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Assessing government initiatives on public sector information

A REVIEW OF THE OECD COUNCIL RECOMMENDATION

OECD

ASSESSING GOVERNMENT INITIATIVES ON PUBLIC SECTOR INFORMATION: A REVIEW OF THE OECD COUNCIL RECOMMENDATION

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EXECUTIVE SUMMARY

Information directly generated by public institutions and information and content held by cultural establishments, archives, and the like is any kind of information that is produced and/or collected and held by a public body as part of its missions. Better access to and use of public sector information, open data and open government data are inter-related parts of the shift towards knowledge-based economies, and drivers of innovation, growth and employment.

Public sector information (PSI) can be used directly to generate products and services, and it contributes in a wide variety of ways to improving efficiency and productivity across the economy. The OECD PSI market was estimated to be around USD 97 billion in 2008 and could have grown to around USD 111 billion by 2010. Aggregate OECD economic impacts of PSI-related applications and use were estimated to be around USD 500 billion and there could be close to USD 200 billion of additional gains if barriers to use were removed, skills enhanced and the data infrastructure improved. OECD welfare gains from moving from an average cost / cost recovery pricing model to marginal cost pricing for digital PSI are estimated to be USD 145 billion. These positive gains stem from removing widespread disincentives across OECD countries including dissuasive pricing and licensing practices, differences in licensing systems across national institutions, lack of information, poor interoperability, etc., that have stifled access to and use of PSI.

Overall, exploiting the potential PSI market requires lower pricing and less restrictive licensing agreements. In addition, in most cases where revenues are collected there are less than 1% of expenditures to make the data available, with a maximum of one-fifth of expenditures in a few cases, suggesting that revenue collection regimes have generally restricted use and have not generated significant revenues. There is also evidence that increasing access and lowering prices have large positive impacts on the number of users and new uses without significantly increasing costs.

There are gradations in national approaches depending on where countries are positioned in PSI re-use. Policy strategies include: opening up PSI that has been difficult to access and reuse; reviewing and amending unnecessary restrictions; reviewing and redefining the public task; facilitating access to third party rights holders' material where rights holders agree.

The detailed OECD survey of government strategies, implementation and impacts confirms this analysis. Government PSI-related policies and initiatives have been largely driven by the aim of generating greater national value added from data and information resources coupled with a general shift to open data strategies. Almost all of the responding countries have targeted strategies to improve access to and use of PSI. Some are relatively stand-alone and visible, whereas others are folded into more general open data / open government strategies. The survey revealed that countries have not had particular difficulties in funding the switch to free and open data and information, and that this had not been the major barrier foreseen in the past. Nevertheless, in times of budget pressures and cuts in government expenditures it is important to clearly articulate the advantages in opening up public data for wider use, and where necessary to compensate the providers of PSI for any initial extra funding necessary to open up and digitise data.

There is a range of approaches to what is included in PSI. In the past most countries excluded information held by cultural institutions, public broadcasters, education and scientific research. PSI does

not cover information unsuitable for public release such as confidential, personal and security/defence information. By 2015 all EU Members will transpose the 2003 (amended in 2013) Directive on the Re-Use of Public Sector Information into their laws, which will lead to inclusion of some, but not all, cultural content, but with restrictions on its reuse reflecting the 2003 Directive. In other countries, increasing amounts of cultural content are being treated as PSI and released for general use, and there are extensive efforts to digitise and make available all kinds of library, archive and museum material, provided third party copyright issues can be resolved.

All of the surveyed countries have a central government portal in place or are working towards establishing one. In all cases there is information on datasets, usually covering terms and conditions of re-use, legal and financial restrictions if there are any, and pricing and charging methods. There is a broad push to make public sector data open, machine-readable and interoperable, and move to free (creative commons or creative commons-like), open, non-exclusive licencing. The aim of most public pricing practices has moved progressively from seeing public sector information and data as a protected limited resource to generate government some revenues, to seeing it as a potential driver of innovation, business creation and expansion by making data easily accessible for free or at a marginal cost. Finally, most countries have ambitious and medium-to-long term digitisation strategies, often led by national archives.

The survey provided relatively few quantitative analyses of the benefits and costs associated with more liberal access to and use of PSI. Nevertheless, benefit/cost studies show that moving to open data strategies is economically and socially rewarding and benefits quickly and demonstrably outstrip costs. Standardised and unrestrictive licensing, such as Creative Commons, and data standards are crucial to achieve these benefits. Several new PSI market-related estimates are available and they are of the same order of magnitude as those above, if somewhat lower. PSI impacts across the economy are similar, with an estimated value of over USD 600 billion annually in 2012/2013. The potential for start-ups and new PSI-related activities is clearly seen, although evidence is mainly anecdotal. Finally, it is clearly demonstrated that government revenues foregone by moving to open PSI are very largely outweighed by government benefits including public sector productivity gains, more effective service delivery, improved policy development, cost savings through common data access, etc., and outweighed even more by wider economic and social benefits.

The parallel OECD Open Government Data (OGD) survey confirms these trends. PSI-related elements were highly ranked in central government OGD strategies. Standards / guidelines on licensing / copyrights were the most common PSI-related element as seen from the perspective of OGD strategies. In particular the objective of creating economic value for the private sector was ranked very highly, and commercially valuable PSI datasets are the most generally available in OGD strategies, notably meteorological data and geographic information.

The impact of the OECD PSI Recommendation (2008): OECD countries that are adopting and adapting their strategies have been positively influenced by the OECD Recommendation's principles on openness, access and transparent conditions for re-use, asset lists, copyright and pricing. Countries that explicitly referred to the positive strategic influence of the Recommendation also used it in developing practical approaches to PSI. Despite positive impacts of the Recommendation on OECD Member countries, diffusion to non-Member economies via OECD countries' initiatives has been limited. Further efforts could be made to promote the Recommendation to non-Member economies, in conjunction with other OECD efforts on open data and open government.

Just over one-half of surveyed countries either explicitly or implicitly see the 2008 Recommendation as pertinent, valid and timely with no need for radical change. There is also a series of nine sets of suggestions for changes which are somewhat scattered, with a group of countries and the EC suggesting changes towards greater emphasis on making PSI free and more accessible, focusing on strengthening and

making more explicit the principles on openness, copyrights and pricing. These suggestions are used to propose possible revisions of the Recommendation in Addendum 1.

These suggestions could be taken into account in case of the merging of the PSI Recommendation with the *Recommendation of the Council concerning Access to Research Data from Public Funding* of 14 December 2006 – [C(2006)184], which is also currently under review under the umbrella of the Committee for Scientific and Technological Policy. As highlighted in the context of the OECD project on *New Sources of Growth: Knowledge-Based Capital* with a focus on data and analytics (KBC2: DATA), coherent guidelines are needed to promote better access to data across the economy and to help overcome existing domain specific barriers to data access, linkage and re-use. Merging these two OECD Council Recommendations could be an effective means to assure coherence across policy areas promoting better access to, and re-use of, data.

INTRODUCTION

Defining public sector information

1. "Public sector information" (PSI) is broadly defined as "information, including information products and services, generated, created, collected, processed, preserved, maintained, disseminated, or funded by or for the Government or public institution", taking into account any legal requirements and restrictions.[1] The OECD Recommendation aimed to increase economic and social benefits from better access and wider use and re-use of PSI. In general, the term "use" implies a broad spectrum of use and re-use including use by the original public sector generator or holder, or other public sector bodies and further re-use by business or individuals for commercial or non-commercial purposes (see OECD, 2008, 2012 and Vickery 2011, 2012).

2. Information directly generated by public institutions and information and content held by cultural establishments, archives, and the like is any kind of information that is produced and/or collected and held by a public body as part of its public task. In Europe, better access to public sector information has received broad attention following Directive 2003/98/EC on the Re-use of Public Sector Information, and more generally across OECD countries following the OECD Recommendation. It has also received considerable attention due to more recent open government data initiatives.

3. For analytical and operational reasons it is useful to distinguish between:

- ***Public sector information*** which has characteristics of being: dynamic and continually generated, directly produced by the public sector, associated with the functioning of the public sector (*e.g.*, meteorological data, geo-spatial data, business statistics), and often readily useable in commercial applications with relatively little transformation of raw data, as well as being the basis of extensive elaboration; and

- ***Public sector information held by cultural establishments and the like (public sector content)*** which has characteristics of being: static (*i.e.* it is an established record), held by the public sector rather than being generated by it (*e.g.*, cultural archives, artistic works where third-party rights may be important), not directly associated with day-to-day functioning of government, and not necessarily associated with commercial uses but having public good characteristics (*e.g.*, culture, education).

4. The first category has received the most attention and can be readily used in information-intensive industries. These employ raw PSI to produce increasingly pervasive products such as location-based applications accessed from smart-phones and tablets. The second includes cultural, educational and scientific public knowledge. Wide public diffusion and long-term preservation (e.g. in museums, libraries,

[1] The EU Directive on the re-use of public sector information (2003/98/EC, 17 November 2003) excluded information and content generated and held by cultural and educational institutions, and public sector broadcasters, whereas the *OECD Recommendation of the Council for enhanced access and more effective use of Public Sector Information* [C(2008)36] includes all information and content generated by and/or held by public bodies. The revision of the EU Directive has been largely completed and will be transposed into national laws through 2015 (European Union, 2013).

archives, galleries) are major government objectives. The public good task is clearer, but with rapid growth of interest in all kinds of cultural goods and services, the potential for their market and non-market development is very large.

Distinguishing open data, open government data and public sector information

5. Information and communications technologies, digitisation, Internet-based activities, and sensor networks are generating and potentially making available very large volumes of digital data. However, in many cases these data are unavailable for wider, or in some cases, any use. This is particularly true for large amounts of data generated by governments. Barriers to access and linkage of data across data domains are significant costs for organisations and individuals that could benefit from using the data and for those generating data. Because of the shift to a knowledge-based economy, the aggregate welfare benefits from making data and information more easily accessible and usable are increasingly recognised. Better access to and use of open data, open government data and public sector information are inter-related aspects of this shift.

6. ***Open data*** is a concept / approach / philosophy that data should be freely available to everyone to use and re-use as they wish, without restrictions from copyright, patents or other mechanisms of control. Data can come from many sources and large amounts are actually and potentially available in science and government, the two areas most often referred to and analysed when discussing open data.[2]

7. ***Open government data*** is produced or commissioned by government or government controlled entities that can be freely used, reused and redistributed by anyone. The underlying idea is that citizens can freely access government data and information and share, use and re-use that information with other citizens, to enable participatory governance and foster commercial and social activities, innovation and value added.[3] Open government data strategies have become an increasingly popular and potentially highly effective part of government strategies, largely aimed at improving the quality and efficiency of government services and enhancing links between government and citizens. Open government data initiatives are accelerating the availability of government data of all kinds. These initiatives have been underpinned by the increasing use of centralised web sites to distribute government data and information, beginning with the United States (data.gov, May 2009), the United Kingdom (data.gov.uk, September 2009), New Zealand (data.govt.nz, November 2009), Norway (data.norge.no, April 2010), (Australia (data.gov.au, March 2011), Canada (open.canada.ca, March 2011) and subsequently followed by many other countries and the EU.[4]

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2 In addition to opening up public sector information for commercial and social use, open data has other important areas of application. In science, open data has been highlighted as a central element for fostering R&D and greater collaboration, including through the participation of non-scientists. Analysis shows that greater openness ("open access") in science can have positive impacts on the productivity and speed of research (OECD, 2005, Houghton, 2009, Houghton and Sheehan, 2009). Greater access to research results has been underpinned in the 2007 *OECD Principles and Guidelines for Access to Research Data from Public Funding*. Open health data can improve the effectiveness, safety and patient-focus of health-care systems and help measure outcomes, identify previously unobserved relations, and preview changes in clinical processes (Bollier, 2010). Linking these and other data sets can help understand causes of illness related to, for example, nutrition, stress and mental health (OECD-NSF, 2011).

3 See http://opengovernmentdata.org

4 The EU Open Data Strategy announcement is a key commitment and agenda for opening up PSI in the EU. See COM(2011) 882 final, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and Committee of the Regions, "Open data. An engine for innovation, growth and transparent governance", 12 December 2011.

8. ***Public sector information*** is information generated by governments as part of their public task, including weather, map, statistical or legal data, and information held and maintained by governments in galleries, libraries, archives and museums. It is increasingly made available at low/no cost for commercial and social re-use in as many applications as possible. PSI is made available for potential re-use for economic and social ends that for the most part are not within government or aimed at enhancing government services. Nevertheless, government efficiency and effectiveness is also improved by easier information access and transfer across agencies at no or low cost without restrictive legislative controls.[5] Much of basic data is "big data" in the sense of it being very large data sets from public sources, for example meteorological or population census data.

Data, information and knowledge: Innovation, new business and growth

9. When discussing public sector information it is worthwhile to distinguish between data, information and knowledge to understand how value can be created from data and information generated, collected or maintained by governments. Data is the raw material at the beginning of the value chain that can eventually be converted into value added goods and services, including public goods and services:

- Data → Information → Knowledge → Value added goods and services

10. Raw public data includes for example basic meteorological data collected from base stations and satellite observation, cartographic data collected by on-the-ground mapping agencies and aerial and satellite observation, government statistics collected directly from the population, businesses and other entities, raw legal data and business information, such as un-processed company registry and cadastral data.

11. These data can be organised to provide more structured information for subsequent applications. Initial use of much PSI was based on simple conversion of processed information from public sources to a limited range of end-uses. However, with an increasing range of more complex applications there is growing demand for the underlying raw data from public sources.

12. As discussed in OECD work on "New Sources of Growth" (OECD, 2013a, 2013b), the importance of data as a new source of growth can be seen in a wide range of areas including:

- Enhancing research and development (data-driven R&D) through new data-intensive methods for scientific advance, e.g. applying satellite data to climate change issues, mining public health data to develop better treatment protocols;

- Creating new goods and services, including data products, such as data-base exploitation, or organised data-bases;

- Optimising Porter-style value chains in: 1) product development, 2) production and related operational logistics, 3) marketing and sales, 4) delivery and service. In all of these areas public sector data and information can expand markets and improve efficiency, for example as a source of new products (e.g. exploiting the data itself to provide new location-based applications), improving production (e.g. standards to ensure the quality of raw material inputs, business

5 If the default status of public sector information is open, then it is business as usual data rather than coming from specialised open government data initiatives. Furthermore, publishing publicly is often the most efficient way of sharing PSI across agencies where legislative controls around privacy and security had previously hampered use.

statistics to match production supply with demand), targeting marketing (e.g. through census data and related data on the characteristics of human and animal populations) and facilitating delivery (e.g. through map and weather data that enable timely delivery of products for intermediate consumption or end-use).

ESTIMATING THE PSI MARKET AND PSI IMPACTS

13. Public sector information can be used directly to generate products and services, e.g. weather-based services, map- and location-based services, and it can contribute in a very wide variety of ways to improving efficiency and productivity across the economy, e.g. using weather information to optimise agricultural production. The approximate size of the OECD market for PSI and the broader economic impacts of PSI are estimated in this section (see Vickery 2011, 2012 for method and references).

14. The results presented here are based on using the most viable aggregate studies available to estimate plausible values for the PSI market, potential gains from freeing up access, and wider economic impacts that could accrue from using PSI across the economy. Further estimates could be provided if relevant aggregate studies become available for more countries.

15. Market size and aggregate economic impacts are available for Australian spatial data-related economic activities, with results generated from a general equilibrium model of the Australian economy (ACIL Tasman 2008). In the Netherlands, similar estimates are available of the size of the geo-information sector (Castelein, *et al.*, 2010). Productivity-related impacts on the New Zealand economy from the use and re-use of spatial information have been estimated using a general equilibrium model. Benefits from removing barriers to use, improving infrastructure and expanding training are also estimated (ACIL Tasman, 2009). For the United Kingdom, estimates of gains from opening up access to digital, non-personal, public sector information are also available (Pollock, 2011a).

