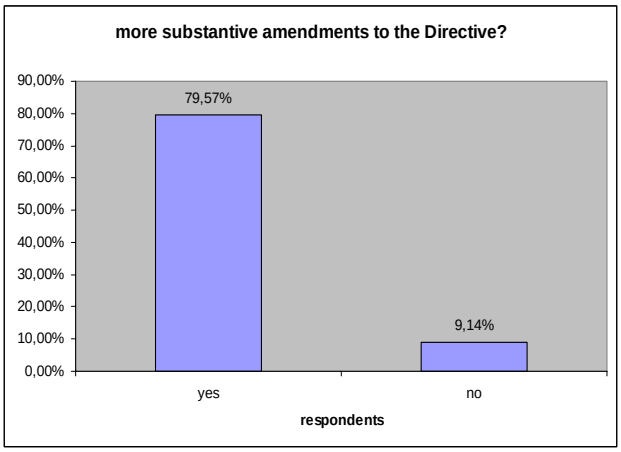


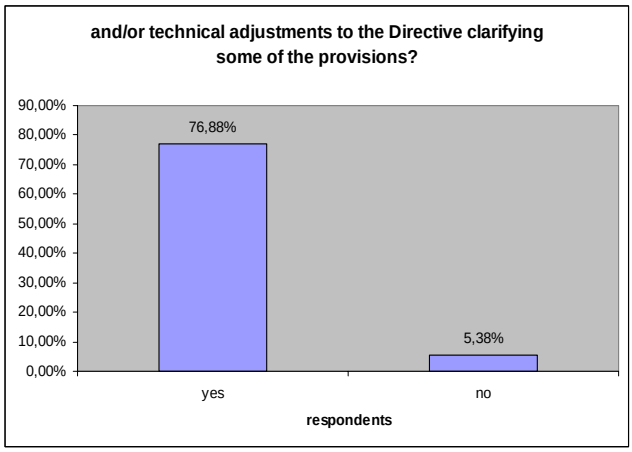


[91] http://tinyurl.com/PSIconsultation.

In general, most respondents favour amendments to the Directive, although support for amendments ranges according to the category of respondents from some 40% of PSI content holders up to over 70% of re-users.

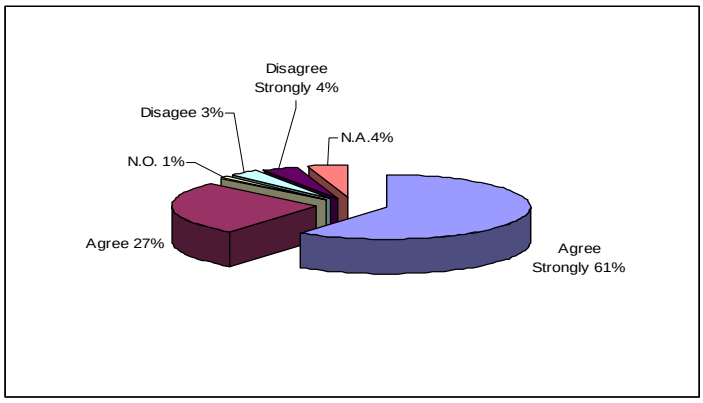






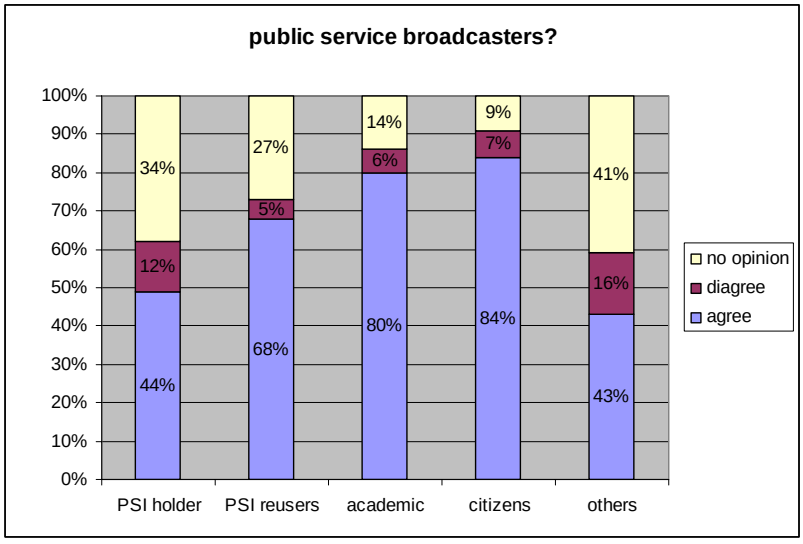
Suggestions for legislative amendments and for additional soft law guidance did not differ significantly among specific categories of respondents. Respondents flagged many issues that in their view remain problematic, but several topics stand out clearly from the submissions.

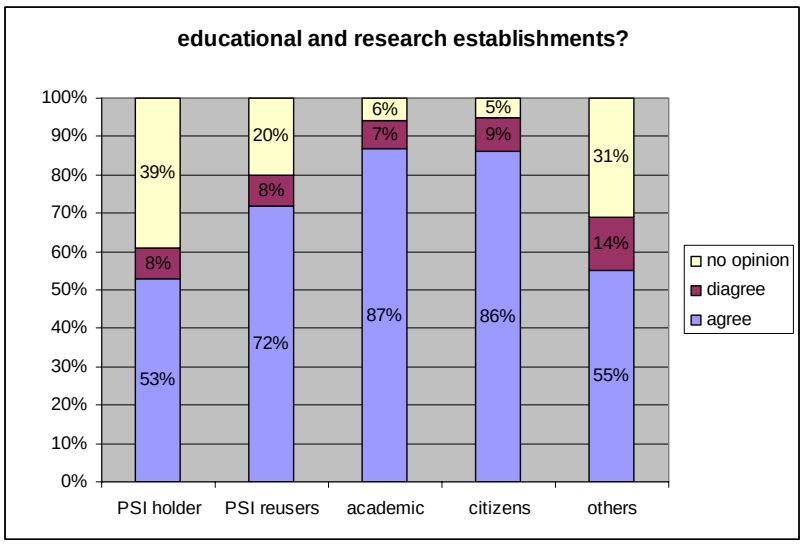
Respondents across all categories (88%) support changing the general principle to make all accessible information available.

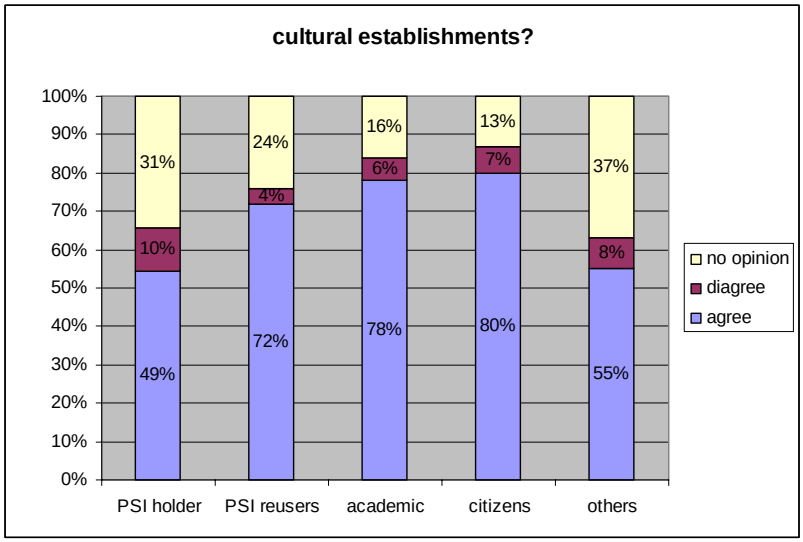


Opinion was almost equally strongly (almost 80%) in favour of extending the scope of the Directive, with most support for including research and educational establishments and least for public broadcasters. Interestingly, PSI content holders are generally divided half in favour and half against extending the Directive's scope to any of the sectors. This difference of opinion stems from the fact that some opposing PSI holders currently belong to one of the excluded sectors and wish to maintain this status or represent those PSBs that reluctantly make their data available and are in principle opposed to the open data concept. Those PSI bodies in favour of extension have generally embraced the aims of the PSI Directive and comply with its provisions. In their opinion, sectoral exclusions are not justifiable.

More specifically on the question of scope, respondents generally favour an extension of the Directive, with little difference among opinions regarding each excluded sector but with differences in levels of support: least support from PSI holders (around 50% for each sector) and most from academics and citizens (bordering on 80% for each sector). Representatives of the excluded sectors essentially repeated the arguments against extending the scope that were used to justify the initial exclusion of these sectors from the scope of the Directive, i.e. the preponderance of third-party intellectual property rights covering materials held by these public bodies. An additional argument against extending the scope, to do with protecting privacy and personal data, was put forward by representatives of public archives.







Another strongly supported issue is the promotion of re-use friendly formats with over 83% of respondents calling for formats to be machine readable and/or based on open standards software. In parallel, respondents, including PSI content holders, called for the need to harmonise and standardise the formats and licensing terms to prevent fragmentation of the internal market for data re-use. Mainly PSI re-users and academics (with fewer PSI bodies) also pointed out that restrictive and/or un-harmonised licensing terms are frequently a barrier to re-use and that acceptable conditions should be more precisely spelled out in the Directive. Many respondents across categories called for standardisation of licensing terms, frequently suggesting the Creative Commons framework. Among the re-users and the academics, respondents called for stronger obligations regarding redress mechanisms and transparency. A recurring remark from re-users is the difficulty to locate a competent interlocutor within PSI content holders.

The question of charging received much attention from all respondents. It is clear from many submissions that clarification and guidance on many charging issues is required, including on charging strategies versus open access or on admissible tariffs. Although views tend to diverge across categories of respondents, some 70% of respondents opposed the rule of full cost recovery together with a reasonable return on investments and some 66% supported free re-use for non-commercial purposes. Respondents were almost equally divided on the

marginal costs option. PSI bodies called for guidance on charging to take into account not only the type of data in question (e.g. raw versus value added data), but also the type of end use (public, academic, business), and the way data is delivered . PSI re-users also called for a distinction between raw and value added data. Moreover, together with the academics, they were the most numerous to call for the marginal costs principle. This multitude of proposals demonstrates that no one size fits all (e.g. core data / raw data versus value added; type of end use) and these differences must be accounted for in order not to inhibit data re-use.

Support (in % of responses received) for different charging regimes

%	Agree strongly	Agree	No opinion	Disagree	Disagree strongly	No answer	TOTAL
(i) at charges based on full cost recovery, together with a reasonable return on investment?	3.8	6.3	4.6	24.3	46.8	14.2	100
(ii) at charges based on full cost recovery?	3.3	9.6	5.3	31.1	35.9	14.8	100
(iii) at charges based on partial cost recovery?	2.6	13	9.7	29.9	27.5	17.3	100
(iv) at marginal costs for reproducing and disseminating the documents?	12.7	26.7	10.3	19.5	16.6	14.2	100
(v) at marginal costs as the basic rule with certain limited exceptions?	7	25.3	13.7	23.1	16	14.9	100
(vi) for free as regards both commercial and non-commercial re-use	30.4	20	9	16.8	11.3	12.5	100
(vii) for free as regards non-commercial re-use	49.1	17.1	7.8	6.4	7.7	11.8	100

Finally, respondents across all sectors generally called for support and deployment measures to promote PSI re-use, including across borders. These measures range from guidance on many topics (licensing, charging, public task, data quality) to support for the development of national data portals and for a European single access point to data.