16. Aggregate OECD values are derived by pro-rating available national data to give estimates for total OECD using macro data from OECD (2014) and EUROSTAT (2013). The same method was applied using national and OECD data for: (a) GDP shares, (b) computer services spending, and (c) ICT spending by government (WITSA, 2009) for each set of national data. The three sets of results for each set of national data were pooled and the mean calculated.

17. In the case of estimates based on geospatial data, it is assumed that the geospatial market/impact is about one half of the total PSI-related market/impact,[6] and that one-half of the PSI-related market/impact comes from government PSI. Both assumptions are conservative. Geospatial information may be considerably less than one half of all PSI, and governments are the source of basic information for probably more than one-half of all PSI-like activities. Furthermore, estimated values within and across different sources are reasonably comparable, suggesting that the averages provide reasonable estimates of aggregate economic features of PSI markets and the impacts of PSI use.

OECD PSI market size

18. Averaging the OECD PSI market estimate derived from The Netherlands data (USD 113 billion) with the estimate from Australian data (USD 82 billion) gives an estimated OECD PSI market around USD 97 billion in 2008. Various studies have reported PSI market growth rates in the range of 6-18% per year (Castelein, *et al.*, 2010, Coote and Smart, 2010, Fornefeld, 2011, MICUS, 2009, survey reply, Korea

6 Spatial information is around one half of all PSI according to PIRA, 2000, MEPSIR, 2006, and Proyecto Aporta, 2011.

2014). Taking 7% per year as a lower estimate, the OECD PSI market would have grown to around USD 111 billion by 2010 provided that it continued earlier growth and was not dramatically affected by the recession. This value is estimated in the same way and is comparable with the estimated EU27 market of EUR 32 billion in 2010.

OECD aggregate economic impacts

19. Averaging the OECD estimate derived from Australian data (USD 557.5 billion) with the estimate derived from New Zealand data (USD 461 billion) gives estimated OECD aggregate economic impacts of around USD 509 billion in 2008. Aggregate OECD economic impacts based on analysis provided by Korea are of the same order of magnitude using the same simple GDP-based pro-rating method (see below Survey, Aggregate impacts). Based on Korean analysis, aggregate OECD economic impacts of PSI were in the range USD 570-690 billion in 2012/2013.

20. There could be approximately USD 194 billion of additional gains if barriers were removed and the data infrastructure improved as described in the New Zealand study. That is, if PSI was opened up, skills barriers removed and the infrastructure worked better, aggregate direct and indirect economic benefits for OECD economies could have been of the order of USD 700 billion (equivalent to 1.7% of OECD GDP) in 2008, and more in 2010.

Welfare gains from open access to PSI

21. United Kingdom analysis was used to give an approximate value of annual gains from moving from an average cost / cost recovery pricing model to marginal cost pricing for digital public sector information (Pollock, 2011a). Upper range values for the OECD are estimated to be USD 127.9-170.6 billion in 2009, or alternatively USD 45.5-56.9 billion for middle range estimates. These ranges assume that the structure of public sector information and related markets and pricing models across the OECD are similar to the United Kingdom (average cost / cost recovery pricing in many cases). From the upper range estimates of OECD welfare gains a value of USD 145 billion is adopted in this report.

Other analysis

Firm-level benefits of opening up data

22. There is cross-country evidence that there are significant firm-level benefits from free or marginal cost pricing, with SMEs benefitting most from cheaper information and switching to marginal cost pricing (Koski, 2011). Analysis of 14 000 firms in architectural and engineering activities and related technical consultancy services in 15 countries in the 2000-2007 period shows that in countries where public sector agencies provide fundamental geographical information for free or at maximum marginal cost, firms grew about 15% more per annum compared with countries where public sector geographic information has cost-recovery pricing. Positive growth comes one year after switching to marginal cost pricing, but growth is higher with a two-year lag. SMEs benefit most from cheaper geographical information, and switching to marginal cost pricing of PSI substantially lowers SME barriers to enter new product and service markets. The importance of data and knowledge in the development of new services and products, and new markets, has also increased dramatically (Koski, 2012).

23. ***Estimates of the value of time savings***. The value of improved time allocation can be estimated from data for Norway where a minimum of 2 hours per citizen per year could be saved through better access to public information (Norway, 2011). A simple GDP-based pro-rata calculation for the OECD gives USD 6.4 billion for the annual value of individual time saved if better access to public information saved only 2 hours time per citizen per year.

24. ***The European environmental impact assessment market***. European Law requires environmental impact assessments and strategic environmental assessments. The European assessment market has been estimated to be EUR 1 billion per year for national assessments (Craglia, *et al.*, 2010). Improving accessibility of the information required could save up to EUR 200 million per year for these assessments. Including sub-national assessments values could be 10 times higher, i.e. EUR 10 billion, with potential savings from better information of EUR 2 billion across the EU27 countries.

Summary

25. The OECD PSI market was estimated to be around USD 97 billion in 2008 based on values for the Netherlands and Australian geospatial markets. The OECD PSI market could have grown to around USD 111 billion by 2010 provided that PSI markets continued growing at earlier rates and were not dramatically affected by the recession.

26. Aggregate OECD economic impacts of PSI-related applications and use were estimated to be around USD 500 billion in 2008 based on Australian and New Zealand geospatial impacts. Estimated values are comparable for the two countries, and the averages are intuitively reasonable. There could be approximately USD 200 billion of additional gains if barriers to use were removed, skills enhanced and the data infrastructure improved. Aggregate OECD economic impacts based on analysis provided by Korea are of the same order of magnitude. Based on Korean analysis, aggregate OECD economic impacts of PSI were in the range USD 570-690 billion in 2012/2013.

27. OECD welfare gains from moving from an average cost / cost recovery pricing model to marginal cost pricing for digital public sector information give a value of USD 145 billion. Although the UK PSI access and licensing system is somewhat different from other countries, the positive impacts of removing access barriers are likely to be realistic across different OECD countries, where there are widespread disincentives that stifle PSI use due to different licensing systems across national institutions, lack of information, poor interoperability etc.

28. It is urged that similar studies using general equilibrium modelling or similar techniques be undertaken in other OECD countries to confirm these results. It is further suggested that estimates based on studies of consumer surplus be undertaken to provide a picture of consumer benefits from better access to and use of PSI.

SELECTED COUNTRY INITIATIVES

29. This section briefly summarises recent initiatives for a few OECD countries to illustrate different strategic approaches to PSI access and examples of recent analysis. It should be read in conjunction with the sections below that summarise responses to the PSI survey.

Australia

30. Australia has adopted a comprehensive approach to making PSI available for wider and easier use. This includes releasing PSI under the Creative Commons BY standard as a default licensing position. As a result, information is available free of charge except where there are specific reproduction or incidental costs. The overarching principle is that information held by the government 'is to be managed for public purposes, and is a national resource'. In May 2011, the Principles on Open Public Sector Information outlined that: information should be accessible without charge, based on open standards, easily discoverable, understandable, machine-readable, and freely reusable and transformable (OAIC, 2012, 2013).

31. A comprehensive survey of federal government agencies identified the following key challenges among the 8 principles: 'making information discoverable and useable' is the most challenging for over 30% of agencies; followed by 'adopting a default position of open access to information'; and 'robust information asset management'. Less challenging were: 'clear reuse rights'; 'effective information governance'; 'engaging community'; the least challenging was 'appropriate charging for access/transparent enquiry and complaint processes'. Conformance with Web Content Accessibility Guidelines 2.0 is the largest challenge in making PSI more discoverable and useable, and establishing and maintaining an information asset register is the next most important challenge.

32. The primary challenges in making public sector information held in galleries, libraries, archives, and museums (GLAMs) more publicly accessible are copyright, conformance to Web Content Accessibility Guidelines 2.0 and the lack of available government funding to support large scale digitisation and infrastructure projects within the sector.[7] Investment in services such as Trove provides enhanced access to public sector and other information held in galleries, libraries, archives, museums by: providing a single point of access to the resources of the deep web; facilitating access to a significantly greater range of resources from major sources; supporting searching of, and access to, full-text content; enhancing ease of discovery by providing improved relevance ranking, refinement, and exploitation of thesauri; engaging with communities and individuals through annotation services; providing a platform for niche and commercial services to query Australian metadata and adapt for their own needs.

Canada

33. The Canadian government launched Digital Canada 150 (DC 150), Canada's digital economy strategy, in April 2014 which provides Canadians with the tools they need to fully embrace the opportunities of a digital future. It lists 39 initiatives that support the digital economy, built around five

[7] Adapted from comments provided by the National Library of Australia, 21 January 2014. Trove is available at: http://trove.nla.gov.au

pillars: 1) Connecting Canadians; 2) Protecting Canadians; 3) Economic Opportunities; 4) Digital Government; and 5) Canadian Content.

34. In line with Digital Canada 150's Digital Government pillar, the Canadian government published a second iteration of Canada's Action Plan called Open Government 2.0 in November 2014, highlighting ambitious commitments to advance Open Information, Open Dialogue, and Open Data. Open government in Canada is organized under three streams: open information, open dialogue, and open data. Through open.canada.ca public sector information (PSI) is available and government information and data can be used to develop innovative applications, create value-added analysis, and drive social and economic benefits.

35. The government of Canada has also been supporting an annual hackathon to transform PSI into a useful Canadian product. The Canadian government has also committed to creating an open data institute (the Canadian Open Data Exchange, or ODX), as a national marketplace for those engaged in the commercialization of open data and will, among other things, allow the development of new tools and applications that access and manipulate PSI; establish a framework for open data standards, include the articulation of industry standards for presenting, and providing access to open data for key sectors.

36. The Canadian government has committed to making more government funded research available to the public through Open Science. Open Science proposes to provide free public access to publications and related research data resulting from publically funded research.

Denmark

37. The Danish government launched the "Open Data Innovation Strategy" in 2009 to provide easier access to public data as digital "raw material" for businesses. The value of open government data was quantified to identify areas where expanded access could lead to commercial benefits and efficiency gains (Zangenberg & Company, 2011, de Vries, 2012). Within the energy and construction sectors for example it was estimated that increased access to data on residential occupants, age, gender, income, etc. coupled with information on housing age, construction, insulation, energy use, etc. could drive a market of energy improvements of DKK 4-20 billion per year (USD 0.75-3.7 billion). At the OECD level this is equivalent to USD 144-708 billion, with a mid-point of USD 425 billion.

38. The Danish public authorities register a great deal of information about citizens, companies, real property, buildings, roads, geographical maps, etc. A minor, but very important part of this information – so-called basic data – is used repeatedly across the entire public sector. These basic data constitute the foundation for public authorities' correct performance of tasks and thereby contribute positively to the efficiency and effectiveness of society as a whole. Basic data are, at the same time, of great value to the private sector in the development of new types of digital products and solutions. With a view to promoting the re-use of public basic data, the Government entered into an agreement with Local Government Denmark and Danish Regions so that key basic data that were previously subject to a charge became accessible free of charge to all as of 1 January 2013. The datasets in question are geographical data (digital maps), real property data, address data, and company information. The basic data no longer subject to the payment of a charge are available under the open public sector standard licence (see Danish Government/Local Government Denmark, 2012).

France

39. A radically new open data policy was put in place in 2011 to open up data sources for re-use at no charge and with easy licensing mechanisms and conditions. A new taskforce for open government data, "Etalab", was established directly under the authority of the Prime Minister to coordinate open data release by all ministerial departments, support the release of data by other public sector bodies and create a national open data platform for France (data.gouv.fr, December, 2011) (Etalab, 2011). Beyond the release of data, the taskforce has organised initiatives to encourage data reuse by entrepreneurs, civic innovators, activists and journalists alike, such as the *DataConnexions* challenge organized with the French digital ecosystem.[8] The initiative was continued with the change of government in 2012 focusing on government reform and improving government functioning, with Etalab directly attached to the Secretary General for the Modernization of Public Sector (Etalab, 2013). In 2013, as part France's open government action plan to implement the G8 Open Data Charter (Prime Minister [France], 2013), the government has launched a series of public debates on transparency in key sectors of public policy (healthcare, housing, research, etc.).

40. The benefits from PSI re-use expected by the French government do not lie in the sale of digital information but in their reuse by innovators and entrepreneurs. In 2013, the Prime Minister commissioned a report on the economics of open data which concluded that "the information infrastructure for the communication of public information constitute a public good as important as physical infrastructure" which can be "expected to generate equally positive externalities" (Trojette, 2013).

39. Following the Paris Conference on Open Government held in April 2014, France joined the Open Government Partnership (OGP) on the decision of the President of France. This international partnership undertakes to promote the transparency of public action and its opening towards new forms of consultation, of participation and collaboration with civil society. Created in 2011 on the initiative of eight founding countries, the OGP is a multilateral initiative which today is made up of 65 member countries and brings together in a collegial governance representatives of governments and States, as well as NGOs and representatives of civil society. In August 2014, France, with its advancements in the subject which are recognised by its peers, has been elected by its Committee Director for a two-year mandate. France notably wants to bring a French vision and voice. During the Security Council meeting of the UN on 24 September 2014, the French President spoke in New York on the occasion of the annual OGP Summit. He underlined the importance for France of "new alliances between government and civil society" and of a "harmony of the transparency for public data and of the protection of privacy". Organised as a side event of the 69th General Assembly of the UN, this event brought together 10 Heads of State and government - among them Barack Obama, Jacob Zuma and Enrigh Peña Nieta on the occasion of the three years of the Partnership. The meeting was also the occasion to reward the best worldwide initiatives in citizen participation. In this capacity an Open Government Award was given to Data.gouv.fr, the first open data portal open to citizens' contributions.

42. In September 2014, France was also the first European country to have appointed a chief data officer in order to ensure a better governance of the State's data and a wider circulation of data between administrations. France is also engaged in the transposition of the 2013/37/EU European directive of 26 June 2013 concerning the reuse of public sector information and expects to create a right for Open Data on the occasion of this transposition in the project of digital law. France's engagement to further a more transparent and accountable government, and pursue the transparency of the public action was also endorsed by the President of France at the opening of the Social Good Week in December 2014. France's engagement in favour of transparency is currently expressed in the draft of a national OGP action plan which will be published in July 2015.

8 See https://www.etalab.gouv.fr/tag/dataconnexions.

Norway

43. Norway has reviewed the market potential, benefits and costs of increased availability of public data (Norway, 2011). It is argued that a central characteristic of the use of digital data is that costs are largely fixed, and the greater the use, the lower the average cost of production and delivery. Furthermore, improved access will be a better use of public resources, improve economic and social interactions, and support democracy. If the marginal cost of data publication is virtually zero, all pricing beyond marginal cost normally gives a welfare loss. Obstacles to increased public data availability include: technical and financial constraints, potential new costs for stakeholders, cultural barriers, and legal provisions.

Spain

44. The Spanish Government launched the Aporta project (www.aporta.es) in 2009 with the aim of encouraging and facilitating PSI re-use in Spain. As part of this work the "infomediary" business sector was analysed for 2010 (Proyecto Aporta, 2011). The sector was defined as "the set of companies that create applications, products and/or added-value services for third parties, using public sector information", and included business/economic, legal, geographic/cartographic, meteorological, social data/statistics and transport data. Infomediary business turnover was estimated to be EUR 550-650 million, 35-40% of total business activity of using companies. Infomediary turnover is equivalent to video game software development, and some 5 000-5 500 employees were involved in PSI re-use activities in the companies analysed. Areas identified for improvement include standardisation of formats, standardisation and improvement in license regulation, and pricing of information. The business volume was revised down to EUR 330-550 million (USD 442–737 million) in the second survey in 2012 (Proyecto Aporta, 2012).

United Kingdom

45. The United Kingdom has undertaken extensive review and reorganisation of its public sector information resources (Power of Information Taskforce, 2009, The National Archives, 2011). It is estimated that 15-25% of information products and services are based on information produced or held by the public sector (The National Archives, 2011, PIRA, 2000), and there is a growing body of independent economic analysis of the benefits for the knowledge economy of better access to PSI (Pollock *et al.* 2008, Pollock, 2009, 2011a, 2011b, Shakespeare review, 2013, Deloitte report 2013). National policy objectives include promoting awareness that the value of PSI is not defined by national boundaries, and sharing best practice internationally. The UK drew on analysis in Australia and New Zealand to open up government and make PSI more readily available as part of the drive to expand the use of PSI.

United States

46. Free access to public sector information has been a cornerstone of US policy, strengthened by the Open Government Directive based on principles of transparency, participation, and collaboration (Office of Management and Budget, 2009). The directive required that each department or agency make its information available online in open format, which could be retrieved, downloaded, indexed and searched by commonly used web search applications. In April 2010, every Federal department published an Open Government Plan to make operations and data more transparent, and expand opportunities for citizen participation, collaboration and oversight. These initiatives have been detailed since the initial Directive, for example through implementation guidance on openness, machine-readability, etc. (US Government, 2013).

Summary

47. Overall, exploiting the potential in the PSI market is seen to require lower pricing and less restrictive licensing agreements. Australia, Canada, Denmark, France, the United Kingdom, and the United

States have radically overhauled their PSI / open data access systems, and other countries have made access easier and less costly. There are gradations in approaches depending on where countries are positioned in their PSI re-use activities. Policy strategies include: opening up PSI that has been difficult to access and reuse; reviewing and amending unnecessary restrictions; reviewing and redefining the public task; facilitating access to third party rights holders' material where rights holders agree. The international dimensions of PSI access are also being stressed, both in accessing international data, and developing international markets for national data.

SURVEY

48. Responses to the targeted PSI survey circulated to WPIE Delegates are analysed in this section.[9] Twenty OECD countries[10] and the European Commission replied in full to the PSI questionnaire and the analysis is based on these replies. The OECD Directorate for Public Governance and Territorial Development (GOV) coordinated a parallel on-line "OECD survey on Open government data". Analysis of some parts of the GOV survey is presented following discussion of the PSI survey.

Strategy, coverage and budgets

Strategy for Public Sector Information

49. Almost all of the responding countries have targeted strategies to improve access to and use of PSI.[11] Some of these strategies are relatively stand-alone and visible (e.g. Australia, Chile, Denmark, Estonia, Finland, Spain, the United Kingdom), whereas others are folded into more general open government strategies (Canada, Japan, Norway, Portugal, Slovenia and the United States) and e-government strategies (Sweden), as well as open data strategies (Korea and the European Commission). There are also some countries whose approach to PSI is via the freedom of information route (Czech Republic, Mexico, Slovak Republic, and Switzerland), the precursor and starting point for much of the initial activity in the area of PSI. Finally, three countries reported having no central government strategies (Belgium,[12] Hungary and Switzerland), but had well-developed tools for PSI re-use and strategic activities at the regional level (Belgium), are exploring optimal re-use of larger state registries and databases (Hungary), or are working on open government data strategies (Switzerland).

50. The overall strategic stance of OECD countries is also shaped by: a) the adoption of the EU Directive on Public Sector Information, and b) the rise of interest in open data strategies in general and open government (data) strategies in particular.

51. The EU Directive on the re-use of public sector information was adopted in 2003 and subsequently transposed into EU Members States' legislation. This means that European countries that are Members of the EU are obliged to have some sort of strategy towards PSI. However the 2003 Directive has a narrower scope than the OECD Recommendation, excluding cultural content, broadcasting, education and scientific results and allowing charging for access and use. The Directive was revised in mid-2013.13

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9 The "Questionnaire on the policies for and the impacts of public sector information" was circulated under code DSTI/ICCP/IE(2013)6/REV1.

10 As at 1 April 2014 the following 20 countries had replied to the questionnaire: Australia, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, Hungary, Japan, Korea, Mexico, Norway, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom, plus the European Commission. The United States provided partial information but did not reply to the questionnaire.

11 This section also includes information for the United States.

12 Belgium refers to the Federal government unless otherwise indicated.

13 Directive 2013/37/EU of the European Parliament and of the Council of 26 June 2013 amending Directive 2003/98/EC on the re-use of public sector information. For an overview see http://ec.europa.eu/digital-

The provisions of the revised Directive will be transposed into national legislation over a 2-year time period. The main changes are: i) giving a genuine right to reuse by making reusable all content that can be accessed under national access to documents laws; ii) lowering the upper ceiling for charges to marginal costs in standard cases, i.e. reproduction, provision and dissemination costs (exceptions are allowed in limited cases); iii) expanding the scope to certain cultural institutions such as libraries (including university libraries), museums and archives, but making them subject to a number of rules that reflect the 2003 Directive; iv) reinforcing the obligation to be transparent on conditions and on charges applied to reuse. Following the adoption of the Directive 2013/37/EU, the European Commission issued non-binding guidelines on the best practices within these three subject areas of particular relevance for the re-use 3 of public sector information in Europe[14]. The Commission Notice 2014/C 240/01 issues practical and detailed guidance on the use of available open standard licences, the elements to include in custom-made licences, datasets to be published as priority, the ways to make them more readily re-usable, the application of the marginal cost rule and the cost elements that can be taken into account for cost-recovery charging. Apart from their role in ensuring correct transposition of the Directive, the guidelines will constitute a hands-on reference for the national administrations - especially those which have only recently embraced an Open Data culture.

52. The interest in open government strategies can be seen in the advent of the Open Government Partnership (OGP).[15] Currently 22 OECD countries have joined or are planning to join the OGP. The OGP was launched in 2011 to provide an international platform for domestic reformers committed to making their governments more open, accountable, and responsive. OGP has grown from 8 initial countries to 62 participating countries. In all of these countries, government and civil society are working together to develop and implement open government reforms.

53. All participants produce short, action-oriented 2-year National Action Plans. Most action plans tackle at least two of five OGP "grand challenges": 1) improving public services, 2) increasing public integrity, 3) more effectively managing Public Resources, 4) Creating Safer Communities, and 5) Increasing Corporate Accountability, some of which cover PSI activities. In some countries open PSI is an explicit part of National Action Plans. Four OECD Members are in the eight founding countries: Mexico, Norway, UK, and the US, plus Brazil, Indonesia, the Philippines, and South Africa. OECD countries in Cohort 2 (joined April 2012) are: Canada, Chile, Czech Republic, Denmark, Estonia, Greece, Italy, Korea, Netherlands, Slovak Republic, Spain, Sweden, and Turkey. OECD countries in Cohort 3 (joined April 2013) are: Finland, Hungary. OECD countries that were planning to join in Cohort 4 in 2014 were: Australia, Ireland, and New Zealand.

Recent initiatives

54. Recent government PSI-related policies and initiatives have been largely driven by the aim to generate national value added from data and information resources by making it more readily available in more usable form,[16] coupled with the move to open data strategies. Single or better-coordinated portals and on-line catalogues to access and use government information have been part of this move. Along with this

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agenda/en/legal-rules and http://ec.europa.eu/digital-agenda/en/news/what-changes-does-revised-psi-directive-bring

14 Link to the official journal

15 This text is derived from http://www.opengovpartnership.org

16 The UK Open Data Institute is a good example, aimed at exploiting open data for growth. See http://theodi.org

is the push to make information open, machine-readable and interoperable,[17] and, where necessary, to digitise government information resources, e.g. for cultural content. Another notable feature of recent initiatives is the shift to simplifying licencing procedures and moving to free (creative commons or creative commons-like) non-exclusive and open licencing wherever possible. In many countries these efforts have been accompanied by awareness-raising among potential users, increased information flows and organising events to increase appreciation of the potential of PSI for commercial and social applications (e.g., "hackathons", open days, competitions for the best application and use of PSI, etc.).

55. Due to the recession and government budgetary constraints, there is also urgency to improve the performance of government itself. In the PSI area this involves making the transfer of information and data among different parts of government more efficient, transparent and less costly, reducing or eliminating the burden of inter-agency charging for data; developing common data access, and facilitating sharing of PSI across agencies where legislative controls around privacy and security had previously hampered use, to achieve public sector productivity gains and more effective service delivery. There have also been ongoing shifts in emphasis of the aims of making data and information open. In some countries such as Chile, the first phase of open data was aimed at ameliorating government and executive transparency, and this is now being expanded to cover subject areas of interest for PSI.

56. A more comprehensive listing of various initiatives and recent changes is contained in the Appendix.

Coverage of cultural information and cultural establishments

57. The outer boundaries of PSI can be interpreted differently on the basis of domain characteristics and practical issues such as dealing with intellectual property and 3rd party rights holders. The core set of public sector information has characteristics of being dynamic and continually generated; directly generated by government and associated with public sector functioning, e.g. geo-spatial data, meteorological data, business statistics; and it is often readily useable in commercial applications. On the other hand PSI, which is closer to the cultural end of the information spectrum, is:

- static, *i.e.* an established record;
- held by the public sector and not directly associated with government functions, e.g. cultural archives, artistic works with third-party rights;
- not necessarily commercially useful; and
- characterised by public good properties.

58. Cultural content has tended to be viewed differently from core PSI, but treatment varies. In practice, respondents to the survey had a range of approaches to what is included in PSI. European countries have tended to exclude the cultural sector and cultural establishments (e.g. Belgium, Denmark, Hungary, Norway, the Slovak Republic, Slovenia, and Spain). However, the Czech Republic has a cultural content digitisation strategy to facilitate equal access, and The Estonian Information Society Strategy 2020 aims to increase the availability of digital cultural heritage through digitising their content and making it accessible. Finland includes cultural content but points out to intellectual property rights (IPR) concerns for

[17] See for example the US Executive Order: "Making Open and Machine Readable the New Default for Government Information" dated 9/05/2013. Japan's "Open government data strategy" targets *inter alia* that Public data shall be released in machine-readable formats. Estonia's 2013 amendments to the Public Information Act aim at improving machine-readability of PSI.

museum and library data, Portugal already has a range of flagship projects in the cultural area, covering galleries, libraries, archives and museums, designed to enable access and use, Sweden includes all agencies including cultural agencies in its strategy, and the United Kingdom actively encourages and provides support for re-use of cultural data. All EU Members will transpose the amended EU Directive on PSI (European Union, 2013) into their laws by 2015, which will lead to changes in coverage to include cultural content contained in libraries, museums and archives, but with restrictions on reuse reflecting that set of rules of the 2003 Directive.[18]

59. In Australia cultural content is unlikely to be included directly as PSI particularly if it is an artistic expression or held by a cultural institution and there are 3rd party IPRs. Cultural content access and use is treated on a case-by-case basis and a recent survey of agency experience by the Office of the Australian Information Commissioner (OAIC, 2013) included the gallery, library, archive and museum segment, and discussed challenges for these agencies in facilitating access and use. Nevertheless, very large amounts of what can be considered cultural content is published on the Trove website with an open application programming interface (API) and permissive copyright. There is also a very large amount of cultural data available through the National Archives and several of the GLAMs. In Canada, some but not all, cultural content is included in PSI; museums and archived material where 3rd parties hold copyrights are not included. In Chile all material produced with public funds is considered to be public. Library, archive and museum information is publicly available. Japan and Korea both include public sector content (which does not include third party rights, etc.) in their strategies. The Mexican National Archives Council was created in 2012 to establish a national public and private archives policy and guidelines on management, conservation and access to archive records.

Exclusions

60. Most countries have continued to exclude certain types of information from their PSI strategies and implementation. Excluded information includes that held by cultural institutions (see above), public broadcasters, education, scientific research, and confidential, personal and security / defence information. In some countries certain organisations and state instrumentalities are excluded particularly if they operate commercially. Chilean policy recognizes defence and privacy as reasons for exclusion, but all other public information is available. In Estonia the public broadcaster has the obligation to make their produced content freely available on the Internet. In Finland the public broadcaster is opening up its content, and a scientific information working group is examining open access policies. Portugal is developing an open access policy for scientific information, with free access to publicly funded project results, and is developing integrated open access repositories, some in conjunction with Brazil.

61. Japan excludes information not suitable for public release, such as that relating to security, and Korea excludes confidential information, personal information, or third party rights. In Mexico all information in documents that the government agencies generate, obtain, acquire, transform or preserve in any capacity is available for access, with the exception of privileged information that could damage public interests (defence, law enforcement, law-suits) or confidential information protecting third party rights (personal or private data). The UK excludes the release of certain information which may be a threat to national security or that could be used for criminal activity. Also excluded is shared information that has legally recognised third-party intellectual property rights. The revised 2013 EU Directive on PSI includes cultural content contained in libraries, museums and archives, but still retains exclusions where 3rd parties hold IPR (copyrights), or on grounds of national security, commercial confidentiality, data protection, etc., or where content is held by certain public sector bodies, e.g. broadcasters, educational and research establishments.

18 See for example: http://ec.europa.eu/digital-agenda/en/news/what-changes-does-revised-psi-directive-bring

Budgets and the costs of opening PSI

62. A major criticism that has been cited against open and free PSI is the cost of providing data and information in the appropriate formats and finding sources of funding to replace income foregone from selling PSI. As discussed earlier in this report, in most countries sales of PSI generate very little revenue, with the notable exception of the Netherlands and the United Kingdom, and even in these countries sales are a maximum of around one-fifth of expenditure incurred by the agencies generating the PSI.

63. The survey revealed that countries have not had particular difficulties in funding the switch to free and open data and information, and that this has not been the major barrier that was foreseen in the past (see Table 1). Half of respondents (12 of 20 countries plus the European Commission, including countries reporting both) did not have special funding or budgets for the switch to open and free PSI strategies. The sources of finance were largely internal, or derived from re-allocation of existing funds. The United Kingdom did not foresee significant increases in spending, and the European Commission foresaw lower administrative expenditures from switching to open strategies. For those countries where special funding was envisaged, it came from either within the budget process (Chile, Denmark, Estonia, Finland, Japan, Korea, Mexico) or from broader funding packages for modernisation or open government (Portugal, Slovenia). Nevertheless several respondents pointed out that in times of budget pressures and cuts in government expenditures, it is important to clearly articulate the advantages in opening up public data for wider use, and where necessary to compensate the providers of PSI for any initial extra funding necessary to open up and digitise data.

Table 1. Budgeting for the costs of opening up PSI

Country	Special funding	Sources of funds	Issues, other
Australia	*No*	*Included in existing budgets (but central funding for central government portal and support to whole of government)*	*Agencies responsible for own licencing practices*
Belgium	*No*		*Study underway on budget models*
Canada	*No*	*Included in existing budgets (but central funding for central government portal [a])*	
Chile	*Yes*	*Budget includes transparency funding*	
Czech Republic	*No*	*In overall budget*	
Denmark	*No/yes*	*Good Basic Data for Everyone resources provided at central, regional, local levels*	
Estonia	*No/yes*	*Resources inside normal general budgets. Ministry of Economic Affairs and Communications has additional central funding to speed up open data projects for other ministries, agencies and local governments*	
Finland	*Yes*	*Decisions part of budget process (plus funds for national open data programme [a])*	*Stepwise introduction of opening data*
Hungary	*No*	*No specific budget funds*	
Japan	*Yes*	*Budget funds allocated 2013 fiscal year, adjusted for 2014*	
Korea	*Yes*	*The Ministry of Government Administration and Home Affairs allocates budget for pan-government efforts and each ministry/agency allocates relevant budget*	

Mexico	*Yes*	*Budget funds allocated to the Federal Institute for Access to Information and Data Protection*	*Over half of Institute funds promote Information access*
Norway	*Yes*	*Central government for central open data activities* [a]	
Portugal	*Yes*	*Part of Global Strategic Plan for Rationalisation of ICT Costs in Public Administration (PGETIC)*	*Funded within overall PGETIC envelope*
Slovak Republic	*No*	*No extra funds provided*	
Slovenia	*Yes*	*Part of Open Government Strategy. Special funds planned for opening PSI*	
Spain	*No*	*Internally financed*	*Small budget to facilitate opening*
Sweden	*No*		
Switzerland	*Yes*	*In planning stage*	*Revenue loss compensated*
United Kingdom	*No*	*Significant increases in spending on national data strategy not foreseen nor additional administrative complexity (but financing e.g. the Open Data Institute and aiding departments release data* [a]*)*	*Aim to broaden objectives sharpen planning and controls*
European Commission	*No*	*Included in budget*	*Free re-use policy lowers administrative expenditures*

Source: Country replies to the PSI questionnaire. a. Information from GOV survey on Open Government Data.