Annex 3: Key findings of the studies

– MEPSIR

In order to be able to measure the re-use of PSI in the Member States and Norway, the Commission ordered a benchmark study on exploitation of PSI (MEPSIR — Measuring European Public Sector Information Resources)[92]. The main objectives of the study, carried out in 2006, were (1) to develop, document and test a repeatable methodology for measurement of PSI re-use and (2) to perform a baseline measurement of PSI re-use in the EU and Norway[93]. The study estimated the overall market size for public sector information in the EU to be in the range of € 10 to € 48 billion, with a mean value around € 27 billion, amounting to 0.25 % of the total aggregated GDP for the EU and Norway (€ 10 730 billion).

– Exclusive agreements

In 2009/2010 the Commission carried out a comprehensive study to assess the existence of possible exclusive agreements concluded by public sector bodies, in the light of Article 11 of the Directive and in accordance with the Communication on the Review of the Directive. Article 11 forbids, as a general rule, the existence of exclusive agreements (EAs) unless necessary for the provision of a service in the public interest, and the transitional period laid down in the Directive for terminating existing exclusive agreements ended on 31 December 2008. Nine Member States were surveyed. Most of the studies revealed very few potential exclusive agreements in the EU, and the assessment indicated that these were not one of the major obstacles hindering exploitation of the full potential for PSI re-use in Europe. The studies also provide some insight into current PSI developments in Member States and point to those areas that may be preventing PSI re-use in each Member State[94].

– Economic indicators and case studies on PSI pricing models

In 2010, the Commission also finalised and published the final report on economic indicators and case studies on PSI pricing models[95]. In all 20 organisations participated voluntarily in working groups representing a broad range of operational experience across the EU. Of the 10 indicators recommended (seven on the supply side and three on the demand side), only three provided a direct economic measure, with three indicators usable for regular measurements at specific intervals in time.

In 2010 the Commission launched three other external studies on: (i) assessing the different models of supply and charging for PSI (Deloitte); (ii) a revised figure for the PSI market value for Europe and (iii) re-use of PSI in the cultural sector. These studies were completed during the first half of 2011.

– Pricing of Public Sector Information Study, Deloitte, July 2011

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92 http://ec.europa.eu/information_society/policy/psi/actions_eu/policy_actions/mepsir/index_en.htm.

93 http://ec.europa.eu/information_society/policy/psi/actions_eu/policy_actions/mepsir/index_en.htm.

94 http://ec.europa.eu/information_society/policy/psi/facilitating_reuse/exlusive_agreements/index_en.htm.

95 http://ec.europa.eu/information_society/policy/psi/docs/pdfs/economic_study_report_final.pdf.

In order to assess what model of supply and charging for public sector information would facilitate the greatest re-use of PSI, maximising its social and economic value, the study undertook 21 case studies around the EU in close cooperation with public sector bodies (PSBs) in four sectors (meteorological, geographic, business registries and other) to compare and drive conclusions on the economic effects evident in those PSBs that have shifted towards for free and marginal costs pricing models compared to those that practise full or partial cost recovery. Therefore, the study looked into the impacts of different charging regimes on both the downstream market and the PSBs providing the PSI.

The study also performed a snapshot analysis of the Smartphone apps market based on PSI and a comparative analysis of some best practice data gov portals.

It is evident that we are currently witnessing positive political engagement and willingness to make government information more widely available and re-usable in Europe, including changes in the pricing policy towards for free or marginal costs, which are having positive effects on the increasing number of citizens and re-users making use of PSI. This is an evident conclusion emerging from this study.

There is a clear general trend towards lowering charges. Furthermore, there are quite a lot of cases that appear to be in an 'in between' situation, where non-commercial re-use is allowed against zero costs (and only commercial re-use is charged). In almost all cases, PSBs allow free access to their PSI. In some cases, free access (i.e. viewing without copying) was in fact the forerunner to a more liberal re-use regime. In those case studies where cost-recovery regimes are still applied, the calculation basis for setting PSI re-use charges appears to be weak. The PSBs concerned are mostly unable to explain the basis for cost allocation. In some cases, the setting of charges seems to be geared towards filling budget gaps rather than a cost-oriented tariff as is required under the Directive. In all case studies, the PSI re-use related revenues of PSBs range from relatively small to extremely small when compared to the full budget of the PSB concerned. In more than half of the cases these revenues formed less than 1 % of the PSBs' entire budget and in only four cases did this cost recovery rate exceed 15 % (the highest measurement was 20.7 %).

In those cases where PSBs have shifted to a lower charging regime, this movement does not stand alone, but is rather part of a broader policy change. Quite often this policy change also entails a change in the assertion of intellectual property rights and cutting of the provision of own value-added products.

The number of PSBs exploiting value-added products (based on their own raw data) is limited and appears to be decreasing over time. In quite a number of case studies these were referred to as 'headache' products.

Lowered charges significantly impact re-use. In those cases where PSBs moved to re-use facilitation costs or marginal/zero costs charging, the number of re-users skyrocketed by factors ranging from 10 to 100 (1 000-10 000 % increases). Furthermore, economic effects appear to be multiplied exponentially through the huge network effects that they can trigger. This applies particularly to PSI of a infrastructural nature, such as address data and maps. These are 'capillary pulled' into other data environments.

Lowering charges also brings in different types of re-users, in particular SMEs. This was evidenced by a number of cases where the price cuts were less significant (or even absent), but where special schemes for SMEs were put in place. The snapshot of the apps market

demonstrates that these lowered entry barriers for SMEs positively impact market dynamism and innovation and enable experiments with business models that create value-added services on top of PSI data as well as showing the hidden value of previously unexplored PSI datasets.

All case studies where PSBs have lowered their prices demonstrate that demand grows in larger relative proportions, sometimes spectacularly. Accordingly, where the price elasticity of demand for PSI seems to be fairly large, the price cuts will continue to contribute to an increase in revenues, especially since current revenues appear to be relatively low. Once charges are zero, revenues will also be zero.