Summary

64. Government PSI-related policies and initiatives have been largely driven by the aim to generate national value added from data and information resources coupled with the move to open data strategies. Almost all of the responding countries have targeted strategies to improve access to and use of PSI. Some are relatively stand-alone and visible whereas others are folded into more general open government / data strategies. There are also some countries whose approach to PSI is via the freedom of information and transparency route. Respondents to the survey had a range of approaches to what is included in PSI. In the past most countries excluded information held by cultural institutions, public broadcasters, education, scientific research, and confidential, personal and security / defence information. Following the 2003 EU PSI Directive, European countries tended to exclude the cultural sector and cultural establishments. By 2015 all EU Members will transpose the 2003 Directive, amended in 2013, into their laws, which will lead to inclusion of some but not all cultural content. In other countries more cultural content is being treated as PSI and released for general use, and there are extensive efforts to digitise and make available all kinds of library, archive and museum material provided third party copyright issues can be resolved.

65. Single or better-coordinated portals and on-line catalogues to access and use government information are part of these strategies. Along with these, there is a broad push to make information open, machine-readable and interoperable, digitise government information resources, simplify licencing procedures and move to free (creative commons or creative commons-like), open, non-exclusive licencing wherever possible. In many countries these efforts have been accompanied by awareness raising among potential users, increased information flows and events to increase appreciation of the potential of PSI for commercial and social applications.

66. The survey revealed that countries have not had particular difficulties in funding the switch to free and open data and information, and that this has not been the major barrier foreseen in the past. Half of respondents did not have special funding or budgets for the switch to open and free PSI strategies, and where special funding was envisaged, it came from either within the budget process or from broader

funding packages for modernisation or open government. Nevertheless, in times of budget pressures and cuts in government expenditures, there is a need to clearly articulate the advantages in opening up public data for wider use and where necessary to compensate the providers of PSI for any initial extra funding necessary to open up and digitise data.

Access and distribution

Portals, lists and conditions

67. All of the surveyed OECD countries have a central PSI portal in place or are working towards establishing one. Countries with a functioning PSI central portal include Australia, Canada, Chile, Denmark, Estonia, Korea, Norway, Portugal, Slovak Republic, Spain, the United Kingdom, the United States and the European Commission.[19] Countries working towards establishing these central portals include Finland, Japan, Sweden, and Switzerland. These are usually linked to thematic and sub-national portals. A number of countries have continued to publish individual thematic and ministry/agency material and use the central portal to provide a catalogue of information available, either selective (Belgium) or comprehensive catalogues (Czech Republic, Slovenia, Canada with open.canada.ca , while several countries have portals focused on freedom of information (Hungary) and government transparency (Mexico). The European Commission is also working on developing a pan-European data portal to facilitate access to all open data repositories from all EU countries. [20]

68. In all cases where information was supplied in the survey, including for catalogue-style central portals, there is information and lists on datasets, usually covering terms and conditions of re-use, legal and financial restrictions if there are any, and pricing and charging methods where these apply. In most cases, respondents pointed to the considerable time and effort required to design, implement and upload data to central portals in a way that is both comprehensive and timely.

Machine-readability, open formats and interoperability

69. The practical success of PSI access and use depends on formats and interoperability. All countries are aiming to achieve machine-readability, interoperability among datasets and switching to or encouraging the use of open standards. However, the reality is at some distance from these aims and varies considerably across countries and features (see Table 2). An Australian survey on PSI management across 191 government agencies showed that 38% of these agencies reported all or most of their PSI is in open and standards-based formats, and 58% reported routinely applying metadata to information published online (OAIC, 2013). In addition, at the end of 2011-2012, 90% of the Australian National Library's collection was catalogued and searchable online (survey reply, Australia).

19 This section also includes information for the United States.

20 Some countries have also set up catalogues and maps of open data across all levels of government. See for example Australia: http://www.finance.gov.au/blog/2013/10/26/government-data-landscape-australia/

Table 2. Machine-readability, open formats and interoperability

Country	Machine-readable	Open source / standards used	Metadata available
Australia	*Data searchable*	*Where possible*	*Available*
Belgium	*Minority*	*Minority*	
Canada	*Large proportion*		*Common profile*
Chile	*Yes in principle*	*Work in progress*	*No. Technical guide being developed*
Czech Republic	*Data provided in formats of creation*	*Unrestricted use*	
Denmark	*Variable, depends on subject area*	*Variable, depends on subject area*	*Variable, depends on subject area*
Estonia	*Varies greatly. Information Society Strategy 2020 concentrates on making public data available in better machine-readable formats. Green Paper on machine-processable formats planned for 2014*	*Use of open formats is moderate or poor*	*Availability of metadata is moderate or poor*
Finland	*No reliable information*	*Planned*	*Planned, international standards*
Hungary	*Preferred for PSI. Not a requirement for FoI*		*Meta data database available for centralised public data portal*
Japan	*Planned. Significant amount machine-readable for statistics*	*Significant amount of open format data for statistics*	*Provided via registration on data catalogue site*
Korea	*Machine-readability, open formats and interoperability*		*Metadata is available for data registered at data.go.kr*
Mexico	*Working on via the Federal Public Administration's Interoperability and Open Data Scheme*	*Working on*	*Available for an increasing set of statistical data bases*
Portugal		*All, on national data portal*	*Most. Working towards mandatory*
Slovak Republic	*Standardised, but wide variety*		
Slovenia	*No express provision*	*Actively promoted*	
Spain	*Important part*		*Minimal already. Standardisation planned*
Sweden	*No general information*		
Switzerland	*Planned. International compatibility*	*Planned. International compatibility*	*Planned. International compatibility*
United Kingdom	*Recent, yes. Previous, large proportion, no.*		
European Commission	*Source data yes*	*Not always*	*Catalogue metadata available*

Source: Country replies to the PSI questionnaire.

70. Machine-readability is the aim of all countries, but the actuality varies. New material is in machine-readable formats; older material generally is not. Born digital may not mean being machine-readable, with information being stored on floppy discs for which readers are not readily available. The United Kingdom's response pointed out that a lot of previously saved information is locked in PDFs or

other unprocessable formats and not in linked data form. Similarly not all PSI material on central government portals is available in open source / standards. This is the default position in most cases, but there are limits due to the evolution of such standards over time and their relatively recent widespread diffusion and use. Metadata is also less widely associated with data sets than might be hoped. Countries generally have the stated aim of being able to provide standardised and appropriately comprehensive metadata with all datasets, but most central portals fall short of this aim. This is due to the reliance on making available established datasets which may not have extensive, or any, associated metadata.

Licensing practices

71. Most of the countries surveyed have adopted a Creative Commons (CC) or Creative Commons-like unrestricted licensing model, with attribution being the main requirement. For example, under the Creative Commons Attribution Licence (CC BY, the least restrictive) the licensee is free: to share - to copy, distribute, and transmit the work; to remix - to adapt the work; and to make commercial use of the work; under condition of attribution - the work must be attributed in the manner specified by the author or licensor but not in any way that suggests that they endorse the use of the work.[21] There are also a number of national model licences that can be used when licencing PSI, for example in Belgium, Canada, Norway, Spain and the United Kingdom. Current licencing practices are shown in Table 3.

[21] Adapted from Creative Commons Attribution 3.0 Unported (CC BY 3.0) at http://creativecommons.org/licenses/by/3.0/

Table 3. PSI licencing practices

Country	Licence used on central portal	National model licence
Australia	*Free of charge under CC Attribution Licence (CC BY). Other licences may be used*	*CC BY defined as the default model*
Belgium	*Developing new licencing models including one restriction-free model*	*Standard federal level licence since 2007*
Canada	*New Open Government Licence. Similar to CC BY*	*Yes*
Chile	*CC 3.0; GNU General public licence (GPL) for software; and Open Database Licence (ODbL)*	
Czech Republic	*Generally non-exclusive; exclusive only if indispensable and in public interest*	
Denmark	*Recommended national licence, similar to CC BY*	*Yes*
Estonia	*No exclusive licences. Most PSI free of charge with no specific conditions for use or reuse. Specific non-discriminatory licence conditions in some areas*	
Finland	*Under development. CC 4.0 and CC0 based (CC0 has no rights reserved)*	*Planned*
Hungary	*PSI agreement required for re-use*	
Japan	*CC licence for trial version of national data catalogue site. Licence for full-scale site to be determined*	
Korea	*No national licence policy, but at data.go.kr, conditions for use are stated for specific data*	
Mexico	*No information available*	
Norway	*Open licences where attribution permitted*	*Norwegian Licence for Open Government Data is a standard optional licence*
Portugal	*Non-exclusive licences. Central portal CC 'BY' 3.0*	
Slovak Republic	*No general policy. Open government portal ODbL 1.0*	
Slovenia	*CC encouraged*	*Guidelines available end-2013*
Spain		*National model licence*
Sweden	*Licences relatively rare*	*No*
Switzerland	*Unified solution not yet available*	
United Kingdom	*All public data to be released under same open licence*	*Developing "New Open Licence"*
European Commission	*Reuse provided source acknowledged. Disclaimer rather than formal licence*	

Source: Country replies to the PSI questionnaire.

Pricing practices

72. The aim of most public pricing practices has moved progressively from seeing public sector information and data as a restricted resource to generate government revenue, to seeing it as a potential driver of innovation and business creation and expansion that should be provided at the lowest cost possible. Within Europe a number of countries have already moved to free models (e.g. Denmark making some "premium data" free such as maps, cadastre, company information, Estonia making free data the default in most cases), or to the low end of marginal cost models (Czech Republic, not exceeding the cost of making copies, obtaining media and sending information; Finland, free or at most extraction cost; Portugal, open data free, public documents at marginal cost of maintenance; the European Commission, open data free). This shift will be reinforced with the adoption of the 2013 revised EU Directive with new rules based on the marginal cost principle (Article 6) and strengthened transparency requirements (Article 7). These will replace the 2003 provisions that encouraged recouping costs of collection, production, reproduction and distribution and a return on investment.[22] The European Commission's Guidelines on the re-use of PSI[23] adopted in July 2014 provide detailed recommendations on calculating charges (whenever allowed by the Directive), with a strong encouragement to move towards a zero-charge policy.

73. Despite some European countries moving towards low-cost models, a number retained the principles in the 2003 Directive (e.g., Belgium, Hungary, Norway, Slovenia, Spain, and Sweden). In the case of Switzerland the current practice is average cost pricing, and the United Kingdom maintains charges for "high value data sets" which tend to be generated by the four Trading Funds (the Ordnance Survey, the Met Office, Land Registry and Companies House). Both Switzerland and the United Kingdom pointed out that if information is supplied free of charge it is likely that government funds will be required to finance agency shortfalls.

74. Outside of Europe, pricing strategies have tended to aim at free or low-cost pricing. Australia has adopted a strategy of public access at the lowest reasonable cost. In practice this results in the default position of PSI being released free of charge under the Creative Commons BY licence. Canada does not levy user fees for downloadable open data through open.canada.ca .In Chile free access is one of the principles of the right of access to information. In general Japan provides data for free, with actual expenses charged for data sets that have limited users and are expensive to provide. Korea provides a significant proportion of open data free of charge, with some minimum charging possible. For Mexico the costs of having access may not exceed the sum of the cost of the materials employed in reproduction and mailing/shipping costs.

75. In terms of transparency in pricing practices, most governments have made strenuous efforts to make pricing practices available, clearly explained and published and regularly reviewed. Public sector bodies have to justify higher pricing. For example, in the Czech Republic, fees for exceptional or widespread searches must be notified in advance of supply, and in Estonia where fees exist to cover maintenance and distribution costs, they are established by legal acts and PSI owners cannot adjust them. Only one country (Belgium) commented that although flat-rate fees are published, the methods used to calculate fees for "individual" requests are not published.

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22 Extract from Article 6, "Where charges are made, the total income from supplying and allowing re-use of documents shall not exceed the cost of collection, production, reproduction and dissemination, together with a reasonable return on investment. Charges should be cost-oriented …" (European Union, 2003).

23 Link to the official journal

Digitisation

76. Most countries have active digitisation strategies. Of the countries responding to the survey only four (Hungary, Japan, Mexico and Spain) replied that there is no strategy for digitisation of analogue and paper-based information. Other countries have announced ambitious and medium-to-long term digitisation efforts. Traditionally national archives are the repository of very large quantities of data and records and their experience in managing and maintaining these records has resulted in them leading digitisation efforts. Ambitious archives-led digitisation strategies have been implemented in Australia (National Archives), Canada (National Library and Archives), Chile (National Archives, initially focused on property records), Sweden (a special secretariat in the National Archives) and the United Kingdom (National Archives with over 5% - over 600 000 - central government and courts of law records digitised so far).

77. Other countries have a range of major efforts aimed at digitisation of analogue cultural and heritage material as part of the National Digital Library (Finland), national strategies for cultural heritage and digitisation (Estonia, Portugal and the Slovak Republic), or efforts led by Ministries of Culture (Czech Republic and Norway) or publications offices (the European Commission). Finally in some countries (e.g. Denmark) individual cultural institutions have their own strategies.

Summary

78. All of the surveyed OECD countries have a central government portal in place or are working towards establishing one. These central portals are usually designed to cover all government information or catalogue such information, including PSI. In all cases, including catalogue-style central portals, there is information on each dataset, usually covering terms and conditions of re-use, legal and financial restrictions if there are any, and pricing and charging methods where these apply. Countries are also aiming to achieve machine-readability, interoperability among datasets and switching to or encouraging the use of open standards. However, the reality is at some distance from these aims and varies considerably across countries and domains.

79. Most countries surveyed have adopted Creative Commons (CC) or Creative Commons-like unrestricted licensing models, with attribution being the main requirement under the licence. These are designed to encourage use and innovation. The aim of most public pricing practices has moved progressively from seeing public sector information and data as restricted government resources to be exploited, to seeing these data as potential drivers of innovation, business creation and expansion and making data free or available at a marginal cost. Finally, most countries have active digitisation strategies, with ambitious and medium-to-long term digitisation efforts, often led by national archives.

Impacts

80. There are relatively few analyses of the benefits and costs associated with more liberal access to and use of PSI, the size of the PSI market, impacts of PSI across the economy, business creation or expansion, tax revenues from PSI-related activities, or from sales or licensing of PSI. In addition to the analysis outlined in preceding sections, this section summarises information obtained from the survey. One reply summarised the challenges facing analysis in this area as follows "In our work to date on the evaluation of the impacts of Open PSI we have come to the conclusion that the frameworks for valuation of PSI are still immature…[we] are still trying to understand how to develop and implement these frameworks".[24] The dearth of quantitative information in this report is echoed in the dearth of information

[24] Survey reply, Canada. The survey reply of Mexico similarly cites a 2006 study that points out that economic theory remains at a very general level of analysis and application that does not help follow the path or individual mechanisms of information between different actors.

collected through the Open Government Data survey undertaken by the Directorate for Public Governance and Territorial Development (GOV). The GOV survey found no reported methodology to measure returns on investment in open government data (OGD), and there were only relatively few, scattered attempts to track economic or social gains from the re-use of OGD, although there was interest in improvement.

Benefits and costs

81. There is only scattered information on benefits and costs of opening up PSI via unrestricted licensing and using free or marginal cost pricing strategies. Analysis in Australia explored the benefits and costs in terms of shifting to open and free strategies for statistics, geospatial data and research data (Houghton, 2011b), covering:

1. The costs and cost savings experienced by PSI producing agencies involved in provision of free and open access to information;

2. The costs and cost savings experienced by the users of PSI in accessing, using and reusing the information;

3. The potential wider economic and social impacts of freely accessible PSI.

82. For the Australian Bureau of Statistics (ABS) immediate cost savings for users and wider benefits were more than five times overall net costs to the ABS of making publications and statistics freely available online and adopting Creative Commons licensing.[25] Very large net benefits were estimated for making fundamental geospatial data freely available, and similar benefits were posited for the research sector. The analysis showed that measurable benefits far outweigh the costs of making PSI more freely and openly available. Standardised and unrestrictive licensing, such as Creative Commons, and data standards are crucial in enabling access that is truly open (i.e. free, immediate and unrestricted) to reduce transactions costs. In addition there are longer-term benefits that cannot be fully measured.