Conversely, costs appear hardly to increase — in fact, they often ultimately decrease — if the volume of re-use and number of re-users increase significantly. Apparently, once the facilitation of re-use processes has been properly organised, they become subroutines within the organisation and are to a large extent embedded in the public task-funded activities with no extra costs. Lower charges thus also appear to enhance efficiency, where the revenues per re-use FTE (PSB employees dedicated to the facilitation of re-use) actually increase when charges are lowered. The concern about lower PSI data quality in the event of increased re-use, which has often been expressed by PSBs, was not confirmed by the case studies. Rather the opposite was reported: closer ties with re-users lead to improved data quality, since deficiencies are immediately flagged up and reported back to the PSB. Hence, quality control is partly outsourced when the interest in data quality is shared.

– Review of recent studies on PSI re-use and related market developments, Graham Vickery, July 2011

Estimated on the basis of the most recently available studies, the narrowly defined EU-27 direct PSI-related market was worth around €28 billion in 2008 and continuing to grow, suggesting a figure of around €32 billion in 2010 provided that PSI markets continued growing at earlier rates and were not affected by the recession.

Although care needs to be taken with these estimates as they come from a wide range of sources using different methodologies, it is clear that even the narrow PSI-based market is economically important and the direct economic 'footprint' is probably larger due to PSI use and re-use activities in other industries and in government. Furthermore, overall economic gains from opening up PSI by allowing easy access for free or marginal cost of distribution could bring gains of around €40 billion for the EU-27, depending on the economic impacts of current limitations on access and use.

Aggregate economic impacts from PSI use across the whole EU-27 economy are of the order of €140 billion, showing clearly that there are large economic benefits to be gained from easier access to and greater use of PSI. It is also clear that new applications and uses in a wide variety of goods and services industries and future innovations associated with easier access to PSI are more important than the direct market associated with the use of PSI, and wider second-order uses can be expected to add further economic and social benefits to the EU-27 economy.

All studies show relatively rapid growth in PSI-related markets, estimated variously in the range of 6-11%, with higher growth rates where PSI is made increasingly accessible at lower direct cost.

There are more scattered estimates of the gains from the removal of current barriers to access and improving the underlying infrastructure, and they too are positive. For example in the geospatial sector, benefits could be increased by some 10-40%, depending on the estimation method, by improving access, data standards, and building skills and knowledge. Better policies in the area of geospatial applications in local government could help the productivity gains from applications almost double over the next five years. Large markets are also estimated in financial, energy and construction sectors.

On the other hand, direct revenues to governments from PSI are relatively low and are much lower than the estimated first- and second-order benefits from access to PSI. Upper-end estimates based on the most comprehensive data available suggest that EU-27 government revenues are of the order of €1.4 billion based on revenues in the Netherlands, and even higher at around €3.4 billion if based on the United Kingdom, two countries that have been relatively effective in collecting revenues. Revenues for the EU-27 are likely to be considerably lower than these estimates. Despite the relatively low level of revenues, there are indirect effects of reduced access and pricing at more than marginal costs of distribution, including lower growth, reduced employment and reduced dynamism of new information-based industries, in addition to foregone government taxation revenues from higher-growth industries.

Research suggests that foregone government revenues from direct sales of PSI could be raised via basic replacement funding, possibly mixed with some kind of 'updater' funding models, where, for example, businesses updating their company data pay a higher levy. Nevertheless, the extra funding involved is estimated to be very small compared with the budgets of public sector bodies providing public sector information (usually less than 1% of their expenditures and a maximum of one fifth of expenditures in isolated cases), and even smaller compared with additional benefits from greater PSI-related economic activity overall. In addition, it is worthwhile to improve the IT infrastructure and to rationalise terms of access/use policy for intra-government PSI re-use (e.g. between national and local governments), with both direct benefits to governments and related spillovers to the private sector.

– Re-use of cultural material

The study investigating the re-use of PSI in the cultural sector found that very few institutions are dependent on the income they receive from re-use to enable them to undertake their public task. However, the income that they receive from re-use is in many cases essential to enable future re-use and development of services.

The approach that institutions have taken appears to depend on a very wide range of intrinsic and extrinsic factors — from the strategy of the State they are located in, through the nature of the collections, right down to the personalities of the people involved at an institution. It is important to bear in mind that a sample of this size cannot be representative of such a diverse community. These results should not be seen as statistically representative or significant; rather, they provide a first empirical view of possible trends and practices concerning re-use of cultural materials in several EU Member States.

Most organisations sampled are already re-using material in some way. Based on the survey respondents, the institutions with the highest absolute income from re-use are typically national institutions that have been conducting chargeable re-use activities for many years (in one case, since 1765!). This is unsurprising, given that they have the largest and best-known collections, and they have the administrative capability to manage the exploitation of this

material. These institutions are also most likely to undertake third-party re-use, by licensing entire collections to an external organisation that undertakes digitisation and then generates income. This income is then used to fund the staff time and effort required to prepare further collections for digitisation and re-use.

The institution (in the overall sample) with the highest income from re-use generated ~ €10m in 2009, representing 7.1 % of total income. The institution with the highest share of income from re-use generated ~ €6m, representing 11.1 % of total income.

Of the organisations reporting financial data for this study, between 2005 and 2009 some showed growth in revenue from re-use activities, while others showed a decline. As a proportion of overall income, however, re-use remained approximately level (<1 % change) for all of the reporting institutions. Many respondents stressed that they were trying to balance their public task of disseminating information with their need to generate income to fund the future development of services. As expected, many new projects have been started since 2005, and many more are currently being planned. Many of these are not yet generating income and, indeed, many are not intended to do so. It is clear, however, that institutions are actively seeking out opportunities to re-use their content regardless of whether they intend to generate income from this re-use.

Many respondents expressed in qualitative sections of the survey a sense that digitisation of content was synonymous with enabling re-use. Respondents have generally expressed the view that material must be digitised to reach as wide an audience as possible. Nonetheless, there are good examples of 'analogue' re-use, such as reproduction fees, selling prints, catalogues, etc.

There was a general view that the cost and effort of digitisation was the major factor limiting re-use of their material. Depending on the capability and nature of the organisation, this typically either has prevented the re-use of the material, or has led to third-party re-use.

Annex 4: Examples of difficulties in accessing PSI for re-use (pricing and licensing conditions)

Some public bodies apply a unit price that is reasonable for a single unit, but not for the entire database. As a consequence, the total price of the full data set is prohibitive. For instance, the full database of the CENDOJ would cost €3.4m, although one unit (i.e. a single sentence) would be perfectly affordable at €1.5. The same circumstance applied to the former charging regime of the French land registry, where the entire digital map would have cost a re-user €5.7m (the price of a single map was €9.5) and, therefore, despite interest on the part of re-users, was never bought[96].

A national Met Office (names have been removed to protect business secrets)

In 2009, the Commission received a complaint from a pan-European weather business with offices in eight European countries and customers worldwide, providing tailored products to consumer, media and professional markets.

Since 2003 the company had been attempting to enter into a business relationship with a national Met Office with the intention of purchasing meteorological data for the territory of the Member State — namely hourly SYNOP observations and radar composites. The first answer from the Met Office came in 2006, when it refused to supply the data. The matter was brought to the SOLVIT centre, which was unable to broker an agreement and recommended an official complaint to the European Commission for breaching Article 49 of the EC Treaty.

In 2007 the Met Office issued its first offer. It covered all the requested data types but was priced at ~ €20 250 for national 10 minute radar data compared to ~ €6 700 charged for 5 minute German radar data by the Deutsche Wetterdienst DWD (5 minute radar data being higher resolution and therefore more valuable than 10 minute radar data). Also, the offer contained very restrictive licensing conditions (e.g. radar data could only be made available with a three-hour delay on the open internet while the Met Office published this information in real time on the open internet).

In 2008, the Met Office provided a new offer with two variants. 30 minute radar images were offered at ~ €4 000 per month but without the right to resell data products to end users (the price doubled for the right to resell). In a subsequent offer in 2008, the Met Office offered 30 minute radar images at ~ € 1 600 per month with no re-use rights associated with the delivery.

The company eventually signed an agreement with the Met Office after informal intervention by a competition authority. The company was reluctant to bring proceedings against the Met Office on competition grounds (refusal to supply, excessive charging) given the need to maintain commercial relations with the public body and the urgency of obtaining data for re-use in order to remain on the market (against the expected length of proceedings).

This example demonstrates the difficulties that re-users face in obtaining PSI for re-use in some markets. It also illustrates the reluctance to bring proceedings against public bodies that do not comply with the re-use provisions, for reasons of reliance on the supply of data from the public body (a monopolist on the market) and insufficient or ineffective redress mechanisms.

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96 Op. cit. Deloitte.

Effects of high charges in the meteorological sector on SMEs

According to PRIMET, an association of re-users of meteorological services, the charges made by the public meteorological offices for re-use of their data constitute a barrier to entry the market, especially for the small companies. The absolute minimum data (PSI) required to provide quite basic meteorological services, for which the market value per customer might lie in the range of €6000 to €20000, would cost a typical small company in each of three representative national territories (France, Luxembourg, Poland) between €84000 and €400000 at current prices. These costs do not include the further charges for dissemination of the data by the suppliers, nor do they include any of the normal business overheads such as employment costs, social costs or the costs of premises. The position paper distributed by PRIMET at the Share-PSI workshop in May 2011 sets out the figures in detail[97].

Typical single contract values, of which at least 20 are typically required to be profitable, are from €6000 (general energy market in Poland), through €10000–15000 (general 'weather forecasting' in Luxembourg) to €20000 (highways operations in France). Small companies, particularly start-up companies, cannot flourish in such a PSI charging regime. As a consequence, the value-added meteorological market is stagnant and there are major opportunity costs accruing to national treasuries that are conservatively calculated to be €300 million annually[98].

PRIMET states that these figures have been obtained from the relevant official bodies, but ECOMET, the Economic Interest Grouping of the National Meteorological Services of the European Economic Area, contests conclusions drawn by PRIMET. According to ECOMET, its members offer favourable terms to SMEs, including general discounts enabling starters in the private sector to obtain large volumes of necessary data for reduced fees. ECOMET admits however, that prices for information are the responsibility of individual ECOMET members and are subject to individual and often varying national regulations.

This dispute illustrates on one hand the considerable degree of discretion in terms of pricing policy which public bodies enjoy under the current rules of the Directive and on the other hand a need for at least minimal harmonisation at the EU level. The above presented example also shows that there is a room for dispute about the resulting effects on competition. Moreover, it reinforces the case for the Commission to issue guidelines on prices, for reinforcing the obligation of transparency about the way prices are calculated by reversing the burden of proof and for an independent regulator who can deal with complaints objectively.

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97 Pricing of PSI in the Meteorological Sector blocks market development, R. E. W. Pettifer, General Secretary of PRIMET, Share-PSI workshop, Brussels, May 2011 http://share-psi.eu/papers/primet.pdf

98 Workshop: Removing the roadblocks to a pan European market for Public Sector Information re-use. Position Paper — Pricing of PSI in the Meteorological Sector blocks market development, Richard Pettifer, General Secretary of PRIMET, 2010.

Annex 5: Charging policies in the cultural sector

Methods of generating income from re-use as well as the range of such income vary considerably from one cultural institution to another.

In some cases such income may be primordial as it will provide for the necessary sources allowing for digitalisation and re-use. For example, one group of small museums are working together to take digital images of their artefacts. The photographer is employed with income generated from the sale of these images (and postcards printed from them). Without the income from the re-use, it would not be possible to employ the photographer, so the digitised material would not exist to be re-used.

To illustrate the range of income generated by re-use, the following table sets out the absolute and relative importance of re-use for the national libraries that supported this work (figures in Euros are rounded). This demonstrates how even similar organisations can have very different approaches to, and financial benefits from, re-use (the picture is similar for other types of institution).