83. Prior analysis of the spatial data sector in Australia suggested that there are major benefits from free open access, but that it depends on ensuring the continued flow of high quality PSI and that potential innovative competing non-government suppliers are not crowded out (ANZLIC, 2010). If adequate government funding can be relied upon, the free data model delivers greater economic benefits than alternative models. The larger benefits come from increases in the use of fundamental data and flow-on effects of increases in competition and innovation in downstream markets for products and services.

84. In the Czech Republic, public, commercial and academic benefits from more open data included: background data for free commercial, scientific and research activity, more efficient supervision of the public administration´s functioning, support for data journalism, and enhanced creation of software applications. Benefits for public administration included: resource savings, more efficient data processing, and data available for more comprehensive analyses. Chile noted that open PSI increases use, with over 50 000 requests for access to public information in 2012, and a very high rate of compliance with active transparency.

85. Analysis in Denmark showed a wide range of benefits from initiatives to improve free access to basic data ("Good Basic Data for Everyone", Danish Government/Local Government Denmark, 2012). Qualitative benefits were seen as being extensive. The public benefits from smoother interaction with public authorities include: better public services, speedier case processing; less reporting to public authorities; less need for re-entering data. Business benefits include: less reporting and registration; faster

[25] The ABS is, for example, developing an open API to enable greater access to and reuse of their data.

and more accurate digitisation; cheaper public-sector data; improved and new opportunities to develop new data-based services and products. Public authorities benefit from more efficient and effective administration including: efficient maintenance of basic data; cheaper development and operations for IT systems; fewer manual workflows; improved control e.g. of social payments.

86. The “Good Basic Data for Everyone” initiatives are projected to give total net revenues for society of DKK 800 million (USD 144 million) annually from 2017 (Danish Government/Local Government Denmark, 2012). Extra private-sector revenues will be up to DKK 500 million (USD 90 million) annually, and it is expected that e.g. the real estate, insurance, financial, and telecommunications sectors, as well as GPS (sat-nav) manufacturers, public companies and entrepreneurs will benefit directly. Net costs to government (ministries, regions and municipalities) were projected to be around DKK 130 million (USD 23 million) in 2013 with positive government benefits of over DKK 50 million (USD 9 million) in 2015 and around DKK 250 million (USD 63 million) by 2020. At OECD level the direct net benefits of providing access to basic data would be equivalent to USD 27.8 billion per year.

87. Most countries also expected a range of non-quantified benefits from implementing their strategies. For example, in Japan a range of advantages were expected from the "Open government data strategy" including: enhanced transparency and confidence; promoting public participation and collaboration between public and private sectors; and economic stimulus and higher efficiency in government. The United Kingdom’s “Shakespeare Review” argued strongly for moving to open data strategies as the economic and social benefits quickly and demonstrably outstrip costs (Department for Business, Innovation and Skills, 2013a). The report also argued for looking for new ways to gather evidence of the economic and social value of opening up PSI and government data. The costs of producing and publishing data can be measured, but there is no model for evaluating the economic or social benefits 'downstream', potentially undervaluing these activities, and leading to under-investment in them (Department for Business, Innovation and Skills, 2013a).

Aggregate impacts

88. Research in Korea suggests high overall economic impacts of PSI. Research by KAIST[26] in 2012 forecast PSI impacts of KRW 24 trillion (USD 22.5 billion at 31 December 2012 exchange rates) and 150 000 jobs by 2017 (survey reply, Korea). Research by ETRI in 2013 forecast impacts of KRW 19.6 trillion (USD 18.6 billion at 31 December 2013 exchange rates) and 74 000 jobs by 2017 (survey reply, Korea). Using these data to estimate aggregate OECD economic impacts of PSI gives values in the order of USD 690 billion (KAIST) and USD 570 billion (ETRI), using simple GDP-based pro-rating. From parallel analysis in Japan, the total economic effect of "big data", not limited to PSI, is JPY 7.7 trillion (USD 73.1 billion at 31 December 2013 exchange rates) including retail, manufacturing, roads and transport infrastructure, and agriculture (Ministry of Internal Affairs and Communications, 2013, survey reply Japan). Using this analysis to estimate aggregate OECD impacts of “big data” gives a value of the order of USD 750 billion, using simple GDP-based pro-rating. The Commission's Guidelines on PSI re-use were adopted as a Commission Notice 2014/C 240/01 on the 17th of July 2014 and are available in EUR-Lex in all official EU languages.

89. In Switzerland a recent study extrapolated the benefits for the Swiss economy based on quantitative analyses carried out in other countries (Federal Department of the Interior, 2013). The report focused on PSI as a proxy for Open government data defined “as open access and free reuse PSI, subject to restrictions relating to privacy, copyright or information security”. The report conservatively estimated that

[26] KAIST, the Korea Advanced Institute of Science and Technology; ETRI, the Electronics and Telecommunications Research Institute.

the annual economic benefits from using PSI (OGD) for Switzerland lie most likely in the range of CHF 0.9-1.2 billion.

90. In the United Kingdom the "Deloitte Report" estimated aggregate social and economic benefits from using PSI to be GBP 6.2-7.2 billion (USD 9.9–11.5 billion) in 2011/12 (2011 prices) (Department for Business, Innovation and Skills, 2013b). This value combines the social value and the narrow direct value. It is of the order of magnitude of Pollock's upper estimates of welfare gains from opening up data (Pollock, 2011a), and at the low end of the estimates presented earlier in this paper. Future uses of public sector information that have the potential to generate more value include combining public and private sector information, exploiting the benefits of linked data, embedding geospatial and location data across more products and service, and contributing to more informed policymaking across the economy.

Direct market size

91. Three recent national studies have attempted to estimate the aggregate PSI market. In Spain two successive detailed surveys of direct re-users of PSI gave a business volume of EUR 550-650 million (USD 737–871 million) for direct PSI activities in 2011 (Proyecto Aporta, 2011). The business volume was revised down to EUR 330-550 million (USD 442–737 million) in the second survey in 2012, but it was recognised that it is difficult to identify and track direct PSI re-users (Proyecto Aporta, 2012).

92. In the United Kingdom the Deloitte Report estimated that the value of public sector information to consumers, businesses and the public sector in 2011/12 was approximately GBP 1.8 billion (USD 2.9 billion) (2011 prices, mid-point estimate, with the sensitivity analyses giving a range of GBP 1.2-2.2 billion) (Department for Business, Innovation and Skills, 2013b). However, it is clearly recognised that the use and re-use of public sector information has much larger downstream impacts, affecting all areas of society beyond the direct customer. In Korea 2013 research by ETRI forecast the narrow public sector information market to be KRW 1 trillion in 2013 (USD 0.95 billion at 31 December 2013 exchange rates), KRW 1.1 trillion in 2014 (USD 1.04 billion), and rising to KRW 1.5 trillion in 2017 (USD 1.42 billion), the equivalent for the OECD of USD 43 billion (survey reply, Korea).

Start-ups and business expansion

93. There is very little information on business start-ups and expansion that can be directly linked to PSI or the new strategies to make PSI free and easily available. In general the potential for new activities is clearly seen. But evidence is anecdotal, relying for a large part on inference and case studies, due to the difficulty of separately identifying PSI-using enterprises statistically. For Chile, several new open data platforms were cited as the sorts of businesses that are directly linked with PSI (survey reply, Chile). In Finland the impact of data and knowledge, including PSI-related, have been clearly identified as major determinants of innovation and growth. An empirical study of Finnish firms emphasised the role of absorptive capacity and ICT competences in data-based innovation. Importantly for the role of PSI, a firm's external information sources, particularly customer involvement and demand, play a more prominent role than internal information sources (Koski, 2012).

94. The Japan Business Federation published examples of new services using PSI in 2013 including smoother transportation, improved accuracy of real estate transaction decisions etc. (survey reply, Japan). The evolution of the economic model for meteorological data in Slovenia has mostly benefited end-users and small standard re-users, but some new innovative services are developing. There have been efficiency gains for the public supplier without reducing revenues for premium services (survey reply, Slovenia). The Spanish analysis showed that PSI is a dynamic element in using firms (Proyecto Aporta, 2011, 2012). Finally the UK Deloitte report presented a number of case studies of PSI-driven start-ups, noting that this is an anecdotal approach and that for the UK it is not possible to forecast the number of new businesses or

their value (Department for Business, Innovation and Skills, 2013b). Barriers to entry are reduced for start-ups when they enjoy free or cheap access to data as well as the tools to easily reach their target market.

PSI income and tax revenues from PSI activities

95. Very few countries have information on government PSI income or the value of extra tax revenue from new business associated with the commercial exploitation of PSI.

96. In terms of the balance between revenues foregone and benefits from free access, a Danish study explored the impacts of making address data free (Danish Enterprise and Construction Authority, 2010). Official address data has been free of charge since 2002. The study showed that the direct financial benefits for society in the period 2005-2009 were around EUR 62 million (USD 83 million) with total costs around EUR 2 million (USD 2.7 million). In 2010 estimated social benefits were around EUR 14 million (USD 18.8 million), with costs around EUR 0.2 million (USD 0.27 million), with 30% of the benefits in the public sector and 70% in the private sector. The study only included the direct financial benefits for the 1,200+ parties receiving address data from a Public Data Server distributor and did not include additional economic benefits in later parts of the distribution chain, for example in GPS systems. Further benefits could be expected if the availability of official addresses is extended to business registration addresses and utilities.

97. In Finland the Ministry of Finance reviewed the 2009-2010 income of key governmental agencies from information disclosures/sales (survey reply, Finland). Income was estimated at around EUR 30 million (USD 40 million) per year from the private sector. As Finland progressively shifts to an open data strategy, compensation for this income is being reviewed on a case-by-case basis. In Switzerland, many federal offices give their data for free; nevertheless federal revenue was CHF 41 million (USD 44.6 million) in 2012 (Federal Department of the Interior, 2013). The Swiss study produced estimates for the federal administration of the overall balance of free data between revenue foregone, new tax revenue, efficiency gains and switching costs. Annual net direct benefits were estimated in the range CHF 2.9-20.3 million (USD 3.2–22.1 million) over three years. It was concluded that Switzerland would benefit from introduction of open government data (open PSI). The Swiss federal administration would obtain clear efficiency gains provided the issue of compensation for federal offices can be settled.

Revenues from PSI sales and licensing

98. Apart from these survey results, earlier analysis of Public Sector Bodies providing PSI shows that revenues from PSI sales and licensing across Europe are in most cases equal to less than 1% of the expenditures of these bodies (POPSIS, 2011). They are a maximum of one-fifth of expenditures in a few cases particularly for the United Kingdom, some agencies in the Netherlands, the Austrian Federal Office of Meteorology, and Spanish legal data from CENDOJ. The United Kingdom is an upper range outlier in terms of PSI revenues collected. On the other side, there is evidence that increasing access and lowering prices dramatically have large positive impacts on the number of users and new uses without significantly increasing costs (POPSIS, 2011, de Vries 2012), and that changing access policies provides opportunities to review the public task and implement other public policy changes.

Summary

99. There are relatively few analyses of the benefits and costs associated with more liberal access to and use of PSI, the size of the PSI market, impacts of PSI across the economy, business creation or expansion, tax revenues from PSI-related activities or government revenues from the sale and licensing of PSI. All of the benefit-cost studies reviewed show that moving to open data strategies is economically and socially rewarding as benefits quickly and demonstrably outstrip costs. To achieve these benefits,

standardised and unrestrictive licensing, such as Creative Commons, and data standards are crucial in enabling truly open access.

100. Direct PSI market size estimates and overall economic impacts are available in several cases and they are of the same order of magnitude as the aggregate estimates summarised earlier in this report, or somewhat lower in some cases. The potential for start-ups and new PSI-related activities is clearly seen. But evidence is anecdotal, relying for a large part on inference and case studies due to the difficulty of statistically identifying PSI-using enterprises.

101. Where revenues are collected in most cases they are less than 1% of expenditures, with a maximum of one-fifth of expenditures in a few cases, suggesting that revenue collection models have restricted use without collecting significant revenues. It is clear that government costs and revenues foregone by moving to open PSI are outweighed by government benefits including public sector productivity gains, more effective service delivery, improved policy development, cost savings through common data access, improved data for better spending decisions, etc., and even more by the wider economic and social benefits.

102. With continuing budget pressures and in-depth reviews of government expenditures and resources in many countries, it is important to clearly articulate the benefits to be gained by governments from open and freely available PSI and the even greater benefits to the wider economy. The challenges of resourcing open PSI initiatives and supporting open data must be clearly addressed, and economic analysis of the impacts of open data deepened.

PUBLIC SECTOR INFORMATION AND THE OPEN GOVERNMENT DATA SURVEY

103. Insights into the congruence between public sector information and open government data can be drawn from the Open Government Data survey undertaken by the Directorate for Public Governance and Territorial Development (GOV) in coordination with the Directorate for Science, Technology and Industry. Twenty-five OECD countries replied on-line to the GOV survey questionnaire. The analysis below is based on this respondent population except where indicated.[27]

104. Well over half of responding countries (14) reported that the central government has an open government data (OGD) strategy in place. Three reported that they have no single unified strategy but individual ministries have separate strategies. Almost all of the remaining countries (7) have central strategies co-existing with line ministries' strategies. Only one country reported having no central government strategy or policies in place.

105. PSI-related elements were relatively highly ranked among elements that form part of central government OGD strategies. Standards / guidelines on licensing / copyrights with respect to release or re-use of data was the most common of three PSI-related elements included in government strategies. It was the most common element in OGD strategies along with standards / guidelines for information disclosure and standards / guidelines on data formats, which although rather general are also applicable to PSI.[28] The two other areas important for PSI were also well above the average in terms of inclusion in OGD strategies. These were guidelines / rules concerning charging for government information (e.g. fees for government users), and communications and awareness initiatives targeting firms and citizens. The three PSI-related elements made up 30% of elements in central government strategies whereas an even distribution would give a 25% share.

106. PSI-type objectives are an important part of government open data strategies.[29] These objectives made up close to one-third of all objectives (see Table 4). This is despite the overall aim of the GOV survey to look at OGD strategies in terms of government efficiency and delivery, and the survey providing more choices in these areas. In particular, creating economic value for the private sector ranked among the top objectives no matter how they are counted or regrouped. The objectives of citizen participation and citizen engagement ranked lower than would be expected taking into consideration the respondent population for the survey.

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27 The analysis is drawn from responses to survey questions 1, 3a, 4, 13i, 13j, 16, 17 and 19.

28 This section was drawn from 20 valid responses from the 25 overall respondents. Countries could select as many elements as they wished. Countries selected between 2 / 3 elements up to the maximum of 12, with an arithmetic average close to 7 elements per country.

29 The eleven objectives in the survey were grouped as follows: "transparency" = objectives on a) transparency, and b) openness; "performance" = c) public sector performance, d) public service delivery, e) public service delivery via data re-use; "public sector information" = f) economic value for the public sector, g) economic value for the private sector, h) business creation; "democracy / participation" = i) citizen participation, j) engagement, plus k) other. The adjusted data were calculated by redistributing objective e) based on the aims of the first and second principal objectives.

Table 4. Principal objectives of open data strategies (%)

	Top 5 objectives	Top 5 adjusted	Top 2 objectives
Transparency	*27*	*27*	*40*
Performance	*31*	*26*	*22*
Public sector information	*26*	*31*	*30*
Democracy / participation	*15*	*15*	*8*

Note: Percentages calculated on the basis of 125 objectives. 25 countries chose 5 principal objectives each from a list of 11 objectives.

Source: Derived from GOV on-line survey.

107. Commercially valuable PSI-type datasets are among the most generally available in OGD strategies.[30] These include (in decreasing order of citation): meteorological and environmental information (19 out of 20 countries cited that these are available), geographic information, social information, cultural information and content (each cited by 18 out of 20 countries), economic and business information, traffic and transport information, tourist and leisure information, and educational information. These domains would be expected, based on prior analysis cited in this report. Countries with high dataset availability by domain are: Canada, Denmark and France (all 15 domains listed including selected defence areas), Australia, New Zealand, Slovenia (all domains except defence) and the United Kingdom. Countries with the lowest number of domains available are the Netherlands and Portugal (7 out of the 15 listed domains), Italy (9 out of 15), Germany and Norway.

108. Supply-side data on the number of datasets, number of visits/views, number of downloads, etc. was requested in the survey, but the data provided is very variable and no clear conclusions can be drawn. There is a clear need to harmonise and improve definitions, data collection and comparability of these kinds of data.

109. In addition, the survey responses show that no government has adopted a methodology to measure returns on investment in OGD, and there are relatively few and only scattered attempts to track economic or social gains from the re-use of OGD. Nine out of 25 countries reported that they are working in this area, mainly in terms of developing and collecting case studies.

110. Finally, the main challenge for further development of OGD initiatives is seen to be in the policy area. Policy challenges and funding challenges are most commonly cited as the first and second most important. Policy, institutional, and organisational challenges are most commonly cited after combining each of the first, second, third and fourth important challenges.

Summary

111. Well over half of countries responding to the Open Government Data survey reported that the central government has an open government data strategy in place. PSI-related elements are highly ranked among elements that form part of central government OGD strategies. Standards / guidelines on licensing / copyrights with respect to release or re-use of data was the most common PSI-related element included in government strategies. PSI-type objectives made up close to one-third of all objectives. In particular creating economic value for the private sector ranked among the top objectives. Commercially valuable

30 This section was drawn from 20 valid responses from the 25 overall respondents.

PSI-type datasets are among the most generally available in OGD strategies, notably meteorological and geographic information. In terms of economic analysis, no government has adopted a methodology to measure returns on investment in OGD, and there are relatively few scattered attempts to track economic or social gains from the re-use of OGD.

THE OECD RECOMMENDATION

Influencing strategy and practical approaches

112. The Recommendation has guided OECD countries' strategies in two ways. First of all countries that are adopting and adapting their strategies have been positively influenced by the Recommendation, in particular by the principles on openness, access and transparent conditions for re-use, asset lists, copyright and pricing. Countries that explicitly mentioned the important contribution of the Recommendation in shaping strategies include: Australia, Canada, Chile, Estonia, Finland, Japan, Korea, Portugal, Slovak Republic, Slovenia, Spain, Switzerland, the United Kingdom and the European Commission (see Table 5). Countries of the European Union that had already transposed the 2003 EU PSI Directive into national laws, tended to use the Recommendation as input into revision of the 2003 Directive, or to orient their national laws towards more open pro-active stances on PSI.

113. Countries that explicitly referred to the positive influence of the Recommendation in developing strategy in many cases also used the Recommendation to develop practical approaches to PSI either directly to develop and apply PSI principles in, for example, portal and licence design (e.g. Australia, Canada), or to strengthen some aspects of transparency and proactive openness (e.g. Chile, Finland, Hungary, Slovenia, Spain) (see Table 5).

Diffusion to non-Member economies

114. Despite positive impacts of the recommendation on OECD member countries, diffusion to non-Member economies via OECD countries' contacts and initiatives has been limited according to the survey. Chile and Portugal have used the Recommendation in their contacts respectively with Latin American organisations and Portuguese language countries. Japan specifically requested that investigation objectives should include key partner countries. No other country mentioned collaboration with non-Member economies. The Recommendation explicitly invites "Non-Member economies to take account of this Recommendation and collaborate with Member countries in its implementation". Further effort could be made to promote the Recommendation to non-Member economies, either within the framework of existing non-Member activities or via one-off open PSI initiatives with non-Member economies (e.g. workshops, seminars and the like), preferably in conjunction with other OECD efforts on open data and open government.

The Recommendation's status

115. Just over one-half of the 21 respondents either explicitly or implicitly see the 2008 Recommendation as being still pertinent with no need for radical change. Eight countries plus the EC suggested changes but these are somewhat scattered (Belgium, Canada, Czech Republic, Japan, Korea, Norway, Portugal, Slovenia, the EC). Four suggested changes towards strengthening open data and open government issues, focusing on strengthening and making more explicit the aspects of openness (including machine-readability), copyrights (including standard open data licences such as Creative Commons), and pricing (free or at most marginal cost pricing). See the responses of Canada, Portugal, Slovenia and the European Commission summarised in Table 5. Other suggestions for possible changes were more dispersed, including: reflecting in the Recommendation the emerging open data movement and open government data developments and improving coordination among these areas (Belgium, Canada, Korea);

more clearly including key non-OECD partner countries; making reference to big data; clarifying some of the Recommendation's terminology (without necessarily changing the content); and more generally evolving in line with the rapid development of open data and open access strategies and structures. These suggestions have been used to set out a set of possible revisions in Addendum 1.

116. The review of the recommendation also provides an opportunity for fostering coherence between the OECD Council Recommendations promoting better data access, linkage and re-use, namely between the Recommendation on PSI and the *Recommendation of the Council concerning Access to Research Data from Public Funding* of 14 December 2006 – [C(2006)184], which is also currently under review under the umbrella of the Committee for Scientific and Technological Policy. As highlighted in the context of the OECD project on *New Sources of Growth: Knowledge-Based Capital* with a focus on data and analytics (KBC2: DATA), coherent guidelines are needed to promote better access to data across the economy and to help overcome existing domain specific barriers to data access, linkage and re-use. Merging these OECD Council Recommendations would be an effective means to assure coherence across policy areas promoting better access to, and re-use of, data.

Table 5. The OECD Recommendation: use and possible updating

	How has Recommendation influenced strategy	How has Recommendation influenced practical approach to PSI	Contacts with non-Members	Need to change Recommendation	Which areas
Australia	*Current open licensing policy drawn from the Report of the Government 2.0 Taskforce cited Recommendation*	*Many of OAIC PSI Principles based on central tenets*	-	-	-
Belgium	-	-	-	-	*Enhance Recommendation (EU Directive 2013); coordinate OECD services for PSI and OGD*
Canada	*Informed Open Government strategy (2011). Access, asset lists, use/re-use rights, copyright used to design open data portal, open government licence*	*See strategy*	*No*	*Still pertinent and timely. OECD members at different stages on openness maturation scale*	*Adjust language to reflect open data and open government; make more consistent with the G8 Open Data Charter*
Chile	*Public Service Transparency and Access to Information (2008) consistent with Recommendation*	*All principles are part of Chilean approach*	*Chile active in CEPAL etc. on open government, informed by Recommendation*	*No*	
Czech Rep	*Strategy in line with principles*		*No*	*Principles still relevant and valid*	*Could add big data issue*
Denmark	*Reinforces the message that PSI re-use has significant potential.*	*Has not*	*No*	*No*	
Estonia	*Input to designing domestic policies, and in policy planning*	*Not so directly used in implementation phase*			
Finland	*Contributed to political climate favourable to opening up public sector data.*	*Provides a broader framework for PSI policy than the EU Directive*	*No*	*No*	
Hungary		*Elements included in the Hungarian law, particularly transparency and*	*No*	*No changes needed*	

		openness			
Japan	*Basic idea for the study of the open government data strategy*	*Current approach consistent with idea of Recommendation*	*No*	*Nothing to be modified at the moment*	*Should not limit to OECD countries, should include key partner countries*
Korea	*Korea pursues a policy compatible with OECD Recommendation*	*Korea pursues a policy compatible with OECD Recommendation*	*No*	*Not particularly*	*No conceptual distinction between Korean PSI and OGD policy. There needs to be a conceptual harmonisation/integration or clarity on the relationship between OECD's PSI and OGD*
Mexico	*No information provided*				
Norway	*Plays a small part. Follow regulation from EU in detail*	*See strategy*	*No*		*Clarify terminology, e.g. "marginal costs", "raw data". Develop "Asset list" principle*
Portugal	*Valuable references, important anticipatory tool. EU Directive main reference.*	*Provides a larger set of information to widen scope of action*	*Yes. Community of Portuguese Language Countries particularly Brazil, Cape Verde, Angola, including on PSI*	*Should evolve and accompany rapid PSI development, notably impacts and features*	
Slovak Rep	*Background source for PSI law*	*Influenced PSI law and related methodology*	*Random*	*-*	
Slovenia	*Affirmed rules of Access to Public Information Act (openness, transparency, fair pricing, competition, effective redress). Information Society Development Strategy also influenced*	*Encouraged proactive publishing PSI*			*Further encourage open standards and notion of open data*
Spain	*Implementation. Principles on: Openness, Access and transparent conditions for re-use, Quality, Integrity*	*Influenced approach to Principles on: Asset lists, Public private partnerships, International access and use, Best practices*	*No*	*No*	
Sweden	*-*	*-*	*No*	*No*	

Switzerland	*Highly important for planning/implementing Open Government strategy*		*No*	*Feedback after strategy implemented.*	
UK	*Aided policy comparisons between OECD countries, exchange ideas, access OECD research*	*Aided policy making*	*None as far as is known*	*No*	
EU	*Used in lead-up to 2011 Commission proposal to amend the 2003 PSI Directive and developing 2012 Recommendation on open access to scientific information*	*Contributed to overall understanding of importance of opening data-resources*	*No*		*More emphasis on open and machine-readable data formats, use of open licences and standard licences (e.g. CC).* *More explicit on adopting free-of-charge (or, at maximum marginal cost) policy*

Source: Country replies to the PSI questionnaire.

Summary

117. OECD countries that are adopting and adapting their strategies have been positively influenced by the Recommendation's principles on openness, access and transparent conditions for re-use, asset lists, copyright and pricing. Countries of the European Union had already transposed the 2003 EU PSI Directive and tended to use the Recommendation as input into revision of the Directive, or to orient their national laws towards more open pro-active stances on PSI. Countries that explicitly referred to the positive strategic influence of the Recommendation also used it in developing practical approaches to PSI. Despite positive impacts of the Recommendation on OECD member countries, diffusion to non-Member economies via OECD countries' contacts and initiatives has been limited. Further efforts could be made to promote the Recommendation to non-Member economies, preferably in conjunction with other OECD efforts on open data and open government.

118. Just over one-half of surveyed countries either explicitly or implicitly see the 2008 Recommendation as pertinent with no need for radical change. Suggestions for changes are somewhat scattered, with a group of countries and the EC suggesting changes towards making PSI free and more accessible, focusing on strengthening and making more explicit the Principles on openness, copyrights and pricing. A set of possible revisions is summarised in Addendum 1. These revisions could also be taken into account in case of the merger of the OECD Council Recommendations promoting better data access, linkage and re-use, which, beside the Recommendation on PSI, include the *Recommendation of the Council concerning Access to Research Data from Public Funding* of 14 December 2006 – [C(2006)184].

Addendum 1: Possible revisions to the OECD Recommendation of the Council for Enhanced Access and more Effective Use of Public Sector Information [C(2008)36]

119. The OECD Recommendation on Public Sector Information (PSI) has contributed to improving access to and use of PSI, and thereby to improving government performance, economic growth and social development (see analysis in the analytical study *Public Sector Information: A review of the Recommendation* [DSTI/ICCP/IE(2012)2/REV3)]. The survey of the developments in PSI access and use, economic impacts of PSI, and the influence and use of the Recommendation showed that just over one-half of countries see the 2008 Recommendation as still pertinent with no need for radical change. However, a significant number of countries suggested strengthening and updating the Recommendation to bring it into line with current policy developments and further contribute to sustainably increasing openness of government and wider use of government data.

120. Recent PSI-related policies and initiatives have been driven by the aim of generating greater national value added from data and information resources coupled with a shift to open data strategies. Most OECD countries have targeted strategies to improve access to and use of PSI. Some are stand-alone, whereas others are folded into more general open data or open government strategies. Opening up PSI is one aspect of opening up government activities and making them more transparent to improve government effectiveness and efficiency and to generate wider economic and social benefits. It is noted in data policies that PSI forms a valuable resource, for example, for Big Data analysis.

121. The following principles in the OECD Recommendation [document C(2008)36] were identified in particular for strengthening, with the aim of further opening public sector information and content and making it more widely available, accessible and useable for the benefit of governments, the economy and society:[31]

[31] See also the G8 Open Data Charter, June 2013, available at: https://www.gov.uk/government/publications/open-data-charter/g8-open-data-charter-and-technical-annex.

- *Openness*: Broadening the coverage to explicitly include cultural content in open PSI, while taking due account of 3rd party copyright issues.

- *Access and transparent conditions for re-use / Copyright*: Promoting the use of standard open data licences such as Creative Commons, and working towards developing standard regimes to deal with third-party copyright issues.

- *New technologies and long-term preservation*: Making use of open and machine-readable data formats and enhanced interoperability the default rule.

- *New technologies and long-term preservation*: Supporting the digitisation of new cultural content as the default rule wherever applicable.

- *Pricing*: Strengthening pricing guidelines, making information free or at most adopting marginal cost pricing, with no exceptions, except where publicly justified by the unusual costs of reproduction and distribution.

- *International access and use*: Encouraging pro-active use and application of the Recommendation to non-Member economies.

- *Best practices*: Improving policy coordination and harmonising the terminology related to PSI, open data and open government data, and developing common tools to provide efficiencies in opening data and promoting its wider use.

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ANNEX: NATIONAL PSI STRATEGIES AND RECENT CHANGES IN STRATEGIES

1. The following section presents summary information on PSI strategies and recent changes in strategies drawn from replies to the PSI questionnaire.[32] The Appendix is organised in alphabetical order of countries which have replied to the questionnaire.

Australia

2. The general strategy of the Australian Government is to encourage greater 'open' access to its information. Recent developments include:

- An update to the *National Digital Economy Strategy*, *Advancing Australia's Digital Economy*, released 12 June 2013, outlined the government's commitment to expanding the data available on data.gov.au[33] in machine readable, open and standards based formats.

- The *Australian Government Big Data Strategy* (released by the Australian Government Information Management Office, 2 August 2013) emphasised that government data is a national resource that should be properly harnessed while respecting personal privacy.

- In May 2013 the Australian Government announced that Australia would join the Open Government Partnership (OGP), and a 'National Action Plan' was prepared.

3. In May 2010 the Government released the Declaration of Open Government in response to the Government 2.0 Taskforce's report Engage: Getting on with Government 2.0.

4. The Government response to the Gov 2.0 Taskforce's report also included agreement in principle to a default position that PSI should be released free of charge under a Creative Commons 'BY' licence (the 'Attribution Licence').

5. The Intellectual Property Principles for Australian Government Agencies provides a policy for the management of IP by Australian Government agencies covered by the *Financial Management and Accountability Act 1997*.

6. Principle 11 relates to sharing, commercialisation, disposal and public access to IP:

> 11. (a) Agencies should encourage public use and easy access to material that has been published for the purpose of:
>
> - informing and advising the public of government policy and activities;

[32] The questions were: Section I, Question 1. "What is your government's strategy for access to Public Sector Information? Is there a stated commitment/strategy by your national government to improve access to and use and reuse of PSI?" Question 4. "What are your main national/regional initiatives for expanding access to PSI?" and Question 6. "Has your strategy changed recently or are changes planned? If so please provide details."

[33] Data.gov.au is an open data initiative that allows users to access and reuse public datasets from the Australian Government and State and Territory governments.

- providing information that will enable the public and organisations to understand their own obligations and responsibilities to Government;
- enabling the public and organisations to understand their entitlements to government assistance;
- facilitating access to government services; or
- complying with public accountability requirements.

7. This includes all materials which agencies are generally obliged to publish or otherwise allow free public access. This material may also be described as PSI. It does not necessarily include materials that have been published for commercial purposes. Nor does it cover materials that are of a sensitive nature, such as information that impacts on national security or information that would destroy the possibility of subsequently obtaining patent protection where such protection is necessary to achieve public benefit. Permission for public use and re-use of such material should generally be given royalty free on a non-exclusive basis. Exclusive licences to use such materials should only be given in exceptional circumstances.

> 11. (b) Consistent with the need for free and open re-use and adaptation, public sector information should be licensed by agencies under the Creative Commons BY standard as the default.