Library	Gross income	Earned income	Re-use income	Re-use as % of gross income	3rd-party re-use income	3rd-party re-use as % of total re-use
A	€195 M	€9 M	€400 K	0.2%	€300 K	80%
B	€160 M	€40 M	€5 M	3.2%	€1 M	20%
C	€55 M	€0.8 K	€0.1 K	0.0%	€0	–
D	€35 M	€3 M	€0	–	€0	–
E	€30 M	€4 M	€500 K	2.0%	€50 K	10%

Of the organisations that provided financial data for the report, between 2005 and 2009 some showed growth in revenue from re-use activities, while others showed a decline. As a share of overall income, however, re-use remained approximately level (<1% change) for all the reporting institutions. The situation is complex across the cultural institutions as rising income from many individual projects is sometimes offset by other projects that have declined, or by the decline in other re-use activities that respondents did not describe in detail. More importantly, however, many of the respondents saw their overall budgets increase over the time period considered while income from re-use activities did not increase proportionately or institutions offered re-use without charge. As such, this explains why, even though the total income from re-use may have risen, there is still a fall in the share of the institution's total income that comes from re-use.

Re-use project type (anonymised)	2005 Revenue	2009 Revenue	% Change
Image and moving image licensing to commercial concerns	€9,300,000	€10,000,000	8 %
Licensing of digitized archival documents to aggregators	€343,800	€2,521,200	631 %
Sales of books, CDs, AV reproductions and educational material	€1,118,496	€2,191,152	96 %
Licensing of bibliographic metadata to publishers	€2,191,152	€1,503,552	-31 %
Digitisation projects with commercial and public third parties	€1,272,060	€1,421,040	12 %
Film and video licensing to broadcasters and production agencies	€856,062	€538,620	-37 %
Sale and licensing of images to commercial concerns and individuals	€331,194	€344,946	4 %
Licensing of digitized archival documents to aggregators	€26,702	€343,800	1188 %
Sales and licensing of digital images	€171,900	€229,200	33 %
Reproduction fees for images and books	€288,792	€221,178	-23 %
Licensing of literary works and images to publishers	€205,000	€212,000	3 %
Licensing of books and images to publishers	€205,000	€212,000	3 %
Licensing of bibliographic metadata	€20,000	€50,000	150 %
Sales of posters and prints online	€40,000	€50,000	25 %
Physical reproductions for sale on-site and online	€27,783	€33,340	20 %
Sale of printed exhibition catalogues, on-site and online	€11,113	€16,670	50 %
Sales of image reproductions	€11,113	€11,113	0 %
Selling copies of photographs to publishers or private individuals	€7,079	€4,663	-34 %
Sale and licensing of images to commercial concerns and individuals	€4,584	€4,584	0 %
Sale of exhibition catalogues, CDs, and DVDs to individuals	€1,500	€2,500	67 %
Sale of image downloads and physical reproductions	€2,000	€1,500	-25 %
Postcards for sale in the gallery shop	€1,146	€1,146	0.0 %

The Commission's study launched in 2010 indicates also that many new re-use projects have been started since 2005, and many more are currently being planned. Many of these are not yet generating income and, indeed, many are not intended to do so. It is clear, however, that institutions are actively seeking out opportunities to re-use their content regardless of whether they intend to generate income from this re-use. Moreover, with regard to the type of re-use activities they engage in, many respondents stressed that they were trying to balance their public task of disseminating information with the need to generate income to fund future development of services.

Annex 6: Overview of charging tendencies by public sector bodies

The 2008 Cambridge study examined the costs and benefits to society and the effects on government revenue of the different charging policies[99]. It concluded in its report that:

- the case for pricing no higher than marginal cost (which, for most digital data, will be zero) on basic data products is very strong;
- there are likely to be large beneficial spillovers in inducing users to innovate new services based on the data, as is evidently the case for other ICT services;
- the case for hard budget constraints to ensure efficient provision and induce innovative product development is weak for public enterprises not subject to regulation and providing monopoly services without fear of competition; and
- for several services, the Government is already providing effectively a large contribution to fixed costs, without allowing the public to enjoy the benefits of efficient pricing.

The study concludes that charging no or marginal costs for PSI results in social and economic benefits that far outweigh the immediate financial benefits attained by cost-recovery strategies. However, critics of this report have questioned the permanent sustainability of a scheme providing PSI at no or marginal prices when the cost of creating and maintaining quality PSI can be substantial, and when public bodies must incur e.g. costs necessary to sustain data quality or investment necessary to cope with technological developments.

The study shows that once PSI is made available by governments under a marginal cost/free regime it has considerable economic potential:

Cambridge Study report financial summary of moving to marginal cost

Trading fund	Gross benefit	Cost to Government	Gain to society
Companies House	£2.6m	£0.681m	£1.9m
Met Office	£1.2m	£0.26m	£1.03m
Ordnance Survey	£168m	£12.0m	£156.0m
UKHO	£1.082m	£0.746m	£0.338m
HM Land Registry	£2.3m	£1.1m	£1.2m
DVLA	£4.3m	£0.582m	£3.7m

The table below shows effects of policy changes in selected cases.

[99] Models of Public Sector Information Provision via Trading Funds, Cambridge University, 02/2008, http://www.berr.gov.uk/files/file45136.pdf.