8. An agency's starting position should be to consider Creative Commons licences or other open content licences, following a process of due diligence and on a case by case basis. An agency may need to negotiate with any other copyright owners of the material where the Commonwealth is not the sole copyright owner.

9. Australian Government programs and initiatives focused on releasing PSI include:

- The OAIC's information policy role (including the Principles on Open Public Sector Information (May 2011)
- The Attorney-General's Department through administration of the Freedom of Information Act 1982
- The Australian Public Service ICT Strategy 2012–2015, administered by the Department of Finance and Deregulation
- Ahead of the Game: Blueprint for the Reform of Australian Government Administration, administered by the Department of the Prime Minister and Cabinet
- Domain-specific projects such as the Australia New Zealand Foundation Spatial Data Framework.

10. In August 2013 an independent report on the operation of the FOI Act and the *Australian Information Commissioner Act 2010* (the OAIC's enabling legislation) was released. With the change of government there is as yet no response to the recommendations.

Belgium[34]

11. There is currently no defined federal policy or strategy. A policy note is being developed to raise awareness within government and the administrations. Nevertheless, the Administrative Simplification Agency (ASA, Chancellery of the Prime Minister) has developed a website, established a Transparency

[34] Belgium refers to the Federal government.

Committee, proposed a licensing model in 2007, and published "Newsletters" to promote reuse of public data.

12. Initiatives towards data holders: The Transparency Committee assists the ASA and the Chancellery to raise awareness within federal public services and other public institutions of the potential for information reuse and to encourage its availability. The Transparency Committee represents supply-side stakeholders and is a network for encouraging the opening up of public sector information. A regular "Newsletter" highlights themes on the reuse of public sector data at Belgian and international level. A web site facilitates access to re-usable public data: http://publicdata.belgium.be/fr

13. Initiatives towards companies seeking public sector information: Two portals are designed to make public data available: a general portal http://publicdata.belgium.be/fr, and one aimed specifically at developers and persons seeking open data http://data.gov.be/fr.

14. The *ASA-Agoria network*. Links have been developed between the ASA and Agoria (the Technology Industry Federation http://www.agoria.be) concerning the reuse of public sector information. "Opening up public data for it to be reused is an important objective for Agoria" has been developed (see Agoria). Agoria and the companies it represents are the primary "consumers" of PSI and are closely following the opening up of PSI.

Canada

15. The Canadian government launched Digital Canada 150 (DC 150), Canada's digital economy strategy, in April 2014 which provides Canadians with the tools they need to fully embrace the opportunities of a digital future. It lists 39 initiatives that support the digital economy, built around five pillars: 1) Connecting Canadians; 2) Protecting Canadians; 3) Economic Opportunities; 4) Digital Government; and 5) Canadian Content.

16. Under Canada's digital economy strategy, Digital Canada 150, the Canadian government published its second iteration of Canada's Action Plan on Open Government 2.0 in November 2014. Through open.canada.ca, over 200,000 public sector information (PSI) dataset are available and government information and data can be used to develop innovative applications, create value-added analysis, and drive social and economic benefits.

17. Open Government 2.0 is a follow up to its initial Open Government strategy launched in March 2011, where the Canadian Government committed to improving access to use and reuse PSI. The initiative expanded three streams of open government activities: Open Data, Open Information and Open Dialogue.

18. Open Government activities fall within the broader Information Management Strategy (IMS), launched in 2007. The IMS aims to safeguard and manage government information as a public trust and strategic asset to maximise its value in the service of citizens. The Strategy sets the broad policy framework for advancing IM in four key areas:

- Policy & Governance
- People & Capacity
- Enterprise Information Architecture
- Tools & Applications.

19. Within the framework of the IMS, Canada joined the Open Government Partnership in April 2012 and launched a three-year Open Government Action Plan (http://open.canada.ca/en/canadas-action-

plan-open-government). The Action Plan includes the strategy for providing access to PSI. It focuses on three grand challenges: Increasing Public Integrity, Improving Public Services, and Effectively Managing Public Resources. Twelve key commitments include an Open Government Directive and an Open Government Licence (launched June 2013), Modernising the Administration of Access to Information; the Virtual Library; the International Aid Transparency Initiative; the Open Data Portal (open.canada.ca); Consulting Canadians; and, Open Regulation.

20. The Government in collaboration with provinces and territories has also established the Open Data and Information Working Group to reach other levels of government and expand access. This forum supports governance for and harmonisation of open government efforts across Canada.

Chile

21. The commitment to access to Public Sector Information is summarised in a number of laws, documents and web sites. The first phase was developed from 2009 to comply with the Law on Access to Public Information. In 2012 the scope was expanded to publish open data on five subjects not included in the law.

22. The Law on Access to Public Information (11 August 2008, Ley de Transparencia N° 20.285 www.bcn.cl/ley-transparencia) outlines the obligation of the Public sector to make available all information produced by the public budget and any other information held by organs of government, whatever its format, support, creation date, origin, classification or processing, subject to defined exceptions.

23. The Presidential Instruction (N° 005) on Open Government (November 2012) encourages the government to be increasingly transparent and participatory, with publication of open data. Public agencies are encouraged to proactively make public as much information as possible in formats that allow its reuse in order to add value to the data.

24. The law on Citizen Participation (N° 20.500) defines mechanisms of participation, one to improve transparency and open data policy: www.participacionciudadana.gob.cl/**ley**-20-500.

25. The E-government Strategic Plan 2010-2014 defined 3 main lines of action: 1) Open Government, 2) Closer Government, and 3) Efficient Government. The Open Government plan outlines the creation of the national open government portal (www.gobiernoabierto.gob.cl) and the generation of open data policy (http://datos.gob.cl/)

26. The Transparency Portal is the single platform that funnels all requests for information required by the Law of Transparency and Access to Public Information (http://www.portaltransparencia.cl/). The portal helps public officials and citizens to advance the promotion of the right of access to public information. There is also a transparent government portal http://www.gobiernotransparentechile.cl/. The site "Educa transparencia" developed by the Council for Transparency (www.educatransparencia.cl) is an organised set of learning resources on the meaning, scope and performance of the Transparency Act.

27. The Pro Access Foundation (www.proacceso.cl) is a non-profit organisation dedicated to promoting legal and cultural changes to break down the barriers to access to public information and strengthen the right of access to information. The web site Desarrollando América Latina www.ciudadanointeligente.org/fci is a regional collaborative initiative aimed at creating web applications using open data to solve common social problems in health, education, budget and transparency.

Czech Republic

28. Access to and re-use of Public Sector Information are regulated by law (Act 106/1999 Coll. on free access to information). Free access to information and "eGovernment" Amendment Bills are being developed for the transposition of the updated EU PSI Directive (by end-2014) and to cover open data issues

29. The Action Plan for the Open Government Partnership was approved in Resolution No. 243, 4 April 2012. It covers three principal areas, one of which deals with open data and includes commitments to define and establish an appropriate license for open data, to define technical standards and formats for machine-readable data, and to launch an open data catalogue. The action plan anticipates the opening of 10 major datasets, including a business and insolvency register, a database of election results, public debt data and a political donations register. A separate chapter is devoted to the establishment of open data rules for the public procurement sector, one of the most acute and corruption-prone areas. Open data from these datasets could significantly contribute to more efficient public control and create new business opportunities.

30. PSI-related initiatives include:

- An informal PSI initiative led by EPMA (European Projects & Management, http://www.czechpsi.info) an open platform covering public, private and non-profit sectors
- Informatics for Citizens Initiative (http://iio.707.cz/)
- BizBiz: Data from all sources in one place (http://www.bizbiz.cz/)
- OPENDATACZ: initiative for transparent data infrastructure (http://www.opendata.cz/cs)
- Municipal budget (http://www.rozpocetobce.cz/)
- Transparent regions (http://www.transparentni-kraj.cz/)
- Datablog.cz: Platform for creative work with information (http://www.datablog.cz/)
- Open Society Fund Prague (http://www.osf.cz/home-eng)
- Laws for the people (http://www.zakonyprolidi.cz/)
- Our state.cz: An alliance of Czech watchdog initiatives working with open data (http://www.nasstat.cz/eng/about-us.html).

31. Planned changes include: Selected data files will be transferred to systems that comply with open data standards, to ensure that anyone can freely incorporate this data and publish it, particularly through automated computer processing.

32. Open data or the manner of their publishing must fulfil the following conditions:

- legal openness, i.e. the publication of data under an open licence;
- technical openness, i.e. the publication of data in a standard machine-readable format;
- availability and originality, i.e. individual data sets are published unchanged as a whole (e.g. basic data, from which statistics can be calculated), with the exception of data where this is prohibited by law;
- well-organised, i.e. cataloguing of data sets to facilitate searching.

Denmark

33. Access to PSI in Denmark is built around the 'Open Data Innovation Strategy', launched in 2009 and since 2011 managed by the Danish Agency for Digitisation (Ministry of Finance). The strategy is designed to create easier and more uniform access to public data as raw material for the private sector to develop innovative digital products, analyses, data visualisations and data journalism

(http://www.digst.dk/Servicemenu/English/Policy-and-Strategy/Open-Data-Innovation-Strategy-ODIS). Recent policy and planning of access to government data is detailed in the 'Good Basic Data for Everyone' initiative (22 October 2012) (http://www.digst.dk/Servicemenu/English/Digitisation/Basic-Data). Public authorities in Denmark register core information about individuals, businesses, real properties, buildings, addresses, etc. This basic data is re-used throughout the public sector and is an important basis for public authorities to perform their tasks properly and efficiently. Basic data also has great value for the private sector, partly because businesses use this data in their internal processes, and partly because the information can be exploited for entirely new products and solutions and is a potential driver for innovation, growth and job creation.

34. The National Data Catalogue has also been set up and maintained by the Danish Agency for Digitisation (http://data.digitaliser.dk). This is a social network and tool for development, knowledge sharing and a forum for digitisation of information. It is the formal central repository of information on data interchange and standards and a creative space for the digitisation of the public sector.

35. There are also regional/local projects including: the City of Aarhus open data project and portal (http://www.odaa.dk/) and the City of Copenhagen open data project: (http://www.kk.dk/da/om-kommunen/fakta-og-statistik/fakta-om-koebenhavn/data).

Estonia

36. All information in the public sector in Estonia is public and accessible free of charge by default according to the Public Information Act (2001). There are generally no distinctions or limitations between different uses. Formal actions with legal justifications are necessary to limit access to information. Due to public interest, some personal data is public, e.g. salaries of civil servants. Although data is generally free, there are a few exceptions where charges apply, e.g., detailed queries from the business register and real estate register, where basic data is free. There is also a fee for full copies of detailed maps; this is almost the only case of a difference in price and conditions for commercial reuse. PSI and open data issues are part of the Estonian Information Society Strategy 2020. Strategy currently concentrates on making public data available in better machine-readable formats and encouraging the use of PSI by businesses and civil society.

37. Activities to expand access to PSI are usually part of more general policies and implementation plans and are often not separately identified. Some areas can be considered as more focused initiatives including the strategy on "Digital Cultural Heritage 2011-2016", open-GIS (Open Global Information System) and National Geoportal projects, opening up all bookkeeping data of central and local governments in raw format, and the launch of the central open data portal.

38. The most significant recent change in strategy has been the 2013 parliamentary amendments to the Public Information Act to improve machine readability of PSI. The general obligation to offer free access to machine-readable data in government databases will enter into force from 2015.

Finland

39. The government has expressed its strong commitment to promoting Open Data and supports the opening of public data repositories. The Government Resolution of 3 March 2011[35] sets out the principles on improving the accessibility and promoting the reuse of public information resources in digital format. The programme states that PSI will be opened for citizens, research, education and commercial purposes. In 2013 the Finnish Government launched a 3-year national Open Data Programme 2013-2015 that covers

35 http://www.lvm.fi/c/document_library/get_file?folderId=1551281&name=DLFE-11992.Pdf&title =Proposal

all ministries and their respective administrative sectors, and Finland joined the Open Government Partnership in April 2013.

40. The aim of the Open Data Programme is to speed up the opening up of public sector data and make it available mainly free-of-charge, in machine-readable formats, and under a common open data licence.

41. The Programme focuses funding and government support more directly on Open Data initiatives, and there is better awareness concerning the benefits of open data. Ministries have planned for opening data in the next few years and there is more open data available. The pioneer in Finland has been the Helsinki Region. The National Land Survey (NLS) made its topographic datasets freely available to the public and to companies free of charge in May 2012. The Finnish Meteorological Institute is also making its data sets freely available for public use. The Ministry of Education and Culture has established Finnish Research Data Initiative TTA, which has tackled interoperability issues as well as developed services for storing, sharing and publishing research data.

Hungary

42. Hungary does not yet have a dedicated PSI strategy. However, a comprehensive impact assessment was made in 2012-13 on the optimal re-use of larger national registries and databases and the possible improvement of re-use practices. The impact assessment has taken into account the recent amendment of the EU PSI Directive and made suggestions regarding its transposition. The evaluation of this impact assessment is still in progress and possible further steps, including creating a PSI strategy, are expected after the evaluation is completed.

Japan

43. The overall "open government data strategy" was determined by the IT Strategy Headquarters and released on 4 July 2012. The main aims of this strategy are to: i) enhance transparency and confidence; ii) promote public participation and collaboration between the public and private sectors; and iii) promote economic stimulus and higher efficiency in government.

44. The four basic directions are:

- the government shall actively release public data,
- public data shall be released in machine readable formats,
- the use of public information shall be encouraged whether for commercial or non-commercial purposes,
- specific measures shall be taken such as the prompt disclosure of public data that can be released.

45. The following national initiatives have been implemented:

- development of a national data catalogue portal, launched in trial version in 2013,
- events such as "hackathons", in which relevant ministries and agencies participate.

Korea

46. The Open Data Law ('Act on Promotion of the Provision and Use of Public Data'[36]) was enacted in July 2013, and came into effect end-October 2013. This mandates opening public data and provides the legal basis for commercial use. The Law created the Open Data Strategy Council (ODSC), and directed the government to develop Master Plans (the 1st Master Plan adopted by ODSC in December 2013) and yearly policy plans, and to monitor progress. The ODSC has 35 members, including government ministers, heads of public sector organisations and the private sector, and is co-chaired by the Prime Minister and private sector representatives.

47. Central and local government and public sector organisations must designate a chief open data officer and register their data list with the Ministry of Government Administration and Home Affairs. They must make data available to the public, including registering the data at the national open data portal (data.go.kr), an integrated central window for open data, except where the data is related to privacy and other issues. The National Information Society Agency (NIA) operates the national Open Data Center (ODC), which provides policy and technical support, including operation of data.go.kr. The ODC assists the public sector in opening data and facilitates private sector use.

48. The Law provides a dispute resolution mechanism, the Open Data Mediation Committee, established December 2013, and it provides immunity to public sector staff from civil and criminal liability for damages incurred to users or third parties due to the quality of data, except in cases of intent or serious negligence, etc. The Law provides clauses on data quality management, standardisation, training, etc.

49. The Open Data Law has strengthened momentum for open data policy. In accordance with the law, PSI access is being expanded via the Master plan, the yearly plans formulated by central and local governments, the open data management guidelines, etc.

Mexico

50. The strategy of the Mexican government regarding access to information begins with the Political Constitution of the United Mexican States, Article 6, which guarantees the Right of Access to Information (DAI); the Federal Transparency and Access to Governmental Public Information Act (LFTAIPG, 2002)[37] and the Federal Archives Act.[38] The LFTAIPG grants the right to request information from public institutions and created the Federal Institute for Access to Information and Data Protection (IFAI) in December 2002. The LFTAIPG establishes 17 specific entries of information (transparency obligations) that institutions have to publish permanently on the Internet.

51. The IFAI has operational, budgeting and decision-making autonomy, and is in charge of promoting and disseminating the right to access public information. In 2003 IFAI implemented the Infomex System allowing federal authorities to receive and respond to information requests. From July 2003 until November 2013 there were over 994 000 information requests; answers given by the authorities can also be consulted.

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36 Available at: http://www.law.go.kr/lsEfInfoP.do?lsiSeq=142444#0000 (in Korean) and http://www.law.go.kr/engLsSc.do?menuId=0&subMenu=5&query=%EA%B3%B5%EA%B3%B5%EB%8D%B0%EC%9D%B4%ED%84%B0#liBgcolor0 (in English).