Case study	Policy change	Effects
KNMI	1999 -Switch from full cost recovery charging to recovery of the re-use facilitation costs -Leading to an 80 % decrease in price for the full KNMI national meteorological dataset -Withdrawal from its own commercial activities -Selling off the commercial arm.	2010 (cumulative) -Private sector turnover grew by 400 % -Re-user employment boosted by 300 % -Innovation stimulated -Gave rise to new business models -Extra tax revenues amounted to total of €35m -Internal efficiency gains of €3.5m -Re-use department now run by 1.5 FTE -Data quality and service delivery enhanced -Level of professionalism increased
DECA	2002 -Under free of charge agreement central database of all Danish addresses created, driven by public task ambitions -Local PSBs compensated for losses and rewarded by free re-use -By distinguishing between the public sector investment and subsequent exploitation of the facility created, allocating the costs to those that benefit, no need to rely on cost recovery above re-use facilitation level -Open network of distributors established, acquiring PSI against re-use facilitation costs -No re-use limitations	2010 (cumulative) -Turnover of re-use market grew by factor of 10 -Number of re-users went up by factor of 100 -FTEs employed by re-users boosted by factor of 8-10 -Tax gains exceed PSB investment by factor of 4 -Almost 100 % decrease in variable charges and minimal fixed costs (€0.01m) -Self-propelling and financing re-use system maximising the multiplier effects downstream
Met.no	2007 -Moves to most liberal re-use policy, driven by internal commitment -All weather data, including most data from ECMWF partners, opened up for free and anonymous re-use -Steps forward in value chain, providing full service forecasts to all citizens, forcing re-users to further innovate -Actively promotes its re-use philosophy in international fora	2011 (cumulative) -Downstream effects are significant where the number of single weekly re-users exploded from around 100 to almost 3 000 (factor of 30) -Met.no serves a need felt throughout Europe (and beyond) where over 40 % of re-users are from outside Norway -Re-users appear to be SMEs integrating data in own content services towards large groups of users (rather than adding high resolution value) and app builders -Establishing a direct link with citizens assures quality of data (feedback) and embeds the public business case (and the public funding), protecting against reverse currents
BEV	2006 -Move from a complex full cost recovery pricing regime based on the costs of mainly analogue products (such as paper maps) to a simplified partial cost recovery pricing and licensing model with drastic price cuts of up to 97%. -Regular reviews (2008, 2010) -Introduction of web portal	2009 and 2010 -Substantial increase in the number of data sets sold: sales for many BEV PSI products increased significantly: cartographic products by factor of 2-15, digital orthoimages by factor of 70, digital land registry map and elevation model by factor of 2.5, digital landscape model by factor of 10 -Total revenues from re-use facilitation slightly increased, in spite of big price cuts -The bulk of the additional demand comes from Austrian SMEs.
IGN-CNIG	-Prior to 2008, all the PSI was for sale. -Prior to 2008 there were only 10 re-users (including both commercial and non-commercial re-users). Hence the increase has been very remarkable.	-The situation today means that over 40 re-users (the majority of them being SMEs) are purchasing the information for commercial purposes. -Since October 2010, the volume of data services and users has doubled. -Between 2008 and February 2010, there have been about 165 257 requests from 37 417 non-commercial re-users

Cost recovery ratios for selected public sector bodies[100]

Country	Public sector body	Sector	Cost recovery ratio
IT	Infocamere	Business register	31.31%
NL	KvK	Business register	0.96%
UK	Companies House	Business register	20.73%
AT	BEV	Geographic information	< 26.5%
DE	BKG	Geographic information	0.24%
DE	SenStadt	Geographic information	10.38%
DK	DECA	Geographic information	0.82%
ES	IGN-CENIG	Geographic information	4.12%
ES	Spanish land registry	Geographic information	0.00%
FR	French land registry	Geographic information	0.55%
IT	Italian land registry	Geographic information	0.50%
NL	Dutch land registry	Geographic information	6.57%
UK	Ordnance Survey	Geographic information	16.54%
DE	DWD	Meteorological information	0.93%
NL	KNMI	Meteorological information	0.45%
NO	Met.no	Meteorological information	0.00%
SI	ARSO	Meteorological information	6.00%
ES	CENDOJ	Legal information	16.67%
FR	DILA	Legal information	0.67%
FR	SIRCOM	Information on fuel prices	15.91%
DE	DeStatis	Statistical information	0.11%

Transition financing measures of selected public sector bodies

The table below provides examples of the types of financing measures involved when the public body transitioned to a more re-use favorable charging regime.

Case study name	Charging regime move	Financing measures
DECA	Non-existent → Re-use	Compensation to municipalities through:

[100] Op. cit., Deloitte

	facilitation costs charging	One-off payment Future free use of database €3m budget to cover the investments to be made Clear self-financing exploitation plan for future re-users
KNMI	Cost recovery + own value added products → re-use facilitation costs charging	Reorganisation budget for privatising commercial arm €0.2m budget for investments Clear self-financing exploitation plan for future re-users
Met.no	Cost recovery → zero costing (+ re-use facilitation costs charging for 'guaranteed delivery')	Compensation of €125,000 from the Ministry Other transition costs (small amount) were covered by own resources
UK Ordnance Survey	Cost recovery → zero costing at the point of use for some less granular products. Higher quality products still attract a fee	Introduction of tiered 'freemium model' of data provision in April 2010 state funding was facilitated to enable 'free distribution' of lower quality data. Full impact yet to be assessed
IGN-CENIG	Cost recovery → zero costing/marginal cost for non-commercial re-users	Marginal costs charging and sales to commercial re-users have allowed income to be maintained at a similar level to before 2008 (many small transactions as opposed to only a few large ones).
BEV	Cost recovery → Cost recovery (with price cuts of up to 97%)	No additional state funding. Price cuts were financed by increased demand. The transition was financed by own resources. PSI sales revenues went up by 46% after 4 years.
Destatis	Partial cost recovery → zero costing (+ premium accounts)	Transition costs were very low and financed by own resources. They were partly financed by cutting administrative costs (licensing, online shop operation, etc.).
Spanish land registry	Cost recovery → zero costing	This has only recently been implemented since April 2011. It is expected to be evaluated but high demand has already been addressed thanks to the mass downloads service while there are few operating costs.
French land registry	Cost recovery → Cost recovery (with price cuts of up to 97%)	No additional state funding. Price cuts will be financed by expected increases in demand.

Annex 7: Machine-readable formats

In order to be able to process data, computers need to receive it (by means of appropriate file formats) with enough structure to be able to tell:

– where a 'record' (i.e. a statement of fact, e.g. information related to a person's identity) begins and where it ends;

– within each 'record', where 'entities' (e.g. family name or date of birth in a record related to a person's identity) begin and end.

In some formats, records are stored in successive rows and within each row, entities and values are stored in separate cells, and appropriate software applications can extract data of interest from these. A data file format is said to be machine-readable if and only if it can support software applications in this fashion. Data encoded in files that are structured in a machine-readable format are machine-readable data.

Machine-readable formats can be open (for example Comma Separated Values[101]) or proprietary (as used by various proprietary spreadsheet programs such as XLS); they can be formal standards (for example XML[102] or RDF[103]) or not (for example Comma Separated Values).

On the other hand, there are a number of electronic formats that limit such automatic processing because the data cannot be extracted or cannot easily be extracted from these documents for further processing.

Textual formats such as PDF[104] are not machine-readable because they do not generally guarantee (i) and (ii) above. Image formats such as JPEG[105] (even when they are used to display data graphs) are not machine-readable either, for the same reasons. This category also includes the use of Flash formats for information on websites as these are not picked up by search engines and text often cannot be extracted from them.

Re-users have developed various methods to extract structured data (or information in a database-like form that a computer can read) from sources that are more or less unstructured (such as government websites, PDF documents, and scanned documents). This involves identifying patterns in the unstructured sources (such as columns and rows in a budget document) and writing a computer program to reconstruct the underlying data sets on the basis of these patterns. This process (known as screen scraping) can be time-consuming and may often require a degree of technical ingenuity.

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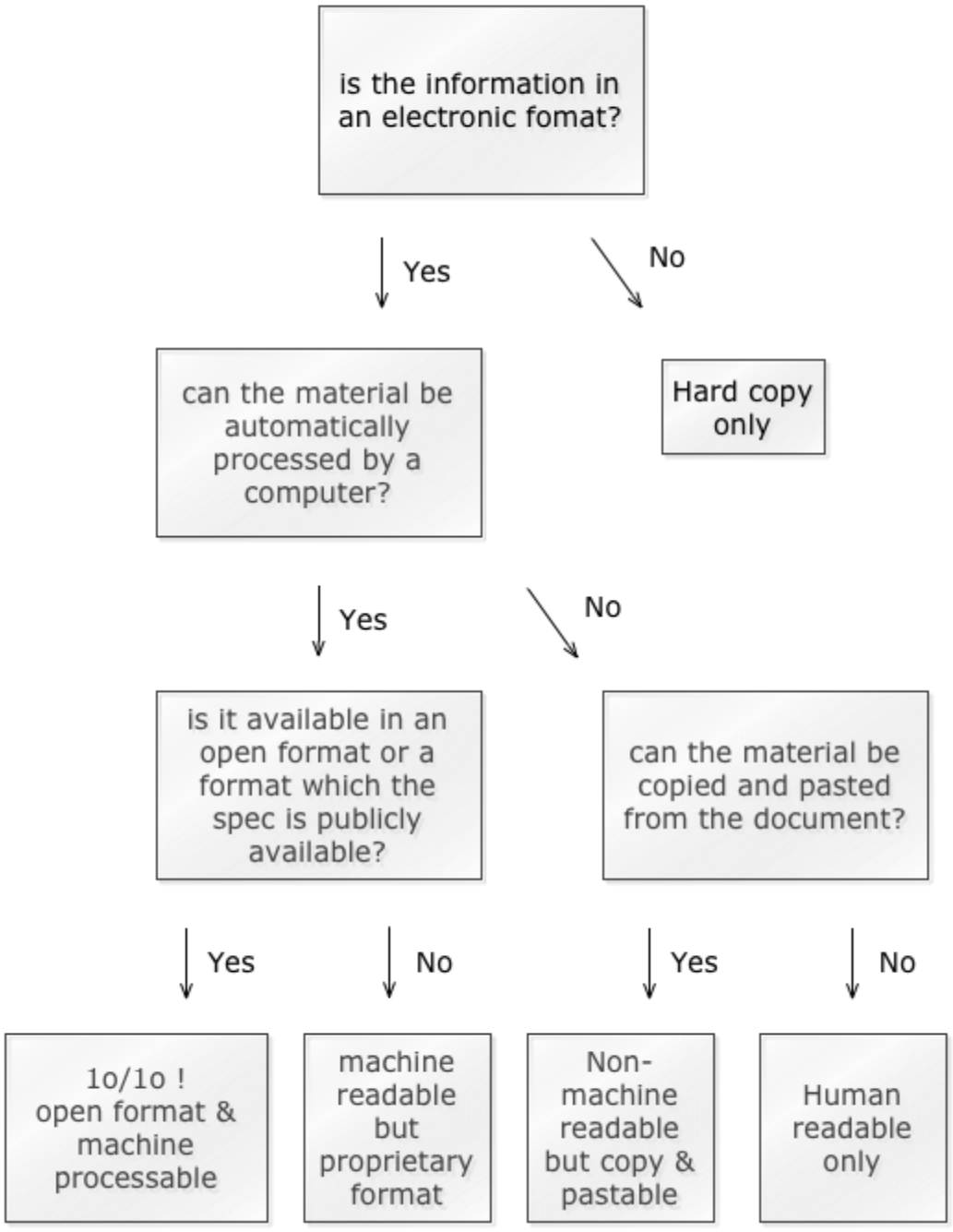
101 http://en.wikipedia.org/wiki/Comma_separated_values.
102 http://en.wikipedia.org/wiki/Xml.
103 http://en.wikipedia.org/wiki/Resource_Description_Framework.
104 http://en.wikipedia.org/wiki/Pdf.
105 http://en.wikipedia.org/wiki/JFIF.

Machine readability flow chart



[106]

[106] http://writetoreply.org/beyondaccess/4-2-2-machine-readable-formats/