37 Available at: http://www.diputados.gob.mx/LeyesBiblio/pdf/244.pdf

38 Available at: http://www.diputados.gob.mx/LeyesBiblio/pdf/LFA.pdf

52. In 2007 IFAI designed the Transparency Obligations Portal (POT) as a mechanism for the publication of transparency obligations in standardised formats with uniform web navigation. By November 2013 the POT had registered over 97 million hits. IFAI also promotes proactive disclosure of information for reusable data sets and applications that exploit the information.

53. The National Development Program[39] established the Close and Modern Government Program 2013-2018, which seeks to increase government efficiency and deepen government-citizen relations. In addition, the National Institute of Statistics and Geography is responsible for the generation of demographic, social, economic, and environmental data, and its evaluation. [40]

54. The Ministry of Public Administration (SFP) intervenes in the improvement of access to information and the reuse of public sector information. The SFP coordinated the National Digital Strategy in 2006-2012, and this strategy is currently in the Office of the Presidency. There are decrees aimed at facilitating citizens' access to information and the reuse of platforms and information systems:

- The Inter-Ministerial Commission for the Development of Electronic Government Accord (2005) to promote and strengthen the use and development of information technology and communications.

- Establishment of the Federal Public Administration's Interoperability and Open Data Scheme (2011) to increase the operational efficiency of the Federal government and its relation with society**.** [41]

55. Mexico is also one of the eight founding governments of the Open Government Partnership (OGP) initiative. In the framework of the OGP the Mexican government has committed to disclose information and encourage the reuse of information.

56. In terms of recent changes, the National Development Plan 2013-2018 developed three cross-cutting categories for government action:

- "Democratising Productivity"
- Consolidating a "Close and Modern Government"
- Incorporating "Gender Perspective".

57. In April 2013, the Presidency's Coordination Office of the National Digital Strategy was created to promote adoption and development of information technologies and communication, digital government, innovation, openness, transparency, collaboration and citizens' participation.[42]

Norway

58. The Norwegian government aims to have as much PSI as possible made accessible in ways that facilitate easy reuse. A strategy for this goal was published in March 2013 in the white paper "Digital Agenda for Norway - ICT for Growth and Value Creation".[43]

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39 Available at: http://pnd.gob.mx/

40 National Institute of Statistics and Geography (INEGI) http://www.inegi.org.mx/

41 See: http://dof.gob.mx/nota_detalle.php?codigo=5208001&fecha=06/09/2011

42 See: http://www.presidencia.gob.mx/staff/unidades-de-apoyo-tecnico-de-la-jefatura-de-la-oficina-de-la-presidencia/

59. There are many initiatives for expanding access to PSI. These include, but are not limited to, running the National open data portal, developing guidelines for data owners for publishing open data, developing the Norwegian Licence for Open Data, arranging competitions such as apps4Norge, arranging seminars, conferences, etc., and participating and contributing to international arenas, such as EPSI (see, e.g. the ePSI Platform at http://www.epsiplatform.eu), LAPSI (see e.g. the Thematic Network on Legal Aspects of PSI at http://www.lapsi-project.eu) and the OECD.Portugal

60. PSI is currently governed under Law no. 46/2007, 24.08.2007 that transposed the 2003 EU PSI Directive. Transposition of the new EU Directive no. 2013/37/EU, amending the 2003 Directive on the re-use of PSI, will be undertaken until 18 July 2015.

61. PSI access is an integral part of the Global Strategic Plan for Rationalisation of ICT Costs in Public Administration. This is an ambitious initiative launched in November 2011 encompassing 25 action measures built around the following objectives: 1) the improvement of ICT government mechanisms, 2) cost reduction, 3) using ICT to enhance administrative change and modernisation, 4) implementing common ICT solutions, and 5) stimulating economic growth. It runs across all levels of government, has a clearly defined set of goals and milestones, and involves top-level ICT and Public Administration experts.

62. Access to PSI is closely linked to some of these objectives and there is a dedicated measure (M23: Open Government and New Service Channels) outlining the elaboration of an Open Government Plan, of which PSI is an important part, improving open data mechanisms and government information sharing. All ministries and public sector organisations are contributing and a first draft of the Plan was scheduled for end-November 2013.

Portugal

63. Portugal is continuously working to improve its open data website www.dados.gov.pt, monitoring and assessing the quality of datasets and reaching out to public organisations that are not yet participating. There are over 500 datasets available and Portugal hopes to double this number in the next year. An apps4PT competition is being launched to promote and recognise the development of web or mobile applications that use public datasets.

Slovak Republic

64. Slovakia adopted the *"Open Government Initiative - Action Plan of the Slovak Republic"* on 22 February 2012. It is a national strategy adopted by the Resolution of the Government No.: 50/2012.[44] It is coordinated by the Governmental Plenipotentiary for Development of Civil Society together with the Open Government Initiative http://www.otvorenavlada.gov.sk. This strategy stipulates the openness of public data and establishes structural data for public use (for transparency, freedom of information, PSI use). The Slovak Republic joined the Open Government Partnership in April 2012.

65. The strategy established the Slovak Open Governmental Portal http://data.gov.sk/, which provides information to the general public according to the Freedom of Information Act, and information for re-use according to the PSI law. The upload of the Portal database with PSI data is in an advanced stage. At end-June 2013 there were 142 PSI uploaded datasets.[45]

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43 http://www.regjeringen.no/pages/38354256/PDFS/STM201220130023000EN_PDFS.pdf

44 https://lt.justice.gov.sk/Material/MaterialDocuments.aspx?instEID=1&matEID=4867& langEID=1

45 See: http://www.otvorenavlada.gov.sk/data/files/1853_ogp-action-plan-slovakia.pdf; and http://www.otvorenavlada.gov.sk/data/files/1975_resolution-of-the-government-of-the-slovak-republic.pdf

66. There is a law planned for autumn 2013 amending Slovak PSI law to reflect amendment No. 2013/37/EU of the EU PSI directive. This concerns the general pricing strategy for PSI (default marginal cost pricing).

Slovenia

67. Strategic commitments are based on the provisions of the Access to Public Information Act (2003), which promulgates the principle of transparency and openness of the public administration. The Act implements the provisions of the EU PSI Directive, and public sector bodies are obliged to provide not only access but also re-use of PSI. One of the important principles is for proactive dissemination of PSI.

68. Public sector transparency has been promoted through various synchronised actions:

- online and free-of charge access to data from numerous public records;
- proactive dissemination of information by the authorities;
- public participation in rulemaking;
- ensuring transparency of public spending; and
- facilitating the re-use of public sector information.

69. The Ministry of the Interior is designated to ensure openness and transparency of the functioning of the public administration. The Ministry performs promotional and developmental tasks in relation to access to public information, in particular informing the public about the means and conditions for access to and re-use of public information and providing counselling to other bodies in relation to the application of the Act. The Information Commissioner has an important role, e.g. for the redress mechanism.

70. Efforts to promote re-use are also included in the Strategy for the Development of Electronic Commerce and the Exchange of Information from Official Records, to ensure the wide public availability and interoperability of public sector data. There are also significant efforts in the field of the re-use of public sector spatial data related to the implementation of the INSPIRE Directive. The Strategy on the development of the Information Society, inter alia, promotes the use of open licenses when public e-material is published on the web.

71. The Ministry of the Interior is currently preparing a Strategy of Efficient Public Administration, which includes a Strategy on Open Government, transparency and re-use of PSI and pro-active publication of data. The Strategy on Open Government and amendments to the Law on Access to Public Information (implementation of the amendments to the EU PSI Directive) are planned for 2014.

72. The Ministry of the Interior has completed the adaptation of the Interoperability Portal (Portal NIO, the e-Government portal), which is planned to become a common platform for proactive publishing of open data by public sector bodies.

Spain

73. The strategy for access to Public Sector Information was established by Royal Decree 1495/2011 on 24 October 2011, following Law 37/2007 of 16 November 2007 on the re-use of public sector information. Law 37/2007 transposes the 2003 EU PSI Directive into Spanish law, establishing the general legal framework for re-use.

74. The Digital Agenda for Spain, approved 15 February 2013, outlines Government strategy to develop the digital economy and society in 2013-2015, and reinforces the main public information reuse principles. The operational plans for implementing the Digital Agenda were published end-July 2013. One of the three pillars of this plan is the promotion of the re-use of PSI. The Digital Agenda outlines actions to enable the development of high value PSI-based services, based on PSI that will contribute to boosting economic activity and provide services to business and citizens. Among these actions several aim at simplifying conditions for re-use.

75. The Ministry of Industry, Energy and Tourism and the Ministry of Finance and Public Administrations, the Digital Agenda leaders, are:

- Developing promotion, dissemination and awareness-raising activities to foster a culture of reuse, notably through the Aporta Project.
- Encouraging public organisations to enrich datos.gob.es, the national portal that organises and manages the Public Information Catalogue.
- Supporting the application of the Royal Decree 1495/2011.
- Promoting good practices across the public administration, including defining standards and standard licenses (for example, the technical interoperability standard for the reuse of information resources).
- Establishing a forum on public-private collaboration.

76. The main national/regional initiatives and some city council initiatives are given below:

Open Data Portal	url	Creation date	Location	Description	Number of datasets
Abert@s (Galicia Open Data)	http://abertos.xunta.es	26/03/2012	Galicia	Galicia open data portal (Spain)	260
Andalusia Open Data Catalog	http://www.juntadeandalucia.es/datosabierto	21/12/2011	Andalusia	Andalusian Open Data Catalog	60
Aragon	http://opendata.aragon.es/	06/02/2013	Aragon	Aragon Open Data	272
Asturias Public Data	http://risp.asturias.es	08/04/2010	Asturias	Asturias Public Data catalogue	5
Badalona Open Data	http://badalona.cat/portalWeb/badalona.port	11/02/2011	Badalona	Badalona Open Data Catalog	15
Balearic Islands Open Data	http://www.caib.es/caibdatafront/	11/02/2011	Balearic Islan	Balearic Islands Open Data Catalog	41
Catalonia Open Data Catalog	http://dadesobertes.gencat.cat	08/11/2010	Catalonia	Catalonia Open Data Catalog	1391
Gijón Public Data Catalogue	http://datos.gijon.es	15/11/2010	Gijón	City of Gijón Public Data Catalogue	187
Lleida Open Data	http://cartolleida.paeria.es/lleidaoberta/inici	14/02/2011	Lleida	Lleida Open Data Catalog	98
Open Data Catalog Spain	http://datos.gob.es	27/11/2011	España	Spain's Open Data Catalog	939
Open Data Euskadi	http://opendata.euskadi.net	08/04/2010	Basque Countr	Open Data Euskadi	2.057
Open Data Junta de Castilla y León	http://www.datosabiertos.jcyl.es	27/03/2012	Castile and Le	Catalog of public data in Castile and León	110
Open Data Navarra	http://opendata.navarra.es	01/03/2011	Navarra	Open Data Catalog of Navarre	93
Open Data Terrassa	http://opendata.terrassa.cat/VW_CatalegDade	26/02/2013	Terrassa	Open Data Website of Terrassa City Counc	58
Open Data UPO	http://www.upo.es/datos-abiertos/	23/11/2012	Sevilla	Iniciativa de datos abiertos de la Univers	32
OpenData BCN	http://w20.bcn.cat/opendata	13/03/2011	Barcelona	Barcelona Public Data Catalogue	415
OpenData SBD	http://www.sabadell.cat/ca/dades-obertes	05/11/2012	Sabadell	Sabadell Public Data Catalogue	175
Portal de Datos Abiertos de JCCM	http://opendata.jccm.es/	21/10/2011	Castilla La Ma	Portal Open Data de la Junta de Comunid	23

77. In order to have greater economic impact, the objective of focusing some actions on specific sectors has been added. The Digital Agenda is emphasising the need to apply open data to the tourism sector due to its role in the national economy.

Sweden

78. In December 2012 the government agreed upon a new e-government strategy that set out three main goals.[46] One of these is a more open government supporting innovation and inclusion. This includes making it easier to find and use public sector information. The strategy specifies actions to achieve these goals.

79. The "E-delegationen" (the eGovernment Delegation) has a specific task to promote PSI. The remit on public information and social media was given on 25 March 2010. The Delegation is instructed to promote and coordinate government agencies' efforts to improve the conditions for the re-use of documents. These efforts are to be based on the Act on the re-use of public sector documents contained in the Government Bill 'Public administration for democracy, participation and growth' (Govt. Bill 2009/10:175).

80. VINNOVA, the Agency for Innovation Systems, has been mandated to develop a portal for open data and other data available for re-use. The portal was launched end-November 2013, aiming to be simple to use, and provide support for data that can be used for innovations (see öppnadata.se). The portal is intended to simplify matters for those wishing to build products and services, e.g. digital mobile services, based on data from government agencies and other public authorities and from interested private actors.

81. Another agency has set up a portal to catalogue PSI data. Some regional/local governments also have forward-looking strategies for PSI and are actively promoting the use of PSI. Currently a government inquiry is looking into possible ways to promote opening up of more information sources.

Switzerland

82. In Switzerland, the "Principle of Freedom of Information" basically promotes public access to PSI. However, a coordinated strategy that enables this process is not yet available. The Federal Council mandated the federal administration to develop an "Open Government Data Strategy" by mid-2014.

83. Some regional initiatives are already in place (see e.g. city Zürich, https://data.stadt-zuerich.ch/portal/de/index/ogd.secure.html)

United Kingdom

84. The UK has benefited from many public sector information sources including organisations such as the National Health Service, Meteorology Office, and Office for National Statistics, etc. building strong foundations for a National Open Data Policy. The 'Transparency Board' [47] was set up by the Prime Minister in 2012 to make greater use of this information and drive forward the government's transparency agenda, including access to and use of PSI. The Minister for the Cabinet Office chairs the Transparency Board, and its members are a mix of public sector data specialists and experts. The United Kingdom is also a founding member of the Open Government Partnership launched in April 2011.

85. The British Government commissioned an independent review of Public Sector Information to explore the growth opportunities of, and how to widen access to, the wealth of information held by the public sector. [48] The Review was based on extensive consultation with numerous stakeholders and experts.

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46 http://www.futureforum2013.gov.lv/en/about-nff/topics-for-the-forum/addressing-the-digital-divide/sweden-digital-divide

47 https://www.gov.uk/government/policy-advisory-groups/134

48 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/198752/13-744-shakespeare-

The government take into account the findings of the review in future initiatives, legislation, regulation and guidelines for expanding access to and improving the standards of PSI.

86. The UK established the Open Data Institute in May 2012. It is an independent, non-profit, non-partisan, limited by guarantee, company founded by Sir Tim Berners-Lee and Professor Nigel Shadbolt. Co-funded by government and business, the ODI is well-placed to demonstrate the value latent in PSI. This can be achieved, for example, through building the demand side for PSI, including public sector use of its own data and incubating start-ups, and training business to best exploit and innovate with the data released by government.

European Commission

87. The Commission's Open Data Strategy was set out in December 2011 as part of the Digital Agenda. It contains a number of measures (law, funding, and policy) to support and promote PSI re-use. It also includes an update of the Commission decision on the re-use of its own data. (http://europa.eu/rapid/press-release_MEMO-11-891_en.htm)

88. The overall strategy has not changed, but recent developments include the adoption of the revised PSI Directive and the public consultation on PSI guidelines running from 29/08/2013 to 22/11/2013, to be published by the Commission in mid-2014.

89. For the revised Directive 2013/37/EU of the European Parliament and of the Council of 26 June 2013 amending Directive 2003/98/EC on the re-use of public sector information see: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:175:0001:0008:EN:PDF.

90. For the consultation see: http://ec.europa.eu/digital-agenda/en/news/consultation-guidelines-recommended-standard-licences-datasets-and-charging-re-use-public.

91. For the original Directive 2003/98/EC of the European Parliament and of the Council of 17 November 2003 on the re-use of public sector information, see http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:345:0090:0096:EN:PDF.

review-of-public-sector-information.pdf